

# Athletic Fields Master Plan

Town of Millis, Massachusetts



August 2014



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# Section 1

## Introduction

### 1.1 Project Description

The Town of Millis (Town) has been undertaking efforts to improve the quality and availability of athletic fields within the Town. As part of these efforts, CDM Smith has been asked to create an athletic field master plan that assesses existing and future recreation needs and evaluates existing and proposed fields. Based on this request, CDM Smith has addressed the following tasks to prepare this master plan:

- Provide an Inventory of Town Athletic Fields
- Assess Athletic Field Needs
- Review Access to Athletic Fields
- Identify Priority Projects, Programs, and Field Areas
- Determine Funding Opportunities and Operation and Maintenance Feasibility
- Optimize Management of Field Space

This plan extends on and enhances past efforts by the Town and the previous Fields Advisory Committee while also providing a guide for future program decisions and capital improvement planning, as well as recommending a field's management structure to optimize current practices.

### 1.2 Plan Contents

In this plan, CDM Smith summarizes the results of our field and needs assessment outlined in Section 1.1 and makes recommendations for proposed improvements, including an implementation plan scheduled to begin in 2014. The sections within this report are as follows:

- Section 1 – Introduction
- Section 2 – Inventory and Evaluation
- Section 3 – Needs Assessment
- Section 4 - Recommendations

## Section 2

# Inventory and Evaluation

In the winter of 2014, CDM Smith performed a field inventory and evaluation of existing and potential athletic fields in the Town of Millis. Our field inspections were performed when minimal snow was present on the ground surface. The facilities evaluated ranged from open space passive recreation areas to existing athletic fields and their associated facilities. The inventory focused on gathering and categorizing traits of existing athletic fields, and evaluating the opportunities for potential new athletic fields including existing practices associated with use, maintenance, and scheduling. The evaluation consisted of a physical assessment to help determine the opportunities and considerations associated with each field.

## 2.1 Field Locations

As requested by the Town, CDM Smith examined the facilities and open spaces listed below. We categorized the facilities as those that already have athletic fields and park spaces currently used for passive recreation. The Oak Grove Farm Commission land and Town Park are the only open space utilized for both active and passive recreation. **Figure 2.1** illustrates each of these properties.

### Existing Athletic Facilities

- Clyde Brown Field
- Gerry Sisto Baseball Field
- High School Fields
- Oak Grove Farm
- Town Park Fields

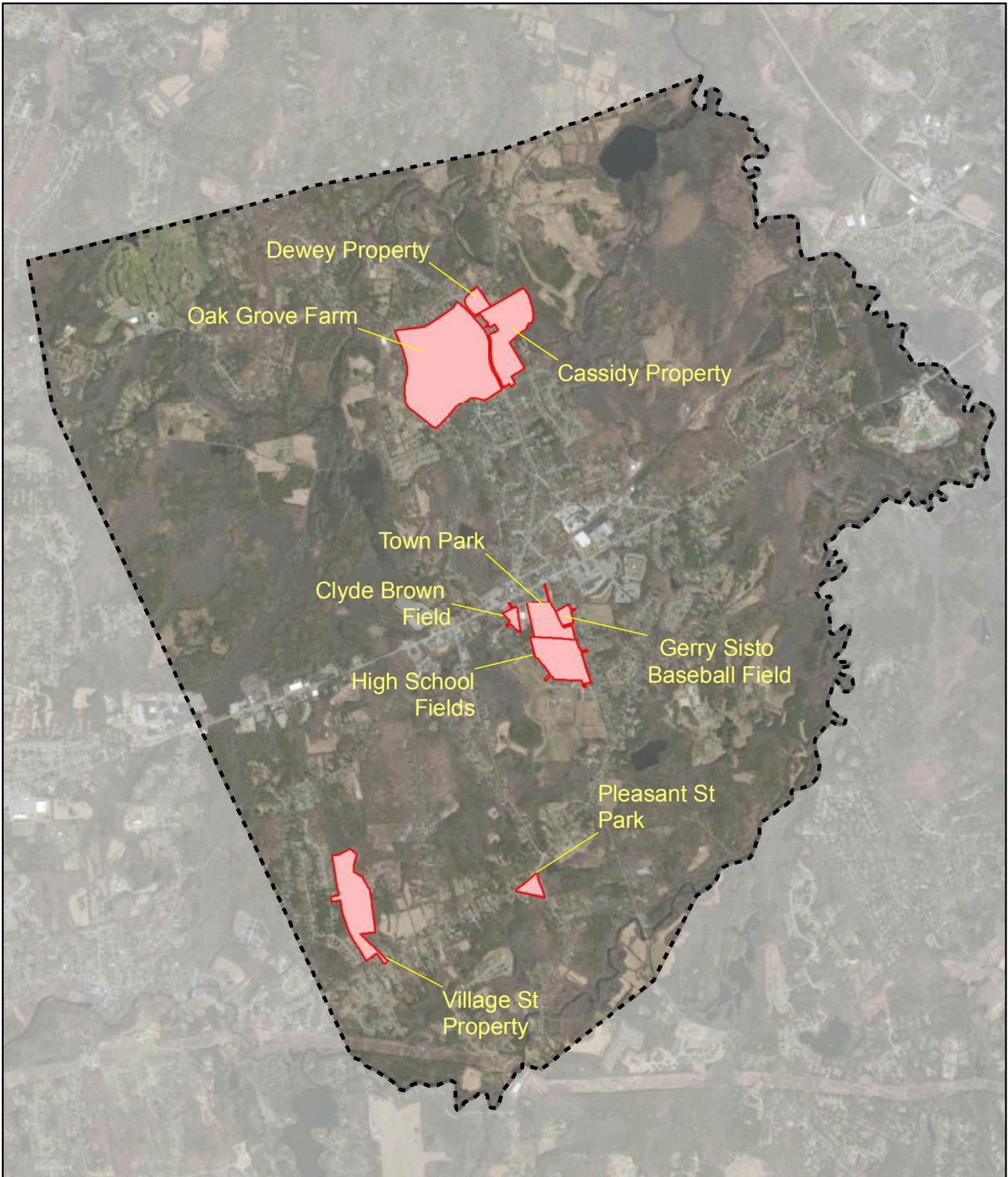
### Existing Park Spaces

- Cassidy Property
- Dewey Property
- Oak Grove Farm
- Pleasant Street Park
- Village Street Property
- Town Park Fields

The Town considered the existing capped landfill off Island Road during initial discussions, but this site was eliminated due to anticipated environmental, permitting and/or cost constraints.

## 2.2 Inventory and Evaluation Criteria

During the inventory and evaluation phase of the project, CDM Smith compiled data, performed field visits, and conducted interviews with stakeholders. The Town also provided base mapping, previous relevant studies (e.g., drainage studies), and current use and programming information, which supplemented information collected from federal and state sources, primarily through publicly available Geographic Information Systems (GIS). **Table 2.1** further details the sources used in the development of the field inventory. **Appendix A** includes further source references and maps with available GIS information. The information gathered as part of this exercise is suitable on a planning level, but further survey, property information, and wetland delineations would be required for any final designs.



**Figure 2.1 - Existing Athletic Facilities and Park Spaces**

Town of Millis, Massachusetts  
April 2014



0 3,000  
Feet

1 inch = 3,000 feet

**Table 2.1 Inventory Data Sources**

Criteria	Source
<ul style="list-style-type: none"> <li>▪ Site Ownership</li> <li>▪ Location</li> <li>▪ Zoning</li> <li>▪ Parcel Areas</li> </ul>	<ul style="list-style-type: none"> <li>▪ Millis Assessors Database</li> <li>▪ Massachusetts GIS System</li> </ul>
<ul style="list-style-type: none"> <li>▪ Flood Zones</li> </ul>	<ul style="list-style-type: none"> <li>▪ Town Record Drawings</li> <li>▪ Federal Emergency Management Agency (FEMA) Mapping</li> </ul>
<ul style="list-style-type: none"> <li>▪ Surface Waters</li> <li>▪ Wetlands</li> </ul>	<ul style="list-style-type: none"> <li>▪ Town Record Drawings</li> <li>▪ Massachusetts GIS System</li> </ul>
<ul style="list-style-type: none"> <li>▪ Topography</li> </ul>	<ul style="list-style-type: none"> <li>▪ Town Record Drawings</li> <li>▪ Massachusetts GIS System</li> </ul>
<ul style="list-style-type: none"> <li>▪ Soils</li> </ul>	<ul style="list-style-type: none"> <li>▪ National Resource Conservation Service (NRCS) Soil Survey</li> </ul>
<ul style="list-style-type: none"> <li>▪ Utilities</li> </ul>	<ul style="list-style-type: none"> <li>▪ Town Record Drawings</li> </ul>

CDM Smith staff performed field visits, which included an on-site inventory, preliminary assessment, and planning-level identification of wetlands. Our wetland investigations were hindered by winter



*A CDM Smith Wetland Scientist analyzing a soil sample during a field visit.*

conditions, and further field visits would need to be conducted during the final design of any recommended athletic field improvements. The field visits were used to inventory and evaluate the existing facilities of each location, including existing athletic fields, support facilities, infrastructure, ancillary features (e.g., lighting, fencing, scoreboards), and other passive recreational features. Additional assessment elements included field measurement, orientation, physical conditions, safety, and accessibility for both vehicles and pedestrians. **Appendix B** provides copies of the forms prepared and photographs taken during the field visits.

We collected facility usage, programming and maintenance information for each field during our data collection effort and while interviewing the users, caretakers, and stakeholders. This information was used to help determine the type and level of improvements needed to meet demand. Section 3-Needs Assessment provides further details on how this information was utilized during our evaluation of the field locations.

## 2.3 Summary of Findings

Based on the results of the field inventory and evaluation, CDM Smith has summarized our findings for each athletic field and this information is illustrated in **Figures 2.2 to 2.10**. **Table 2.2** provides a matrix outlining common deficiencies or obstacles that will be further discussed and assessed the needs for individual fields in Section 3 – Needs Assessment. Key findings from the field inventory and evaluation are listed below.

Figure 2.2

# Town Park Fields

## Inventory

<b>Address:</b>	900 Main Street	<b>Facilities:</b>	Softball (1) Little League (3) Shared Mixed Use (1)
<b>Owner:</b>	Town of Millis		Tennis (4) Basketball (1)
<b>Acreage:</b>	14.2		Pavilion Playground Parking Maintenance Shed
<b>Zone:</b>	EX		
<b>Flood Zone:</b>	n/a	<b>User Groups:</b>	Little League Town Users Soccer Club Passive Users
<b>Surface Water:</b>	Frog Pond and intermittent stream.		
<b>Wetlands:</b>	Southeast section of site. Potential vernal pool at Frog Pond.		
<b>Soils:</b>	Windsor		
<b>Utilities:</b>	Water Sewer		

**Amenities:** Irrigation system, perimeter fencing, backstops, dugouts, spectator seating, flag poles

## Existing Conditions Evaluation

### Overall

Highly utilized fields with some amenities (back stops, wooden bleachers, etc), and isolated sections of poor drainage, rough grading, and excessive wear.

### Vehicle Access and Parking

Network of one- and two-way roads from the main Town streets. Limited dirt parking lot adjacent to tennis courts

### Pedestrian Access

No sidewalks within park area, but vehicular traffic is limited. Some sidewalks on roads around the park area. Nearby to the public schools, lending easy access.

### Opportunities

Lighting could be added to increase usage time. Many of the existing back stops are could be reused if fields moved around. Already has irrigation. Fields could be reoriented to provide optimal orientations. Majority of work would take place outside of wetland buffers.

### Constraints

Limited space for expansion of fields and parking. Drainage issues may require additional utility work.



# High School Fields

## Inventory

**Address:** 245 Plain Street  
**Owner:** School Department  
**Acreage:** 24.59  
**Zone:** EX  
**Flood Zone:** n/a  
**Surface Water:** Intermittent stream  
**Wetlands:** In vicinity of intermittent stream  
 Possibly near ditch in football field  
**Soils:** Udorthents, Hinckley  
**Utilities:** Water  
 Sewer  
 Drainage

**Facilities:** Football (1)  
 Track (1)  
 Baseball (1)  
 Practice Fields  
 Parking (~170 spaces)  
 Maintenance Shed  
 Bathrooms (School)

**User Groups:** JV and Varsity Football  
 JV and Varsity Baseball  
 Softball  
 Track (Practice Only)

**Amenities:** Irrigation, lighting, perimeter fencing, scoreboard, press box, spectator seating, PA System, snack shack, flag pole, goal posts, field striping, back stop, dugouts

## Existing Conditions Evaluation

### Overall

Football field is overused and has potential drainage issues on southern end. Track is not suitable for practices or meets, and forms a tripping hazard in some areas. Baseball field is small and not facing an optimal orientation.

### Vehicle Access and Parking

Network of one- and two-way road networks. Parking is available at the school, but limited considering the demand.

### Pedestrian Access

Located directly adjacent to the public schools. Sidewalks located on many nearby streets. No ADA accessible walkway to the field.

### Opportunities

Football field could be rotated for optimal orientation. Utility connections available for expansion. Updated lighting would save costs and expand field use.

### Constraints

Limited space due to wetlands to the east and school building/parking to the north and northwest. Existing football field facilities (e.g., spectator seats) would not meet requirements if a new field is built.



# Clyde Brown Field

## Inventory

**Address:** Spring St  
**Owner:** Town of Millis  
**Acreage:** 3.36  
**Zone:** EX/R-V  
**Flood Zone:** n/a  
**Surface Water:** n/a  
**Wetlands:** n/a  
**Soils:** Windsor  
**Utilities:** Drainage (Easement)

**Facilities:** Mixed Use Space (1)  
 Parking

**User Groups:** Soccer  
 Flag Football  
 Town Users  
 Private Users

**Amenities:** Drainage swale, irrigation

## Existing Conditions Evaluation

### Overall

Highly used field that is in poor condition due to overuse and drainage issues.

### Vehicle Access and Parking

Accessible from Spring St. Parking available at school, but is limited.

### Pedestrian Access

Sidewalks and crosswalks located on Spring Street. Additionally, a wooded trail that leads to Main St.

### Opportunities

A synthetic field in the same location as the existing field would not be affected by drainage issues as it is now.

### Constraints

Despite having well draining soils, field is often muddy since serves as a drainage basin for immediate area. Limited space available to expand due to property limits and sloped grade along the east side.



# Gerry Sisto Baseball Field

## Inventory

**Address:** Park St and Monroe St  
**Owner:** School Department  
**Acreage:** 3.3  
**Zone:** EX  
**Flood Zone:** n/a  
**Surface Water:** n/a  
**Wetlands:** In vicinity of Frog Pond  
**Soils:** Sudbury  
**Utilities:** Water  
 Drainage

**Facilities:** Baseball (1)  
 Batting Cages  
 Maintenance Shed (2)

**User Groups:** Little League

**Amenities:** Irrigation, perimeter fencing with cap, scoreboard, press box, spectator seating, PA System, snack shack, flag pole, back stop, dugouts

## Existing Conditions Evaluation

### Overall

Facilities are worn, but still in good condition. Poor drainage in the infield appear to make mud an issue, but turf is in excellent condition.

### Vehicle Access and Parking

Network of one- and two-way road networks. Parking is available at the school and Town Park, but limited considering the demand.

### Pedestrian Access

Located directly adjacent to the public schools. Sidewalks located on many nearby streets. No ADA accessible walkway to the field.

### Opportunities

Available connections to improve drainage. Enough room to rotate to optimal orientation. Existing facilities need only minimal aesthetic improvements.

### Constraints

Limited space due to the surrounding roadways and abutters to the north and east. A



# Oak Grove Farm

## Inventory

**Address:** 410 Exchange Street  
**Owner:** Town of Millis  
**Acreage:** 118  
**Zone:** EX  
**Flood Zone:** X (500-Year)  
**Surface Water:** Amber Brook  
 (Partially intermittent)  
**Wetlands:** In vicinity of Amber Brook  
 Potential vernal pool near parking  
**Soils:** Sudbury, Walpole, Scarboro and  
 Birdsall, Canton, & Hinckley  
**Utilities:** Water  
 Sewer

**Facilities:** Soccer (2)  
 Softball (2)  
 Playground  
 Trails  
 Parking

**User Groups:** Softball  
 Soccer  
 Private Users

**Amenities:** Backstops, dugouts, flag poles, goal posts, striped fields

## Existing Conditions Evaluation

### Overall

Highly utilized fields that could benefit from increased and formalized parking. Some potential drainage issues on certain fields and evidence of vehicle damage on vehicles close to Exchange St.

### Vehicle Access and Parking

Accessible from Exchange St (Rte 115) and Island Rd. Extremely poor roadway conditions on Island Rd, with excess cracking and potholes. Parking is undersized and does not have a formal arrangement.

### Pedestrian Access

Sidewalks are available up until the intersection of Exchange St and Island Rd, providing accessibility from the center of Town. High vehicle speeds and a lack of sidewalk further on Exchange St prohibit further pedestrian use on the roadway.

### Opportunities

Open spaces in the western and northeastern sections of site. Utility connections available.

### Constraints

Wetlands are present in most open space areas. Moderate grading may be needed to create a flat surface. Historical site is within vicinity of open space.



# Cassidy Property

## Inventory

<b>Address:</b>	Exchange St	<b>Facilities:</b>	n/a
<b>Owner:</b>	Town of Millis	<b>User Groups:</b>	Passive Users
<b>Acreage:</b>	38		
<b>Zone:</b>	R-S/R-V		
<b>Flood Zone:</b>	AE (100-Year) and X (500-Year)		
<b>Surface Water:</b>	Amber Brook		
<b>Wetlands:</b>	Throughout property		
<b>Soils:</b>	Scio, Merrimac, Sudbury, & Rippowam		
<b>Utilities:</b>	Drainage (Easement)		
<b>Amenities:</b>	n/a		

## Existing Conditions Evaluation

### Overall

Site has an abundance of relatively flat, open space. Amber Brook is located in the middle of the property, and isolated wetlands are located throughout the property.

### Vehicle Access and Parking

Access from Exchange St and Island Rd. No formal parking available. Island Road Extremely poor roadway conditions on Island Rd, with excess cracking and potholes.

### Pedestrian Access

Sidewalks are available up Island Rd, providing accessibility from the center of Town. However, only on one side and there is no crosswalk to the entrance.

### Opportunities

Area contains plenty of flat open space that could be used for athletic fields. Walking trails from Oak Grove could be expanded onto property.

### Constraints

There are drainage issues on Island Rd that flood nearby residents and have formed drainage ditches in the open spaces. Since building on wetlands would not be avoidable, additional permitting would be required, and may not necessarily allow fields to be built. Possible conservation liens on part of the property.



# Dewey Property

## Inventory

**Address:** Exchange St and Orchard St  
**Owner:** Town of Millis  
**Acreage:** 5.3  
**Zone:** R-S  
**Flood Zone:** n/a  
**Surface Water:** n/a  
**Wetlands:** Possibly in southeast corner  
**Soils:** Scio  
**Utilities:** n/a  
**Amenities:** n/a

**Facilities:** n/a  
**User Groups:** Passive Users

## Existing Conditions Evaluation

### Overall

Site has been cleared of trees in some areas, and is well mowed. There is a low point in the south-east corner where standing water was observed.

### Vehicle Access and Parking

Access from Exchange St and Orchard St. No formal parking available.

### Pedestrian Access

No sidewalks observed on any of the surrounding roadways.

### Opportunities

Area is open and relatively flat.

### Constraints

Property is limited in size. Observed standing water may indicate wetlands are present.



# Village St Property

## Inventory

**Address:** Village St  
**Owner:** Town of Millis  
**Acreage:** 33.1  
**Zone:** R-S  
**Flood Zone:** X (500-Year)  
**Surface Water:** n/a  
**Wetlands:** Throughout property  
**Soils:** Merrimac, Sudbury, Walpole, Scarboro & Birdsall

**Amenities:** n/a

**Facilities:** Trails  
Life Course

**User Groups:** Passive Users

## Existing Conditions Evaluation

### Overall

Site has been cleared of trees in some areas, and is well mowed.

### Vehicle Access and Parking

Access from Exchange St and Orchard St. Some parking available on dirt surface

### Pedestrian Access

Sidewalk available on opposite side of Village St. However, no crosswalks to the entrance.

### Opportunities

Area is open near the entrance and relatively flat.

### Constraints

Wooded area makes up the majority of the property. Possible conservation restrictions on property could increase permitting efforts.



Figure 2.10

# Pleasant St Park

## Inventory

**Address:** Pleasant St  
**Owner:** Town of Millis  
**Acreage:** 4  
**Zone:** EX  
**Flood Zone:** n/a  
**Surface Water:** n/a  
**Wetlands:** n/a  
**Soils:** Canton, & Sudbury  
**Utilities:** n/a  
**Amenities:** n/a

**Facilities:** n/a  
**User Groups:** Passive Users

## Existing Conditions Evaluation

### Overall

Site is heavily wooded with large amounts of brush.

### Vehicle Access and Parking

Access from Village St, Dyer St, and Pleasant St. No formal parking available.

### Pedestrian Access

Village Street has crosswalks on both sides of street, and a crosswalk to the park at the intersection of Village St and Pleasant St.

### Opportunities

Area appears to be flat and appears not have surface bodies and/or wetlands..

### Constraints

Property is limited in size and is designated as park land. Wooded area makes up the majority of the property.



**Table 2.2: Additional Field Considerations**

Criteria		Facility								
		Clyde Brown Field	Gerry Sisto Baseball	High School Fields	Oak Grove Farm	Town Park Fields	Cassidy Property	Dewey Property	Pleasant St Park	Village St Property
Existing Field Conditions	Field overuse	●	○	∅	●	●				
	Poor turf conditions	●	○	∅	∅	●				
	Poor drainage	●	∅	∅	∅	∅				
	Poor grading	○	○	∅	∅	∅				
	Undersized for intended use	∅	○	●	○	∅				
	Cannot be used as intended	∅	○	∅	○	○				
	Non-optimal orientation	○	●	●	●	●				
Existing Field Facilities	No irrigation	○	○	○	∅	○				
	None or insufficient amenities	∅	○	∅	∅	∅				
	None or insufficient spectator seating	●	○	∅	●	∅				
	None or insufficient bathroom facilities	∅	∅	∅	∅	∅				
Accessibility	None or insufficient sidewalks	○	∅	∅	∅	∅	∅	●	∅	∅
	No ADA access	●	∅	∅	∅	○	●	●	●	●
	None or insufficient vehicle parking	∅	∅	∅	∅	∅	●	●	●	●
Environmental Limitations	Surface waters and/or wetlands present	○	∅	●	●	∅	●	●	○	∅
	Within FEMA Flood Zone	○	○	○	○	○	∅	○	○	∅
	Conservation land	○	○	○	○	○	∅	●	∅	●
	Poor draining soils	○	○	∅	○	○	○	○	○	○

○	None/Low Consideration
∅	Some Consideration
●	High Consideration

CDM Smith has listed our general observations and key findings drawn from our evaluation below:

- The Town maintains a total of 15 existing athletic fields, which support baseball, soccer, track and field, football, and other athletic activities.
  - Several fields support multi-use activities, regardless of the season (e.g., football and soccer at the high school football field).
  - Many of the existing athletic fields, most notably the baseball field at the High School, are undersized for their present use and do not meet current requirements (i.e., Massachusetts Interscholastic Athletic Association (MIAA) standards). Since the fields closely abut each other at Town Park and the High School, there is a constant risk of potential safety hazard for players, coaches and bystanders when objects that exceed the bounds of one field (e.g., foul balls, other players) can enter another field of play or spectator areas.
  - Most fields are not facing optimal orientations to prevent sun glare.
  - While many of the existing athletic fields have amenities, these facilities are antiquated and should be improved and/or reinforced with additional facilities such as increased bathrooms would increase the level of service to users.
- There is a large demand for field space from the public schools, Millis users, and private outside groups, leading to overuse and wearing of the existing fields. With limited space and the high demand, the Town and High School officials are unable to rest the fields in many locations and allow restoration and regrowth of the natural turf.
  - Some of the fields need additional maintenance and improvements to drainage and grading to help mitigate the poor conditions that are exacerbated by overuse.
  - Due to the high demands and resulting limits on resting the playing natural turf surfaces, the quality of the playing fields are compromised by poor turf coverage and soil compaction. These conditions can lead to hazardous conditions for players and may render the fields unusable.
  - The current field conditions cannot support the ongoing level of play. Therefore, the fields need maintenance and rest and potentially re-engineering to include proper drainage, soil and turf composition, and overall support amenities.
- Following several discussions and meetings with Town officials, we have learned that scheduling issues have arisen as a result of the tremendous demand for field use. The Town currently lacks a central scheduling agency for all of the Town athletic facilities. The fields are owned, maintained, and scheduled by several different agencies, which can lead to difficulties in coordination of use and scheduling of athletic events.



*Bare ground caused by overuse at Clyde Brown Field*

- To date, Millis has not adopted a field use policy that outlines the required levels of maintenance needed in order to support the desired level of play. The Town currently funds and maintains the fields through several different departments and groups including the Department of Public Works, Recreation Department, School Department, Oak Grove Farm Commission, youth groups, and public volunteer groups, among others.
- The existing athletic fields are generally grouped together, providing convenient access. Pedestrian access was available for many locations; however, some areas require improvements for proper pedestrian access and enhanced connectivity to the facilities. Most sidewalks adjacent to and near the fields meet the Americans with Disabilities Act (ADA) accessibility requirements, but enhancements are need to the playing area and spectator seating to comply with ADA standards.
- All of the fields would benefit from both a greater number of parking spaces and a more formalized layout.
- CDM Smith understands that Millis residents currently use the Town Park, Oak Grove Farm Commission, Cassidy Property, and Village Street properties for passive recreation. These activities include, but are not limited to, walking and jogging trails, dog walking, life course (at Village Street), and bird watching.
- Wetlands are present in varying degrees on most of the field locations. In some locations, CDM Smith observed wetlands and/or surface waters are directly adjacent to existing athletic fields.



*Oak Grove Farm Commission lower parking lot is undersized, unpaved, not striped and does not comply with ADA standards.*

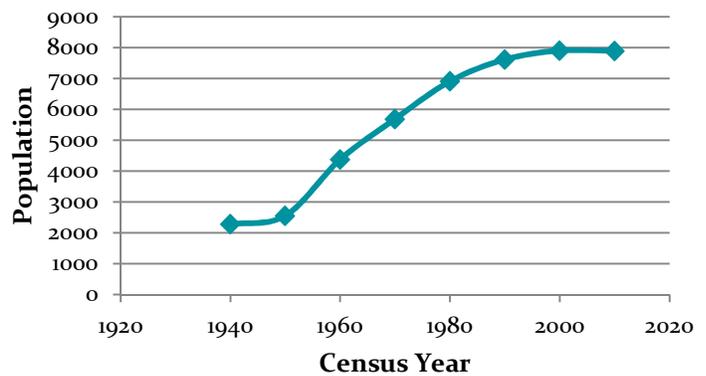
## Section 3

# Needs Assessment

### 3.1 Overview

CDM Smith performed a needs assessment to evaluate the existing and future needs of the Town for athletic fields and park space. The components of the assessment consisted of analyzing demographic information, interviewing stakeholders, engaging the public through a community survey and workshop, and observation of the existing athletic field spaces. In this needs assessment, CDM Smith's intent is to determine whether the existing fields are meeting the current demands of the community and the cost associated with maintaining the existing fields. Through this needs assessment and opinions demonstrated through community engagement, CDM Smith and the Town gained an understanding of residents perceived level of service for public athletic fields and facilities. This information will assist in recognizing needs and then recommending and prioritizing maintenance of existing facilities and construction of new athletic fields.

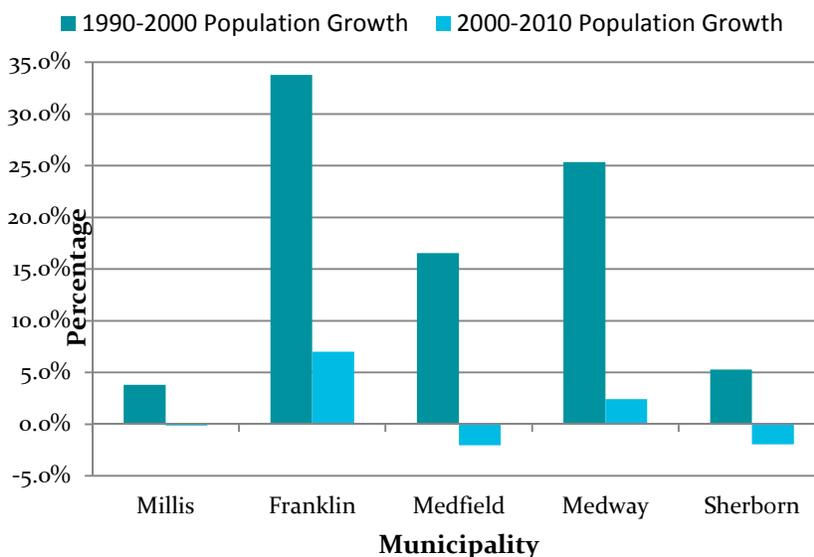
**Figure 3.1 - Population Change (1940-2010)**



### 3.2 Demographics

CDM Smith compiled demographic data from the US Census, Metropolitan Area Planning Council (MAPC), and Town documents to illustrate population growths, ages, and household incomes.

**Figure 3.2 - Population Growth by Percentage**



#### 3.2.1 Population

As of the 2010 US Census, the Town of Millis has a population of 7,891, a -0.14% decrease from 2000. Despite this decrease, there has been a general upward trend in population since 1950, which has stabilized within the past two decades, as shown in **Figure 3.1**.

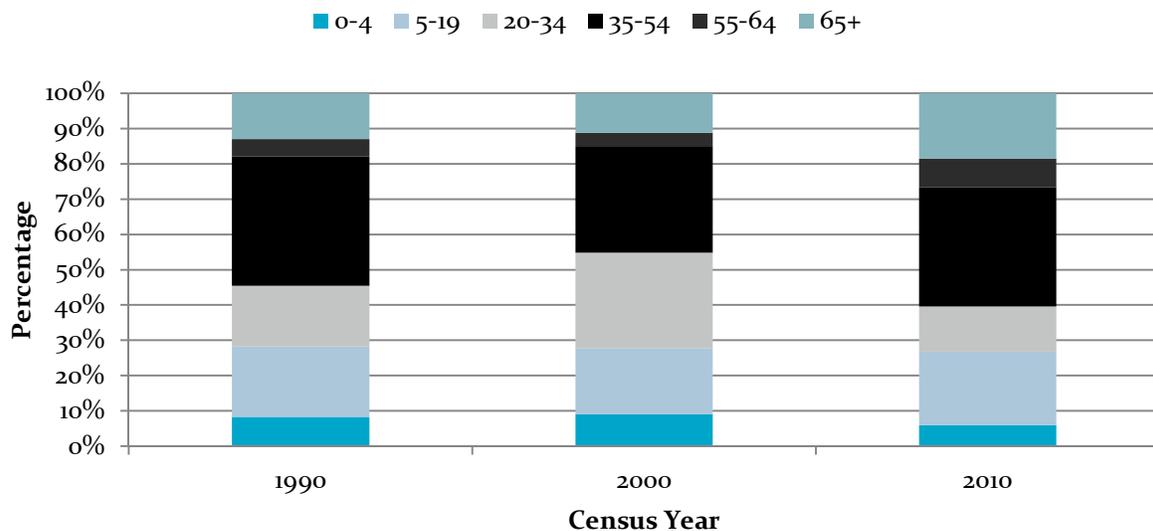
**Figure 3.2** shows the population growth from 1990-2010 for Millis and several surrounding communities.

Although these communities have different populations, all experienced a growth period from 1990-2000, and a smaller or negative growth period from 2000-2010. When compared to these surrounding communities, the data demonstrates that Millis experienced limited population growth since 1990.

### 3.2.2 Age Composition

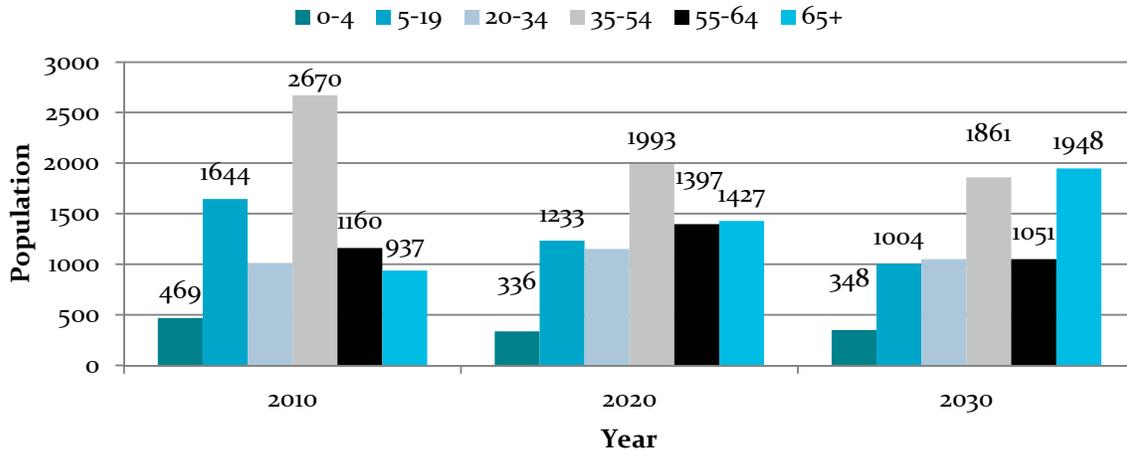
CDM Smith has presented the age composition of Millis's population in **Figure 3.3**. While the 0-4 and 5-19 year age groups show consistency as a percentage of the Town's population, the public school age groups have increased in population since 1990. This population increase in school age children is an indication of increased demand for the fields from sports programs of those age groups. We also understand that popularity and success of both the youth sports groups and high school athletic programs has helped to enhanced enthusiasm in all program and increase player participation in recent years. This is consistent with information provided by Millis High School, which shows an increase of 94 to 190 fall athletes (not including cross-country and golf) between 2003 and 2013.

**Figure 3.3 - Town of Millis Age Composition (1990-2010)**



According to the MAPC, there is expected to be a general downward population trend from 2010 to 2030. **Figure 3.4** illustrates projected populations by age. With this information, we anticipate that the current school age population in Millis may decrease in upcoming years.

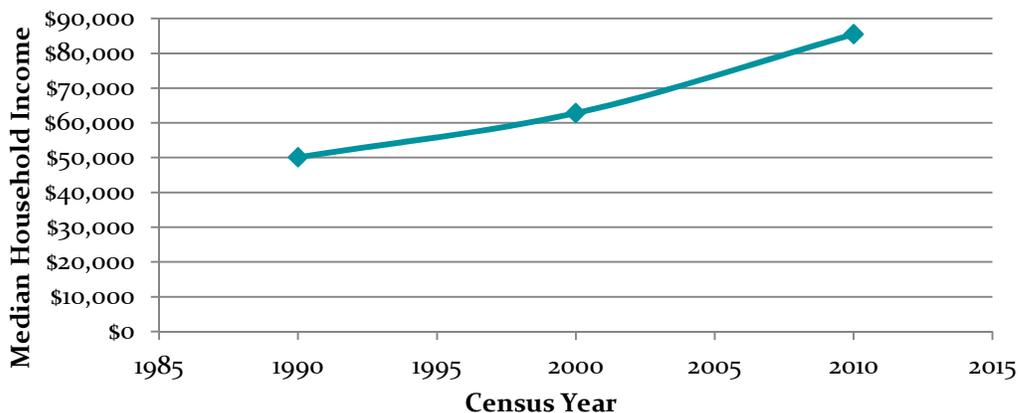
**Figure 3.4 - Town of Millis Projected Population Growth By Age**



### 3.2.3 Households and Income

The 2010 Census indicates that the median household income in Millis is \$85,472. Although lower than nearby communities, this represents a 36.6 percent increase from 2000. This percentage increase is within a similar range of the percentage increase experienced by nearby communities.

**Figure 3.5 - Town of Millis Median Household Income**



## 3.3 User Needs

CDM Smith implemented a branched approach to collect information and gain an understanding of the perceived need for improvements at the field spaces. First, meetings were held with a wide variety of Town officials, coaches, and directors of athletic programs, field maintenance staff, and other stakeholders to collect information pertaining to existing practices regarding use, scheduling, and maintenance. These meetings and discussions helped to formulate information on opinions and perceived needs for more and enhanced athletic and recreation facilities.

CDM Smith, with assistance from the Field Advisory Committee, developed, publicized and distributed a town-wide survey. The survey was designed through SurveyMonkey®, an on-line services used to collect data, opinions, research topics, etc. Over 500 responses were received and analyzed to record the community's general feeling, opinions and needs with regard to the local athletic facilities. The survey was generated information and conveyed opinions on field use, facility conditions, recreation needs, and suggested improvements. **Appendix C** presents the complete results of the community survey.

The Field Advisory Committee and CDM Smith also scheduled and participated in a community workshop on March 27, 2014. Residents were invited to the workshop to voice their opinion on the master plan for improving existing facilities and to brainstorm about potential solutions to enhance recreation in Millis. The workshop was well-attended and produced additional information that supplemented information received from the community survey.

CDM Smith would like to acknowledge the following Departments, groups and individuals for their help and support during the field needs assessment:

- Residents of the Town of Millis
- Town Administrator's Office
- School Department
- Department of Public Works
- Fields Committee
- Recreation Department
- Conservation Commission
- Historical Commission
- Oak Grove Farm Commission
- User Group Representatives

The following summarizes key findings from the community questionnaire:

- Over 2/3 of survey respondents visited the fields 1-3 times per week.
- Oak Grove Farm Commission land was cited as the primary recreation area and used by over 40 percent of respondents for both active and passive recreation.
- While the primary reason for visiting the field was organized games or practice for a sports league, many respondents also participated in watching games, children drop-off, playing pick-up games, jogging/walking, and passive activities.



*Many departments, groups and members of the community attended several meetings since January and attended a public workshop held on March 27, 2014 in support of this important community project.*

- The vast majority of respondents reach the parks by vehicles, but 15-36 percent also walked or biked at least some of the time.
- The survey also indicated that 79 percent of respondents never or only occasionally visit parks outside of Millis.
- Respondents were generally dissatisfied with the condition of the playing fields and facilities, generally satisfied with the proximity of the fields to homes and schools, and averaged neutral on the availability of field use and adequacy of facilities.
- From the survey results, CDM Smith determined that the following generally reflects the community's opinions for improvements from highest to lowest need:
  1. better turf conditions,
  2. more athletic facility amenities,
  3. renovated/more spectator facilities, and
  4. brighter/more lighted field.
- Based on the number of respondents, the following generally represents the need for amenities from highest to lowest need:
  1. renovated/more bathrooms,
  2. more parking, and
  3. more drop-off/pick-up spots.
- Over 80% of respondents felt that scheduling of more practice time is needed to provide more training for in town user groups.
- The majority of respondents would like to see additional walking trails, benches/picnic areas, and landscaping/shading.
- For the payment of new fields, the method that received the highest percentage of strongly in favor was for a town meeting vote and the highest percentage of strongly opposed was for an override.
- The majority of respondents fell into the 30-50 year age group and had an average of two children in their household.

The questionnaire included a comments section for respondents to provide suggestions and open input regarding the master plan. The following summarizes items of concern that were brought up the most frequently by respondents, listed roughly from most to least mentioned.

- Poor conditions at the existing athletic facilities, particularly the high school track.
- Scheduling conflicts and competition with outside user group for field use.
- Methods of funding for construction and maintenance of new facilities.

- Need for a variety of additional passive recreation and athletic facilities (non-fields).
- Need for additional amenities at the fields (e.g., bathrooms, seating, trash bins)

These items of concern do not encompass all of the comments and suggestions from respondents, but rather represent general categories of the concerns most frequently mentioned. **Appendix C** includes all comments provided by respondents to the community survey.

### 3.4 Field Needs

Drawing from the field inventory, on-site evaluations, interviews with stakeholders, and community input, CDM Smith developed a list of specific deficiencies for each field. These lists compliment the evaluations summarized in Section 2, and consist of the following:

#### Town Park

- At least two of the pitcher's rubbers are peeling and should be replaced.
- Various bases were missing and/or need to be replaced.
- Most of the spectator seating should be refinished.
- Due to location and orientation, errant balls from either field may pose a hazard to participants or spectators at adjacent fields.
- Fields exhibit significant early spring mud and ruts in some areas.
- Tennis courts have moderate cracking.
- Baseball fields are not facing optimal orientations.
- Complex would benefit from additional parking.

#### High School Fields

- Baseball field is small (i.e., does not meet MIAA size requirements) and not facing optimal orientation.
- Football field has poor drainage on the southern end is not facing optimal orientation.
- The track is cinder and does not meet current MIAA regulations.
- The track and a drainage ditch on the southern end pose possible tripping hazards.
- Due to the close proximity of the baseball and football fields, participant and spectators risk injury from participant play and errant balls from either field.
- There is no formal access to the spectator seating and press box is not ADA compliant.
- There is flooding near Frog Pond during rain events.
- Fencing, dugouts, and backstop would benefit from mow strips.

#### Clyde Brown

- The existing drainage system targets the field as a collection point for stormwater runoff from the parking lot and roadway and the current field layout promotes the constant and regular wet conditions of the playing surface.
- The current condition of the natural turf demonstrates a lack of rest time between practices and games. This condition also demonstrates field use following rain events and before the turf has sufficiently dried.
- Turf has several large bare patches, which are associated with significant wear from overuse and poor field drainage.

#### Gerry Sisto Baseball Field

- Rubber on the pitcher's mound needs to be reset.

- Scoreboard posts, dugouts, and spectator seating should be refinished.
- No formal access to the spectator seating.
- Mud in the clay infield indicates drainage issues.
- Field orientation is not optimal.

### Oak Grove

- The dugout fencing posts are bent at the southern softball field.
- The northern softball field has a large dip in left outfield along the third base line, which creates a trip and safety hazard.
- Turf is worn in the outfield of the southern softball field.
- Both fields exhibit signs of excessive weed growth and have experienced wet conditions caused by poor drainage.
- Adjacent roadways are in poor condition and dust presents a nuisance and potential hazards on windy days.
- The soccer fields appear to have been damaged recently by vehicles driving on turf.
- Existing parking on Island Road lacks a formal layout and is not large enough to meet current needs.

CDM Smith understands that our site visits and inspections were performed after a harsh winter season and prior to the Town's spring cleanup and turf maintenance activities. Therefore, some of the observed needs and deficiencies may have been mitigated or improved prior to the spring playing season.

## 3.5 Field Use and Turf Condition

As with most communities in the inclement northeast, the major obstacle facing municipalities and athletic field maintenance crews is preventing overuse of natural turf fields and providing sufficient rest between play periods and after rain events. Also, Millis has been challenged by high demand for use on existing fields due to the recent success and popularity of the youth and high school sports programs. While this situation is a positive and healthy for the community, the existing recreation complexes and the natural turf fields have deteriorated due to overuse and limited rest periods, which are necessary to maintain a quality playing surface. As part of CDM Smith's evaluation of potential improvements, synthetic fields, which can accommodate higher use, were considered as replacements for some of the existing, overused fields.

### 3.5.1 Frequency of Field Use

A well-maintained natural turf field can accommodate approximately one game/day and 180 games or practices per year without compromising quality. While researching field use in Millis, CDM Smith determined the average field plays (including both games and practices) for fields where data was available and listed this information in **Table 3.1**. In addition to the plays shown in the table, we understand that additional use may have occurred but was not documented. For example, the public schools also use some of the fields for recess and that football practices that would be held on the football field are held in a meadow adjacent to it. Additionally, since management of the different programs is performed by several different agencies, the availability of information varied. Also, representatives of the in-town youth leagues have indicated that there is a need for additional use of field space for practices, especially in Little League baseball; however, the primary objective for scheduling is to accommodate games first and practices for the youth leagues receives the lowest priority.

**Table 3.1 – Field Use Summary**

Field	Games/Practices per Season	Season	Plays per Year
<b>Town Park</b>			
Boys and Girls Freshman, JV, and Varsity Soccer	240	Fall	480
JV and Varsity Softball	80	Spring	
MYBS Softball and Baseball	80	Spring and Summer	
<b>High School Football Field</b>			
Freshman, JV, and Varsity Football Games	15	Fall	75
Soccer Games	60	Fall	
<b>High School Baseball Field</b>			
Freshman and JV Baseball	80	Spring	80
<b>Clyde Brown Field</b>			
High School Soccer Practices	180	Fall	416
In-town Recreation Soccer	52	Spring and Fall	
In-town Flag Football	52	Fall	
Soccer Club	40	Spring and Fall	

### 3.5.2 Impact of Field Use on Natural Turf Condition

As seen in **Table 3.1**, the Town uses many of the fields for practices and games at a much higher rate than optimal for maintaining appropriate quality natural turf fields. The current frequency of use damages the fields and compromises the safety of youth and high school athletes while also prohibiting expansion of current programs or the start of additional sports (e.g., lacrosse). This poor turf conditions also impacts the level of play (i.e., high school players will have a higher impact on the turf conditions than elementary and middle school players) and may prevent the use of field where the MIAA has objected to field conditions and discussed cancelling high school games at Millis facilities.

In addition, most fields require rest and maintenance commensurate to the level of play to appropriately operate the facilities even for the recommended 180 game season. The Clyde Brown Field especially has a high combination of over-use/high-impact players versus its intended capacity. Therefore, CDM Smith recommends that the Town consider synthetic fields to replace some of the overused and damaged fields.

Natural turf field renovation and/or reconstruction require a one-week turf grow in period to establish a durable playing turf. Circumventing this period may result in field compaction and a substantial turf surface subject to rutting, ponding and bare spots.

### 3.6 Comparison to Synthetic Turf Fields

Synthetic fields are considered advantageous in some situations as they are capable of accommodating higher use and turf conditions are not compromised by wet conditions. Use of a synthetic field is limited only by scheduling and field play can be greatly increased through the use of lighting for

increased nighttime play. Synthetic fields require limited maintenance in order to maintain a safe, high quality playing space. Maintenance typically consists of a regular schedule of adding and maintaining infill, repainting lines, and sweeping to remove trash/debris. Yearly monitoring of the field consists of checking seams, connection to turf curb and GMAX testing to monitor field compaction. Maintenance of the infill is especially important, as the fill can migrate and compromise the quality of the field. The fields can be plowed if a plastic cover is placed on the blade and proper guidelines are followed. Replacements of the fields is anticipated every 8-10 years; however replacement costs are significantly less than the initial capital costs for new construction.

### 3.6.1 Lifecycle Cost Comparisons for Synthetic vs. Natural Turf Fields

The lifecycle cost comparison between natural and synthetic turf is heavily dependent on the number of games played. As previously stated, a natural turf field can reasonably support approximately 180 games given the proper maintenance while the use of a synthetic field typically ranges from 500 to 600 games and practices per year. Due to the increased capacity, the total lifecycle cost (over 8-10 years) of a synthetic field is less than a natural turf. **Figure 3.6** provides a breakdown of the lifecycle cost comparison between natural and synthetic turf fields.

# Cost Comparison of Natural Turf Field and Artificial Turf Field (8 Year Cycle)

Construction Costs (for 80,000 sf field)				
Natural Turf Field	Seed	Sod	Artificial Turf Field	Range
Seed & mulch/sand based sod	\$20,000	\$80,000	2.5 inch carpet w/2" rubber-sand infill	\$325,000 – \$425,000
Grow-in maintenance and security	\$25,000	\$10,000	12 inch stone base	\$150,000 – \$200,000
6 inch sandy loam layer	\$55,000	\$55,000	Concrete edge restraint	\$45,000
6 inch sandy gravel drainage layer	\$40,000	\$40,000	Underdrain system	\$100,000 – \$125,000
Underdrain system	\$40,000	\$40,000	Subgrade preparation allowance	\$15,000
Subgrade preparation allowance	\$15,000	\$15,000	Existing soil removal and disposal	\$50,000
Irrigation system, service & controls	\$40,000	\$40,000		
<b>TOTAL</b>	<b>\$235,000</b>	<b>\$280,000</b>	<b>TOTAL</b>	<b>\$685,000 – \$860,000</b>

Construction costs are for required infrastructure only and do not include site amenities, engineering fees and other implementation costs.

Annual Maintenance and Refurbishing Costs			
Natural Turf Field	Annual Cost	Artificial Turf Field	Annual Cost
Insect control (1x @ \$600)	\$600	Field grooming & GMAX testing (2x@\$3000)	\$6,000
Crabgrass / weed control (1x@\$600)	\$600	Seasonal field line painting (2x@\$2,500)	\$5,000
Core aeration (2x@\$650)	\$1,300	Miscellaneous repairs	\$1,500
Deep tine aeration (1x@\$1,500)	\$1,500	<b>SUBTOTAL ANNUAL MAINTENANCE</b>	<b>\$12,500</b>
Top dress (2x@\$1,500)	\$3,000		
Slice seed (2x@\$1,000)	\$2,000		
Fertilizer (3x\$800)	\$2,400		
Lime (1x@\$500)	\$500		
Irrigation maintenance	\$2,000		
Mowing (32x@\$150)	\$4,800		
Field line painting	\$3,000		
Irrigation water allowance	\$3,000		
Miscellaneous	\$500		
<b>SUBTOTAL ANNUAL MAINTENANCE</b>	<b>\$25,200</b>		
<b>8 year cycle maintenance cost</b>	<b>\$201,600</b>		
Field renovation (sod) (year 6 @ \$100,000)	\$100,000		
<b>TOTAL 8 YEAR COSTS</b>	<b>\$301,600</b>		

Number of Plays (annual and per 8 year cycle)					
Natural Turf Field	Annual	8 years	Artificial Turf Field	Annual	8 years
7 mos @ 30 days less 15% rain days @ 1 play per day	179	1432	9 mos @ 30 days @ 2 plays per day	540	4320
2 year field loss for establishment & repairs	179	-358	Down time for establishment or repair	none	
<b>Number of plays in 8 year cycle</b>		<b>1074</b>			<b>4320</b>

**Construction Cost (average)**  
 Natural Turf = \$257,500  
 Artificial Turf = \$772,500

**Maintenance Costs 8 Year Cycle**  
 Natural Turf = \$301,600  
 Artificial Turf = \$100,000

**TOTAL 8 Year Cycle Costs**  
 Natural Turf = \$558,100  
 Artificial Turf = \$872,500

**TOTAL Costs per Play (2 hour game)**  
 Natural Turf = \$520  
 Artificial Turf = \$202  
 Artificial Turf with Lights = \$186  
 Artificial Turf with Lights & Replacement = \$244

## Section 4

### Recommendations

#### 4.1 Recommended New Field Construction and Existing Field Maintenance Alternatives

Based on the results of the needs assessment, CDM Smith has developed a variety of alternatives to increase the quantity, quality and availability of field space. These included scenarios of increasing maintenance on existing athletic fields, replacing existing natural athletic turf fields with synthetic fields, re-orienting existing fields, constructing new fields in town-owned properties, and increasing the availability of passive open space activities.

In this section, CDM Smith has provided the alternatives for new athletic field construction and open space improvements for consideration by the Millis Field Advisory Committee and Board of Selectmen, based on feedback from the community, Town Departments, local youth athletic groups, special interest groups and past and present Field Advisory Committees. We have also provided recommendations to enhance the Town's on-going maintenance program for the existing athletic fields in the discussion below.

#### 4.2 New Athletic Fields and Walking Trails Improvements

Following the community engagement and facility assessment phases of the project, CDM Smith recommends the following capital improvements to enhance the Town's active and passive recreation and open space areas. These improvements will enhance existing recreation facilities while also including new natural turf soccer fields at Oak Grove and baseball fields at the Cassidy Property to provide the needed field space for the in-town soccer and little league baseball youth groups. We have also presented improvements that will help mitigate overuse of existing natural turf fields and allow for much needed resting and turf re-growth at these facilities. The High School improvements will provide contemporary facilities that meet Massachusetts Interscholastic Athletic Association (MIAA) requirements for both dimensions and playing surfaces.

##### 4.2.1 New High School Baseball Field

CDM Smith assessed several options for improving or relocating the existing high school baseball field. The major objective is to increase the dimensions of the outfield since the distances to the outfield fence do not meet current MIAA standards. The Field Advisory Committee was very thorough and diligent about assessing and critiquing many different locations for the new high school baseball field. They discuss the advantages and disadvantages for each site and we have discussed these optional locations below.

###### 4.2.1.1 Modify High School Baseball Field at Current Location

For the Town to increase these dimensions and maintain the field in its current location, the Field Advisory Committee discussed two potential alternatives to accommodate the MIAA regulations which we have described below.

1. Move the baseball field to the north and west into the high school parking lot.

2. Maintain the current configuration and expand the outfield into the wetlands areas to the south and east.

The alternatives are not ideal because they incur additional costs and could significantly affect the project schedule. The first option will decrease the already limited available parking thereby creating a need for construction of more parking on campus where space is limited. Also, by relocating the baseball field to the parking lot area, the high school baseball team(s) would be playing all road games for one and potentially two seasons, while the new field is constructed and the new natural turf is fully established.

For the second option, the baseball field modifications would require extensive permitting in the effort to expand the outfield into the wetland areas. This permitting process would be costly, extensive and would extend the design phase of the project significantly with the potential for denial of the modifications by either the Millis Conservation Commission or Massachusetts Department of Environmental Protection (MADEP).

#### **4.2.1.2 New High School Baseball Field at Gerry Sisto Field (Figure 4-1)**

CDM Smith and the Field Advisory Committee also investigated relocating the high school baseball field to Gerry Sisto field property, which is currently occupied by a Millis Little League baseball field. As discussed in Section 2, this parcel was designated as School Department property for school purposes during the 1957 Fall Town Meeting. While the potential for locating the baseball field at Gerry Sisto field would accommodate the high school's future athletic facility needs, the dimensions of a high school field would significantly affect current Town infrastructure and operations at both the Town Park and the schools due to the following impacts.

1. Eliminates Town roads (Monroe Street and a portion of Park Road)
2. Impact traffic patterns to schools and Town Park
3. Extends the new field into Town Park land
4. Remove established trees on the Town Park
5. Eliminates two little league baseball fields
6. Affects availability of field space for the in-Town little league practices and games

Due to these impacts to the Town Park, its facilities and operation of the Millis Little League, the Field Advisory Committee decided not to pursue the relocation of the high school baseball field to the Gerry Sisto field and the surrounding Town Park area.

#### **4.2.1.3 New High School Baseball Field at Town Park (Figures 4-2 through 4-4)**

Next, the Field Advisory Committee asked CDM Smith to evaluate relocating the high school baseball field to several locations on the Town Park. The challenge of this approach was to limit potential impacts to existing fields and facilities while also providing a baseball field that at least meets the minimum MIAA standards and dimensions for a high school field. CDM Smith presented several alternative locations for the new baseball field for consideration by the Field Advisory Committee as shown in **Figures 4-2 through 4-4**.

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The Committee had extensive discussions and debate on each location and their primary goal was to avoid as many of the obstacles and disadvantages highlighted above in the Gerry Sisto alternative. With this approach to replacing the substandard existing baseball field, Millis will:

- Significantly minimize impacts to existing infrastructure
- Maintain use of most existing high school and Town Park athletic fields throughout construction
- Eliminate any impacts to wetland resources adjacent to the existing baseball field
- Provide facility that meets minimum MIAA standards
- Maintain existing parking while providing an opportunity to expand parking, as needed, following construction of the new baseball field

<b>Relocate the Existing High School Baseball Field to Town Park</b>	
<i>Field Details</i>	<ul style="list-style-type: none"> <li>▪ Baseball Diamond to meet MIAA high school minimum field dimensions</li> <li>▪ Dugouts</li> <li>▪ Perimeter Fencing</li> <li>▪ Increased parking lot area</li> </ul>
<i>Benefits</i>	<ul style="list-style-type: none"> <li>▪ Will increase the size of the existing baseball field and keeps it close to the public schools</li> <li>▪ Does not encroach on wetland areas</li> <li>▪ Minimizes impact to existing fields at Town Park</li> <li>▪ Provides area at the location of the existing baseball field to build new girls' softball field on campus without disturbing existing wetlands</li> <li>▪ May provide surplus gravel fill material for future use by the Town</li> </ul>
<i>Considerations</i>	<ul style="list-style-type: none"> <li>▪ Will move a school field partially onto public land</li> <li>▪ Basketball and tennis courts will be relocated into wooden hill between high school and Clyde Brown Elementary School</li> <li>▪ Will require tree removal and extensive grading</li> <li>▪ Will impact parking and the portion of Park Road between Monroe Street and the high school</li> <li>▪ Eliminates vehicle access between Town Park and the high school</li> </ul>

With information generated during several public meeting and after extensive discussion and deliberations during their meetings, the Field Advisory Committee recommended locating the new High School baseball field in Town Park over the existing basketball and tennis courts as shown previously in **Figure 4-4**. Under this option, the High School girls' softball field can be located on the school campus at the current location of the high school baseball field after the new Town Park baseball field is operational.

The Committee made this recommendation to the Millis Board of Selectmen (BOS) with the understanding that a preliminary design phase would be initiated first for all proposed new athletic field improvements in Town. By performing a preliminary design as the next step in the process, the BOS, Fields Advisory Committee and residents of Millis will have a more detailed and complete understanding of the future construction along with more accurate project costs.

### 4.2.2 New High School Stadium Field for Football, Soccer and Track (Figure 4.5)

CDM Smith recommends that the Town of Millis construct a new high school stadium field to accommodate football, soccer, track and future lacrosse programs at the middle and high schools. As discussed at several public and Field Advisory Committee meetings, the MIAA has documented that the current facilities do not meet their minimum standards for athletic facilities. If the facilities are not significantly improved, the Millis school system may forfeit the right to host and entertain future MIAA sanctioned athletic events at the existing school facilities.

Under current conditions, the high school track team cannot practice on the existing cinder track and must travel to other schools for all of their track meets. Without significant improvements to the existing natural turf field, the Middle and High School's football and soccer teams may be relegated to have all road games should the MIAA rule that the current turf is unsafe and therefore, not playable.

<b>Replace the Existing High School Football Field with a Synthetic Field and Track</b>	
<i>Field Details</i>	<ul style="list-style-type: none"> <li>▪ 360' x 195' football field</li> <li>▪ 400 meter, six-lane track with high jump, pole vault, and long/triple jump area</li> <li>▪ Spectator seating (capacity to be determined during preliminary design phase)</li> <li>▪ Lighting</li> <li>▪ ADA accessible press box</li> <li>▪ Restroom facilities to meet Massachusetts' plumbing codes (determined during preliminary design)</li> <li>▪ Perimeter Fence</li> <li>▪ Public Address (PA) System</li> </ul>
<i>Benefits</i>	<ul style="list-style-type: none"> <li>▪ New field will be built in an optimal orientation</li> <li>▪ Will service multiple sports (e.g., football, soccer, track, lacrosse)</li> <li>▪ Synthetic turf field and lighting will greatly increase the amount of available playing time</li> <li>▪ Synthetic turf field reduces life-cycle project and maintenance costs</li> <li>▪ Increase play on new synthetic turf field reduces use and wear on existing natural turf fields</li> <li>▪ Will improve field drainage by providing underground storage (sub-drain system)</li> <li>▪ Provides area for new softball field on high school Campus</li> </ul>
<i>Considerations</i>	<ul style="list-style-type: none"> <li>▪ Permitting required due to close vicinity of wetlands</li> <li>▪ Track located close to existing parking lot</li> </ul>

**Figure 4.5** presents the recommended orientation of the recommended new stadium facility at the High School which will be accommodated by moving the baseball field to Town Park. The final location and facilities will be determined during the final design phase.

### 4.2.3 New Clyde Brown Synthetic Turf Field for Soccer and Flag Football (Figure 4.6)

Following discussion with Town departments, youth group officials and the Field Advisory Committee, CDM Smith learned that the Clyde Brown field is used by many different groups including High School soccer for practice, Millis Youth Soccer and the Recreation Flag Football league. With continued use by these groups over several seasons with no rest, we observed considerable wear and damage to this natural turf field.

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Following our meetings and discussions with the Field Advisory Committee, CDM Smith is recommending that a synthetic field and lighting be constructed on the current Clyde Brown Elementary School field. As discussed above for the recommended high school synthetic turf field, the new Clyde Brown turf field will help to rest existing natural turf fields at Town Park and the Oak Grove Farm Commission soccer fields, while also providing extended seasonal and nighttime use due to the synthetic turf playing surface and lighting, respectively.

<b>Replace the Existing Natural Turf Field with a Multi-Use Synthetic Field</b>	
<i>Field Details</i>	<ul style="list-style-type: none"> <li>▪ 240' by 180' field</li> <li>▪ Lighting</li> <li>▪ Temporary striping</li> <li>▪ New soccer goal posts</li> </ul>
<i>Benefits</i>	<ul style="list-style-type: none"> <li>▪ Will increase use on the field without compromising field quality</li> <li>▪ Synthetic turf field and lighting will greatly increase the amount of available playing time</li> <li>▪ Not located near wetlands</li> <li>▪ Will improve drainage by providing underground storage (sub-drain system)</li> <li>▪ Increase play on new synthetic turf field reduces use and wear on existing natural turf fields</li> </ul>
<i>Considerations</i>	<ul style="list-style-type: none"> <li>▪ Size limitations restrict the size to an 8 v 8 soccer field</li> </ul>

#### 4.2.4 New Oak Grove Farm Soccer Fields (Figure 4.7)

With our field observations and following meetings with Town officials and the Oak Grove Farm Commission, CDM Smith learned that the Oak Grove Farm Commission soccer fields exhibit extensive wear and compaction due to excessive use. During our assessment of this passive and active recreation parcel, we also observed access and parking concerns due to existing road conditions, traffic concerns on Route 115 and limited available parking.

<b>Add Two Additional Natural Turf Soccer Fields</b>	
<i>Field Details</i>	<ul style="list-style-type: none"> <li>▪ One 8 v 8 soccer field (240' x 180')</li> <li>▪ One 11 v 11 soccer field (300' x 180')</li> <li>▪ Expand and create a formal layout at lower parking area</li> </ul>
<i>Benefits</i>	<ul style="list-style-type: none"> <li>▪ Nearby to existing facilities</li> <li>▪ Proposed soccer fields have a limited impact on nearby wetlands, mitigating permitting efforts</li> <li>▪ Provides additional parking</li> <li>▪ Reduces use and wear on existing fields by allowing the resting of natural turf fields</li> </ul>
<i>Considerations</i>	<ul style="list-style-type: none"> <li>▪ Would require moderate grading to create a flat surface</li> <li>▪ Nearby a historical landmark</li> <li>▪ Within the buffer zone of delineated wetlands, requiring some permitting.</li> </ul>

With concerns voiced by the Fields Advisory Committee, the Oak Grove Farm Commission and the youth sports organizations on the overuse and conditions of the Oak Grove Farm Commission land, CDM Smith is recommending that the facilities be used only by in-town user groups to minimize impacts to the natural turf and that the new natural turf soccer fields be constructed so the existing fields can be rested.

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**Figure 4.7** illustrates the location of the proposed soccer fields, which will be further assessed during the preliminary design phase to finalize the size and exact location of these natural turf fields. The preliminary design will also include the assessment of potential impacts on nearby wetlands and historically significant areas, which are in close proximity. The final parking and roadway improvements will be evaluated and addressed during the final design phase.

#### 4.2.5 New Cassidy Property Little League Baseball Fields (Figure 4.8)

Millis expressed concerns about the potential growth of its youth baseball and softball leagues and the Field Advisory Committee and league officials believe that new fields will be needed for growth and to rest existing natural turf fields. With the concerns about future growth in mind, CDM Smith assessed existing open space in Millis for future development of baseball and softball fields and determined that the southern portion of the Cassidy Property would be the best location for new baseball/softball fields. As documented in Section 2, the Town of Millis cannot construct recreation facilities on the northern portion of the Cassidy Property without amending current state regulations because it is designated as conservation land.

**Figure 4.8** sites four fields to demonstrate the potential maximum build out of the Cassidy Property with baseball and soft ball fields. CDM Smith located four fields to determine the maximum extent of potential growth. During our preliminary investigation, we learned that this property is bordered by vegetative wetlands and may require wetlands restoration on the parcel when developing the parcel with new ball fields. While not in the scope of this project, CDM Smith wetland scientists visited the Cassidy Property and determined that only one or two fields can be constructed on the parcel due to the extent of existing wetlands and the need to replicate wetlands following construction. We, therefore recommend that the Town further assess existing wetlands during the final design phase of recreation improvements at the Cassidy Property.

<b>Add One or Two Little League Baseball Fields and Extend Trail System from Oak Grove Farm Commission Land</b>	
<i>Field Details</i>	<ul style="list-style-type: none"> <li>▪ Varying number of baseball fields (number of fields and field sizes will be determined during preliminary and final design phases)</li> <li>▪ Parking area off of Island Road</li> <li>▪ Roadway improvements to Island Road</li> <li>▪ Additional walking paths (length, location and material for walking paths to be determined during the final design phase)</li> </ul>
<i>Benefits</i>	<ul style="list-style-type: none"> <li>▪ Nearby to Oak Grove Farm</li> <li>▪ Room available for parking</li> </ul>
<i>Considerations</i>	<ul style="list-style-type: none"> <li>▪ Wetlands are located throughout the site; permitting would most likely require wetland replication for displaced wetland areas.</li> <li>▪ The Cassidy Property experiences overland flows and flooding during rain events, which are caused by poor drainage. A storm drainage study would be required during the design phase to recommend potential drainage improvements.</li> <li>▪ The poor conditions on Island Road would be exacerbated by increased traffic. Additionally, field development would increase vehicle to Oak Grove and Cassidy area and pedestrian traffic between Cassidy property and Oak Grove. The increase in vehicle and pedestrian volume would require a study of traffic and parking needs prior to construction of the fields.</li> </ul>

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While meeting with the Field Advisory Committee and Oak Grove Farm Commission, members of both groups expressed concerns about potential parking, drainage and traffic concerns with the development of fields on both the Oak Grove Farm Commission and Cassidy Property lands. During our field inspections, CDM Smith observed the existing road conditions of Exchange Street (Route 115) and Island Road along with the concerns about drainage and parking. We agree that improvements to existing infrastructure will be needed along with the future development of these parcels with passive and active recreation improvements. All of these issues will be investigated in further detail during final design stages

#### 4.2.6 New Passive Recreation Trails in Oak Grove Farm Commission and Cassidy Property Land (Figure 4.9)

Millis Town officials and the Field Advisory Committee have concerns about maintaining the passive recreation areas at both the Oak Grove Farm Commission and adjacent Cassidy Property land, where many Millis residents walk and run on existing nature trails and also walk their dogs. Town officials are cognizant of the enjoyment of and need for passive recreation and wanted to enhance and improve the natural environment from a passive recreation perspective. With this information and the Town's concerns about enhancing passive recreation in mind, CDM Smith recommends that the Town construct a new and longer trail system on both properties which will enhance and extend on the existing trails system. **Figure 4.9** provides the preliminary layout of the new trail system, which is approximately 3 miles long and will be confirmed as this project moves forward.

### 4.3 Recommended Improvements and Maintenance for Existing Facilities

Based on feedback from the community and the results of field inventory and evaluation, CDM Smith recommends the following remediation improvements and maintenance alternatives to enhance existing fields and improve playing conditions for the community and outside users.

#### 4.3.1 Town Park Fields Maintenance Improvements

<b>Grading and Minor Aesthetic Improvements and Increased Maintenance on Existing Fields</b>	
<i>Recommended Improvements</i>	<ul style="list-style-type: none"> <li>▪ Small grading issues create drainage problems and an uneven playing surface. Re-grading the playing surface would correct these issues. Fields would also require topdressing and over-seeding.</li> <li>▪ Due to poor drainage, the infield becomes muddy during rain events. Drainage improvements and re-grading that convey excess water could alleviate this issue.</li> <li>▪ Replace missing bases and two of the pitcher's rubbers are peeling.</li> <li>▪ Replace sections of fence with bent posts.</li> <li>▪ Refinish spectator seating.</li> <li>▪ Increase maintenance practices to eliminate bare patches and improve playing surface.</li> </ul>



### 4.3.2 Gerry Sisto Baseball Field Maintenance Improvements

#### Drainage, Accessibility, and Minor Aesthetic Improvements

##### *Recommended Improvements*

- Small grading issues create drainage problems and an uneven playing surface. Re-grading the playing surface would correct these issues. Fields would also require topdressing and over-seeding.
- Due to poor drainage, the infield becomes muddy during rain events. Drainage improvements and re-grading that convey excess water could alleviate this issue.
- Reset the rubber on the pitcher's mound.
- Refinish the dugout, scoreboard posts, and spectator seating.
- Create an ADA accessible pathway from the roadway.

### 4.3.3 Oak Grove Farm Commission Fields Maintenance Improvements

#### Drainage, Grading and Increased Maintenance on Existing Fields

##### *Recommended Improvements*

- Close the wooden guardrail access on the corner of Exchange and Island Road to prevent vehicles from driving on existing fields.
- Re-grade the dip between softball fields to eliminate a tripping hazard.
- Replace the older backstops and dugouts at the softball fields.
- Install drainage at softball fields and southwestern corner of the soccer fields to eliminate muddy playing conditions.
- Increase maintenance practices to eliminate bare patches and improve playing surface.

Following our site visits and extensive discussions and meetings with CDM Smith, the Field Advisory Committee eliminated the Village Street Property, Pleasant Street Park, and Dewey Property from consideration for field improvements. The Committee arrived at this decision because all three sites have relatively small open areas that could not effectively accommodate athletic fields or recreation complexes. Woodland clearing would be required for both the Village Street and Pleasant Street Park areas, and the Dewey property is too small and was observed to have wet conditions during our field assessment. Overall, the proposed fields will sufficiently provide athletic fields and recreation facilities for both the school athletic teams and all youth groups for the next 25 years. The recommended improvements will provide facilities that are adequately sized to meet MIAA minimum standards while providing all necessary facilities to promote safe play, an enjoyable experience and high quality conditions for all user groups.

## 4.4 Project Costs and Funding

Based on currently available information and the Field Advisory Committee's recommendations to the Board of Selectmen, CDM Smith developed planning-level costs for the recommended improvements. As this project evolved, both CDM Smith and the Field Advisory Committee agreed that final project costs could not be accurately and completely confirmed due to limited information on the location and extent of existing wetlands resources, subsurface soil conditions and final survey of the site for design accuracy. Following this determination, the Field Advisory Committee, with concurrence from

CDM Smith, prudently recommended that a preliminary design phase be performed as a next phase to better confirm and document total project costs.

#### 4.4.1 Project Costs

**Table 4.1** presents both preliminary and final design phase costs for some projects along with conceptual construction costs estimates for all recommended improvements in the Town's Passive and Active Recreation Master Plan. During meetings with the Board of Selectmen and the Finance Committee, Town officials agreed to provide more accurate total project costs to all interested parties and Millis residents during the fall of 2014 with the goal of garnering support for funding of future construction projects during Town Meeting in November 2014.

#### 4.4.2 Project Funding

Funding for the projects can be generated from a variety of sources. In addition to Town resources, potential costs savings can be found through user fees, public/private partnerships, volunteer donations and fundraising, public and private grants, and leasing field space to private and non-Millis groups.

##### 4.4.1.1 Increased In-Town User Fees

User fees are already in place for most of the in-Town programs that use the fields. CDM Smith discussed these user fees with the user groups and Recreation officials and we believe that these fees must be increase to help pay for the maintenance of existing and new fields. The Town youth sports organizations have already decided to increase user fees to help support and compensate the Department of Public Works and Recreation Department for maintenance activities. However; the full extent of potential fee increases will be determined following final development of construction cost estimates and acceptance of maintenance plans this fall.

##### 4.4.1.2 Public and Private Partnerships

###### *Leasing Agreements*

Public and private partnerships can consist of several different types of relationships. Millis could consider leasing field space to private and non-Millis teams as an option to generate additional funding. This approach is not advisable when considering the current condition of the existing fields but the leasing of fields can and should be investigated after improving existing fields and developing new synthetic turf fields at the High School and Clyde Brown schools. By expanding the availability of fields and play time with new synthetic turf fields and lighting at these locations, the Town can lease playing time at these facilities without impacting in-Town users.

Millis can also consider lease agreements which include conditions for the development of athletic fields by private entities. Under this scenario, outside private organizations fund the capital costs for the development of new facilities in exchange for preferential use of the space on certain times or for a percentage of available time.

###### *Group Advertisements and Charitable Donations*

Other partnerships include advertising and donated money but these options can be limited depending upon Town regulations. Some potential advertising methods could be scoreboard banners, outfield fence signs or field naming rights. Local contractors and vocational schools can also donate labor and materials to mitigate costs. Fundraising by in-Town users is also a feasible option to obtain funds for smaller aspects of the design, such as amenities.

**Table 4-1**  
**Passive and Active Recreation Master Plan**  
**Preliminary and Final Design Costs and Conceptual Project Construction Costs**

Design Project Descriptions	Costs
Preliminary Design Phase for High School Improvements	\$63,000
Clyde Brown Synthetic Turf Field - Final Design	\$98,000
Oak Grove Farm Natural Turf Soccer Fields - Final Design without Parking	\$72,000
Permitting	\$17,000
Geotechnical Evaluation and Subsurface Explorations	\$37,000
Survey (Subconsultant Cost)	\$19,500
<b>Preliminary and Final Design Project Cost</b>	<b>\$306,500</b>

Conceptual Construction Costs <sup>(1)</sup>	Cost
Clyde Brown Synthetic Turf Soccer Field	\$1,200,000
New High School Baseball Field at Town Park Tennis and Basketball Courts	\$780,000
New Tennis Courts (four) and Basketball Court (one)	\$350,000
New High School Synthetic Turf Stadium Field	\$3,270,000
Oak Grove Natural Turf Soccer Fields	\$800,000
Parking for Oak Grove Soccer Complex (150 parking spaces)	\$575,000
Irrigation Well for Oak Grove Soccer Fields	\$90,000
New High School Softball Field	\$250,000
New Cassidy Property Little League Baseball Fields <sup>(2)</sup>	\$250,000
New Oak Grove Farm/Cassidy Property Walking Path (8-foot wide paved) <sup>(3)</sup>	\$100,000/mile
New Oak Grove Farm/Cassidy Property Walking Path (8-foot wide crushed stone) <sup>(3)</sup>	\$65,000/mile
<b>Total Master Plan Construction Costs without Walking Path</b>	<b>\$7,565,000</b>

**Notes:**

- (1) Conceptual project cost are current (April 2014) including 15 percent for contingencies. Costs do not include design fees.
- (2) Project construction costs are for one Little League baseball field. The number of fields will be determined during design.
- (3) Construction costs is for one mile of walking path. The length and location of proposed walking path will be determined during design.

#### 4.4.1.3 Potential Opportunities for Grant Funding

There are many different public and private organizations that offer available grants for recreational activities. Although these grant opportunities are scarce, they do exist and are primarily through nation-wide sports organizations. CDM Smith has listed some potential grant funding programs that may apply to the proposed fields in Millis and will investigate these programs in more detail during the final design phase.

- **MA PARC (formerly Urban Self-Help Program) Small Town Grant** offers grants to purchase parkland, develop a new park, or renovate an existing park. The municipality must have an approved Open Space and Recreation Plan to be eligible.  
<http://www.mass.gov/eea/grants-and-tech-assistance/grants-and-loans/dcs/grant-programs/massachusetts-parkland-acquisitions-and.html>
- **USA Football** offers \$50,000 grants toward the purchase of a synthetic field.  
<http://usafootball.com/fieldgrants>
- **US Soccer Foundation** offers \$15,000 to \$200,000 to synthetic turf, lighting irrigation, and sports courts for multi-use fields that are primarily used for soccer. Building a natural turf field and structures/amenities such as bleachers and fencing are not eligible.  
<http://www.ussoccerfoundation.org/our-grants/>
- **USA Track & Field Foundation** offers grants to youth running clubs for expenses such as equipment, uniforms, meet fees, travel, facility rental, staff and volunteer training, and outreach.  
<http://usatffoundation.org/programs/youth-club-grant/>
- **Baseball Tomorrow Fund** is maintained by Major League Baseball and will provide funds to obtain facilities or equipment necessary for youth baseball or softball programs, among other options.  
[http://web.mlbcommunity.org/programs/baseball\\_tomorrow\\_fund.jsp?content=overview](http://web.mlbcommunity.org/programs/baseball_tomorrow_fund.jsp?content=overview)

## 4.5 Implementation Schedule

Due to the need for additional evaluation, permitting and confirmation of project costs, CDM Smith recommended that the Town move forward with a preliminary design phase to confirm the direction and final project costs for this Comprehensive Passive and Active Recreation Master Plan. We anticipate that the construction of the fields will most likely take place in phased sequencing over a period of years. To mitigate the impact of construction, it is recommended that the schedule for design and construction consist of the following:

- Preliminary Design of the proposed High School, Clyde Brown and Oak Grove fields (includes survey, geotechnical investigations, permitting, and conceptual design)
- Final Design and Construction
  - Clyde Brown Synthetic Field
  - Oak Grove Soccer Fields
  - High School Baseball Field
  - Football and Track Stadium

- New Tennis and Basketball Courts at Town Park
- Girls' High School Softball Field
- Cassidy Baseball Fields

**Table 4.2** shows the anticipated schedules and interruption periods for each field. Grouping design and construction of fields, although present a larger cost at once, would lower costs through savings from mobilization and economy of scale.

## 4.6 Recommended Field Management

To sustain the existing and proposed fields in Town means coordination of the several agencies that currently manage, schedule, and maintain their fields. This means adoption of a centralized plan which provides guidelines for use and maintenance practices. As a first step in the development of such a plan, a list of recommended maintenance best practices for Town fields has been included in **Appendix F**. This program will be further defined following discussions with the Town Administrator and Assistant DPW Director and will include recommendations for equipment needs.

Maintenance of the fields is currently performed by a variety of groups (the DPW, hired landscapers, town organizations, the school department, and volunteers) and levels of available resources vary. It is recommended that these groups adopt a maintenance program that meets the needs for all fields in Town. Additionally, some of the burden of maintenance falls on several jurisdictions when the field has multiple users. Costs to maintain each of these types of fields should be examined individually and split appropriately between the different parties. After reviewing the current DPW budget, CDM Smith believes that this funding is insufficient, and should be reexamined as part of this process. We will discuss current and proposed maintenance efforts for athletic fields with the Town Administrator and Assistant DPW Director further to determine the maintenance tasks that can remain in-house. After determining the level of Town involvement and local contractor assistance, CDM Smith will provide a detailed athletic field and maintenance and management program.

In addition to a need for uniform maintenance practices, as determined in the needs assessment, there is currently no central scheduling entity, leading to confusion and competition over the use of the existing fields. It is recommended that a central entity be established, and given control over all scheduling of field use in Millis, including fields on school property and at Oak Grove Farm. User group priorities can be established on individual fields and enforced by the central entity.

The adoption of a central scheduling agency will mitigate confusion over the use of field space and provide clear steps for reserving field time. Additionally, this will lead to better record keeping of participation, which can then be used in the development of user fees. Municipalities similar to Millis typically use their Recreation Departments as this central scheduling entity. The resources required to perform this duty vary, ranging from a low cost excel spreadsheet, to expensive scheduling programs. The time commitment for running such a program also varies, but could be filled by existing staff, a new part-time position, or volunteers.

**Table 4.2 – Preliminary Field Schedules**

Design	Final Design Period	Construction Period	End of Rest Period	Existing Users Impacted	Anticipated Seasons Lost
<b>Clyde Brown Synthetic Field</b>	2014	2015 (3 months)	0	<ul style="list-style-type: none"> <li>▪ Town Soccer</li> <li>▪ Flag Football</li> <li>▪ Clyde Brown (Recess)</li> <li>▪ Private Soccer Groups</li> </ul>	1
<b>Baseball Field</b>	2015	2016 (6 months)	1-2 Seasons	<ul style="list-style-type: none"> <li>▪ HS Varsity Baseball</li> <li>▪ Clyde Brown (Recess)</li> </ul>	2
<b>High School Football and Track Stadium (Synthetic Field)</b>	2016	2017 (9 months)	0	<ul style="list-style-type: none"> <li>▪ HS Soccer and Football</li> </ul>	1
<b>Oak Grove Soccer Fields</b>	2017	2018 (2 months)	1-2 Seasons	<ul style="list-style-type: none"> <li>▪ n/a</li> </ul>	n/a
<b>High School Softball Field</b>	2018	2019 (6 months)	1-2 Seasons	<ul style="list-style-type: none"> <li>▪ High School Softball</li> </ul>	n/a
<b>Cassidy Baseball Fields and Walking Path</b>	2019	2020 (6 months)	1-2 Seasons	<ul style="list-style-type: none"> <li>▪ n/a</li> </ul>	n/a

