

**MOREHOUSE FARM PARK**  
**DRINKING WATER QUALITY MANAGEMENT PLAN**  
**FINAL DRAFT: SEPTEMBER 2006**

MMI #1811-05



***Prepared for:***

Town of Weston  
Weston, Connecticut

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Appended Figure 2 Site Plan of Pre-Existing Conditions

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- Appendix A Technical Advisory Committee Meeting Minutes
- Appendix B Source Water Assessment Report
- Appendix C Inspection Form
- Appendix D Integrated Turf Management Plan



*Section 1*

## 1.0 INTRODUCTION

### 1.1 Purpose of Drinking Water Quality Management Plan

Morehouse Farm Park (MFP) is a seasonally-used recreational facility owned and operated by the Town of Weston, Connecticut. MFP is comprised of athletic fields, parking areas, and an access road. Refer to Appended Figure 1 for a site plan.

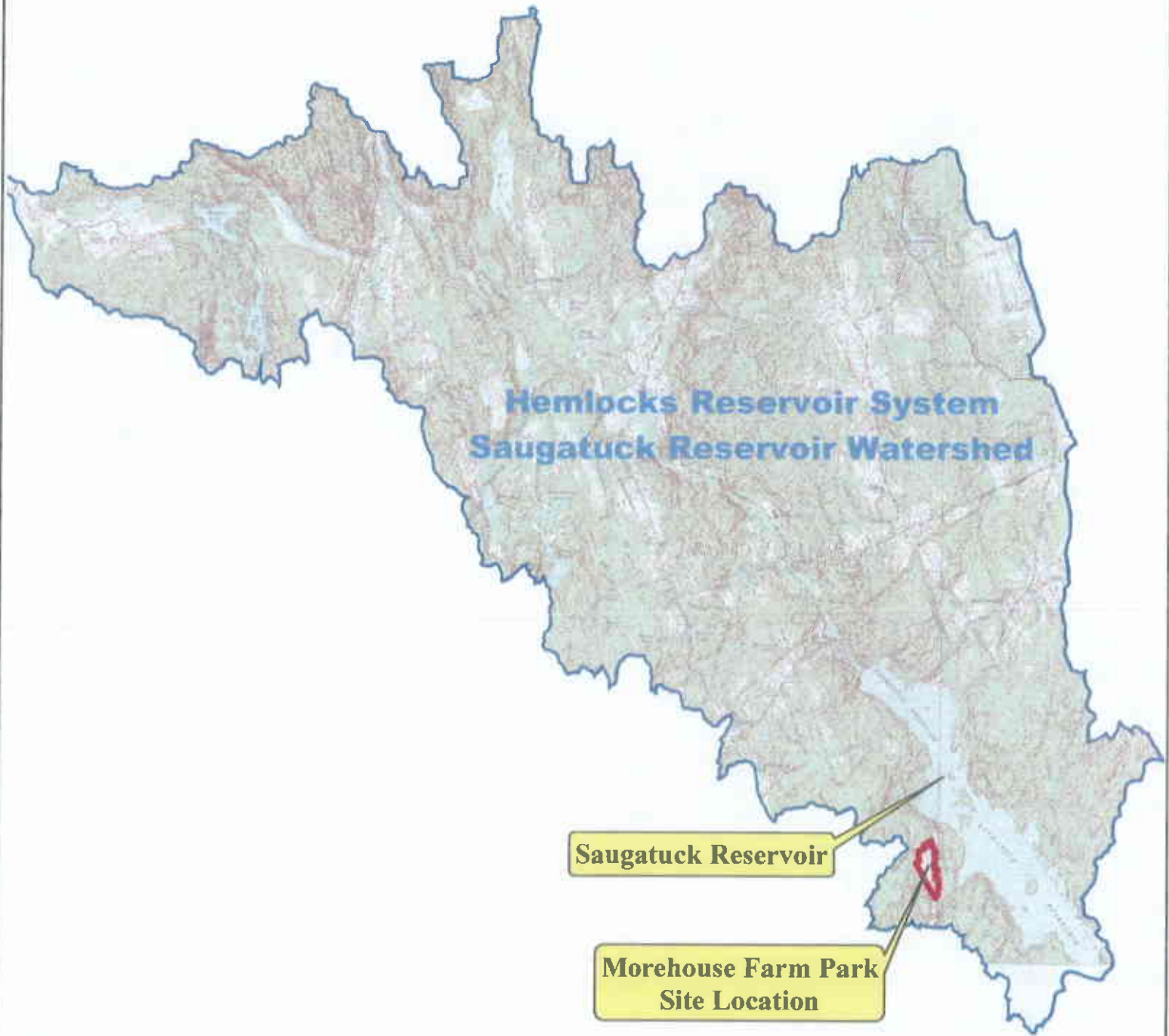
MFP is located west of the Saugatuck Reservoir, an active public water supply source for Aquarion Water Company. Because the site is located in the watershed of the reservoir, and the Town of Weston is a regulated water utility due to its operation of a water system at the Town Hall / school complex, MFP lies on regulated public water supply watershed land. Figure 1-1 depicts the site in relation to the reservoir and its watershed.



The subject Drinking Water Quality Management Plan (DWQMP) was developed in accordance with the requirements of part 11 (c) of Consent Order DWD 04-157-274. As specified in the Order, *"a draft water quality management plan is a plan that maximizes efficient and effective management practices at the Morehouse Farm Park site to protect the Saugatuck Reservoir and promote the public health, safety and welfare."* The goal of the DWQMP is to ensure that activities associated with daily operations and existing conditions of MFP will not adversely impact water quality within the Saugatuck Reservoir and its watershed.

### 1.2 Drinking Water Quality Management Plan Background

Drinking water consumption can directly affect public health if source water quality is compromised. Drinking water that is contaminated at the source can endanger and increase risks to public health. Meanwhile, reliance on treatment technology alone to remove contaminants of concern has increasing technical and financial limitations.





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	MMI#: 1811-05 MXD: H:fig1_1.mxd SOURCE: DEP Bulletin No.40		<b>Site Location &amp; Saugatuck Reservoir Watershed</b>	
			SHEET: <b>Figure 1-1</b>	

Therefore, source protection is a vital component of the EPA Source Water Collaborative strategy. Source protection serves as the initial barrier to contaminants entering drinking water supplies, increasing the efficiency and cost effectiveness of available treatment, while maintaining the relatively low cost of public water to the consumer.

DPH believes that a locally based comprehensive planning mechanism is necessary to provide adequate drinking water source protection to public source water areas. In concept, the DWQMP is a tool for long-term public health protection and sustainability of the State's public drinking water supplies that provides a public voice for each watershed community. To date, few locally based, comprehensive, stakeholder-involved, implementation planning tools exist with the intent of protecting the State's drinking water quality. The MFP DWQMP will be one of the first.

### **1.3 Development of Plan**

As the manager of the MFP site, the Town of Weston Parks & Recreation Department is responsible for overseeing the development of the DWQMP, and subsequent implementation of the plan. A technical advisory committee was convened by the Parks & Recreation Department to develop the plan. The advisory committee includes stakeholders with keen interest in the project site and the Saugatuck Reservoir, ranging from a local resident, to local and state governmental agencies:

- Mr. David Ungar, Director, Town of Weston Parks & Recreation Department;
- Mr. Woody Bliss, First Selectman, Town of Weston;
- Mr. Cory Attra, PE, Chair, Town of Weston Conservation Commission;
- Ms. Paula Pendleton, Connecticut Department of Public Health (DPH) Drinking Water Division;
- Mr. Ernie Albin, Resident and Neighbor of MFP, Town of Weston;
- Ms. Sally Harold, The Nature Conservancy;

- Mr. Brian Roach, Aquarion Water Company; and
- Ms. Sue Jacozzi, Westport-Weston Health District.

Meetings with the technical advisory committee were held on January 18, March 1, and April 24, 2006. Copies of meeting minutes are included in Appendix A.

This DWQMP was developed in accordance with guidelines and recommendations in the U.S. Environmental Protection Agency (EPA) document entitled *"Draft Handbook for Developing Watershed Protection Plans to Restore and Protect Our Waters,"* dated October 2005; and guidelines of the DPH as included in the presentation *"Drinking Water Quality Management Planning,"* presented in May 2006. According to the DPH presentation, the following elements of a DWQMP are possible and/or recommended:

1. Community based, allowing for community empowerment
2. Development of planning and implementation team
3. Stakeholder identification and involvement
4. Local municipal and public water system partnerships
5. Water quality tracking and protection measures
6. Proactive local land use planning and strategies
7. Best management practices
8. Preservation and protection of critical land areas
9. Public water and sewer identified growth areas
10. Low impact development techniques
11. Stormwater management and controls
12. Recreational opportunities
13. Water quality controls for existing development
14. Nonpoint source management
15. Water quality education
16. Integration of other water quality programs

17. Implementation components
18. Ongoing implementation team meetings

Because these elements are possible for plans of many scales (with some watersheds encompassing many communities), some would not apply to the MFP DWQMP. In particular, elements 8, 9, and 10 are not applicable to MFP, as they pertain to developable land and numerous separately-owned parcels in entire watersheds.

#### **1.4 Plan Objectives**

Early in the development of the DWQMP, it was determined that the plan must include a list and description of any and all present and future on-site activities and processes at MFP site, an analysis and evaluation of the potential hazards any of these activities and/or processes may pose to drinking water supply of the Saugatuck Reservoir, and a description of control measures, emergency plans and corrective actions needed to address each identified activity and/or process at the site. Identified activities and processes to address in the plan included the following:

- Storm water design, measures, maintenance, control and treatment;
- Chemical application, use, handling, and storage;
- Fuel use, handling, and storage;
- All other processes involved in field maintenance;
- Impervious surface design and maintenance,
- Ball field design;
- Roles, responsibilities, and enforcement of plan and processes;
- Periodic water quality testing, monitoring, and reporting program;
- Potential future change of use of the parcel from its current recreational use;
- Future adjustments to address water quality degradation;
- Emergency spill control and containment;
- Parking and vehicle restrictions;



- Activities allowed including restrictions and controls;
- Signage and visitor notification concerning site restrictions and sensitivity; and
- Waste collection, control, and disposal.

The DWQMP must identify the roles and responsibilities of the individuals or groups that would assure implementation and compliance with the plan.

### **1.5 Schedule for Plan Development and Implementation**

The Consent Order specifies the following timetable for plan development and implementation:

- *10/31/2006 – Draft Drinking Water Quality Management Plan due*
- *1/30/2007 – Deadline for public meeting and public comments*
- *6/2/2007 – Final Drinking Water Quality Management Plan due*
- *10/20/2007 – Deadline for Implementation of Management Plan*

As required by the Consent Order, this Draft DWQMP has been prepared before the deadline of October 31, 2006.

### **1.6 Exclusions and Limitations**

Early in the process of developing the DWQMP, it was realized that the plan does not, and can not, address land use and activities located beyond the boundaries of MFP. This is an important distinction because the watershed of the Saugatuck Reservoir is 22,212 acres in size, compared to the 33 acres in the MFP site. However, even with its small contribution to the entire watershed, activities on MFP have the potential to affect water quality.



As a separate effort, the Town of Weston has implemented a program to monitor ground water levels at private water supply wells located west of MFP, and at a bedrock observation well located on the MFP site. This monitoring program was designed to evaluate potential impacts of irrigation water withdrawals on the bedrock aquifer. While this remains a topic of interest to the Town and the neighbors, it does not have any bearing on the development and implementation of this DWQMP. The Parks & Recreation Department should be contacted for additional information about the ground water level monitoring program.

### **1.7 Plan Updates**

The Consent Order specifies that the DWQMP must be updated a minimum of ten years after the initial development. Thus, the Parks & Recreation Department will be charged with reconvening a technical advisory committee before the year 2017. However, the option remains to update and amend the DWQMP as needed before then. Provisions for more frequent updating are discussed in the applicable sections of this DWQMP.



*Section 2*

## 2.0 WATERSHED INVENTORY

### 2.1 Historical Land Use

MFP is located at 478 Newtown Turnpike in Weston, Connecticut. The site is approximately 33 acres in size, and was owned and operated by the Morehouse family prior to its sale to the Town of Weston in 2002. Historically, the site was occupied by two buildings, a dirt access road, and several open grass fields as explained below. Appended Figure 2 illustrates these pre-existing conditions.

The open fields were historically used for tree farming. The tree farm was characterized by natural growth of native grasses between the rows of low grade hardwoods. No record of chemical controls for the fields is available. The property was minimally maintained to categorize the land use as agricultural, thus minimizing taxation of the property.

The majority of the site was wooded with an intermittent stream and wetland corridor along the western boundary, an exposed bedrock ridge on the eastern boundary, and steep grades towards the south southeast of the site. The eastern boundary is bordered by State Highway Route 53, also known as Newtown Turnpike.

A single family residence was located in the southwest section of the property off of Newtown Turnpike. A one-story barn was located approximately 300 feet northeast of the residence. The improved driveway leading to the residence and barn was approximately 10 feet wide and consisted of wheel compacted soil. The access road continued north through the open fields along the western boundary, then continued northeast through the property.

## 2.2 Hydrology

The entire MFP site lies within the Saugatuck River drainage basin. The Saugatuck River drainage basin is identified as basin #7200 and is 22,200 acres. The sub-watershed that MFP lies within is much smaller. Figure 2-1 illustrates the sub-watershed and delineates the drainage basins for the northern and southern watercourses associated with the site.

The delineated sub-watershed of MFP and the surrounding residential area has an area of 317 acres, which is approximately 1.5% of the total Saugatuck River drainage basin. The focus of the DWQMP is directly related to this sub-watershed and will focus on this area, as opposed to planning for the entire Saugatuck River drainage basin.

The MFP watershed includes two watercourses to the northeast and southeast of the site that eventually empty into the Saugatuck Reservoir. The first watercourse flows through the southern portion of the site and the second is located approximately 120 feet north of the site. The watersheds of each stream have been delineated and are depicted on Figure 2-1. The watersheds were delineated from the exit point from MFP, upstream to their respective headwaters. The northern stream's watershed is approximately 134 acres, and the southern stream's watershed is approximately 72 acres in size.

The stream flowing through the southern portion of the site is formed by two unnamed tributaries located to the west of the site. The first unnamed tributary has a southerly flow parallel to MFP. Its headwater wetland system is located along the western boundary of MFP west of the central sediment basin. The second unnamed tributary flows from the northwest across Blue Spruce Circle. The headwater to the tributary is located within an isolated wetland system approximately 1,000 feet west of MFP.