

TOWN OF SHERBORN
INDOOR INTEGRATED PEST MANAGEMENT PLAN
FOR
PINE HILL ELEMENTARY SCHOOL

1). General School Information	
School Name:	Pine Hill Elementary School
Address:	Pine Hill Lane
City/Town/Zip Code:	Sherborn, Massachusetts 01770
Telephone Number:	508-655-0630
E-Mail Address:	
Plan Prepared By:	Ralph Kelley, Supervisor of Plants and Facilities Daryl Beardsley, Sherborn Groundwater Protection Committee Blair Van Brunt, Sherborn Groundwater Protection Committee
Submittal Date:	December 31, 2001

2). School IPM Supervisor	
Name:	Ralph Kelley
Title:	Supervisor of Plants and Facilities, Dover-Sherborn Schools
Telephone Number:	508-785-0036
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3). School IPM Committee or Team	
Name:	Ralph Kelley
Title:	Supervisor of Plants and Facilities, Dover-Sherborn Schools
Name:	Karl Heinz
Title:	Land Management Supervisor, Sherborn Community Maintenance and Development
Name:	Blair Van Brunt
Title:	Sherborn Groundwater Protection Committee Member
Name:	Daryl Beardsley
Title:	Sherborn Groundwater Protection Committee Member

4). School IPM Policy

SUMMARY

The Pine Hill School desires to prevent unnecessary exposure to children and employees to chemical pesticides and avoid the need to rely on chemical pesticides when managing pests. Selection of treatment option or corrective actions will give priority to non-chemical actions whenever possible to provide the desired control of pests. Education of staff, students, employees, and parents about IPM will be included to achieve desired objectives. When it is determined that pesticides cannot be avoided, only those allowed by the Children's and Families Protection Act will be used. Furthermore, only certified and/or licensed individuals will be able to apply pesticides. Our policy prohibits the use of any pesticide by unlicensed staff. It will be this school's policy to make the appropriate notification and posting as well as keep records of all pesticide use. A copy of the school IPM plan will be maintained in the principal's office and be available upon request.

SHERBORN TOWN POLICY

The following is excerpted from the Pest Management Policy developed by the Sherborn Groundwater Protection Committee and approved by the Sherborn Board of Selectmen following review and comment by other boards and committees in the Town of Sherborn. That policy applies not only to the schools in Sherborn but also to other public areas in the town used by children and families.

POLICY: PRINCIPLES AND GOALS FOR PEST MANAGEMENT PLANNING IN THE TOWN OF SHERBORN, MASSACHUSETTS

Integrated pest management (IPM) is a comprehensive strategy for pest control whose major objective is to achieve desired levels of pest control in an environmentally responsible manner by combining multiple pest control measures and/or using alternative (e.g., organic) measures to eliminate (or at least reduce) the need for reliance on chemical pesticides.

This policy makes explicit the Town's desire to protect all citizenry and recognizes that extra precautions must be taken:

- *when dealing with the uncertainties of health and environmental impacts of some pest management practices; and*

- *to protect all particularly sensitive populations such as the elderly, those already battling disease, and children (for whom the time horizon for exposure is longer and more complex).*

4.1 Purpose

The purpose of the Town of Sherborn's Pest Management Plan is to direct activities pertaining to pest management as concerns the enjoyment and use of public grounds and structures for functional, recreational (both active and passive) and ornamental purposes. Furthermore, this policy recognizes the need to balance pest management objectives with maximization of the health, safety, quality, and sustainability of public landscapes and structures.

This policy establishes principles and goals in the area of pest management, particularly for pesticide use issues, to help ensure the safe management and use of town playing fields and other public spaces into the future. Procedures and guidelines are documented in a separate section –the “living document” for pest management– in accordance with the policy's directives, specifying actions to take in accordance with changing conditions, technologies, information, understanding and abilities. Periodic review of those procedures and guidelines is necessary to maintain an up-to-date, effective and robust pest management program.

4.2 Policy Goals

The Town of Sherborn commits to pursuing environmentally sound and safe pest management practices, incorporating them into all landscape and building maintenance and construction and thereby:

- Providing healthy, high-quality, and supportable parks, open spaces and structures.
- Preventing the contamination of soil, air, and water and thus protecting people, animals, plants and insects from toxic exposures.
- Providing a model of responsible stewardship of environmental and community resources.

To attain these goals, the Town has determined that the organic pest management (OPM) aspect of IPM is the most appropriate to implement. OPM recognizes that pesticides inherently carry risks (of varying degrees, but especially for synthetic chemicals) to human health and/or the environment and thus should be avoided.

4.3 Definitions

Pests: Pests are undesirable weeds, insects, and fungi. They may be undesirable because they create hygiene and safety problems, cause damage to landscapes or structures, and/or are a nuisance. Common examples in the Sherborn landscape are grubs, bluegrass billbugs, crabgrass, knotwood, and a variety of plant diseases. Common pests in buildings include bees, wasps, rats, mice, ants, lice, cockroaches, termites, molds, mildew and various fungi.

Insecticides, Herbicides, Fungicides: These types of pesticides are typically thought of as the chemicals used to kill insects, plants and fungi, respectively. It is possible that other agents or activities could be

construed to fall into these categories, such as introduced predators or chemicals used to change environmental factors that support pests (e.g., soil pH altering).

Integrated Pest Management (IPM): IPM is an approach to landscape management designed to prevent and control undesirable weeds, insects and fungi (i.e., pests). IPM relies on the use of site-specific information about environmental conditions and the dynamics of human characteristics and activities, plus pest biology and behavior, to prevent, resist and control pests that interfere with the purpose and use of a specific site. When a certain pest has exceeded a predetermined threshold at a particular site, all appropriate pest control strategies are used, including modifying the habitat, changing maintenance practices, and modifying user behavior. If all else fails, lower risk pesticides will be used only when:

- warranted by an emergency situation,
- part of an IPM program in which all options are considered, and
- within specific guidelines for selection and use.

The U.S. Environmental Protection Agency's definition of IPM is: "IPM programs use current comprehensive information on life cycles of pests and their interactions with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, with the least possible hazard to people, property and the environment. IPM programs take advantage of all pest management options possibly including, but not limited to, the judicious use of pesticides."

Organic Pest Management (OPM): OPM is an ecological pest management system that promotes natural biological cycles, soil activity, biodiversity, and human health. It relies on management practices that restore, maintain and enhance ecosystem harmony rather than using synthetic, polluting or toxic inputs. The principal guidelines for OPM are to use materials and practices that strengthen the balance of natural systems, integrating human-made elements into an ecological whole. OPM seeks to optimize the health of our community including its people, soils, water resources, flora and fauna.

Furthermore, OPM is a management strategy that focuses on long-term prevention or suppression of pest problems by systematically eliminating life support systems or conditions required by unwanted pests in indoor or outdoor environments. It incorporates regular maintenance and cultural practices that promote the health of the plant in the case of outdoor management. OPM dictates that synthetic chemical controls be used only in emergency situations.

Pest Management Procedures: Whereas this policy establishes the framework within which pest management is to be pursued by the town, Pest Management Procedures (such as in the Pine Hill School's IPM Plan) provide written details on the current methods to be used to manage pests in a manner consistent with the policy. Current methods are those that:

- reflect the best, latest information available, and
- build upon accumulated experience.

In order to keep abreast of changes over time, both in town conditions and technological/scientific advances in the field of pest management, a procedure must be a "living document". As a living document, a procedure may be ever-changing (i.e., frequent updates, corrections, modifications, additions) to reflect the status of our understanding of OPM and our best ability to implement it.

4.4 Discussion Of Need For A Pest Management Plan

Insects, weeds, and fungi are periodic problems on the town's athletic fields and public grounds, and in structures. For example, pests can destroy or overtake large areas of turf, resulting in large renovation costs as well as poor and/or unsafe playing conditions for players and other users (due to lack of turf). Pesticides have, at times, seemed a necessary tool for dealing with various landscaping problems, notably when research yields no guaranteed natural alternatives for certain insect and disease problems. Fortunately, OPM has been proving successful in other towns as alternatives to pesticides evolve.

The Town of Sherborn recognizes that citizens deserve to be protected from exposure to chemicals and pesticides which may be hazardous now or in the future. Exposure to toxics may occur directly (e.g., via dermal contact, inhalation, or ingestion) or be delayed (e.g., following migration from the surface to groundwater and then via drinking water, from residuals on sports equipment). Of particular concern is the impact chemical applications for landscape and building maintenance may have on the quality of the groundwaters Sherbornites rely upon for drinking and other uses.

The Town also recognizes that its public agencies are in a position to set examples of environmentally responsible practices that can and ought to be adopted throughout our community. Outreach to the community about experience and other information acquired on OPM and IPM is part of this plan.

Employing an OPM policy allows the Town to gain the financial benefits of planning, prevention and responsible management while moving to eliminate the use of pesticides that may pose a health risk to people. OPM allows the Town to control pests in a manner that does not contaminate buildings, soil, air, or water with toxic chemicals. The incidence of scientific evidence linking pesticide exposure to health and environmental problems is accelerating and there are many potential risks of exposure that are not yet fully understood. Thus, under this policy, if a chemical is not known to be safe, then it must be assumed to pose a threat to health (human, wildlife, biota) or environmental quality.

4.5 Implementation Guidelines

Details regarding how this policy is to be implemented will be contained in the Pest Management Plans developed for the schools and in other procedures manuals, as necessary. Pest management procedures will be updated as new or changed information becomes available in order to keep abreast of the most safe, practical and effective pest management methods suited to Sherborn and its goals for OPM. For example, these procedures will indicate who is responsible for pest management decision-making, what resources are needed and/or sought for support of the Town's pest management, and what specific steps may be taken to address a particular pest problem.

There are a variety of considerations to be given to the implementation of this pest management policy:

- Although the Town observes IPM principles for pest management, there continues to be a fairly strong reliance upon potentially hazardous chemical pesticides. Thus, a transition period is likely to be needed to develop the confidence to implement OPM effectively. OPM may require:
 - research (e.g., by Town of Sherborn, students, EPA, consultants, agricultural agencies, research institutes, other towns);
 - consultant resources (e.g., OPM experts, lab services);
 - experimentation with pest management methods, including a mixture of OPM and IPM for some period of time;
 - re-education (e.g., of Town authorities, residents);

- time for improving general health, foundations, and maintenance methods of public landscapes (e.g., for soil reconditioning, new types of plantings).
- Balancing between community needs and expectations regarding public landscapes and OPM principles and methods may be difficult initially. Tradeoffs between OPM and IPM may be faced, including:
 - change in appearance of or expectations for landscapes or buildings;
 - cost differences;
 - time differences (amount of time required to achieve pest management and timing/scheduling);
 - availability of alternatives;
 - familiarity with alternatives;
 - known versus unknown risks;
 - immediate versus long-term risks.
- In cases where OPM is of lesser or equal cost to pesticide use, OPM will be selected. It is recognized that OPM may be more expensive than pesticide use in other cases but, in order to avoid costs that may be less tangible but of equal or greater importance (e.g., ill health resulting from chemical exposure, degraded surface and groundwater quality), OPM may still be selected. Cost will not be the sole determining factor for selecting a pest management strategy. While potentially difficult to quantify, consideration shall be given to balancing short term costs (e.g., turf reconstruction) with longer term costs (e.g., contaminated water supply).
- Criteria for selecting pest control interventions shall include:
 - least hazardous to people, non-target insects, animals, plants and the environment;
 - most species specific;
 - highest level of anticipated effectiveness;
 - greatest need for on-going use and maintenance of fields and facilities.

5). Description of Indoor School Pest Problems

History of Pests Observed				
Identity	Location	When/Why	Management	Effectiveness
Bees, wasps	Inside building general; mechanical equipment on roof; dumpsters; playgrounds	Warm weather; nesting; flying	Screens installed on all air intake ports; extension rod with scraper for manual removal; periodic checking of roof equipment	Screens excellent for prevention; manual removal has proved effective and safe (when implemented carefully)
Ants	Kitchen area	Periodic	Traps; cleanliness; tightness of food storage	Problems minimized
Mice	Storage area	Rare; door open	Exclusion; traps	Effective
Ladybugs	Doorways	Recent	None	Left on their own
Flies	Gymnasium; kitchen	Random	Screens on kitchen; check for flies in morning and sweep up before use of gym	Kitchen problem solved; gym use not interrupted

On-going pest identification is accomplished through:

- a monitoring program using sticky traps to detect and pinpoint infestations or hot spots (traps are installed and checked monthly by the pest control contractor);
- reports by school occupants;
- routine facility inspections by maintenance staff.

6). School IPM Information Flow and Training

Communication Strategy

I. Random

- a) Person discovering problem reports to head custodian (staff, teachers and students are prohibited from taking action on their own);
- b) an on-site report is filled out;
- c) licensed pest management contractor is contacted;
- d) problem is evaluated further (e.g., observation, traps);
- e) recommendations for corrective actions are provided to the School IPM Supervisor, with priority given to non-pesticide methods;
- f) if a pesticide of any type is to be applied, school nurse to be provided with the appropriate Material Safety Data Sheets (MSDSs);
- g) notification of parents, students and staff made according to regulatory requirements of the Children and Families Protection Act (CFPA).

II. Routine

- a) Pest management contractor places monitoring devices at school (locations determined by contractor expertise and past experience at school);
- b) contractor checks devices monthly;
- c) contractor reports any findings to the School IPM Supervisor;
- d) if problem warrants corrective action, recommendations are reviewed by the School IPM Supervisor, with priority given to non-pesticide methods;
- e) if a pesticide of any type is to be applied, school nurse to be provided with the appropriate Material Safety Data Sheets (MSDSs);
- f) notification of parents, students and staff made according to regulatory requirements of the Children and Families Protection Act (CFPA).

Training Content and Schedule

I. School IPM Coordinator

- Ralph Kelley, School IPM Supervisor, received IPM training at a UMass Extension Program (including refresher course)
- future course offerings should be evaluated for appropriateness, relevance, feasibility

II. Maintenance Staff

- written policy exists stating that staff is not to use pesticides nor bring any on-site
- basic job training includes instruction in exclusion methods, building inspections, and how facility maintenance contributes to pest control (e.g., timely trash removal)
- staff is instructed to document and refer any pest problems to the pest management contractor

III. School Nurses, Other Medical Staff

- information about the health effects of any pesticide used at the school will be provided to school medical staff
- future options for relevant continuing education will be considered

IV. Food Service Staff

- the Town of Lexington is currently studying the use of disinfectants (treated as pesticides by the CFPA) as pertains to school IPM plans; the results of that study will be publicly available and will be reviewed for possible input into this plan

V. Teachers, Administrative Staff

- a memorandum is distributed to teachers and staff at the start of each new year explaining that no pesticides are to be brought on-site and that all pest problems are to be referred to the head custodian

VI. Students and Parents

- no training as-of-yet
- possibility of sending information home with students for both students and parents

7). Chemical Pesticide Applications

Chemical pesticide applications will be documented and appropriate notification will be made to staff, school nurse, students and parents.

Anticipated emergency problems and product names (and EPA numbers):

A dust for bees has occasionally been used; alternatives should be investigated.

No other emergency problems foreseen.

Material Safety Data Sheets of potential pesticides are on file.

Currently Contracted Pesticide Applicator:

Needham Woburn Pest Control, Inc.

781-891-5313

Certification/License Number – must be obtained before any applications are made

Other pesticide applicators:

None yet

8). Non-Chemical Actions

For years, the key strategy for pest management at the school has been exclusion –that is keeping the pests out of the building– and minimizing food, water, and environmental conditions required for pest survival. Structural and procedural mechanisms for exclusion include:

- weather stripping
- screens on air intakes
- door seals
- air filters
- maintenance of structural mechanisms (e.g., is weather stripping intact)
- keeping doors and window screens closed

Other non-chemical, preventive methods routinely used include:

- secure storage of foodstuffs
- good housekeeping practices, such as cleaning up spills
- removal of selected trash containers near key building access points (e.g., frequently used doors)
- removal of dead trees near the building or play areas (i.e., where a concentration of pests may reside)

Once pest problems have been identified, the key methods used to date have included:

- use of glue traps or other traps
- physical removal of nests or the pests themselves

9). School IPM Program Evaluation

The IPM Team will hold an annual meeting to review implementation of the school's IPM plan and to determine whether updates are needed. Recommendations for corrective actions may be provided by the team.

If major changes are made to the school's physical structure or if other out-of-the-ordinary events take place that impact IPM implementation, the school's plan will be modified as appropriate.

10). School IPM Plan Documentation Location

The Pine Hill School's IPM Plan will be:

- maintained on-site in the office of the Head Custodian;
- made available to the public;
- bound in a binder with supplemental information including (but not limited to):
 - a copy of the Children's and Families' Protection Act (CFPA),
 - blank (and eventually also completed) pest incident report forms,
 - blank (and possibly also completed) pesticide notification forms,
 - Material Safety Data Sheets (MSDSs) for potential pesticides,
 - facility diagrams,
 - memorandum provided to staff regarding pesticide prohibition policy,
 - IPM guidance documents,
 - IPM resources and contacts.

Recordkeeping procedures:

- pest incident reports – duplicates of reports – one in the binder; one in a file in an accessible location