CITY OF BOULDER
***
POLICIES AND PROCEDURES

INTEGRATED PEST MANAGEMENT POLICY

EFFECTIVE DATE: August 1, 2019

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I. SCOPE AND APPLICATION

This Integrated Pest Management (IPM) policy applies to all pest management activities conducted by all city staff, contractors and lessees, which includes all monitoring, non-chemical pest management practices and any pesticide use in buildings and related facilities; grounds and open space; and other property owned or managed by the City of Boulder.

II. PURPOSE

The purpose of this policy is to provide guidelines for implementation of the most environmentally-sound approaches for landscape, natural area, agricultural and facilities management and to reduce and eliminate, where possible, the volume and toxicity of chemical pest control treatments. The overarching goal is for all city IPM practices to be carefully assessed for the potential impacts to human health, water quality, non-target organisms, and the preservation and/or enhancement of biodiversity, particularly federal endangered and threatened species, and state, county and local species of concern. As a result, ecologically based IPM approaches will be developed that promote the stability of desirable species and discourage pest populations, while sustaining the natural balances within the ecosystem.

III. DEFINITIONS

A. Integrated Pest Management (IPM): a decision-making process that selects, integrates, and implements a combination of suitable and compatible strategies to prevent, deter, or manage pest populations within established thresholds. IPM uses a "whole systems approach," viewing the target species as it relates to the entire ecosystem. Management strategies are chosen that minimize impacts to human health, the environment, and non-target organisms, and protect overall biodiversity and ecosystem health.

B. Pest: broadly, a pest is an organism that interferes with or reduces the availability or quality of desirable plants and other resources; impacts human or animal health; damages structures; or harms some component of the ecosystem. Whether or not an organism is considered a pest can depend on the setting, rather than the particular species. A pest may be an insect, rodent, nematode, fungus, weed, or any other form of terrestrial or aquatic plant or animal life or virus, bacteria, or other micro-organism (except viruses, bacteria, or other micro-organisms on or in living man or other living animals) which the Administrator of the EPA declares to be pest under section 25(c)(1) [7 USCA 136w(c)(1)].

C. Pesticide: any substance or mixture of substances intended for destroying or repelling any pest. This includes without limitation fungicides, insecticides, nematicides, herbicides, and rodenticides and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant. In addition to applications of pesticides, products that have been pre-treated with pesticides are subject to this policy. Plants that have been genetically modified to incorporate pesticides or are resistant to pesticides are prohibited unless an exception has been granted by the city manager.

The following products are not pesticides:

1. Deodorizers, bleaching agents, disinfectants and substances for which no pesticidal claim is made in the sale or distribution thereof, and
2. Fertilizers and plant nutrients.

D. Reasonable Alternative: a feasible option for pest management, which takes into account the short and long-term economic, social, and environmental costs and benefits of the proposed choices.

IV. CITY IPM COORDINATOR

The city manager has determined that a central staff person will coordinate the IPM efforts of city departments. The IPM coordinator's responsibilities include, but are not limited to, the following:

- Coordination with city departments on weed and pest management issues and integrating IPM principles with other environmental policies and plans;
- Publication of IPM reports;
- Coordination of an interdepartmental IPM team;
- Development of a city weed management plan, in accordance with state law;

- Development and maintenance of pesticide approval process(es) and pesticide reduction guidelines;
- Coordination of the development and update of an IPM operations manual;
- Research and recommendations for IPM strategies;
- Development and administration of the city's mosquito management policy and program;
- Assistance to city departments with staff training needs; and
- Outreach to residents regarding IPM, pollution prevention and pesticide reduction strategies, pollinator protection and natural lawn and gardening practices.

A. IPM Reports. The city IPM coordinator will compile the data from all participating city departments from the information listed in Section V, Departmental/Divisional Obligations. This information will be provided in reports and/or posted on the city's website. Comprehensive reports may periodically be submitted to the city manager and city council and will include IPM-related data, a review of new IPM strategies, arising challenges, IPM program or departmental accomplishments, and IPM program coordination with other city programs and initiatives.

B. Interdepartmental IPM Team. This team will be coordinated by the city IPM coordinator and will include department IPM coordinators, managers and other key city staff. The team will meet at least quarterly and meetings will include development of city IPM goals and strategies, review and evaluation of the IPM operations manual, as well as opportunities for information exchange, education and collaboration. This team will also review interdepartmental issues, make policy recommendations that advance the objectives of the IPM policy and reduce reliance on chemical pest control.

V. DEPARTMENTAL/DIVISIONAL OBLIGATIONS

All departments/divisions that conduct pest management operations and/or use or potentially use pesticides are required to fulfill the obligations of this section.

A. IPM Operations Manual. The IPM operations manual (manual) will serve as a guide for all pest management operations and will provide the rationale and procedural guidelines for implementation of the IPM policy. All persons conducting pest management within the scope of this policy are required to follow the manual. Departments or divisions will provide information to the city IPM coordinator and the IPM interdepartmental team to contribute towards the creation, review and update of the manual. The manual will be reviewed annually, and a record kept of any revisions. Departments will designate at least one staff member as the departmental/divisional representative who will be responsible for providing information and input concerning the manual.

B. Record-keeping and Evaluation. Each department, division or work group must keep accurate records and results of all IPM treatments. Information on all treatments (including non-chemical) will include how, when, where and why the treatment was applied and the name of the applicator. The city IPM coordinator will review pest management strategies with city departments and the IPM

interdepartmental team to evaluate results, share information with other staff and improve the IPM program.

Application records will be made available to the public upon request in accordance with all applicable state laws governing public access to information.

C. Contractor Notification. Every department bidding out contractual work for pest management must inform all bidders about the requirements of the IPM policy and incorporate its guidelines in bid specifics.

If pesticides are applied, only those products may be used that are part of the city's approved pesticide list and adhere to its use guidelines

OR

are in accordance with a pesticide assessment and selection process approved by the city manager in compliance with the protocols and guidance of the IPM operations manual and/or are reviewed and have prior approval by the department and its division representative and the city's IPM coordinator.

The city will inform pest management contractors of the city's IPM Policy and operations manual and provide a written copy of this policy and other relevant documents as appropriate. Project managers, departmental IPM representatives, or the city IPM coordinator must approve all pest management treatments.

VI. IPM PROCEDURE

The city assumes that all pesticides are *potentially* hazardous to human and environmental health and will take measures to avoid any non-essential use. Therefore, reasonable non-pesticide alternatives will be given preference over chemical application by following the IPM procedure. City staff will evaluate alternatives to chemical treatments, including the cost-effectiveness of the treatments. For all pest control activities, the IPM procedure outlined below must be followed.

A. Initial Data Collection, Mapping and Monitoring. Each department or division considering management of a target species should first collect baseline data on the pest ecosystem(s) to determine if the organism is truly a pest that warrants treatment. This data includes the pest population(s) occurrence, size, density and presence of any natural enemy population(s); gather information on pest biology and site ecology, and different control techniques available; and document sensitive areas and conditions that may limit control options. Data should be collected in a standardized manner that is repeatable.

For structural pests, inspection and monitoring should be conducted to determine and eliminate routes of entry, potential food and water sources, and nesting sites. This information should be logged.

Ranking, inventory, mapping, monitoring and evaluation are methods used for determining pest

management priorities. Maps and inventories depict infestations in terms of pest species, size, location and threats to resources. Departments/divisions must monitor infestations or pest populations and evaluate treatments over time to assess the effectiveness of various treatment strategies and their effects on target and non-target organisms, the overall biodiversity of each site and the desired management objectives. These objectives should be reevaluated over time as the range and distribution of different species is altered from climate change and other anthropogenic factors.

All monitoring methods and data must be specified in departmental or divisional IPM procedures, systematically recorded, and available for review. Departments should coordinate and utilize standardized mapping and data recording protocols, if possible.

B. Establishing Threshold Levels. To determine if treatment is warranted, an acceptable threshold level of treatment for each target pest and site should be established based on the ecology of the pest and either its *density* that creates environmental, aesthetic or economic damage or based on a measurement of the *damage* resulting from the pest. Departmental IPM procedures will include the threshold levels for common pests, determined by individual work groups, and may be developed in consultation with the city IPM coordinator and interdepartmental team. In some cases, a threshold, such as eradication, suppression, or containment may be required by federal or state law.

C. Management Selection Criteria. Upon determining that management for an undesirable species is necessary, the following criteria should be used to help select the appropriate IPM treatment strategy:

1. Least disruptive of naturally occurring controls;
2. Least hazardous to human health;
3. Least toxic to non-target organisms;
4. Least damaging to the general environment, surface and ground water, and overall ecosystem function and stability;
5. Most likely to produce a permanent reduction in the environment's ability to support target pests;
6. Economic *and* environmental cost-effectiveness in the short- and long-term.

D. Management Strategies and the IPM Hierarchy. Each department or division, in consultation with the city IPM coordinator, IPM team and/or guidelines of the operations manual, will make its own determination about appropriate and effective management approaches, based on site-specific requirements and conditions. Commitment to the most environmentally-sound approach is expected, relying primarily on non-chemical methods.

Prevention, cultural control, mechanical control, biological control and chemical control are the techniques used in the hierarchy of integrated pest management. In general, a combination of compatible treatments is more effective than a single approach. Departments and divisions are encouraged to seek out and experiment with innovative IPM treatments (and combinations of treatments) and share this information at the interdepartmental IPM team meetings. The following treatments are listed in the order in which they should be executed:

1. Prevention. This is the most effective and important pest management strategy and is the foundation of IPM. By reducing the capacity of the ecosystem to support target pest populations through design and appropriate management, the opportunities for pest establishment can be reduced to tolerable thresholds or eliminated. Some examples are:

a) Strategies that reduce the preferred harborage, food, water or other essential requirements of pests;
b) Promoting healthy soils and ecosystems to withstand pest infestations;
c) Weed-free materials for road and trail construction and maintenance;
d) Landscape and structural design that is appropriate to the specific habitat, climate and maintenance the area will receive; and
e) Project design that considers the potential impacts of pests and mitigates through the use of appropriate landscape design (plant choice, soil preparation, water requirements, weed barriers, etc.).

2. Cultural. Cultural control is the use of management activities that can prevent pests from developing or keep them below tolerable levels by enhancement of desired conditions. Examples include:

a) Selection and placement of materials that provide life support mechanisms for pest enemies and competitors;
b) Modification of pest habitat by reducing pest harborage, food supply and other life support requirements;
c) Vegetation management including optimized irrigation practices, mulching, fertilization, aeration, mowing height, seeding, pruning and thinning;
d) Waste management and proper food storage;
e) Barriers and traps;
f) Heat, cold, humidity, desiccation or light applied to affected regions; and
g) Prescribed burning or grazing.

3. Mechanical. Mechanical control is accomplished by using physical methods or mechanical equipment to control pest infestations, such as:

a) Mowing or weed-whipping;
b) Prescribed burning;
c) Hand-pulling of weeds;
d) Hand-removal of pests (e.g. insect or invasive amphibian egg masses).

4. Biological. Biological controls include the introduction or enhancement of natural enemy populations to target pests. Introduction of non-indigenous organisms has an associated risk factor and should be thoroughly evaluated prior to implementation in consultation with the city IPM coordinator and the interdepartmental IPM team. Biological methods include:

a) Conservation and augmentation of the pest's natural enemies; and
b) Introduction of host-specific enemy organisms

5. Chemical. Chemical control of pests is accomplished by using chemical compounds registered as pesticides. All pesticides shall be assumed to be *potentially* hazardous to human and/or environmental health.

The type, methods and timing of any chemical treatment will be determined **after** consideration has been given to protection of non-target organisms (including threatened or endangered species), the impact on biodiversity and ecosystem services, protection of water quality, pest biology, soil types, anticipated adverse weather (winds, precipitation, etc.) and temperature. Only those pesticides that have been evaluated and approved for use on city properties by a process approved by the city manager may be applied. Application of any pesticide must follow the specific guidelines for that particular product, which will be provided to staff, contractors or lessees and will include information pertaining to target pests, application methods and any other restrictions.

All pesticides must be applied in conformance with label specifications and all applicable federal, state and municipal laws, regulations and ordinances, as well as any additional restrictions provided in city guidance documents.

All pesticide applications must comply with the appropriate pre and post-notification requirements, according to the City of Boulder's Pesticide Ordinance (Section 6-10-1 B.R.C. 1981). For all city pesticide applications, notification will be posted at the site at least 24 hours in advance, remain on-site for at least 24 hours, and posted on the city's hotline. This includes soil and trunk injections, spot spraying, hand-wicking and broadcast spraying on all city lands or property.

E. Education. Education is a critical component of an IPM program. The city IPM coordinator will include IPM information on the city's website. Information may include IPM reports, the IPM operations manual and pesticide assessment processes, recommendations for the most ecologically-sound pest management for residents, and IPM-related events and educational opportunities across the city.

VII. CONTRACTOR REQUIREMENTS

The City periodically enters into contracts that authorize pest management, such as for building maintenance, project construction and maintenance, and weed and insect control. When the city signs a new contract or extends the term of an existing contract with a contractor that conducts IPM-related work, including the application of pesticides, the department must ensure that the work is in compliance with existing IPM guidelines or consult with the city IPM coordinator to develop procedures that comply with the IPM policy.

The contractors must comply with appropriate pre and post-notification requirements, according to the City of Boulder's Pesticide Ordinance (Section 6-10-1 B.R.C. 1981) and relevant internal city protocols, such as providing timely information to post the application on the city's pesticide hotline.

VIII. CONSTRUCTION AND INTERPRETATION

Employees who have questions concerning possible conflict between their interests and those of the city, or the interpretation and application of any of these rules, should direct their inquiries to their department director. The department director may refer the matter to the city manager for final resolution.

IX. EXCEPTIONS/CHANGE

This policy supersedes all previous policies covering the same or similar topics. Any exception to this policy may be granted only by the city manager. This policy may be reviewed and changed at any time.

Adopted 1993, updated August 2019.