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City of Dublin

Integrated Pest Management Standard Operating Procedure

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I. Background and Purpose

On May 2nd, 2006, City Council adopted Resolution No. 57-06 Establishing a Policy on Integrated Pest Management (Attachment A) to meet requirements in the Municipal Storm Water Discharge Permit CAS0029831 issued by the San Francisco Bay Regional Water Quality Control Board to the Alameda Countywide Clean Water Program (Permit). The IPM Policy set forth guiding principals for the development and implementation of an IPM Policy on all City owned facilities to accomplish the following:

1) Minimize pesticide use at City facilities to ensure that the City remains in compliance with the Permit by applying the IPM Policy;
2) Reduce the use of broad-spectrum pesticides when feasible;
3) Conduct outreach and provide the means of educating all City Staff to create awareness about IPM and the use of alternative pest management techniques; and
4) Reduce the adverse impacts to water quality (both in local creeks and the San Francisco Bay) due to pesticide usage, particularly from copper-based pesticides, 2-4-d based herbicides and organophosphate pesticides.

After the adoption of Resolution No. 57-06, the Permit has been revised three times. The third reissuance of the Municipal Regional Stormwater National Pollutant Discharge Elimination System Permit (MRP) requires Permittees to develop a pesticide toxicity control program for use of pesticides in its municipal operations and on municipal property. The program must be based on the concepts of Integrated Pest Management (IPM) and Permittees must have an IPM policy and associated Standard Operating Procedures (SOP) to implement the policy. The purpose of the IPM Policy and SOPs (Policy) is to prevent the impairment of urban streams by pesticide-related toxicity. The pesticides known to impact water quality which are included in MRP 3 has expanded to include those listed below.

Urban-use pesticides of concern to water quality included in the MRP include:

- Diamides (chlorantraniliprole and cyantraniliprole)
- Diuron, fipronil, and its degradates
- Indoxacarb
- Organophosphorous insecticides (chlorpyrifos, diazinion, and malathion)
- Pyrethroids (metoflurthrin, bifenthrin, cyfluthrin, beta-cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, lambda-cyhalothrin, and permethrin)
- Carbamates (e.g. carbaryl and aldicarb)
- Neonicotinoids (e.g. imidacloprid, acetamiprid, and dinotefuran)
- Copper-based chemicals

In addition to the pesticides listed in the MRP, the City of Dublin prohibits the use of glyphosate (i.e., Roundup) and 2-4-d based herbicides on City property.

II. IPM Overview

Integrated Pest Management (IPM) is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of control methods or techniques. **Pesticides are used only after monitoring indicates they are needed**, according to established action thresholds and when pest threshold levels are exceeded.

Understanding pest characteristics and needs is essential to implementing IPM effectively. Pests seek habitats that provide basic needs such as air, moisture, food and shelter. They often can be prevented or controlled by creating inhospitable environments, by removing basic survival elements or by simply blocking their access. An effective, long-term approach to managing pests uses a combination of non-chemical methods or techniques that work well together. Chemical control methods are used only when implementation of non-chemical control methods have been unsuccessful at reducing pests below the established action threshold for the pest. Approaches for managing pests are grouped as shown below and explained in more detail in Attachment B.

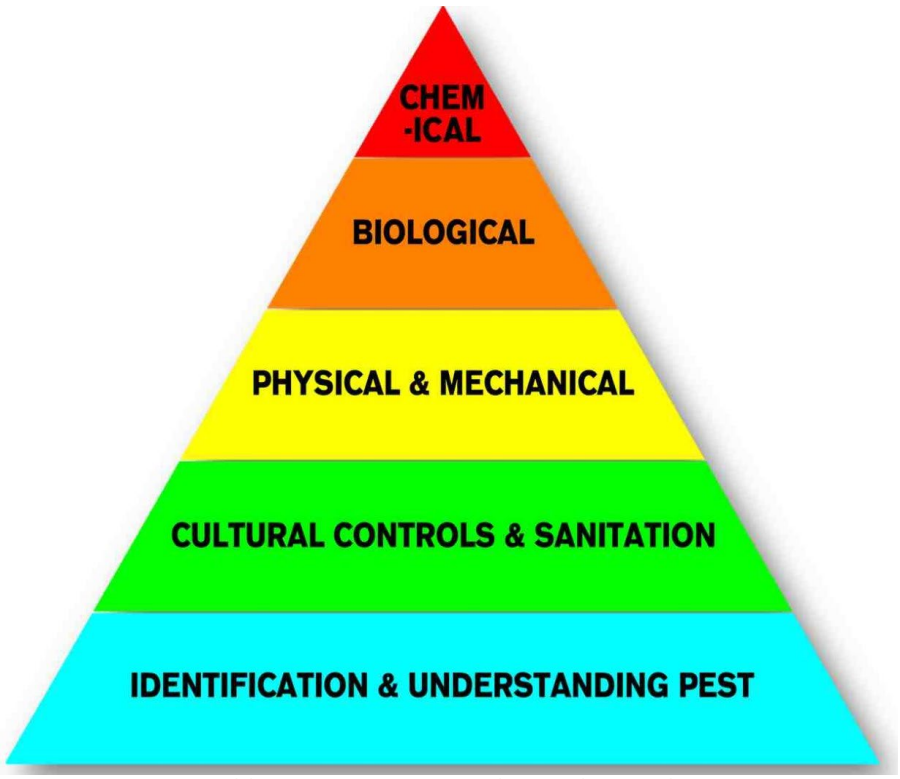

Image credit: https://beehealth.uada.edu/assets/pages/beekeepingipm.html

III. IPM Pest Management Hierarchy

The IPM-based hierarchical decision-making process used to control pests will follow the five steps of IPM, as described below.

Five Steps of IPM (from Pesticide.org)

1) Identify the pest. Most species of living things are NOT pests, but are contributing members of the broader ecosystem (e.g. spiders in landscape areas). By taking the time to ensure that a suspected pest is an actual pest, a lot of unnecessary pest control efforts can be eliminated.
2) Monitor pest activity. By monitoring pest populations over time, you can determine if pests are present in numbers to be concerned about potential damage. Monitoring ensures that unnecessary treatments are avoided.
3) Determine Action Thresholds. An action threshold is the point at which further damage is considered intolerable and some kind of pest control action is required.
4) Explore treatment options and make treatments. There are many different treatment options besides pesticides and prevention should always be considered first. Exclusion is

key. Using screens and caulking goes a long way to keeping pests out of buildings. Increasing levels of sanitation often plays a big role in preventing pests.

   a. If pesticides are deemed necessary, priority should be given to treatments that are highly targeted to the pest organism, using containerized baits when possible, and to pesticides that are least toxic to human health and the environment. Particular attention must be paid to avoid pesticides that cause water quality impairment as listed above.

5) Evaluate results. Monitoring after the treatments is how you know how effective the treatment was, and if pest populations are at acceptable levels. No further treatments are made unless monitoring shows that pests are again at action thresholds.

IV. Roles and Responsibilities

1. **Public Works Manager** will oversee implementation of the IPM Policy, including:
   i. Be knowledgeable about IPM and the IPM Policy.
   ii. Ensure that any permits or licenses that the City and/or its contractors need to have are maintained.
   iii. Ensure that contract documents require contractors to adhere to the IPM Policy.
   iv. Include the IPM Policy in contractor service solicitations (e.g., RFPs) and contract specifications.
   v. Give contract award preference to contractors who are IPM certified and possess a Qualified Applicators License or Certificate, as applicable.
   vi. Require review of the City's IPM Policy and SOP during contract kickoff project meetings and during annual IPM Policy trainings.

2. **Public Works Maintenance Coordinator** will direct pesticide contractors to implement the IPM Policy. Specifically, the Public Works Maintenance Coordinator will:
   i. Be knowledgeable about IPM and the IPM Policy.
   ii. Attend IPM trainings.
   iii. Require evidence of certifications/permits/licenses required of all pesticide contractors and subcontractors.
   iv. Require monthly pesticide use records from contractors and an application summary report for MRP Annual Reporting.
   v. Verify contractor compliance with the IPM Policy and document actions taken to correct contractor performance for MRP Annual Reports.
   vi. Ensure proper pesticide application noticing, as required by pesticide manufacturer product guidelines and federal/state regulations.
   vii. Approve pesticide application pre-approval requests.

3. **Environmental & Sustainability Manager will** provide support to the Maintenance Division, including:
   i. Provide annual training to employees and contractors involved with facility and landscape maintenance on the IPM Policy.
   ii. Document annual IPM training attendance, content and materials for MRP Annual Reports.
   iii. Report on IPM practices implemented and pesticides used in the MRP Annual Reports.
   iv. Assist with development of pest specific action plans and SOPs.

4. **Contractors** will:
    i. Comply with all federal, state and local pest control operator regulations, maintain current licenses and possess the appropriate Qualified Applicators License or Certificate.
    ii. Utilize pesticides safely and in accordance with federal and state regulations.
    iii. Adhere to the IPM Policy, the City's IPM SOP, and follow industry accepted IPM strategies that emphasize non-pesticide alternatives to control pests.
    iv. Provide monthly pesticide use records and an annual summary report in the form and format required by the Public Works Maintenance Manager. The monthly and annual reports will include the following information, at minimum:
        a. Date and time of pesticide application or service.
        b. Site of the pesticide application.
        c. Name and EPA registration number of product applied.
        d. Active ingredient.
        e. Indicate if the active ingredient is a pesticide of concern to water quality or otherwise prohibited for use on City of Dublin property (as listed in Section 1 above).
        f. Where and how pesticides were applied at the site (e.g., were the applied in a manner that can impact water quality).
        g. Targeted pest.
        h. Amount of active product applied (weight or volume).
        i. Non-chemical IPM methods that were considered or tried.
    v. Develop pest specific action plans and SOPs for review and approval by the City.
    vi. Structural pest control contractors should be IPM-certified from a recognized certification program, such as:
        a. Eco Wise Certified: ecowisecertified.org
        b. Green Shield: greenshieldcertified.org
        c. GreenPro: npmaqualitypro.org
    vii. Landscape contractors should be trained in IPM from a recognized training program, such as:
        a. ReScape California: rescapeca.org

V. IPM Resources

The following are some of the available resources for more information on IPM. In addition to these web resources, the Municipal Maintenance Subcommittee of the Alameda Countywide Clean Water Program developed a printed binder in June 2018 which is available at the City's Corporation Yard and in the Public Works Department.

1. University of California Agriculture and Natural Resources Statewide Integrated Pest Management Program ipm.ucanr.edu
2. County of Santa Clara Integrated Pest Management Program (including pest identifier information) sccgov.org/sites/ipm/Pages/Home.aspx
3. Our Water, Our World Program (including a list of less toxic pesticides) ourwaterourworld.org.
4. San Francisco County Integrated Pest Management Program sfenvironment.org/pest-management-for-city-departments

Attachment A: Resolution 57-06

RESOLUTION NO. 57 – 06

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF DUBLIN

* *

ESTABLISHING A POLICY ON INTEGRATED PEST MANAGEMENT (IPM)

WHEREAS, the City of Dublin is subject to the terms of the Municipal Storm Water Discharge Permit (CAS0029831Permit) issued by the San Francisco Bay Regional Water Quality Control Board; and

WHEREAS, Provision C 10 c of the Permit requires municipalities to address the impairment of urban streams due to pesticide usage; and

WHEREAS, the City of Dublin has prepared an Integrated Pest Management (IPM) Policy covering the ongoing operation to control and manage pests in and around the City's buildings and facilities, parks, and urban landscape areas; and

WHEREAS, the Policy sets forth guiding principals for the development and implementation of an Integrated Pest Management (IPM) Policy on all City-owned facilities to accomplish the following:

1) Minimize pesticide use at City facilities to ensure that the City remains in compliance with the Permit by applying the Integrated Pest Management Policy;
2) Reduce the use of broad-spectrum pesticides when feasible;
3) Conduct outreach and provide the means of educating all City Staff to create awareness about IPM and the use of alternative pest management techniques;
4) Reduce the adverse impacts to water quality (both in local creeks and the San Francisco Bay) due to pesticide usage, particularly from copper-based pesticides, 2-4-d based herbicides, and organophosphate pesticides;

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Dublin does hereby establish a policy, attached hereto as **Exhibit "A,"** entitled "Integrated Pest Management (IPM) Policy"

PASSED, APPROVED AND ADOPTED this 2nd day of May, 2006, by the following vote:

AYES Councilmembers Hildenbrand, McCormick, Oravetz and Zika, and Mayor Lockhart

NOES None

ABSENT None

ABSTAIN None

Janet Lockhart
Mayor

ATTEST:

Julie Holmes
City Clerk

INTEGRATED PEST MANAGEMENT (IPM) POLICY FOR FACILITIES OWNED BY THE CITY OF DUBLIN

This policy sets forth the guiding principles for the development and implementation of Integrated Pest Management (IPM) on all City facilities. The City of Dublin, including all departments and staff therein, and contractors providing pest control services at City facilities shall follow the City's IPM policy to control and manage pests in and around City buildings and facilities, parks and golf courses, urban landscape areas and rights-of-way

Purpose and Goals

The goals of the IPM policy and its implementation throughout the City are to:

1) Minimize pesticide use at City facilities to ensure that the City maintains compliance with its National Pollution Discharge Elimination System (NPDES) Stormwater Permit (Order # R2-2003-0021) requirements.

2) Reduce the use of broad-spectrum pesticides, when feasible.

3) Outreach and provide means of educating all City staff, creating awareness about IPM and the use of alternative pest management techniques.

4) Reduce the adverse impacts to water quality (both in local creeks and the San Francisco Bay) due to pesticide usage, particularly from copper-based pesticides, 2-4-d based herbicides, and organophosphate pesticides.

Background

The National Pollutant Discharge Elimination System (NPDES) permit (Order No. R2-2003-0021) issued by the California Regional Water Quality Control Board (RWQCB) mandates the member agencies of the Alameda Countywide Clearwater Program (ACCWP) to develop and implement an integrated pest management plan to address urban stream impairment by pesticides. In particular, organophosphate-containing pesticides (e.g., Diazinon and chlorpyrifos) have been found to persist in the environment and cause water quality impairment in some creeks, streams, and arroyos throughout Alameda County The NPDES permit also requires that municipalities implement measures to reduce discharges of copper into the San Francisco Bay

Using non-chemical controls, biological controls, and less toxic chemicals instead of copper-based and organophosphate pesticides or 2-4-d based herbicides to deal with pest problems, whenever possible, will help reduce the impact of pesticides in local arroyos and the San Francisco Bay

Definitions

The following definitions are used in this Article:

National Pollutant Discharge Elimination System (NPDES) – NPDES permit issued by the Regional Water Quality Control Board (RWQCB) regulates any discharge of storm waters to receiving waters of the United States. The City is currently subject to NPDES Permit No. CAS0029831 issued by order No R2-2003-0021

Best Management Practices (BMPs) – Practices implemented by public agencies and private industries to prevent or reduce water pollution.

California Department of Pesticide Regulations (CDPR) – CDPR, in partnership with the Federal Environmental Protection Agency (EPA) and the County Department of Agriculture, oversees all issues regarding the registration, licensing and enforcement of laws and regulations pertaining to pesticides and its applications.

Adjacent - For the purpose of this Policy, adjacent shall mean the area of flow, and the banks of the ditch, creek or arroyo.

Pesticides - Defined in Section 12753 of the California Food and Agricultural Code as any spray adjuvant, or any substance, or mixture of substances, intended to be used for defoliating plants, regulating plant growth, or for preventing, destroying, repelling, or mitigating any pest, as defined in Section 12754 5 (of the Food and Agricultural Code), which may infest or be detrimental to vegetation, man, animals, or households, or be present in any agricultural or nonagricultural environment whatsoever. The term pesticide applies to herbicides, insecticides, fungicides, rodenticides and other substances used to control pests. Anti-microbial agents are not included in this definition of pesticides

Integrated Pest Management (IPM) - IPM is the strategic approach that focuses on long-term prevention of pests and the resulting damage from reaching unacceptable levels by selecting and applying the most appropriate combination of available pest control methods. These include cultural, mechanical, biological and chemical technologies that are implemented for a given site and pest situation in ways that minimize economic, health and environmental risks.

Environmental Stewardship - The strategic approach to pest management in which IPM practitioners focus on preserving the natural integrity and health of the environment, including public safety, while recommending or applying pest management methods. Environmental Stewardship philosophy helps to create awareness of the BMPs (Best Management Practices) and their relationship to maintaining a healthy environment while conducting pest management activities.

Biological control - The use of biological technologies to manage unwanted pests. Examples of this type of control include, but would not be limited to, the use of pheromone traps or beneficial insect release for control of certain types of weeds or invasive insects in landscapes.

Cultural control - The use of IPM control methods, such as grazing, re-vegetation, disking, mulching, proper irrigation, seeding, and landscaping, with competitive or tolerant species to manage unwanted weeds, rodents or plant diseases.

Mechanical controls – Mechanical controls include the use of IPM control methods utilizing hand labor or equipment such as mowers, graders, weed-eaters, and chainsaws. Other examples of mechanical controls include screens on windows and doors, sticky barriers, vacuuming, crack and crevice sealants and closing small entryways (i.e., around pipes and conduits) into buildings for insect and rodent management.

Pest Control Advisor (PCA) - an individual licensed by the California Department of Pesticide Regulations according to Title 3, Article 5 of the California Code of Regulations. A licensed PCA, who is registered with the County Agricultural Commissioner, provides written pest control recommendations for agricultural pest management, including parks, cemeteries, and rights-of-way.

Qualified Applicators License (QAL) - a licensed applicator according to Title 3, Article 3 of the California Code of Regulations. This license allows supervision of applications that may include residential, industrial, institutional, landscape, or rights-of-way sites.

Qualified Applicators Certificate *(QAC)* - a certificate given to applicators that pass a test given by DPR. This certificate allows supervision of applications that may include residential, industrial, landscape, or rights-of-way sites.

Structural Pest Control Operator (SPCO- Branch I, II or III) - A licensed applicator of pest control within buildings and homes according to the requirements of the Structural Pest Control Board of the California Department of Consumer Affairs.

Prevention

The City of Dublin shall institute practices that reduce pesticide usage and result in the purchase of fewer pesticides whenever practicable and cost-effective, but without compromising safety, workplace quality or quality of service.

The first and most important part of any pest control plan is preventing the conditions that attract pests and result in a pest control problem. All City employees should remember to implement the following housekeeping practices in their workstations, vehicles, break-rooms, etc., in order to prevent the conditions that result in providing a food source and habitat that attract pests:

1) Keep workstations/offices free of food scraps. Dispose of food wastes in a garbage container, which is sealed with lid.
2) Do not leave food overnight. Refrigerate all food or store in pest-proof containers.
3) Regularly wipe and clean counter-top areas and tables where food is prepared or consumed.
4) Keep waste storage/dumpster areas clean and free of litter and debris.
5) Report pest problems in a timely manner to City Building Maintenance.
6) Use Plants with similar water needs in designated areas to help eliminate stress due to improper watering.
7) Water landscaped areas properly and use resistant plant varieties
8) Pests are symptoms; food sources and habitat are the real problems.

Restricted Chemicals

City of Dublin employees and/or contractors employed by the City who are trained to recommend or apply pesticides shall not use or promote the use of·

1) Acute Toxicity Category I chemicals as identified by the Environmental Protection Agency (EPA) unless:
    (i) The use is judicious.
    (ii) Other approaches and techniques have been considered
    (iii) Adverse water-quality impacts are minimized to the maximum extent practicable.
2) Organophosphate pesticides (e.g., those containing Diazinon and chlorpyrifos)
3) Copper-based pesticides unless:
    (I) The use is judicious.
    (ii) Other approaches and techniques have been considered
    (iii) Adverse water-quality impacts are minimized to the maximum extent practicable.

Guidelines for Application of Pesticides

Licensed Pest Control Advisors or individuals with valid Qualified Applicators License and/or Qualified Applicators Certificate will consider the options or alternatives listed below, in the following order, before recommending the use of or applying any pesticide on any City facility·

1) No controls (e.g., tolerating the pest infestation, use of resistant plant varieties or allowing normal life cycle of weeds)
2) Physical or mechanical controls (e.g., hand labor, mowing, etc.)
3) Cultural controls (e.g., mulching, disking, alternative vegetation)
4) Biological controls (e.g., natural enemies or predators)
5) Reduced-risk chemical controls (e.g., soaps or oils)

City employees, Licensed Pest Management Contractors and other appropriately licensed contractors or individuals (QAL, QAC, SPCO) employed to control or manage pests will follow the City's Integrated Pest Management Policy and utilize generally accepted Best Management Practices (BMPs) to the maximum extent practicable. Pesticide Applicators will use available IPM technologies to ensure the long-term prevention or suppression of pest problems and to minimize negative impacts on the environment, non-target organisms, and human health.

All City departments and employees will promote non-toxic and reduced-risk alternatives for structural and landscape pest control, seeking to use the most up-to-date IPM technologies and Best Management Practices. The City will provide education for City staff who may use pesticides in the scope of their work regarding IPM practices.

New contracts entered into with pest management contractors and other appropriately licensed contractors employed to provide services that involve pesticide application at City-owned facilities after **January 1, 2006,** will include requirements that the contractors follow the requirements of the City's Integrated Pest Management Policy and implement available IPM technologies and Best Management Practices.

City of Dublin facilities leaseholders will be informed of the City's IPM Policy, and encouraged to use, whenever practical, available IPM technologies and Best Management Practices.

Pesticide Application

Only properly trained employees in accordance with the California D.P.R. or licensed contractors employed by the City may apply pesticides to or within City facilities.

City employees who are not authorized and trained in pesticide application are prohibited from using any pesticides, including "over-the-counter brands", in or around the work place. If insects or other pests are infesting a work area, a PCA should be contacted to assess and advise the best method to remove the pests.

City of Dublin employees and/or contractors employed by the City who are trained to recommend or apply pesticides will not use or promote the use of organophosphate pesticides (e.g., those containing Diazinon and chlorpyrifos) or copper-based pesticides unless:

1) The use is judicious.
2) Other approaches and techniques have been considered.
3) Adverse water-quality impacts are minimized to the maximum extent practicable.

Environmental Stewardship must always be taken into consideration when usage of pesticides is recommended. City employees, pest management contractors, and

other appropriately licensed contractors employed by the City of Dublin will follow guidelines set by the IPM Policy to have the least impact on water quality and the environment.

City employees or appropriately licensed contractors employed by the City will always avoid applications of pesticides that directly contact water, unless the pesticide is registered under Federal and California law for aquatic use. Pesticides that are not approved for aquatic use will not be applied to areas immediately adjacent to water bodies where through drift, drainage, or erosion, there is a reasonable possibility of a pesticide being transported into surface water.

City Employee and Pest Control Contractor Training for PCA, QAL, QAC or Structural Pest Control Operators

(Branch I, II, and III)

Pest Control Advisors and Applicators, pest management contractors, and other Service Providers, servicing City-owned facilities will be licensed by the State of California Department of Pesticide Regulations (DPR) as a Pest Control Advisor or licensed Qualified Applicator City employees involved with pesticide applications as a normal part of their job duties and pest management contractors hired by the City will be trained as required by State of California DPR rules, the County Agricultural Commissioner, and/or the Structural Pest Control Board

City Staff responsible for pest management on City facility will provide annual training to all employees who apply pesticides as a normal part of their job duties on:

1. Pesticide Safety,
2. The City's IPM Policy, and
3. Appropriate Best Management Practices (BMPs) and Integrated Pest Management (IPM) Technologies supported by the Alameda Countywide Clean Water Program (ACCWP).

Education and Outreach

The City of Dublin Clean Water Program, in participation with the Alameda Countywide Clean Water Program, will continue with its existing program to encourage people who live, work, and/or attend school in Dublin to·

1 Obtain information on IPM techniques to control pests and minimize pesticide use;
2. Use IPM technologies for dealing with pest problems;
3. Perform pesticide applications according to the manufacturer's instructions as detailed on the product's label, and in accordance with all applicable State and Local Laws and Regulations set forth to protect the environment, the

public, and the applicator; and properly dispose of unused pesticides and their containers.

Reporting Requirements

Each City department which uses pesticides, pest management contractors, or other appropriately licensed contractors employed by the City to provide services that involve pesticide application will submit an **Annual Pesticide Use Summary Report** for each service site, which details the product name, pesticide type (i.e. Pyrethoid, Carbamate, organophosphate, etc.) along with the total quantity of each pesticide used during the prior Fiscal Year (**July 1st to June 30th**) in order to provide an accounting of pesticide use at City-owned facilities. **Annual Pesticide Use Summary Reports shall be submitted by July 10th of each year to the NPDES Coordinator.** This information is reported as part of the City's NPDES Stormwater Permit Annual Report.

Each City department that applies pesticides will conduct an **Annual Inventory** by **July 10th** of each fiscal year Each City department subject to this requirement will complete an **Annual Inventory Report Form** which lists the product name, pesticide type (i.e. Pyrethoid, Carbamate, organophosphate, etc.) and the quantity on hand, as well as identify pesticides that are no longer legal or appropriate for applications per Federal, State, County, or City requirements. **Annual Inventory Reports shall be submitted by July 10th of each year to the NPDES Coordinator.** This information is reported as part of the City's NPDES Stormwater Permit Annual Report.

Annual Inventory Report Forms and Annual Pesticide Use Summary Report Forms are attached to this policy. Additional Forms may be obtained by contacting the NPDES Coordinator in the Public Works Department at 925-833-6630

Attachment B: IPM Practices

The following provides a brief explanation of the different types of controls used when following an integrated pest management strategy. Specific controls will be pest specific and need to be developed on a case-by-case basis.

A. **Cultural Controls and Sanitation** are practices that reduce pest establishment, reproduction, dispersal, and survival. For example, plant resistance to pests can often be maximized by paying close attention to soil conditions and irrigation, and changing irrigation practices can reduce pest problems, since too much water can increase root disease and weeds. Sealing up food, providing proper waste storage and disposal, and educating people on good housekeeping practices are examples of cultural controls that can prevent or minimize pest problems inside or outside buildings.
B. **Physical and Mechanical Controls** can make the environment unsuitable for pest survival. Traps for rodents are examples of mechanical control. Physical controls include mulching, mowing or hoeing for weed management. Fly screens and hand removal of pests are other examples of physical controls.
C. **Biological Control** is the use of natural enemies such as predators, parasites, pathogens and competitors to control pests and their damage. Invertebrates, plant pathogens, nematodes, weeds and vertebrates often have natural enemies that can serve this function. Examples of natural enemies on pest populations include lacewings, ladybugs, predatory mites, and parasitoid wasps. These natural enemies can be mistaken for pests, which is why it is essential to positively identify the target "pest" before taking action. Conservation of vegetation to support beneficial insects is another example of a biological control.
D. **Chemical Treatments** with pesticides can be necessary if established threshold levels have been so severely exceeded that other methods are ineffective. Precise recommendations or actions to achieve specific results (i.e., controlling the pest population to a manageable level) is an essential part of an IPM Program. Specific pesticide recommendations are provided by a Pest Control Advisor (PCA) and least toxic options targeting the specific pest only are preferred. Using baits and traps rather than sprays should be tried first.