



**Integrated Pest Management
Program**

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Summary

The City of Tempe is responsible for stewardship of the city park system, facilities, rights of way, desert lands and the city's recreational and municipal water supply. As an organization, it takes a "triple bottom line" approach to management and programmatic decision making. This allows us to explore opportunities and solutions in consideration of the effects to people, finances and the planet. This approach is grounded with a construct of systems-thinking and generational outcomes. The city subscribes to the advancement of best practices, innovation, outcomes-based management, and leaving our community better than we found it – "do no harm."

What is IPM?

Integrated Pest Management (IPM) is a process used to address pest issues, while minimizing risks to people and the environment. IPM uses a sensible approach to decision-making, based on the best available science, observation, and a knowledge of the biology of the target organism, which is viewed within the context of the functioning ecosystem where it lives. It is a "whole systems approach," which selects, integrates, and implements a combination of strategies to prevent or manage pest populations within established thresholds.

When choosing management strategies, consideration is given to potential impacts to human health, the environment, non-target organisms, and overall biodiversity and ecosystem health. These strategies should augment or restore natural checks and balances within the ecosystem or food web. With rare exceptions, the goal is not to eliminate the pest species, but to suppress or decrease its population to the point that environmental factors and natural enemies keep it within tolerable levels. Therefore, an important aspect of IPM is the development of specific criteria that identifies when damage from the pest reaches a threshold that warrants action to manage it.

Program overview

Purpose

The City of Tempe strives to create outstanding value for those we serve through shared vision, superior service and sustainable practices. To document ongoing efforts to provide reasonably pest-free and safe environments while utilizing sustainable practices, the city has created a formal (IPM) document that outlines the program.

The fourfold purpose of this program is to: 1) formalize what has been occurring in the field for more than 20 years; 2) ensure consistency within the city; 3) identify and document comprehensive best practices related to pest control; and 4) develop a pathway away from a reliance on synthetic pest control methods and materials and towards a more comprehensive “green organic” program.

Definitions

Certified Applicator: A Certified Applicator is an individual who is licensed by the Pest Management Division (PMD) of the Department of Agriculture to provide pest management services, including a QA (Qualified Applicator). Certified Applicators may apply general or restricted-use pesticides while employed by an PMD licensed business or a political subdivision according to label directions.¹

Integrated Pest Management (IPM): A decision-making process that utilizes a holistic approach for managing pests, taking into account items such as public health and safety, the environment, and cost.

IPM Program Liaison: A department or division-specific contact, responsible for local inquiries and pest management communication

Organic: Derived from naturally occurring chemicals.

Synthetic: Derived from artificial chemicals.

Pest: A vertebrate or invertebrate insect, bird, mammal, organism, or a weed or plant pathogen that is in an undesirable location.²

Pesticide: Any substance or mixture of substances intended to be used for preventing, destroying, repelling or mitigating insects, fungi, microbes, weeds, rodents, predatory animals or any form of plant or animal life that is, or that the director may declare to be, a pest and that may infest or be detrimental to vegetation, humans, animals or households or be present in any environment.³ Pesticides may be organic or inorganic.

Pesticide General Permit: The Arizona Pollutant Discharge Elimination System (AZPDES) Pesticide General Permit (PGP) provides a means by which Operators can seek permit coverage for discharge to waters of the United States that result from the application of pesticides. The City of Tempe has obtained general

¹ <https://agriculture.az.gov/pests-pest-control/pest-management-faq>

² Ibid

³ Ibid

permit coverage from the Arizona Department of Environmental Quality (ADEQ) for pesticide applications that occur in or near Waters of the US and complies with all application, tracking and reporting provisions of the permit.

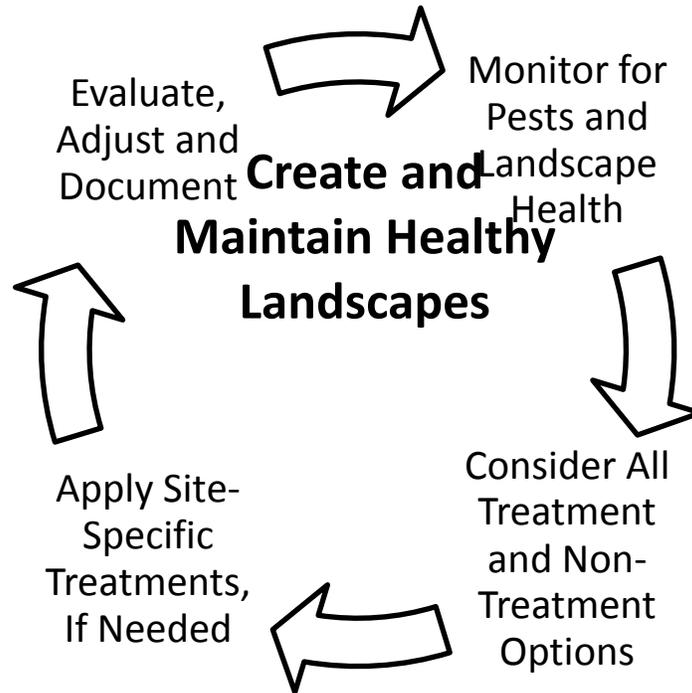
Background

Whether in a landscape environment or in a city facility, pests can affect a customer or staff experience, as well as cause short and long-term harm or disruption to city assets and infrastructure. The city must address pests through the most efficient, effective and environmentally responsible means available while remaining focused on the triple bottom line: economic costs, public and employee health, and environmental impacts. In order to accomplish these often-competing goals, an IPM process is utilized, which focuses on a holistic approach to managing pests.

The City of Tempe has utilized IPM methods for over 20 years. Rather than defaulting to chemicals, the city has historically considered other means for pest control, including mechanical, biological, and cultural control methods, and chemical controls. For instance, proper mowing, irrigation, fertilization, aerification, and other cultural practices ensure landscapes are more able to naturally resist pests. White amurs, which are weed-eating fish, are utilized in lakes to reduce algae growth as a biological means. Manual weed removal is often utilized in place of chemical treatments.

Despite these efforts, there are further factors that complicate and effect final treatment options, including the nature of a site, potential health and safety effects, environmental factors, costs, and the characteristics of possible chemical options..

Pest professionals recognize the cyclical nature of managing pests. It is referred to as the IPM Program Cycle, which consists of four continuous phases, shown below:



General Products & Methods Utilized:

While cultural, biological and manual control methods are utilized to address pests, multiple chemical products and methods are also utilized by city staff.. Pre-emergent and post-emergent herbicides are most commonly utilized in park and landscape areas to control weeds, supplementing mechanical and cultural means. In 2015, the Parks South workgroup, which maintains more than 300 acres of developed park space, applied approximately 140 gallons of herbicide concentrate. Pre-emergent herbicides were the most-utilized product (approximately 100 gallons of concentrate), applied in decomposed granite areas and on some sports field turf to keep weeds from emerging. Post-emergent herbicides were utilized as a spot treatment for weeds in decomposed granite areas. They were also used to chemically edge tree wells and sidewalk edges and as broadleaf weed control during the winter months. This helps reduce bur clover, which are the dried burs that appear in the turf in late spring that get caught on pets.

To protect the applicator, park user and the environment, it is the city's standard operating procedure to use the product with the lowest toxicity. Product labels dictate re-entry periods into treated areas and public notification is only required for schools and child care operations. Public interface in areas treated with herbicides has the most likelihood of occurring in turf areas, which is chemically edged, or where specific weeds are targeted over a larger turf area, such as bur clover.

Department/Division-Specific:

Community Services/Parks & Recreation:

City sites maintained by Parks & Recreation consist of parks, preserves, golf courses, municipal grounds, Diablo Stadium Complex and the Double Butte Cemetery. These areas are maintained by a blend of city staff, contract employees and contractors. Weed abatement includes both mechanical and chemical means. Mechanically, weeds are removed using hula hoes and line trimmers. This occurs in both turf and decomposed granite areas.

Chemically, synthetic pre-emergent herbicides are often used to prevent weed emergence in decomposed granite areas. Some turf areas, including sports fields and rough areas on golf courses, utilize pre-emergent herbicides. Inorganic post-emergent herbicides are utilized to control weeds in turf and decomposed granite areas. In turf, herbicides are often used to chemically edge sidewalks, concrete pads and headers, and tree wells, along with treating broadleaf weeds in turf. Some areas in softball fields, including foul and commitment lines, have historically been marked out using post-emergent herbicides. These areas are treated allowing re-entry per label requirements before use.

Woody, invasive species are also addressed with post-emergent herbicides; they are directly applied to stumps, cuttings and new growth. Multiple organic, post-emergent herbicides have been piloted to control broadleaf weeds in turf and decomposed granite. Synthetic herbicides are not used in playgrounds or dog runs unless they are closed for extended periods of time.

Engineering & Transportation/Transportation & Transit:

Transportation and Transit's sites landscape maintenance areas include city right-of-way (ROW), along multiuse paths (MUP), at the East Valley Bus Operations and Maintenance (EVOBM) facility and Tempe Transportation Center (TTC). Both city facilities are LEED certified.

All transportation and transit landscape maintenance is performed by contract vendors. Mechanical and chemical means are utilized to control weeds in decomposed granite landscaped areas. Manually, hula hoes and line trimmers are used. Inorganic herbicides are used in both pre- and post-emergent applications to control weeds in decomposed granite areas. Organic herbicides are used at LEED facilities, and an organic post-emergent herbicide was piloted in six ROW areas. To the greatest extent possible, the transportation and transit teams are relying on nontoxic, biological, cultural or mechanical pest management methods, including the use of natural control agents. When necessary, chemical pesticides are used, with preference for products that are the least harmful to human health and the environment. Additionally, no chemical applications are made within 20 feet around bus stops, while occupied.

Municipal Utilities/Water Utility:

Water and wastewater sites include areas such as Tempe Town Lake, water and wastewater treatment plants, well sites, booster facilities, storage tanks, metering stations, bio filter sites, demonstration gardens, and natural desert areas. These areas are maintained by city staff, contract employees, and contract vendors.

Since 2001, a limited chemical weed control policy has been maintained on all water-related sites. Herbaceous weed control measures on all sites are accomplished using mechanical control methods only. In the case of woody invasive species eradication (e.g., *Desert Broom and Salt Cedar*), a “Cut-Stump” treatment is directly applied without the use of foliar sprays. Herbicides are strictly forbidden near open body reservoirs per labeling and city policy. For Tempe Town Lake, pesticide applications focus on pests like algae that affect water quality and the city’s ability to provide a safe environment and full body contact events such as triathlons.

Contracted Services:

Multiple vendors provide contracted pest control services in addition to those performed in ROW maintenance areas. These include pest control services for city buildings, lake maintenance for Tempe Town Lake and other smaller lakes in neighborhood and community parks. The city contracts with pest vendors to address insects, rodents, vector and bees; the bee contract lists both live and dead bee removal options.

Lake pesticide treatments typically focus on the use of algaecides to reduce the negative impacts of algae. Lake maintenance contractors also utilize blue dye and beneficial bacteria to proactively and biologically reduce the amount of chemicals used to treat algae, along with the addition of algae-eating fish. Additionally, lake aeration systems have been installed at Papago and Kiwanis Park lakes, as well as floating islands at Selleh Park.

Goals

Realizing that a formalized IPM program is not static, the following long and short-term goals have been identified:

- Track and report inorganic and organic pesticide usage amounts in a single location.
- Continuously research, pilot and report on organic pesticide use.
- Identify short and long-range synthetic pesticide reduction goals once usage amounts have been identified.
- Identify sources and submit funding requests aimed at reducing inorganic pesticide use.

Best Practices

1. **Best Practice: Integrated Pest Management Program Coordinator**

Purpose

This best practice identifies the person responsible for the City of Tempe's IPM Program, as well as outlining their specific responsibilities.

Best Practice

In an effort to ensure consistent implementation and communication of the city's IPM Program, the Parks Manager (Parks & CIP) shall serve as Tempe's IPM Program Coordinator.

The IPM Program Coordinator shall:

- Coordinate with city personnel and IPM liaisons, boards and commissions, and consultants in the development, implementation and yearly review of the City's IPM program.
- Communicate with executive management and elected officials regarding inquiries and updates related to the city's IPM program.
- Update the city's IPM Program and document annually.
- Serve as the primary City of Tempe contact for Department of Agriculture inquiries related to pest control on city property.
- Assist in the establishment and maintenance of citizen outreach programs to assist citizens in understanding and implementing IPM practices.
- Provide applicator information and data to appropriate Environmental Services representative for state and federal permit reporting.

2. **Best Practice: Certification and Continuing Education**

Purpose

The city is committed to ensuring a high level of service and expertise in the management of pests. Therefore, this best practice identifies the certification and continuing education requirements for personnel responsible for the application of pesticides on city property.

Best Practice

In an effort to ensure that all applicable local, state, and federal laws are followed, and as stewards of the environment and public health and safety, including that of the applicator, the following best practices have been identified relating to certification and continuing education units (CEUs):

- Pesticide applicators, both city employees and contractors, shall be a Certified Applicator through the Arizona Department of Agriculture in the appropriate category or categories that apply to the specific pesticide applications to be performed.
 - To become a Certified Applicator, an individual must submit a completed application, the application fee, the statement and evidence of lawful presence and pass the Core and at least one category-specific exam with a score of 75% or higher to become certified in that specific category.⁴
- Responsibility for obtaining and maintaining a certified applicator license in the appropriate category or categories is the responsibility of the individual applicator.
- Continuing Education Units (CEUs) must be provided by accredited sources, ensuring they are pre-approved for credit through the appropriate certifying agency.
- CEU courses should be relevant to the applicators' current categories and/or areas of responsibility.
- Contractor providers or contract employees shall be responsible for initial certification, CEUs, and annual/bi-annual license renewals for all employees performing pest-related duties on city property.

⁴ <https://agriculture.az.gov/pests-pest-control/pest-management-faq>

3. Best Practice: Safety & Training

Purpose

Initial and on-going safety and other pest-related training is critical for all employees involved in the management of pests. This best practice identifies the safety and training requirements related to pesticide application within the City of Tempe beyond those covered by initial certification training and annual CEUs.

Best Practice

In an effort to ensure safe environments and facilities for its residents, customers, and employees, the following best practices have been identified related to staff safety and training requirements and recommendations beyond those covered in the certification and continuing education best practice:

- All pesticide applicators, including contractors, shall have the proper general safety training, as required by the products and equipment that they could use in the course applying pesticides. This should include, but is not be limited to: HazCom, Personal Protective Equipment (PPE), ladders, and Aerial Lift training.
- Personal Protective Equipment (PPE) shall be utilized as listed on product labels, and as found in application and equipment operator manuals.
- City applicators shall follow all appropriate instructions as identified in the appropriate Job Hazard Assessment (JHA).
- Temporary traffic control procedures shall be followed for any pest control services performed in the city's ROW.
- Equipment vendors shall provide new equipment training, which includes the completion of an applicable checklist; new employees shall be trained on application equipment before first use and shall complete the appropriate checklist.
- Applicators shall review all product labels annually and new product labels before initial use.
- Applicators shall complete an annual IPM training, which shall include the following topics:
 - Review and update formal IPM Program document.
 - Review amounts and types of pesticides used in previous year/s.
 - Review and update chemical inventories and identify older pesticides in storage.
 - Review and update applicable JHAs.

4. **Best Practice: Storage, Transportation & Disposal**⁵

Purpose

This best practice identifies storage, transportation, and disposal requirements for both organic and inorganic pesticides.

Best Practice

In an effort to ensure public and employee safety, as well as environmental protection, the following best practices have been identified to ensure pesticides are stored, transported, and disposed of in a manner that reduces the risk of spillage, exposure, theft, degradation, contamination, or loss:

- **Storage**
 - City procured pesticides and pesticide containers shall be stored in safe, secure, and approved locations, as required by existing laws and regulations.
 - Pesticides and pesticide containers shall be stored in such a way to prevent the negative impacts related to extreme temperatures (high and low), light-degradation or moisture.
 - Pesticides storage locations shall be inspected monthly and shall include the posting of an updated pesticide inventory.
 - All new pesticide containers shall be labeled with the month and year of purchase; oldest pesticide containers shall be placed on the front of shelves and utilized first.
- **Transport**
 - Pesticides and pesticide containers shall only be transported by certified applicators.
 - Pesticides and pesticide containers shall be appropriately and safely secured in truck beds, boxes, or tanks, and not in cabs of passenger vehicles.
 - Transport vehicles shall be equipped with appropriate spill response supplies and documentation to include product labels and Safety Data Sheets.
- **Disposal**
 - PPE, as required by the pesticide label, shall be worn while mixing, emptying, and disposing of pesticides or pesticide containers.
 - Pesticide containers shall be adequately emptied into application equipment, triple rinsed, and punctured prior to disposal.
 - Pesticides and pesticide containers shall be disposed of in accordance to state and federal regulations, and in accordance to label instructions.
- **Spill Response**
 - In the event of a pesticide spill while storing or transporting pesticides or pesticide containers, the city's approved spill procedure guideline shall be followed (see appendix 2).

⁵ <https://www.portlandoregon.gov/parks/article/116237>

5. Best Practice: Chemical Usage

Purpose

This best practice identifies an applicator's responsibility to utilize the safest product at the lowest labeled application rate to achieve the desired result/s.

Best Practice

In an effort to safely manage pests chemically and not harm unintended targets and the environment the following best practice shall be followed:

- Only certified applicators shall apply pesticides, regardless of whether organic or inorganic products are utilized; this includes both contract and City employees.
- Environmental factors such as wind, temperature, humidity, and precipitation shall be considered before, during, and directly after pesticide applications.
- A site analysis shall be performed prior to each chemical application. Factors such as soil type, topography, slope, and proximity to limited use areas, such as waterways, schools, playgrounds, off-leash areas, child care facilities, and preserves shall be considered.
- The right type of equipment (tank sprayer, granular spreader, backpack sprayer, etc.) shall be utilized for each pest treatment, based on the size of the area treated, as well as the specific location of the target pest. Equipment shall be in good working order, ensuring that there are no leaks, and shall be properly calibrated.
- Pesticides shall be specifically labeled for both the intended pest/s and site.
- Pesticides applied to sites included within the Pesticide General Permit (PGP) shall be applied in strict accordance with the permit; pre- and post-application inspections shall be completed by and forwarded to appropriate personnel.
- Pesticides shall be transported, mixed, and disposed of as directed by the product label and the applicable best practice.
- Low risk/low toxicity pesticides that provide efficient and cost-effective control shall be utilized first.
- Annually or more frequently, staff will inventory chemicals for leakage, shelf-life, etc. All City-owned chemicals not needed for inventory will be disposed of at the City of Tempe Household Hazardous Waste Facility.

6. **Best Practice: Limited Chemical Use & Non-Traditional Approaches**

Purpose

This best practice identifies specific areas within the city that have been determined as limited chemical use locations, due to the type of use or the specific, sensitive nature of the environment. It also identifies specific types of pesticides, whose uses shall be limited or prohibited.

Best Practice

In an effort to provide clearer site-specific pesticide application procedures, the following best practices shall be followed:

- Per Department of Agriculture regulations, child care facilities require posting prior to any pesticide application (see Appendix 3).
- Limited chemical use areas include park sports fields, playgrounds, exercise stations, off-leash areas, community gardens, and outdoor swimming pools. Pesticide applications in these areas shall require either site-specific posting 48 hours before and after application, or site closure to the public for 48 hours or more. In the case of an emergency response (i.e., bees) in these areas, posting shall occur at the time of application and remain on site for 48 hours.
 - An area shall be considered closed when access has been limited, such as using caution-tape, fencing, or other methods of limiting access.
- Danger labeled products shall only be used as a last resort, when all other options have been exhausted.
- Prohibited use products, such as organo-phosphates shall not be utilized.

7. Best Practice: Reporting & Record Keeping

Purpose

Detailed information regarding amount, type, and location of pesticide usage enables the city to make informed decisions about managing pests, as well as set pesticide reduction goals. This best practice addresses recording and reporting procedures for all pesticide applications occurring on city property, whether by city staff or contractors.

Best Practice

In order to meet OPM requirements, gauge the impacts of the IPM Program, and define actionable goals, the following best practices shall be followed:

- Individual applicators are responsible for recording individual applications.
- The city and its contractors shall record and retain records of all individual pesticide applications performed on city property.
- Operations supervisors and contract administrators shall keep accurate records of pesticides used in their areas of responsibility.
- Once a suitable method of tracking staff and contract applications has been determined, operations supervisors and contract administrators shall ensure the accuracy of their application records, ensuring a central record is retained for five years.

8. Best Practice: Bees & Pollinators

Purpose

This best practice identifies methods for remediating hazards associated with bees, which serve as important pollinators.

Best Practice

In an effort to safely and securely address bees on city property, the following best practices shall be followed:

- Staff receiving initial notification of the presence of bees shall ask the following questions:
 - What is the exact location of bees?
 - Are they on city property?
 - Where on property are they?
 - If on an elevated structure, approximately how high up are they?
 - Are the bees in a hive or swarm? If neither, how many are there and what are they doing?
 - Are the bees causing a public health and safety concern?
- Gathered information shall be forwarded to the appropriate area supervisor or contract administrator.
- If initial notification occurs during regular business hours, staff should respond to and confirm the presence and location of bees on city property. Notification after regular business hour shall require contacting the applicable contracted vendor.
 - Staff shall determine whether the bees appear aggressive or are presently a hazard.
 - Staff shall determine whether the bees need to be removed from site or whether their temporary or long-term presence does not negatively affect the site or public health and safety.
 - Staff shall determine whether the site needs to be secured appropriately: examples may include, but are not limited to the use of barricades, caution-tape, and closing gates.
- When bees present a public health and safety concern, they shall be removed.
 - Live bee removal by a contracted vendor shall be considered if circumstances are favorable: bees are accessible, non-aggressive, in a secluded area, or public access has been restricted or closed to the removal area.
 - When live removal is not a suitable option, certified staff or contracted vendors may mortally remove bees.
- After bees have been removed, remaining honey comb and any subsequent dead bees, along with other miscellaneous debris, shall be removed from the site; this may require a return visit after initial removal. If chemicals are used to address bees, chemical residue on sidewalks and other surfaces shall be removed. Cracks in sites where bees could return shall be sealed.

9. **Best Practice: Pesticide-Free Parks**⁶

Purpose

As the city prioritizes non-chemical solutions to pests, this best practice identifies the requirements for a pilot program to form a community partnership to ensure that identified parks and park areas are maintained without the use of synthetic pesticides for a specific, agreed upon period.

Best Practice

In an effort to create, implement, manage, and evaluate “pesticide-free park” opportunities as part of the existing adopt-a-park program, the following best practices shall be followed:

- Criteria used to determine a park’s suitability for the pilot program:
 - Park/s shall be under 10 acres, include amenities typical of a neighborhood park (no restrooms; splash playgrounds or pads), are equally distributed throughout the city, have partner support who are willing to enter an agreement with the city, and do not have unusual historic pest problems requiring chemical approaches (“pest pressure” as identified by Portland⁷).
- Implementation of the pilot program shall include the following:
 - A written agreement (Adopt-a-Park form) between the city and its community partner (neighborhood) which include the following elements:
 - Clear description of the park, including its size, amenities, and pest management requirements;
 - Ownership of program/responsible parties
 - Partner coordinator (from community)
 - City staff
 - Clearly defined goals of Tempe’s IPM program, the overall pesticide-free park program, and the park-specific pilot program;
 - Exceptions:
 - When non-park pesticide applications occur (mosquito fogging by County)
 - Occasions where pesticide applications shall be permitted, such as when public health and safety concerns are present (stinging insects, such as bees, and vectors such as mosquitoes)
 - When pesticides are utilized by city staff, the park shall be posted appropriately
 - A clearly defined timeframe;
 - Equipment & supplies that are to be provided by the city and the community partner;
 - Task and equipment-specific volunteer training, which includes review of standard operating procedures and all appropriate safety manuals;

⁶ Adapted from multiple resources: <https://www.portlandoregon.gov/shared/cfm/image.cfm?id=198108>;
<https://www.eugene-or.gov/633/Pesticide-Free-Parks-Program>

⁷ <https://www.portlandoregon.gov/shared/cfm/image.cfm?id=198108>

- Signage shall be installed in the park announcing the pesticide-free partnership and contact information about the program.
 - Impacts of parks improvement program (CIP) on pilot park and timeframe shall be identified to limit its impact on the park-specific pilot program.
- Overall and park-specific pilot program evaluation shall occur at regular and pre-determined intervals:
 - Prior to the implementation of the park-specific pilot program, which outlines past pest control practices, including chemical approaches;
 - During the implementation of the park-specific pilot program, reviewing the pest management strategies utilized, volunteer and staff support required, condition assessment of the site, as well as other cost data for the program to date;
 - At the end of each agreed-upon MOU timeframe, or when the park-specific pilot program concludes, to further review the pest management strategies utilized, volunteer and staff support required, condition assessment of the site, as well as other cost data for the program.

10. Best Practice: Synthetic Herbicide Reduction Strategies

Purpose

One of the goals of the city's IPM program is reduce the amount and type of synthetic herbicides used on its properties; this best practice identifies specific solutions.

Best Practice

In an effort to identify and implement herbicide-reduction strategies in parks and other city properties, the following best practices have been developed:

- Design
 - Right plant, right size, right place
 - Use of mulches, both inorganic and organic (decomposed granite, compost, etc.)
 - Proper site soil preparation
 - Efficient and plant-specific irrigation equipment
- Maintenance
 - Focus on non-chemical, IPM approaches:
 - Cultural practices: Reduction of weeds through a focus on overall plant/soil health – compost, fertilization, aerification, regular mowing, proper irrigation (inspection/repairs), and mulching;
 - Mechanical controls: Reduction of weeds through a focus on manual removals – mowing, line trimming, hoeing, weed burning, and roto-tilling
 - Site-specific weed thresholds for each site based on use and service level
 - Organic herbicides that are low toxicity or low risk
 - Identify and utilize new products that have reduced active ingredients not requiring labeling; they may not be technically considered herbicides (not currently available, but the industry is moving this way)
 - Timing: Keeping weeds from multiplying by removing them while they are immature (prior to going to seed)

Appendix 1:

Date of application	City of Tempe or vendor application	Dept., division, section, work group, company name, etc.	Applicator name	Applicator license #	Location of application (address)	Location Type (Park, Golf Course, building, ROW, etc.)	Target pest (turf & grassy weeds, broadleaf, bees, general pest/insect, mosquitoes, rodents, etc.)	Application type (spot spray, chemical edging or perimeter spray, etc.)	Application method (backpack, tank spray, boom spray, broadcast spreader, etc.)	Product type (herbicide, rodenticide, etc.)	Product trade name (Roundup Pro Max, Surflan, etc.)	Active ingredient (glyphosate, etc.)	Product concentrate amount applied (by oz.)	Total volume applied	Total weight applied
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Appendix 2:

City of Tempe Facility Chemical Handling and Spill Procedures

Spill Prevention

- Keep containers closed until needed
- Use the least toxic material needed to complete the task
- Avoid storing materials outside uncovered
- Always be aware of drainage areas when working with materials outside
- Inspect material containers for damage and leaks – report problems to your supervisor
- Always wear the required personal protective equipment (PPE) needed when handling hazardous or non-hazardous materials (see SDS)
- Know how to clean-up materials being used and have the proper tools and equipment available on-site (SDS and HWMP)
- Know where the SDS forms are kept and read them before using the material
- Know the proper method of disposal of waste and what to do with left-over materials used (SDS and HWMP)
- Use secondary containment for materials whenever possible

Spills and leaks

- If you have a small spill or find a spill, clean it up or get assistance to clean it up.
- Large spills and leaks need to be reported to your supervisor immediately.
- Spills of a dangerous nature need to be reported immediately to 911 and your supervisor – professionals may be required to do the clean-up.
- If minor spills can't be cleaned-up quickly and safely, isolate spill from nearest storm water conveyance (catch basin, drywell, storm drain). Don't take actions beyond your training, equipment or ability. Call your supervisor and for clean-up assistance (see below).
- Spills in a public right-of-way need to be isolated from traffic and public. Deploy barriers (i.e. cones, flagging tape) before clean-up. Contact supervisor for these types of spills.
- Always uses proper PPE (i.e. gloves, eye protection) when cleaning up spills. If you don't have the proper equipment, contact your supervisor. You can always call for clean-up assistance (see below).
- Disposal of spilled materials must be made in accordance with regulatory standards. Contact 350-2819 (HPCC) for assistance.

Reporting

- Anything more than a minor spill should be reported to your supervisor
- Clean-up assistance is available by calling 480-250-5378
- Spills are to be reported to 350-2819 (HPCC) and 350-2811 (Stormwater Hot Line)

Appendix 3:

NOTICE: Pesticide Treatment

City of Tempe's Integrated Pest Management (IPM) Program includes four key, continuous steps:



Specific area treated.

What is being treated.

Why it is being treated.

Pesticide + EPA Reg #	<input type="text"/>	EPA Hazard Category: <input type="checkbox"/> Danger <input type="checkbox"/> Warning <input type="checkbox"/> Caution <input type="checkbox"/> None	
Pesticide + EPA Reg #	<input type="text"/>		
Pesticide + EPA Reg #	<input type="text"/>		
Active Ingredients	<input type="text"/>		
Date/time of planned treatment	<input type="text"/>	Actual treatment date/time	<input type="text"/>
Date/time it is okay to re-enter (per EPA label)	<input type="text"/>		



Questions or looking for additional information?

Contact:
Craig Hayton
Parks Manager
480.350.5234 or Craig_Hayton@tempe.gov