

The University Of Alabama
Pest Management
Operations



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Part 1: Background Information and History

The University of Alabama (UA) is situated in Tuscaloosa, Alabama, and has an enrollment of approximately 37,000 students. UA Facilities and Grounds is the primary physical plant service provider and maintains 300 buildings totaling 16 million square feet and approximately 1200 acres. The Facilities and Grounds Department is divided into ten shops. One of the largest shops, Building Maintenance, is where our award nominee, Pest Management Operations, is housed. Pest Management employs six full time staff, including an assistant manager, three pest control technicians, a wildlife technician, and a termite control technician. The staff provides routine pest management, termite control, mosquito control, and wildlife management.

UA Maintenance formalized Pest Management operations in 1987 with two technicians. Services offered at that time could best be described as general pest control on a limited basis. When a customer called with a complaint, the staff did its best to solve the problem at hand.



2015 UA Pest Management L-R: Clint Hamner, David Pratt, Corey Lollar, David Marlowe, Matt Wyatt, Zack Mays, Andy Simon, Neal DiChiara

In 2001, under the leadership of UA President, Dr. Robert Witt, the University embarked upon a period of growth with the end result more than doubling enrollment. New facilities to meet this need, such as residence halls, dining facilities, research labs, and classroom space, have been brought online to accommodate the massive increase of enrollment. UA Pest Management operated in a reactionary mode until May 2006 when the implementation of the termite program was born. Additional staffing was obtained bringing the total staff number to four. In 2010, David Marlowe was named assistant manager over Pest Management. Monthly

inspections began at that time. The UA Bedbug Manual containing policies, procedures, and best practices was created in 2011. Wildlife Management Services began in 2012.

Part II. Institutional Benefit

The University of Alabama has undergone a complete transformation from respected state institution to a flagship University in the past 10 years. Support services such as UA Pest Management have made this transition a reality by providing best in class performance to customers that are becoming more discerning on a daily basis, and to a campus that has increased in complexity. UA now enjoys a centralized one-stop shop that provides management services for the following pests: termites, mosquitos, common household pests, wildlife, and bed bugs. UA Pest Management has identified itself as the most flexible service provider available by servicing academic, administrative, residential, dining, sports, research, and hospital facilities.



Zack Mays, Pest Control Technician II, uses a "Webster" to hit the hard to reach areas.

Services also include special events support. UA Gameday is an "animal" all itself, and the Pest Management Staff is asked to perform additional services, such as treating the University's grounds for ants to allow for successful tailgating. Bryant Denny Stadium, UA's 103,000 seat football venue, houses many full-service kitchens and numerous concession stands. UA Pest Management works these areas year-round to ensure that the areas remain free of unwanted pests. UA Pest Management created its own plan to manage mosquitos at high profile properties, such as the President's Mansion.

Additional institutional benefits of the UA Pest Management Department are cost effectiveness, quality of service performed, and responsiveness. Having a steady team of trained, highly skilled, licensed technicians on campus makes a profound difference.



David Pratt, Senior Pest Control Technician, surface treats an ant bed.

These technicians become familiar with their campus routes, and can often intercept pests before they become a problem, saving time and money. Having an in-house crew fosters a strong sense of ownership which encourages the team to attack the root cause of problems rather than “band-aid” fixes. In particular, the pest control technicians become partners with the customer in helping to remedy what could be causing a pest infestation. At any given time, UA Pest Technicians are minutes away from responding to a call. This responsiveness can make a difference in customer safety in instances of wasps or bee swarms.

Part III. Innovativeness, Creativity, and Originality

The UA Pest Management Program, as it exists today, was created in large part by its current assistant manager, David Marlowe. Using his extensive experience in the private sector, David took the best practices from the industry and tailored them to fit higher education. The end result is an operating unit that is innovative, creative, and original.

The campus environment in which UA Pest Management operates requires innovative measures to ensure survival. At many large organizations, physical plant changes occur with little thought into the ramifications it could have on the pest management department. UA Pest Management has been successful in developing its own standard operating procedures, policies, and approaches using the latest technology and integrated pest management techniques. Adding a full array of wildlife control services to the portfolio was an innovative strategy that has saved the University money, especially when dealing with bat infestations in campus buildings.

The UA Pest Management Program was created in house, and is completely unique to UA. The following are examples of inspection forms that were created for the proprietary use of UA Pest Management:

- UA Bedbug Inspection and Action Procedures (Appendix 1)
- UA Pest and Wildlife IPM Inspection Form (Appendix 2)
- UA Pest Management Sanitation Report (Appendix 3)

The following policies were created by UA Pest Management:

- UA Bed Bug Policy/Manual (Appendix 4)
- UA Trapping and Feral Cat Policy (Appendix 5)

UA Pest Management has also created standard procedures for all operations including:

- UA Pest Management Callback Procedure (Appendix 6)
- UA Pest Management Materials Checkout Procedures (Appendix 7)
- UA Pest Management Monthly Service Guidelines (Appendix 8)
- UA Pest Management Truck Inventory (Appendix 9)



Andy Simon, Termite Control Technician, checks a bait station.

Part IV. Portability and Sustainability

UA Pest Management has worked diligently to create a program that is portable for the use of others. As referenced earlier, the program takes best practices from the pest control industry and tailors them specifically to fit higher education. All forms, training curriculum, policies, procedures, and guide lines are in digital format for easy sharing. The Assistant Manager over the pest management staff, David Marlowe, is active in professional pest control organizations, and is a sought after instructor.

Picture at right, David Marlowe, Assistant Mgr, leads a crew meeting.



Years of hard work and training added motivation to the sustainability of UA Pest Management Operations. The first step was identifying a standard of excellence in operation. Next, employees were intensely trained to execute the standard. However, the greatest challenge thus far is maintaining the success of the program. This is where strong leadership and committed employees show value.

Being part of a world-class unit is something that above average people want to be a part of, and they will remain engaged to make sure the unit does not slip. Using metrics, UA has been able to chart improvements since 2010. In that time, we have shown sustained improvement every year. The standards are set, and high expectations are a reality. The program is here to stay!

Part V. Management Commitment and Employee Involvement

UA management has demonstrated strong commitment in the areas of compensation, training, and equipment, thus fostering an environment that allows for optimal operation while maximizing all resources. Our pest control technicians are paid at a competitive rate which increases for every license or certification earned. This fact alone has garnered a full staff of state licensed technicians. In order to keep our licenses current, management provides time and funding for continuing education opportunities that serve to train technicians, and keep them current in industry trends. UA Pest Management is not satisfied with simply meeting license level requirements on training and has gone above and beyond by becoming a member of the National Pest Management Association, the Alabama Pest Control Association, and is certified as National Wildlife Control Operators Bat Standards Compliant.



Management has further shown commitment by equipping our technicians with the finest equipment possible. The trucks used by UA Pest Management are among the finest in the fleet,



and are all outfitted in a standard way to promote efficiency in operation.

UA Pest Management employees are the reason for the overall excellence and success of operations. They have been involved every step of the way in developing the program. At first, the standardization of operation caused concern and doubts as all change

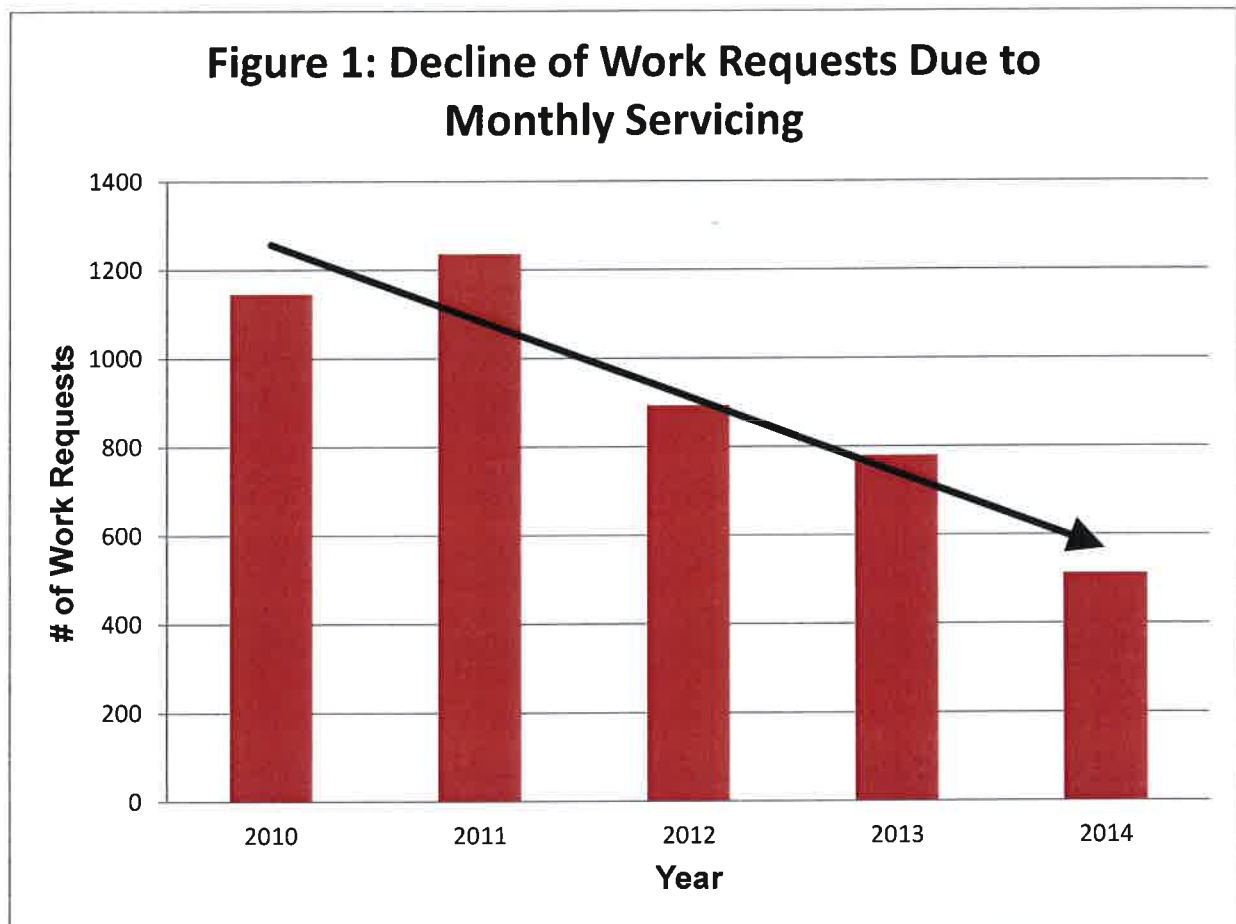
does. However, once the employees saw the impact on the campus, they became agents of the change! Being known as experts in the field has increased their street credibility. Being trusted by your customers helps the technicians' morale and adds to overall job satisfaction.



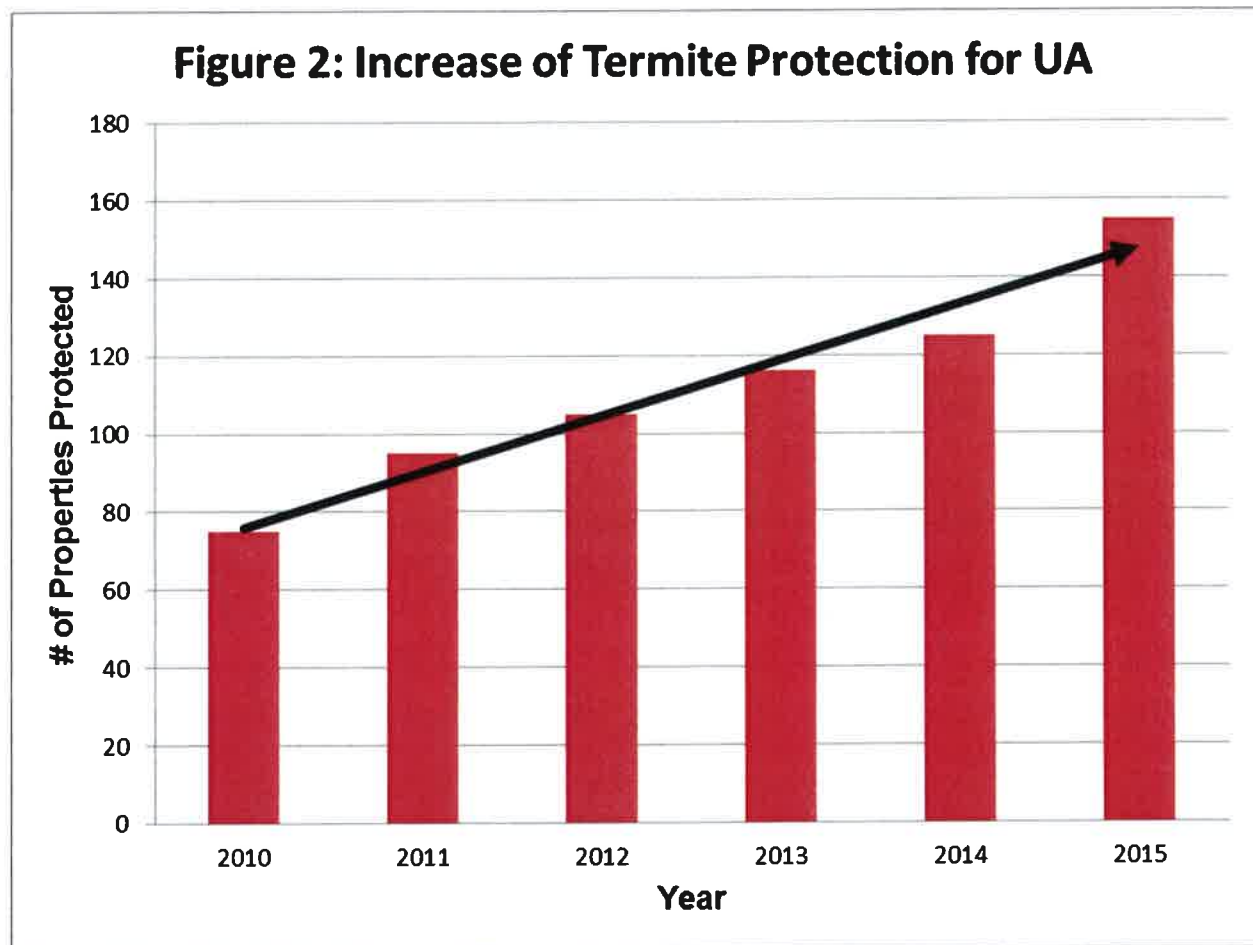
Above Left: The UA Fleet consists of fully stocked Ford F-150s. Above Right: David Pratt poses with his organized rig.

Part VI. Documentation, Analysis, Customer Input, and Benchmarking

A key component of the success experienced by UA Pest Operations is a commitment to collecting data which is then used to measure and benchmark progress of its actions. Prior to 2010, operations were largely reactive. That mode of operation led to many work requests that took valuable time away from the University's core mission of education. The intentional switch to being proactive has had a profound effect on internal operations, and has allowed our customers to focus on educating the best and brightest students. Figure 1 shows that work requests have been reduced by more than half since 2010!



Another data collection effort worth mentioning is the determined growth of UA Pest Management via the expansion of the internal termite control program. In 2010, the program provided for the protection of seventy-five (75) UA properties. Figure 2 demonstrates that this number has also doubled. At this time, our operation protects one hundred and fifty-five (155) University Properties with future plans to expand.



Customer feedback continues to play a crucial role in improving the UA Pest Management Operation. The best case study of this is the support of our dining hall facilities. At each inspection, the pest control technician completes a sanitation report that is reviewed with the manager of the facility before the technician leaves. These actions have been instrumental in helping our kitchens not only to become cleaner, but also able to score higher on health department ratings, while reducing infestations of mice and roaches. UA Pest Management is seen as a team member, and not an adversary in providing critical feedback.

Part VII. Appendices

- UA Bedbug Inspection and Action Procedures (Appendix 1)
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UA Pest Management Bed Bug Inspection and Action Procedures

Building/# _____ Date _____

Location(s) _____

Contact/Phone _____

Bed Bug Inspection

___ Perform an Inspection

■ Gather Information. (Thoroughly Documenting all Findings)

___ Confirm that the pest is a bed bug.

___ Document details on the location of verified bed bug infestations, unverified complaints or reports of bed bug bites, past history of infestations, and other pertinent factors.

___ Question staff and residents on the history of the infestation and how the bed bugs may have been introduced.

___ Question residents in apartments and other residences to determine where people sleep and their nighttime activities.

■ Look for bed bugs, eggs, blood spotting, and shed skins.

■ Take the steps necessary to insure a thorough inspection which may include some or all of the following:

___ Stand up the mattress and box spring (if present) and move them into different positions to access all bed bug hiding places including seams, piping, folds, straps and other attachments.

___ Remove, either partially or completely, the gauze fabric on the underside of the box spring (if present) to allow inspection inside.

___ Remove the wood slats of the bed frame, (if so equipped), and remove bolts in order to inspect the bolt holes.

___ Disassemble the headboard and the footboard.

___ Disassemble platform beds and other beds supported on wooden box frames.

___ Lift the edge of carpeting nearest the bed and near other infested areas.

___ Remove the gauze fabric on the underside of upholstered furniture to allow inspection inside.

___ Remove drawers from furniture and turn furniture and equipment over to inspect underneath.

___ Take down or inspect behind pictures and wall hangings.

___ Provide access to inaccessible voids and bed bug harborage by removing moldings, stripping wallpaper, and opening walls or ceilings.

Do not limit the inspection to the bed. Extend the inspection throughout the bedroom and, in apartments and other residences, into the living room, closets, and other non sleeping areas.

Assume that wherever you see blood spotting, eggs, and shed skins that bed bugs may also be present. Inspect the rooms or units next door and directly above and below a unit that has been found to be infested.

Building/# _____ Date _____

Location(s) _____

Contact/Phone _____

Potential inspection sites will vary by type of facility and might include (but not be limited to) the following:

Bed

<input type="checkbox"/> Mattresses	<input type="checkbox"/> Box springs	<input type="checkbox"/> Rolled seams	<input type="checkbox"/> Labels
<input type="checkbox"/> Sewn seams	<input type="checkbox"/> Pillow-top folds	<input type="checkbox"/> Nail/Staple holes	<input type="checkbox"/> Buttons
<input type="checkbox"/> Lifting straps	<input type="checkbox"/> Corner protectors	<input type="checkbox"/> Rips, tears	<input type="checkbox"/> Needle holes
<input type="checkbox"/> Bed frames	<input type="checkbox"/> Wheels/legs	<input type="checkbox"/> Bedposts	<input type="checkbox"/> Wood slats
<input type="checkbox"/> Headboards	<input type="checkbox"/> Footboards	<input type="checkbox"/> Box frames	<input type="checkbox"/> Items under bed

Other Sites

<input type="checkbox"/> Nightstands	<input type="checkbox"/> Dressers	<input type="checkbox"/> Desks	<input type="checkbox"/> Closets
<input type="checkbox"/> Drapes/curtains	<input type="checkbox"/> Curtain rods	<input type="checkbox"/> Venetian	<input type="checkbox"/> Luggage racks
<input type="checkbox"/> Wall hangings	<input type="checkbox"/> Picture frames	<input type="checkbox"/> Mirrors	<input type="checkbox"/> Smoke detectors
<input type="checkbox"/> Sprinkler heads	<input type="checkbox"/> Thermostats	<input type="checkbox"/> Light fixtures	<input type="checkbox"/> Switch plates
<input type="checkbox"/> Outlets	<input type="checkbox"/> Drawers	<input type="checkbox"/> Storage boxes	<input type="checkbox"/> Pet beds/cages
<input type="checkbox"/> Any clutter	<input type="checkbox"/> Television/stereo	<input type="checkbox"/> Radios/clocks	<input type="checkbox"/> Baseboards
<input type="checkbox"/> Crown molding	<input type="checkbox"/> Window molding	<input type="checkbox"/> Wall cracks	<input type="checkbox"/> Popcorn ceiling
<input type="checkbox"/> Door frames	<input type="checkbox"/> Carpet edges	<input type="checkbox"/> Floor seams	<input type="checkbox"/> Loose wallpaper
<input type="checkbox"/> Chipped paint	<input type="checkbox"/> Nail/screw holes	<input type="checkbox"/> Laundry basket	<input type="checkbox"/> Books by bed/couch
<input type="checkbox"/> Service carts	<input type="checkbox"/> Wheel chairs	<input type="checkbox"/> Upholstered furniture	

☐ No Bed Bugs Found ☐ Installed Monitors ☐ Removed Monitors

☐ Recheck on _____

☐ Bed Bugs Found

☐ Location(s) _____

Conditions Conducive

*Use Attached Sheets for Control Actions

Bed Bug Control Actions

- Any area where we have found blood spots or one bed bug will be a site for bed bug control.
 - ___ Discard badly infested and deteriorated items, but only if the customer has made the decision to do so. The items to be discarded will be slashed, broken, or otherwise rendered unsalvageable and sealed in plastic.
 - ___ Use PC Department's vacuum to remove accessible clusters of bed bugs and eggs in beds, furniture, baseboards, carpet edges, and other infested sites. Vacuum dead bed bugs, shed skins, and other debris to facilitate follow-up inspections.
 - ___ Vacuum up clusters of bed bugs and eggs on walls, floors, and other flat surfaces.
 - ___ Stand up mattress and box springs (if present), remove headboard and footboard, disassemble bed, and remove gauze to access interior of box spring (if present).
 - ___ Treat mattress and box spring with specialty bed bug contact product or residual insecticide labeled for this use. To prevent the spread of bed bugs, **mattresses will be discarded.**
 - ___ Treat the bed frame at the interface where the box spring sits, cracks and crevices in the frame, any wood surfaces including slats, spring coils (if so equipped), footboard and headboard, inside bed frame legs, wheels, and hollow bed posts.
- Pay special attention to upholstered furniture.
 - ___ Apply insecticide under the cushions, behind the skirting, and to the underside where the gauze attaches to the frame.
 - ___ Make a slit in the gauze (if present) and treat inside the void under the gauze as you would treat a box spring.
 - ___ Treat the top of upholstered surfaces of the furniture with specialty bed bug contact product or residual insecticide labeled for this use.
 - ___ Vacuum dressers, nightstands, and similar furniture to kill or remove bugs and eggs.
 - ___ Apply a residual on the underside and rear of furniture and on drawer slides, cracks, crevices, voids, and the underside of horizontal surfaces and apply a band of insecticide as a spot treatment to the floor around infested furniture.
- In residences, we will not limit service to the bedroom. Other living areas are commonly infested with bed bugs and may require service of one sort or another.
- The following sites in all infested rooms will be treated:
 - ___ Baseboards, crown molding, window and door frames, and other moldings.
 - ___ Under carpet edges, tack strips under wall-to-wall carpet, cracks and seams in wood and other hard floors.
 - ___ Obvious cracks and crevices, nail holes, damage to walls, and chipped paint.
 - ___ Behind pictures, mirrors, and other wall hangings, and raised seams of wallpaper.
 - ___ Inside and behind switch plates, electrical outlets, and sometimes light fixtures.
 - ___ Inside clothes closets (to baseboards, underneath and in cracks and crevices of shelves, other cracks and crevices, molding, and other potential bed bug harborage sites).
 - ___ In heavy infestations, insecticide treatment may also be expanded to include drapes, ceiling/wall intersections and drop ceilings over the bed, "popcorn" ceilings, and sprinkler heads.
 - ___ Wall voids drilled and treated with dusts.
- Common rooms such as lounges, waiting rooms, media rooms, social centers, laundry rooms and storage areas often become infested and, if so, will require service to eliminate bed bugs.
- We will evaluate the need for treatment in adjacent units in multi-occupancy buildings.
- Follow-ups will be done according to severity of case.

- At School of Medicine and Student Health Procedures will be the same. Except patient room will be taken out of service immediately.

Safety Issues

We will use properly labeled insecticide products and follow the instructions on the insecticide label. Paying close attention to special instructions related to bed bugs.

___ Check to see if any residents might be particularly susceptible to the effects of insecticides: people who are chronically ill, with depressed immune systems, suffering from severe allergies or asthma, reporting multiple chemical sensitivity, and infants and small children. Take appropriate steps to minimize their exposure to insecticides.

___ Have residents leave the apartment during insecticide applications.

___ Have pets (if present) removed from the site during insecticide application.

___ Aerators on tropical fish tanks turned off and completely covered with a towel or other cover.

___ Inform the resident where we will be treating and what insecticides were used, and also inform them when they may reenter the room and what special precautions they should follow and for how long.

Actions to Reduce the Further Spread of Bed Bugs

___ Seal or caulk cracks and crevices near beds such as those along baseboards and moldings, and around heating and A/C units; seal openings around pipe chases, conduits, etc.

___ Repair holes and other damage in walls.

___ Have peeling wallpaper reglued, peeling paint repair, and other damage that may provide hiding places for bed bugs fixed.

___ Bag, seal, and discard belongings and debris left behind by residents who have moved out.

___ Damage or destroy infested beds, mattresses, and furniture being discarded so that they cannot be reused.

Notes

Work Order _____ Technician _____ Date _____

UA PEST & WILDLIFE MANAGEMENT

IPM Facilities Inspection Form

Report No.

Facility/Number	Date
	Time In:
Problem(s) previously reported (if any)	Time Out:

Exterior

Garbage Areas

	Needs			Location	Description/Comments
	OK	Work	N/A		
1. Dumpsters seal properly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2. Dumpsters located adequate distance from doors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
3. Dumpsters on pest-proof pavement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4. Area around dumpsters free from spillage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
5. Outdoor trash receptacles sealed between use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Building Features

	Needs			Location	Description/Comments
	OK	Work	N/A		
6. Doors seal tightly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
7. Windows seal tightly/necessary screens in place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
8. Plumbing and electric penetrations seal tightly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
9. Walls/roof line free of cracks/openings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
10. Ventilation intakes screened, unobstructed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
11. Adequate water drainage around foundation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
12. Exterior free of mildew/mold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
13. Moisture meter readings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
14. Roof condition/drainage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
15. Gutters cleared of debris	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
16. Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Exterior Landscape

	Needs			Location	Description/Comments
	OK	Work	N/A		
17. Adequate visibility between plantings and building	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
18. Building free from direct contact with trees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
19. Building free from direct contact with shrubs/vines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
20. Property free from tree hazards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
21. Aesthetic appearance/safety features	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Pest Evidence

	Needs			Location	Description/Comments
	OK	Work	N/A		
22. Rodents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
23. Nuisance birds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
24. Other vertebrates (feral cats, raccoons, bats, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
25. Termites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
26. Fire ants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
27. Other ants/crawling insects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
28. Weeds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
29. Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

		Needs			Location	Description/Comments
		OK	Work	N/A		
30.	Kitchen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Serving line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Cafeteria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Vending machines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Break room(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
31.	Food storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
32.	Utility rooms/closets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
33.	Bathrooms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
34.	Classrooms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
35.	Athletic facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Locker room(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Main gymnasium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
36.	Administrative area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
37.	Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

[illegible]

Date of Inspection:	Approximate Date of Next Inspection:
Signature/Title of Inspector	

Garbage Areas

- Item 1.* Dumpsters that fail to seal completely can provide a food source for rodents, birds, flies, and other pests.
- Item 2.* Dumpsters located too close to doors result in greater likelihood of fly infestations indoors. A minimum space of 50 ft. between dumpsters or garbage and doors is recommended.
- Item 3.* Dumpsters situated on soil or damaged pavement encourage rodent burrowing and may result in large rodent populations. Dumpsters should always be situated on concrete or well-maintained asphalt pads.
- Item 4.* All garbage receptacles should be cleaned periodically and the surrounding area kept free of trash and spills. Overflowing trash receptacles suggest need for more receptacle capacity or more frequent pickup.
- Item 5.* Garbage cans should be fitted with attached lids to discourage wasps, bees, and other pests. Self-closing lids are the usually preferable.

Building Features

- Item 6.* If light is visible under doors, weather stripping should be installed to prevent entry of rodents and crawling insects and spiders.
- Item 7.* Screens should be present, tightly fitted, and in good repair, on all exterior windows that are open. Check condition of caulk and seals around all window frames.
- Item 8.* Points at which plumbing and electrical or cable services enter the building should be tightly sealed to prevent pest entry.
- Item 9.* In addition to checking for flaws in building seals at ground level, the inspector should check electrical service entry points and flashing on roofs and upper walls of buildings. Ladders or roof entry may be required for a complete inspection. Binoculars may also aid rapid inspections.
- Item 10.* Ventilation intakes should be adequately screened and free from obstruction. Window screen may be needed to keep smaller flying insects from gaining entry. Outdoor lighting should be directed away from air intakes to minimize attraction of night-flying insects to vents.
- Item 11.* Ground should always slope away from building foundations. Note low areas or standing water next to foundations. High moisture areas may be more prone to termites and promote mold and mildew.
- Item 12.* Black stains on brick or concrete walls may indicate poor roof or foundation drainage.
- Item 13.* Electronic moisture meters are useful tools for detecting leaks and higher than normal moisture in walls, roofs, etc.
- Item 14.* Roofs should be in good condition and drain properly. Winter is a good time to check for ice dams and indoor leaks.
- Item 15.* Clogged gutters increase the chance of wood rot and water damage to exterior walls. Make sure gutters are clear and drain freely.
- Item 16.* Note any other conditions that may be conducive to pests, such as wood in direct contact with soil, soil or mulch that extends above the top of the foundation, need for insect-proof lighting, etc.
- Item 17.* The inspector should be able to see all sections of building foundations to inspect for termites, rodents, and other pests
- Item 18-19.* To minimize entry of crawling insects such as ants, building should not contact trees or shrubs

Pest Evidence

- Item 22.* Look for burrows, evidence of gnawing on doors and other entry points, fecal pellets, rub marks around cracks and entries, reports of rodent sightings.
- Item 23-24.* Note roosting sites and evidence of excessive droppings from starlings, grackles, pigeons, and other nuisance birds. Look for droppings and other signs of feral dogs and cats, raccoons, opossums, etc. Check attic areas for evidence of bat roosting.
- Item 25.* Look for termite tubes along outside foundation walls. A screwdriver or other sharp probe should be used to test wood that is in contact with soil or otherwise suspect.
- Item 26.* In areas where fire ants are found, look for mounds with no obvious single point of entry. Fire ants respond vigorously to mound disturbance and have a painful sting.
- Item 27-29.* Look for ant trails around windows, electrical or plumbing lines, and building edges. Turn over bricks, stone, mulch, etc. when inspecting for other crawling pests.
- Item 22.* Look for fecal droppings, urine stains (UVB black light inspection only), rub marks, gnawing, damaged food containers, tracks, etc. Make sure bait stations are maintained and service dates documented.
- Item 25.* Termite activity may occur at any time of year, but is most likely to be noted in the spring when most swarming occurs. Distinguish termites from ants by their lack of pinched waist. Look for unusual wavy appearance on painted wood or gypsum sheetrock. Unusual mud crusts on walls or wood may indicate termite activity and usually occurs just prior to swarming. Report precise location of any termite activity.
- Item 26.* Note trails of fire ants or other ants. Accurate species identification may be essential for selecting the best bait or other control method.
- Item 29.* Look for fecal specks around cracks and other harborage entrances. Species identification is important and will determine bait selection and areas in which to focus control efforts.
- Item 29.* Species identification can assist in determining source of infestation. Field crickets are usually attracted to lighted buildings at night. Make note of possible entry points around lights or lighted entrances. House and camel crickets may breed indoors.

General Interior IPM Sanitation

- Item 30.* Make note of sanitation or pest management deficiencies. Be specific about locations. Examples of possible problems might include need for caulking or other pest proofing, exposed food, improper food storage practices, spilled food, and grease or organic debris buildup, especially in drains. Recycling bins for cans and other containers containing sweets or food for roaches and ants should sit away from potential pest harborage areas, sinks, etc. Report such conditions even if there is no sign of pest activity. Report signs of pest activity separately under pest evidence. Check that garbage and trash receptacles are clean and have intact liners.
- Item 31.* All food in storage areas should be off the floor and easily inspected. Remove and discard cardboard boxes and other unnecessary packaging to minimize hiding places for pests. Rotate food regularly, and place new cans and boxes at the backs of shelves.
- Item 32.* Inspect utility rooms for general cleanliness and pest proofing. Mops and other cleaning supplies should be stored clean and off the floor. Drains should be clean and screened to exclude roaches and other pests.
- Item 34-37.* Areas with food should be cleaned and swept daily. Windows, screens, and doors should fit tightly. Make note of cluttered and inaccessible areas. Trash cans should have liners

The University of Alabama

Pest Management

Sanitation Report

Facility _____ Unit _____ Date _____

- | | <u>Yes</u> | <u>No</u> |
|--|------------|-----------|
| A. <u>OUTSIDE PREMISES</u> | | |
| 1) Are all outside premises free of litter, rodent harborage, clean and accessible for treatment? | ___ | ___ |
| 2) Are garbage areas and grease containers clean and closed? | ___ | ___ |
| 3) Are the loading dock doors self closing with proper door sweeps? Not propped open. | ___ | ___ |
| B. <u>DINING ROOM</u> | | |
| 1) Are tables, walls, floors, drains clean and in good repair? | ___ | ___ |
| 2) Are drink equipment, coffee makers, milk dispensers, ice bins and ice scoops clean? | ___ | ___ |
| 3) Are sinks, storage shelves and cabinets clean? Is garbage area clean and garbage removed every night? | ___ | ___ |
| C. <u>KITCHEN</u> | | |
| 1) Are work tables, storage shelves and cabinets clean? | ___ | ___ |
| 2) Are walls, floors, drains, ceilings clean and in good repair? | ___ | ___ |
| 3) Are ranges, broilers, fryers, ovens, grills, soup vats, stoves, hoods and filters clean and free of soil build up? | ___ | ___ |
| 4) Are all areas of the kitchen free of litter and garbage emptied every night? | ___ | ___ |
| 5) Is food preparation equipment clean? Mixers, grinders, can openers, slicers, ice machine, meat saws, other equipment. | ___ | ___ |
| 6) Are sinks, dishwashing area, conveyers, chain rollers, belt, and electric motors/controllers clean? Grease traps/drains cleaned every night? No dishes left over night? | ___ | ___ |
| D. <u>STORAGE ROOM</u> | | |
| 1) Are rooms free of litter, floors and shelves clean? Wet mops off floor? Mop buckets clean and empty? | ___ | ___ |

INSPECTION REPORT COMMENTS

Representative _____ Technician _____

THE
UNIVERSITY
OF
ALABAMA
PEST
MANAGEMENT

BED BUG

HAND BOOK
AND
TRAINING MANUAL



**The University of Alabama
Pest Management
Policy and Procedure for Trapping Animals**

- 1) Thoroughly inspect exterior of building to locate area in which animals are entering the building, resting, and/or feeding.**
- 2) Close and/or Seal all entry points including crawlspace access doors, foundation vents, etc.**
- 3) Place trap in building crawlspace, attic, etc. Insure the trap is secure at a perimeter site to deter theft of the trap.**
- 4) Monitor trap/s daily.**
- 5) Remove animal according to species.**
 - I. Cats will be taken to the Tuscaloosa Metro Animal Shelter.**
 - II. Squirrels, Raccoons, Opossums, etc. will be taken off campus and released.**
 - III. Birds, Bats, and Snakes will be captured and released.**
- 6) Trap/s will be reset as long as there is activity.**
- 7) During weekends and holidays the trap/s will be tripped (if secured) or removed to insure no animal will go without food/water for extended periods of time and to prevent theft of traps.**
- 8) No animal will be handed off to anyone. Anyone wishing to obtain an animal (feral or domestic) must go through the Tuscaloosa Metro Animal Shelter at 3140 35th Street Tuscaloosa, AL 35401 (205)752-9101.**

***Periodically, bats will be taken to the Health Department for testing of rabies.**

University of Alabama

Pest Management

Callback (Work Orders) Treatment Guideline

Ants

- 1) Inspect
- 2) Treat live ants with contact aerosol
- 3) Place two or more ant stations
- 4) Treat interior base
- 5) Inspect/treat exterior perimeter

Bed Bugs

- 1) Follow the UA Pest Management Protocol

Centipedes/Millipedes

- 1) Inspect
- 2) Treat interior base with wet-able powder
- 3) Treat exterior perimeter with wet-able powder

Clover Mites

- 1) Inspect
- 2) Treat interior around base boards and windows with residual aerosol
- 3) Treat exterior perimeter with power sprayer 5ft up and 10ft out

Crickets

- 1) Treat interior base with wet-able powder
- 2) Treat exterior base with wet-able powder or bait with intice granules

Fleas

- 1) Inspect
- 2) Find out if there is or has been a pet
- 3) If complainant is confident they have fleas explain the treatment process:
 - a. Everyone out of the space for 4 hours
 - b. Everything has to be off the floors
 - c. Vacuuming has to be done 24 hours after the treatment
- 4) Treat with Ultracide

- 5) Complainant is not confident they have fleas and is just being bitten by something, place monitors to be inspected
- 6) Follow up

Flies

- 1) Inspect- seek out the source (breeding sites)
- 2) Fly machines installed- check to make sure boards are not overloaded
- 3) Place kill zones with the power sprayer around doors, dumpsters, and garbage cans
- 4) Place fly bait around dumpster area

Fruit Flies

- 1) Inspect- seek out the source
- 2) Source will most likely be: fruit, dirty garbage containers, or a drain
- 3) Explain to the complainant that the source will have to be eliminated to solve the problem
- 4) Place fruit fly traps

Gnats (Fungus Gnats)

- 1) Inspect
- 2) To help pin point location of source inspect window sills for the ones that tried to swarm out
- 3) Potted plants will be harborage area due to over watering of the plant
- 4) Use contact aerosol to knock down the adults
- 5) Plant will have to be removed to solve the problem
- 6) Let the plant owner know that the fungus gnats are damaging the root system and repotting is the only way to stop it

Lady Bugs

- 1) Inspect
- 2) Use contact aerosol
- 3) Explain to the complainant that they are a seasonal pest that cannot survive inside
- 4) Vacuuming them up is the best pest control practice
- 5) Look for and fix or report any entry points, ex. cracks around windows and doors

Lizards

- 1) Inspect
- 2) Look for and fix or report entry points, ex. door sweeps, windows, pipe openings
- 3) Place glue boards
- 4) Follow up

Mice/Rats

- 1) Inspect

- 2) Droppings found- clean up
- 3) Set traps
- 4) Look for and fix or report entry points, ex. door sweeps, windows, pipe openings
- 5) Follow up

Mosquitoes

- 1) Inspect
- 2) Inside- use a contact aerosol
- 3) Inform complainant to not leave windows and doors open
- 4) Outside- bring the work order to manager; will decide on treatment

Odor

- 1) Inspect
- 2) Remove source if possible
- 3) Place deodorizer in area

Roaches

- 1) Inspect
- 2) Bait kitchen and bathrooms with roach gel
- 3) Treat interior base
- 4) Treat exterior perimeter with intice

Scorpions

- 1) Inspect
- 2) Treat interior base
- 3) Treat the exterior perimeter with the power sprayer

Silverfish

- 1) Inspect
- 2) Will be found close to the food source
- 3) Prefer high humidity and moisture so bait mechanical rooms/water heater closets with intice
- 4) Bait attics/crawlspaces with intice
- 5) Bait kitchen and bathrooms with cockroach gel
- 6) Treat exterior perimeter with intice

Spiders

- 1) Inspect
- 2) Inside- use a clean webster head to remove any spider/cob webs
- 3) Treat interior base
- 4) Treat exterior perimeter with power sprayer

- 5) Remove spider/cob webs from around windows and doors

Stored Product Pests

- 1) Inspect *must find the source to solve the problem
- 2) Remove the source
- 3) Treat with contact aerosol
- 4) Set pheromone traps if needed

Termites

- 1) Inspect
- 2) Confirm that it is termites- turn over to termite technician
- 3) If ants refer to ants

Wasp/Mud Daubers

- 1) Inspect
- 2) Inside- use contact aerosol
- 3) Outside- treat/remove nest(s)

Yellow Jackets

- 1) Inspect (locate the nest)
- 2) In high traffic area, locate the nest but do not attempt treatment, schedule it with the 6am tech
- 3) Treat the nest with a wet-able powder or delta dust (follow up)
- 4) Trash cans- use a contact aerosol to knock down, contact grounds to have trash cans emptied and cleaned

UA PEST AND WILDLIFE MANAGEMENT
Materials Check Out

TURN IN WITH YOUR PAPERWORK

AT THE END OF YOUR SHIFT

Technician _____ Rt# _____ Date _____

Product	Quantity Received	Quantity Returned	Quantity on Hand	Place Used
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

-Anything other than equipment that is being stored in this room that will be returned to this room
MUST be checked OUT using this form, so it can be removed from the inventory.

-Anything other than equipment that is being stored in this room that will be returned to this room
MUST be checked IN using this form, so it can be returned to the inventory.

Comments/Items Needed:

UA Pest Management

Monthly Service

Treatment Guideline

INTERIOR

- 1) Bait kitchens, bathrooms, and break rooms
- 2) Check and service tin cats, bait boxes, traps, and fly machines
- 3) Bait mechanical rooms with granular bait
- 4) Treat with B and G

EXTERIOR

- 1) Webster- remove all spider webs, wasp nests, mud daubers, and bird nests
- 2) Check and service bait boxes
- 3) Bait the perimeter of the building
- 4) Bait exterior mechanical rooms with granular bait
- 5) Inspect the lawn and surrounding areas of the building and spot treat with the power sprayer

UA Pest Management
Required Pest Control Truck Inventory
Nov-14

Driver _____ Tag # _____

Equipment/Tools

PPE/Safety

1 B&G Sprayer	1 Box Latex Gloves	1 Can of Soap/Water
1 Webster	1 Pair of Gloves	1 Spill Kit
1 Bait Gun or Plunger	1 Pair of Coveralls	1 Flashlight
1 4' Ladder	1 Googles	1 Lite Box
1 Bait Spreader	1 Respirator	
1 50 Gallon Power Sprayer	1 Bottle of Eye Wash	

Materials/Supplies

1 Pack of Steel Wool	1 Can of Cykick
1 Can of Foam Sealent	1 Can of Phantom
1 Dust	1 Box of 72 Glue Boards
1 Can of Gentrol	4 Snap Traps (Mice)
2 Cans of Wasp Spray	2 Snap Traps (Rat)
1 Can of 565	2 Tincats
4 Tubes of Advion or Maxforce FC	Cockroach Gel
1 Product for Power Sprayer	1 Advion Roach Bait Stations
1 Product for B and G	1 Maxforce/Fluorgard/Advance/Advion Ant Bait Stations
8 Bed Bug Monitors	1 Container of Niban Bait
1 Box of Gentrol	Moth Traps
Fly Bait	Fruit Fly Traps
Carpenter Ant Bait	Interior and Exterior Rodent Bait Boxes

All above items are the minimum requirements and must be on the truck at all times!

Some Items in the Materials/Supplies section will change!

Trucks will be inspected once a month for inventory and cleanliness of the inside and outside!

Problems Noted/Repairs Needed:

2/18/2014

Outside Clean _____

Inside Clean _____

Oil Changed _____