File No. 190932 Committee Item No. 6
Board Item No. _____

COMMITTEE/BOARD OF SUPERVISORS

AGENDA PACKET CONTENTS LIST

Committee: Budget & Finance Committee **Date** September 25, 2019

Board of Supervisors Meeting **Date** _____

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OTHER **(Use back side if additional space is needed)**

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Completed by: Linda Wong **Date** September 20, 2019
Completed by: Linda Wong **Date** _____

[Accept and Expend Grant - California Department of Pesticide Regulation - Pest Prevention in Affordable Housing Sites - $160,651]

Resolution authorizing the Department of the Environment to accept and expend a grant in the amount of $160,651 from the California Department of Pesticide Regulation for the purpose of evaluating the success of pest prevention efforts in affordable housing for the period of October 1, 2019, through September 30, 2022.

WHEREAS, The California Food and Agriculture Code, Section 12798, authorizes the California Department of Pesticide Regulation (DPR) to make grants available to qualified public and private entities to conduct pest management research projects; and

WHEREAS, After a competitive process, DPR awarded a Pest Management Research Grant to the City and County of San Francisco; and

WHEREAS, The grant will directly support the efforts of the Department of the Environment and the Mayor's Office of Housing and Community Development to implement pest prevention measures that use a minimum of toxic products in the City's affordable housing sites, and specifically in those sites participating in the Rental Assistance and Demonstration program; and

WHEREAS, Implementing and installing pest prevention measures in these sites promises to reduce the levels of rodents, insects and other pests; and

WHEREAS, In reducing these pest infestations with a minimum of toxic pesticides, the project will improve the health and quality of life for residents of affordable housing; and

WHEREAS, The grant includes provision for indirect costs of $32,130; and

WHEREAS, The term of the grant is from October 1, 2019, through September 30, 2022; and

WHEREAS, The grant will commence upon its signing; and

WHEREAS, This grant does not require an Annual Salary Ordinance amendment; and

WHEREAS, The grant payment was not included in the annual budget process of the City and County of San Francisco but was awarded by the State of California; now, therefore, be it

RESOLVED, That the Board of Supervisors hereby authorizes the Director of the Department of the Environment, or a designee, to accept and expend $160,651 from DPR to implement and administer its project evaluating the success of pest prevention efforts in affordable housing; and, be it

FURTHER RESOLVED, That the Board of Supervisors hereby authorizes the Director of the Department of Environment, or a designee, to execute in the name of the City and County of San Francisco all documents, including but not limited to, applications, contracts, payment requests, agreements, annual reports (including expenditure reports) and amendments hereto for the purposes of securing DPR Grant funds and to implement and carry out the purposes specified in the program application.

RECOMMENDED:

Deborah O. Raphael, Director
Department of the Environment

APPROVED:

for Office of the Mayor

for Office of the Controller

Mayor Breed, Supervisor Brown
BOARD OF SUPERVISORS

File Number: 190932 220XXX / EVXXXX-XX
(Provided by Clerk of Board of Supervisors)

Grant Resolution Information Form
(Effective July 2011)

Purpose: Accompanies proposed Board of Supervisors resolutions authorizing a Department to accept and expend grant funds.

The following describes the grant referred to in the accompanying resolution:

1. Grant Title: Evaluating the effectiveness of pest preventive design elements in 3,495 affordable housing units in San Francisco

2. Department: Department of the Environment

3. Contact Person: Michael Hirai Telephone: 415-355-3704 Email: michael.hirai@sfgov.org

4. Grant Approval Status (check one):

   [X] Approved by funding agency [ ] Not yet approved

5. Amount of Grant Funding Approved or Applied for: $160,651

6a. Matching Funds Required: $ 0
b. Source(s) of matching funds (if applicable):

7a. Grant Source Agency: CA Department of Pesticide Reduction
b. Grant Pass-Through Agency (if applicable):

8. Proposed Grant Project Summary:

The grant will support the efforts of the Department of the Environment and the Mayor's Office of Housing and Community Development to implement and assess pest prevention measures that use a minimum of toxic products in the City's affordable housing sites, and specifically in those sites participating in the Rental Assistance and Demonstration program. In reducing these pest infestations with a minimum of toxic pesticides, the project will improve the health and quality of life for residents of affordable housing.

9. Grant Project Schedule, as allowed in approval documents, or as proposed:

   Start-Date: October 1, 2019 End-Date: September 30, 2022

10a. Amount budgeted for contractual services:
b. Will contractual services be put out to bid? No. Contracted services have already been procured using the City and County of San Francisco's standard procurement process.
c. If so, will contract services help to further the goals of the Department's Local Business Enterprise (LBE) requirements? Yes.

d. Is this likely to be a one-time or ongoing request for contracting out? The project is working with Pestec which is the City's current Integrated Pest Management provider.

11a. Does the budget include indirect costs? [X] Yes [ ] No

b1. If yes, how much? $32,130
b2. How was the amount calculated? Maximum amount allowed by the funding source

c1. If no, why are indirect costs not included?.
[ ] Not allowed by granting agency [ ] To maximize use of grant funds on direct services
[ ] Other (please explain):

c2. If no indirect costs are included, what would have been the indirect costs? N/A

12. Any other significant grant requirements or comments: All significant work will be completed in the first two years. Activities in the third year consist only of outreach and communications, which accounts for the zero budget in Year 3.

****Disability Access Checklist***(Department must forward a copy of all completed Grant Information Forms to the Mayor's Office of Disability)**

13. This Grant is intended for activities at (check all that apply):

X Existing Site(s)	[ ] Existing Structure(s)	[X] Existing Program(s) or Service(s)
[ ] Rehabilitated Site(s)	[X] Rehabilitated Structure(s)	[ ] New Program(s) or Service(s)
[ ] New Site(s)	[ ] New Structure(s)	

14. The Departmental ADA Coordinator or the Mayor's Office on Disability have reviewed the proposal and concluded that the project as proposed will be in compliance with the Americans with Disabilities Act and all other Federal, State and local disability rights laws and regulations and will allow the full inclusion of persons with disabilities. These requirements include, but are not limited to:

1. Having staff trained in how to provide reasonable modifications in policies, practices and procedures;
2. Having auxiliary aids and services available in a timely manner in order to ensure communication access;
3. Ensuring that any service areas and related facilities open to the public are architecturally accessible and have been inspected and approved by the DPW Access Compliance Officer or the Mayor's Office on Disability Compliance Officers.

If such access would be technically infeasible, this is described in the comments section below:

Comments:

Departmental ADA Coordinator or Mayor's Office of Disability Reviewer:

Claudia Molina, Departmental ADA Coordinator, Payroll Personnel Clerk

Date Reviewed: 8/12/19 Claudia Molina
(Signature Required)

Department Head or Designee Approval of Grant Information Form:

Deborah O. Raphael, Director, Department of the Environment

Date Reviewed: 8/12/19 Deborah O. Raphael
(Signature Required)

dpr Department of Pesticide Regulation

Teresa Marks
Acting Director

Gavin Newsom
Governor

May 2, 2019

Dr. Chris Geiger
Department of the Environment
1455 Market Street, Suite 1200
San Francisco, California 94103

Dear Dr. Geiger:

I would like to congratulate you on submitting the successful project proposal, "Evaluating the effectiveness of pest preventive design elements incorporated into 3,495 affordable housing units in San Francisco" as part of the 2019/2020 Pest Management Research Grant program.

Nine project proposals were submitted to the Department of Pesticide Regulation (DPR) for funding consideration. In concurrence with recommendations by DPR's Pest Management Advisory Committee, the department would like to fully fund your team's project.

DPR staff will contact you to begin the process of preparing the grant agreement in the hope that the grant will be executed in time for work to begin July 1, 2019.

If you have any questions, feel free to contact Dr. Atefeh Nik, Environmental Scientist, at <Atefeh.nik@cdpr.ca.gov> or 916-445-2509.

Again, congratulations!

Sincerely,

Teresa Marks
Acting Director
916-445-4000

cc: Dr. John Gerlach, Senior Environmental Scientist (Supervisory)
DPR's Pest Management and Licensing Branch

California Department of Pesticide Regulation

PHASE II, PROPOSAL APPLICATION QUESTIONNAIRE FOR RESEARCH GRANT PROGRAM

Note: DPR understands that some details of a proposed project may have changed slightly between when the Concept Application was submitted and the Proposal is submitted. However, the total amount requested may not change by more than 15%.

Applicants are expected to provide the information requested in the Questionnaire section below, the information requested in Exhibits A-B2 in the enclosed MS Word document, and all required key references as described in the Questionnaire. Proposals will be ranked in terms of funding preference based on those three sources of information. DO NOT convert Exhibits A-B2 to a PDF or any other file format.

Certification and Submission Statement

- I certify under penalty of perjury:
- I am an employee of or a consultant for the Applicant and I am authorized to submit the application on behalf of the Applicant;
- The information provided on behalf of the Applicant is true and complete to the best of my knowledge, and;
- I understand that any false, incomplete or incorrect statements may result in the disqualification of this application.
- By submitting this application, I waive any and all rights to privacy and confidentiality of the proposal on behalf of the Applicant, to the extent provided in this Solicitation.

Submitted By	Chris Geiger	Relationship to Applicant	self
Submission Date	12/19/18		

QUESTIONNAIRE

1. **Project Background**
   1.1. **Pesticides and Pests:** List the pesticide product names and active ingredients that the project will address. Identify the key pests that these pesticides target. If the number of pests is large, please list important examples. (2000 characters maximum)

Pest preventive designs incorporated into housing can reduce or eliminate the need for a wide variety of pesticides. The most hazardous pesticides targeted are single-feed, second generation anticoagulant rodenticides containing brodifacoum, difethialone, difenacoum, and bromadiolone. These are ubiquitous at public housing sites for addressing rodent infestations.

Sample products: Talon-G Rodenticide Pellets with Bitrex (brodifacoum, #10182-336), Generation Mini-Blocks (difethialone, #7173-218), Contrac All-Weather Blox (bromadiolone, #12455-79), Prescription Treatment Brand Sorexa Pellets (difenacoum, #47629-14-499)

Other hazardous pesticides commonly used in affordable housing include insect foggers, frequently used by residents to control bed bugs or cockroaches. These may pose both asthma and fire risks to occupants.

Sample product: Spectracide Bug Stop Indoor Fogger 5 (tetramethrin, cypermethrin, naptha and mineral spirits, #9688-254-8845)

   1.2. **High Regulatory Concern/Risk:** Describe why the pesticides listed in 1.1 are of high regulatory concern and/or considered high-risk. Examples: risks to the quality of ground water, soil, surface water, or air; risks to the safety or health of workers, the general public, wildlife, or endangered species; drift, runoff, or leaching; and contributions to atmospheric volatile organic compounds (VOCs). (1500 characters maximum)

The California Dept. of Pesticide Regulation introduced new restrictions on second generation anticoagulant rodenticides (SGARs) in 2014 due to "overwhelming evidence of wildlife weakened or killed by SGARs." SGARs are also one of the most frequent causes for poisonings of pets. In San Francisco, SGARs have been documented as the cause of death for raptors, owls, and coyotes on several occasions. Finally, SGARs can be hazardous to children, as illustrated by a poisoning incident in San Francisco schools in 2011.

The San Francisco Department of the Environment (SF Environment) IPM team has encountered numerous instances of insect fogger use in affordable housing units, and even cases where property managers distribute them in response to pest complaints. We consider insect foggers high-risk products due to their human health and safety risks. There is risk of fire if vapors reach high enough concentrations - which has been documented to occur when used incorrectly. Active ingredients also carry asthma risks: Tetramethrin, for example, meets the Association of Occupational and Environmental Clinics (AOEC) criteria for asthmagens and respiratory sensitizers.

1.3. **IPM System:** Describe how the project may reduce the use of and/or risks from the pesticides listed in 1.1 and may contribute to an IPM system. Examples: Does the project develop a component of an IPM system that could serve as a feasible alternative to conventional pest control practices? Does it analyze data to answer important questions that could assist in furthering development of an IPM system? (2000 characters maximum)

In the past, pest management approaches in San Francisco's affordable housing developments were primarily complaint-based, with an emphasis on indoor sprays. The proposed project will evaluate the effectiveness of incorporating pest preventive design elements on a large scale. The project will also consider the importance of various IPM programmatic elements, including regular monitoring, trainings, improved contracting and recordkeeping, and science-based control measures.

No previous studies have investigated coordinated pest prevention installations of the scale conducted in San Francisco. This project builds on the City's recent, large-scale efforts to incorporate pest prevention and IPM into the renovation of 3,495 units of public housing, known as the Rental Assistance Demonstration (RAD) Program - a national program created by HUD. The first two phases of San Francisco's RAD project have been complete for over a year, and there is now a unique opportunity to evaluate its outcomes in terms of pest prevention.

A variety of pest preventive design elements were installed at the RAD projects, and these differ from site to site. For example, refuse rooms were enclosed to exclude rodents, vertical utility races were sealed, escutcheon plates were installed around plumbing breaks, kick plates beneath kitchen cabinets were sealed off to eliminate pest harborage, and modified baseboards were installed. The installation of these elements will be recorded, along with unit-by-unit pest infestation data, IPM program elements adopted by facilities, and costs.

It must be acknowledged that - since this is a correlational study with many independent variables - statistically significant relationships may be elusive. Even so, simply quantifying pest reductions on a broad level and articulating cost issues alone should prove valuable for affordable housing providers. Affordable housing sites also receive the side benefit of full pest inspections for their properties.

1.4. **Economic considerations:** For a pest management practice or method to be voluntarily adopted it must be economically feasible as well as effective at controlling pests. An estimate of the cost of implementing those practices or methods can be useful in promoting their adoption. Will the project be able to provide that cost information? If the question is not applicable to project, explain why. (2000 characters maximum)

It is widely accepted in the pest management industry that sealing out pests and modifying habitat can enhance IPM effectiveness. However, there is little data available on how effective various pest preventive features are, how much they cost, and whether the increased costs of pest-proofing can be justified by reduced costs in the long term. The proposed project seeks answers to these questions. The resulting information may highlight financial incentives for improved IPM practices, and possibly the relative value of these practices.

HUD created RAD to provide a set of tools to address the unmet capital needs of deeply affordable, federally assisted rental housing properties in order to maintain both the viability of the properties and their long-term affordability. The RAD project renovations involve a private funding mechanism in which the City serves as fiscal agent, allowing increased access to cost data. City records, combined with structured interviews with RAD contractors, should allow us to estimate costs for pest preventive design elements.

While these cost estimates alone will be of value to other developers and property managers, the ultimate goal is to compare the up-front costs of pest prevention with long-term reductions in pest management costs for the building. In particular, we hypothesize that an IPM approach will reduce the need for expensive, "emergency" pest management services for issues such as bedbug infestations. Toward that end, we will seek records on pest management costs through our interviews with RAD property managers.

Any cost results obtained will be summarized in the final report and, as appropriate, in the related educational materials produced as a result of this project.

1.5. **Related Research:** Describe any related research or preliminary data that supports the value of the proposed project. (4000 characters maximum)

Prevention of pest problems is the heart of any state-of-art integrated pest management programs. Pest proofing in conjunction with sanitation efforts holds the promise of long-term suppression for structural pests. Relatively simple design features can substantially reduce long-term pest control costs in buildings and landscapes, while also cutting the health and environmental impacts of pesticide use (Brenner et al, 2003; Geiger & Cox, 2014).

Examples of pest preventative building/retrofit techniques are scattered through the scientific literature (Ebeling, 1978; Mallis, 1997). Many other techniques can be found in the pest control industry journals, handbooks, and in various guidelines issued by public agencies. Building codes generally require some of the more common procedures, such as a screening foundation vents. Other objectives, such as moisture reduction, have found their way into generally accepted best construction practices. The SF Environment's publication "Pest Prevention By Design: Authoritative Guidelines for Designing Pests Out of Structures" (Geiger & Cox, 2013) collected all of these pest preventive design elements into a single set of guidelines, and subjected them to peer review by a national committee of experts. The PI for this proposed project led development of these guidelines.

While the effectiveness and long-term cost advantages of urban IPM programs have been demonstrated in numerous studies, fewer studies have specifically evaluated IPM in multifamily housing or the role of pest preventive design (National Center for Healthy Homes, 2004). San Francisco's Rental Assistance Demonstration (RAD) Project provides a unique opportunity to do so. The San Francisco Mayor's Office of Housing and Community Development began the RAD program in 2014, and collaborated with the SF Environment's IPM Program and affordable housing development teams to systematically install pest preventive design elements in the RAD housing renovation projects. The RAD projects used the Pest Prevention By Design Guidelines as a reference for these efforts. In 2015-6, SF Environment collected baseline data on pest infestations and structural problems, inspected all affected units and sites, met with all developer teams, provided specific recommendations to build out pests, held trainings of property managers, conducted mid-construction inspections, and developed guidance on minimizing bedbug issues during the tenant relocation process (Geiger, 2016; SFE, 2015).

The first two phases of the RAD program are now complete, and tenants have been living in their renovated housing units for a year or more. SF Environment possesses a full database of 2015 pest infestation levels, clutter, sanitation, and other observations for all 3,495 RAD units. Evaluation of current conditions in the renovated units, in conjunction with this extensive 2015 data, provides fertile ground for exploring the relative effectiveness of pest prevention and IPM efforts.

2. **Project Design and Analysis:** If one of the provisions listed below is not applicable to the proposed project, please explain why. Applicants will not be penalized if a question is not applicable to their project if they respond with a satisfactory explanation. For example: Observational studies such as meta-analysis or certain types of models may be computer-based analyses of existing data and will have a different experimental design and analytical methods than a field based study.

   2.1. **Assumptions, Modeling Framework, and Hypotheses:** Describe these in terms of how they logically relate to achieving the project goals through the completion of the tasks and deliverables. (2000 characters maximum)

The proposed project is an observational study intended to evaluate the impacts of various pest preventive and IPM factors in reducing pest infestations. Because the design is primarily correlative, we present here study questions (instead of hypotheses) that will be explored through multivariate analyses.

1. Determine the contributions of specific pest preventive design elements and other IPM program elements in reducing infestations of rodents, cockroaches and bedbugs at public housing sites, including:
a. Did the renovation projects significantly reduce infestation levels of bedbugs, rodents, and cockroaches?
b. Which pest preventive design elements, if any, showed the strongest correlation to infestation levels? Examples of pest preventive design elements include enclosures for refuse areas, proper sealing of utility breaks under sinks, sealing off void spaces in cabinetry, and full sealing around cabinets and countertops.
c. Did sites that employed more comprehensive bedbug management during tenant relocation periods experience lower bedbug infestations afterward?
d. Did sites that employed better pest monitoring approaches post-renovation experience lower cockroach and bedbug infestation levels?
e. Did sites that employed UCIPM-recommended pest monitoring and control tactics post-renovation have lower cockroach and bedbug infestations?
f. How much of the infestation rates can be attributed to individual tenant behaviors, as measured by clutter index and sanitation levels? Do these tenants continue to have infestations post-renovation?

2. What are the general costs, obstacles and opportunities of installing pest preventive design elements into low-income housing renovations?

3. Considering post-renovation infestation rates, what are the likely financial benefits of the RAD IPM efforts in the long term, including reduced costs for:
a. Emergency pest management services
b. Bedbug control

2.2. **Study Methods:** Identify the basic experimental methods that will be used to test hypotheses and to complete the deliverables and tasks. If none of three methods apply, please explain why.

- **Field experiment:** Experimental design and statistical inference from a controlled field setting.
- **Laboratory/greenhouse experiment:** Experimental design and statistical inference from a controlled laboratory or greenhouse setting.
- **Observational study:** Statistical analysis of existing data or measured variables under existing conditions without manipulation of setting.

If field research is to be conducted outside the state of California, explain and justify how the experimental/study conditions are California-like. Provide this justification and explanation for all laboratory and greenhouse experiments if natural environmental conditions are part of any treatments or methods. (2,000 characters maximum)

The proposed project is observational, with no opportunities for manipulating the setting. However, because the RAD projects encompass thousands of residential units in 29 different developments, there is considerable variability in the extent of pest preventive elements installed and IPM programming adopted. For example, some sites installed full refuse area enclosures, some installed partial enclosures, and some made no changes. This variability provides opportunities for stratifying the selection of study sites to increase the power of the analyses, and for conducting a variety of correlational analyses relating to pest infestation levels.

In addition, we quantified pest infestations in all 3,495 residential units before the RAD renovations commenced. This extensive "before" dataset provides an opportunity for comparisons over time. At the most general level it allows a quantification of improvements caused by the renovation. It may also allow quantifying the importance of individual occupants' behavior in determining pest infestations.

Structured interviews of facility managers and construction contractors will be conducted. The data resulting from inspections and interviews will be analyzed using JMP(r) software. (see 2.4 below) Because most of the data will be ordinal, nonparametric multiple effects models will be used to assess the contributions of various factors to pest infestation levels. JMP's graphing modules will be used to assemble graphs of key relationships. Cost data on pest management contractor costs will be summarized using Microsoft Excel spreadsheets and compared with increased up-front costs for installing pest preventive design elements in order to estimate return on investment.

2.3. **Experimental design:** Experimental design refers to the physical organization of the experiment; the assumptions regarding conditions; testable hypotheses and modeling specifications and parameters; the types, form, and amount of collected data; the method of assigning treatments; and the statistical methods or methods for determining the significance or importance of model results and parameters.

- If applicable, briefly summarize the basic experimental design and assignment of treatments that the project expects to follow. Include details about what the experimental units are, what treatments will be applied, what treatment serves as a control(s), the level of replication, what measurements will be taken, and the statistical analysis likely to be applied. Neglecting these details is likely to lead to a lower score on review. If the question is not applicable to the project, explain why it is not. (4000 characters maximum)

This research is a correlational and observational study intended to evaluate a large, real-world project. Because there are no treatments or controlled variables, we are not presenting an experimental design here.

2.4. **Observational study design:** Observational study design refers to the organization and analysis of observational data. (For example, meta-analyses, modeling existing data, survey, descriptive, case study, ecoinformatics, or others. Laboratory or field experimental studies may or may not have an observational study design component.)

- If applicable, briefly describe the basic observational study design that the project expects to follow. To the extent applicable, include all the elements of an experimental design listed in 2.3. If the question is not applicable to the project, explain why it is not. (2000 characters maximum)

Measurements of pest infestations. UCIPM will develop specific protocols together with SF Environment. A subset of approximately 15 RAD developments will be selected for the unit-by-unit inspections. Methodologies and indices used in the baseline pest inspections (pre-renovations) will be conserved. These include recording clutter indices (Frost et al, 2008), and ordinal ratings of infestations for cockroaches, bedbugs, and rodents. Data on pest prevention measures actually installed will be quantified for both common areas and individual units. If possible, individual tenants will be identified in data (anonymously) so that the contribution of individual behaviors to pest infestations can be included in the statistical model. A preliminary sampling event will be held for staff involved in inspections, in order to standardize measurements between samplers. SF Environment staff will play a coordinating role in these measurement efforts.

Documenting facilities' pest management practices. Staff will conduct structured interviews of individual property managers to assess practices employed to control bedbugs, cockroaches and rodents before and during relocation efforts, costs of pest prevention efforts during construction, the breadth of the IPM program that has been implemented at the site, communications policies established to report pests by tenants, number of tenant trainings (if any) conducted, and practices followed since renovation by pest management contractors. The first two interviews will be conducted as a group, together with SF Environment staff, in order to standardize practices.

Documenting pest prevention costs. Similarly, staff will conduct structured interviews of contractors involved in the RAD rehabilitation efforts. These interviews will seek to understand the time and monetary costs of various pest preventive design elements incorporated into the projects, as well as any obstacles encountered.

2.5. **Optional Project Design Diagram:** An optional diagram of the layout of the experimental or analytical design may be provided as a one page Word or PDF document called "Project Design Diagram." There is no specified format or criteria for the diagram beyond than it should be a graphical visualization that can assist reviewers in better understanding the design of your project.

3. **Key and Other References**

3.1. **References:** Compile a list of any references cited in the Proposal into a single MS Word document. ***Additionally, the full text of each key reference cited to support the proposal's methods and merits must be provided as a PDF document.***

4. **Additional Information**

4.1. **Resubmission:** Indicate if the proposed project, or a substantially similar project has been submitted for funding under the DPR Research Grant Program before. If it was, indicate what year the project was previously submitted and briefly discuss how reviewer's previous concerns (as stated in the past notification letter) were addressed by current application. (2000 characters maximum)

This project has not been submitted to DPR before.

4.2. **Notification:** Applicants whose projects are selected for funding will be sent a letter and an email to the notification mailing address and email address provided with the application. If you would prefer the letter to be sent to a different mailing address, enter it here. Additional email addresses to receive notifications of award may also be added here. (1000 characters maximum.)

N/A

4.3. **Media Contact:** The media contact is the organization's contact person for media inquiries. If the organization does not have an official media contact, the principal investigator should be designated as the media contact. (500 characters maximum)

Charles Sheehan, charles.sheehan@sfgov.org, 415 355-3700

4.4. **Optional Additional Relevant Information:** We understand that some applicants may feel that their projects cannot be adequately described solely by responding to the provisions of this questionnaire. Applicants may also submit a one-page MS Word document containing information (For example, text, graphs, photos, updates to project team members, or anything else) that the applicant thinks is important for the reviewers' consideration.

4.5. **Letters of Support:** Combine letters of support and commitment from all principal investigators, other key research personnel, or relevant stakeholders, into a single Word or PDF document and submit that file with your application.

BUDGET CATEGORY		10/1/2019 9/30/2020 Year 1	10/1/2020 9/30/2021 Year 2	10/1/2021 9/30/2022 Year 3	TOTAL	
PERSONNEL: *Salary and fringe benefits.*		$10,923	$8,587	$0	$19,510	$19,510
ENV-9922 Environmental Trainee	Y1 232 hrs @ $29.316/hr incl fringe Y2 200 hrs @ $30.20 incl fringe	$6,801	$6,040.00	$0		$12,841
ENV-5642 Senior Environmental Specialist	Y1 50 hrs @ $82.437/hr incl fringe Y2 30 hrs @ $84.91 incl fringe	$4,122	$2,547.30	$0		$6,669
				$0		$0
TRAVEL-	for meetings and presentations required by the grant. mileage to Sacto, hotel, flight to SoCal, hotel, per diem, transp in SoCal	$0	$1,111.00	$0	$1,111	$1,111
MATERIALS & SUPPLIES	Printing of case study; software for analysis	$1,785	$3,215	$0	$5,000	$5,000
EQUIPMENT		$0	$0	$0	$0	$0
CONSULTANT:	Pestec, the City and County of San Francisco's Integrated Pest Management provider. The contract with Pestec was entered into using standard and required procurement processes. Pestec will provide service on approximately 1715 units of affordable housing	$51,450	$51,450	$0	$102,900	$102,900
SUBRECIPIENT		$0	$0	$0	$0	$0
OTHER DIRECT COSTS (ODC)				$0		$0
ODC #1		$0	$0	$0	$0	$0
TOTAL DIRECT COSTS		**$64,158**	**$64,363**	**$0**	**$128,521**	$128,521
Indirect (F&A) Costs		$16,039.5	$16,090.8	$0.0	$32,130	$32,130
		$0	**$0**	$0		$0
TOTAL COSTS PER YEAR		**$80,198**	**$80,454**	**$0**		$160,652
TOTAL COSTS FOR PROPOSED PROJECT PERIOD					**$160,651**	$160,652
						$0

University of California
Agriculture and Natural Resources

Cooperative Extension-Alameda County

Chris Geiger
Safer Pest Management program
San Francisco Department of the Environment

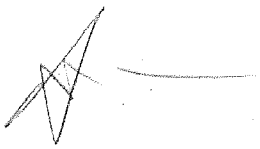
Dear Dr. Geiger,

Please accept this letter as evidence of strong support for your grant proposal *Evaluating the effectiveness of pest preventive design elements incorporated into 3,495 affordable housing units in San Francisco*. While many groups have implemented versions of community-wide integrated pest management programs in public and supportive housing environments, few to my knowledge have properly evaluated such programs. Fewer still, perhaps none, of these groups have measured changes in pest density when considering levels observed before IPM interventions or sought to identify the intervention factors that were most closely associated with the IPM success realized. I look forward to helping achieve the objectives of your project as a significant collaborator. I believe that the results of this work will help to inform other IPM programs in CA and beyond, reducing unnecessary pesticide applications and exposure events, and thereby protecting the environment and communities in which we live.

As a collaborator, I will provide consultation and assistance associated with the experimental design, data collection, data organization, data analysis, and technical reporting aspects of the project. I have previous experience working with large and complex datasets and evaluation of IPM programs and interventions. In fact, I have recently used a multivariate statistical analysis approach, with both qualitative and quantitative variables, to aid in the evaluation of IPM intervention programs within licensed child care centers (see publication *Alkon et al 2016* within my attached 2-page CV). I think we could use a similar approach to evaluate the success of San Francisco's ambitious program. Please feel free to contact me directly for clarification or expansion on any of the points I have made in this letter.

Sincerely,

Andrew M. Sutherland, Ph.D, BCE
SF Bay Area IPM Advisor
UCCE Alameda County
224 W Winton Ave, Room 134
Hayward, CA 94544
(510) 670-5624 office
(510) 499-2930 cell
(510) 670-5671 fax
amsutherland@ucanr.edu



December 5, 2018

Chinatown Community Development Center
華協中心

1525 Grant Avenue
San Francisco, CA 94133
TEL 415.984.1450
FAX 415.362.7992
TTY 415.984.9910
www.chinatowncdc.org

December 12th, 2018

Re: Letter of Commitment for San Francisco Department of the Environment's Research Grant Application to California Department of Pesticide Regulation

To Whom It May Concern:

On behalf of property management at Ping Yuen, Ping Yuen North, 227 Bay St, and 990 Pacific Ave, sites managed by Chinatown Community Development Center, I am pleased to offer our commitment to support San Francisco's Department of Environment (SF Environment) project to **evaluate the effectiveness of incorporating pest prevention and integrated pest management in San Francisco public housing renovations.**

Back in 2015, SF Environment supported the completion of thorough pest inspections at our sites, as

Ping Yuen:

655 Pacific Ave, San Francisco, CA 94133
711 Pacific Ave, San Francisco, CA 94133
795 Pacific Ave, San Francisco, CA 94133
895 Pacific Ave, San Francisco, CA 94133
990 Pacific Ave, San Francisco, CA 94133
227 Bay Street, San Francisco, CA 94133
838 Pacific Street, San Francisco, CA 94133

are 4 of 29 Rental Assistance Demonstration (RAD) public housing sites in San Francisco that have undergone significant rehabilitation and renovations. The results from this initial inspection were valuable, helping us address ongoing and potential pest infestation issues at our site during this critical time of redevelopment. Our developers then received integrated pest management training from SF Environment and were able to implement pest prevention tactics at our site.

RAD sites have not only provided marginalized San Franciscans with sustainable, quality affordable housing, but also play an integral role in this evaluation process. We welcome the opportunity to have our site re-inspected to provide us recommendations for the future. We will work with SF Environment to schedule inspections and would be grateful for any recommendations on best practices for pest prevention and pest management. We believe that the proposed project will allow the City & County of San Francisco to identify the most effective strategies for addressing longstanding pest infestations in sites such as ours that house vulnerable populations.

Sincerely,

Peggy Jen
RAD Strategic Coordinator
415-984-1167 ext.1469 | peggy.jen@chinatowncdc.org

SAN FRANCISCO
Asthma Task Force

November 14, 2018

To whom it may concern:

We are writing in enthusiastic support of the San Francisco Department of the Environment's grant proposal to the California Department of Pesticide Regulation Pest Management Research Grant Program. They plan to evaluate the effectiveness of their previous pest prevention and IPM work at the former San Francisco Public Housing sites now under non-profit management as RAD housing sites.

These formerly severely pest-infested RAD housing sites have all recently been renovated to include pest-proof design. Asthma has been a ubiquitous problem for both child and adult residents of these sites, and we greatly hope that the renovations will prevent many of the asthma environmental risk factors that previously dominated these sites (mold, dust, cockroach and rodent pest infestations).

As a part of the project, the researchers will have a private IPM contractor, Pestec, conduct pest inspections at the sites to see what the infestation levels are and note which pest prevention recommendations were implemented (from a design/structural/pest-proofing perspective). Each of these sites had a baseline inspection by Pestec, so they will be able to evaluate change in status. Department of Environment staff will conduct property manager interviews to determine whether IPM is being practiced (and to what extent) from an operations perspective. We will be able to collectively with Pestec assess which measures were most effective.

Thanks for your consideration.

Sincerely,

Karen Cohn, SF Asthma Task Force Administrator

San Francisco Asthma Task Force, c/o Children's Environmental Health Promotion, San Francisco Department of Public Health
1390 Market Street, Suite 230, San Francisco, CA 94102 / Phone: (415) 554-8930 ext. 25 / Fax: (415) 554-8938

Mayor's Office of Housing and Community Development
City and County of San Francisco

London N. Breed
Mayor

Kate Hartley
Director

December 5, 2018

Re: Letter of Reference/Support for CDPR Research Grant

To Whom It May Concern:

The San Francisco Mayor's Office of Housing and Community Development (MOHCD) is pleased to offer its support for the San Francisco Department of the Environment's project to **evaluate the effectiveness of incorporating pest prevention and integrated pest management in San Francisco public housing renovations**.

The Mayor's Office of Housing and Community Development has worked closely with the San Francisco Department of the Environment and non-profit housing developers over the last four years to implement a comprehensive pest prevention and integrated pest management program within 29 former public housing sites throughout San Francisco. The proposed research project will offer us a critical opportunity to carefully evaluate this significant effort, which has already positively impacted the lives of thousands of San Francisco's most vulnerable residents.

San Francisco's public housing (like most such housing across California and the United States) suffered from years of Federal budget cuts, which resulted in deferred maintenance and significant deterioration in housing quality. Unlike so many other communities however, the Mayor of San Francisco was determined to address this problem and embarked in 2013 upon a lengthy and complicated transformation process using the Rental Assistance Demonstration (RAD) program. RAD provided for an opportunity to transfer these 29 properties to private affordable housing developers and to leverage the private financing necessary to address long underfunded capital needs. Through this program, and with an additional $95M in San Francisco City General Fund support, 3,840 units received over $800M in substantial rehabilitation, including Integrated Pest Management strategies.

Support from the Department of Environment has been critically important in providing the RAD program with the technical expertise and support to ensure more effective pest management, better air quality and fewer toxic hazards in the homes of some of San Francisco's most vulnerable residents. MOHCD is very grateful for this important contribution to this work.

The proposed project will allow the City & County of San Francisco to identify the most effective strategies for addressing longstanding pest infestations in our most distressed housing sites. We will work with the Department of the Environment to disseminate recommendations on best practices for pest prevention and pest management to affordable housing development teams. Furthermore, this project will establish best practices for this work throughout the state and improve the lives of

Californians and our environment. For these reasons, MOHCD is pleased to offer its full support for this application.

Sincerely,

Erin Carson

Erin Carson
Sr. Construction Representative
Mayor's Office of Housing and Community Development

TO: **Angela Calvillo, Clerk of the Board of Supervisors**

FROM: **The Department of the Environment**

DATE: **August 12, 2019**

SUBJECT: **Accept and Expend Resolution for Grant**

GRANT TITLE: **Tracking Pest Prevention Efforts in Affordable Housing**

Attached please find the original and 4 copies of each of the following:

_X_ Proposed grant resolution; original signed by Department, Mayor, Controller

_X_ Grant information form, including disability checklist

_X_ Grant budget

_X_ Grant application

_X_ Grant award letter from funding agency

_ Other (Explain):

Special Timeline Requirements:

The project is supposed to start on October 1, 2019 so we would like to have Accept and Expend in place in order to sign the grant agreement

Departmental representative to receive a copy of the adopted resolution:

Name: Michael Hirai Phone: (415) 355-3704

Interoffice Mail Address: Michael.hirai@sfgov.org

Certified copy required Yes ☐ No X

(Note: certified copies have the seal of the City/County affixed and are occasionally required by funding agencies. In most cases ordinary copies without the seal are sufficient).

OFFICE OF THE MAYOR
SAN FRANCISCO

LONDON N. BREED
MAYOR

RECEIVED
BOARD OF SUPERVISORS
SAN FRANCISCO
2019 SEP 10 PM 2:17
BY

TO: Angela Calvillo, Clerk of the Board of Supervisors
FROM: Kanishka Karunaratne Cheng
RE: Accept and Expend Grant – California Department of Pesticide Regulation - $160,651
DATE: Tuesday, September 10, 2019

Resolution authorizing the Department of the Environment to accept and expend a grant in the amount of $160,651 from the California Department of Pesticide Regulation for the purpose of evaluating the success of pest prevention efforts in affordable housing for the period of October 1, 2019 through September 30, 2022.

Please note that Supervisor Brown is a co-sponsor of this legislation.

Should you have any questions, please contact Kanishka Karunaratne Cheng at 415-554-6696.

1 DR. CARLTON B. GOODLETT PLACE, ROOM 200
SAN FRANCISCO, CALIFORNIA 94102-4681
TELEPHONE: (415) 554-6141