

7STATE OF CALIFORNIA  
**STANDARD AGREEMENT**  
 STD 213 (Rev 06/03)

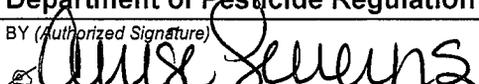
AGREEMENT NUMBER <b>10-C0103</b>
REGISTRATION NUMBER <b>1139054</b>

1. This Agreement is entered into between the State Agency and the Contractor named below:
- STATE AGENCY'S NAME  
**Department of Pesticide Regulation (DPR)**
- CONTRACTOR'S NAME  
**The Regents of the University of California**
2. The term of this Agreement is: **March 1, 2011 or upon final approval by the State, whichever occurs later through December 31, 2013**
3. The maximum amount of this Agreement is: **\$185,665.00**  
**One hundred eighty-five thousand six hundred sixty-five dollars and no cents**
4. The parties agree to comply with the terms and conditions of the following exhibits which are by this reference made a part of the Agreement.

<b>Exhibit A – Scope of Work</b>	<b>5 Pages</b>
<b>Exhibit B – Budget Detail and Payment Provisions</b>	<b>5 Pages</b>
<b>Exhibit C* – General Terms and Conditions (GIA 610)</b>	
<b>Exhibit D - Special Terms and Conditions</b>	<b>1 Page</b>
<b>Exhibit E – Additional Provisions</b>	<b>1 Page</b>
<b>Exhibit F – Curriculum Vitae</b>	<b>4 Page</b>

Items shown with an Asterisk (\*), are hereby incorporated by reference and made part of this agreement as if attached hereto. *These documents can be viewed at <http://www.ols.dgs.ca.gov/Standard+Language/default.htm>*

**IN WITNESS WHEREOF, this Agreement has been executed by the parties hereto.**

CONTRACTOR	
CONTRACTOR'S NAME (if other than an individual, state whether a corporation, partnership, etc.) <b>The Regents of the University of California</b>	
BY (Authorized Signature) 	DATE SIGNED(Do not type) <b>3-7-11</b>
PRINTED NAME AND TITLE OF PERSON SIGNING KATHLEEN P. NOLAN Associate Director, Sponsored Programs <i>up to</i>	
ADDRESS Office of Research, Sponsored Programs 1850 Research park Drive, Suite 300, Davis, CA 95618-6153	
STATE OF CALIFORNIA	
AGENCY NAME <b>Department of Pesticide Regulation</b>	
BY (Authorized Signature) 	DATE SIGNED(Do not type) <b>3-10-11</b>
PRINTED NAME AND TITLE OF PERSON SIGNING Anise, Severns, Fiscal Services and Business Operations Branch Chief	
ADDRESS 1001 I Street, Sacramento, CA 95814	

*California Department of General Services Use Only*

APPROVED

APR - 7 2011

DEPT OF GENERAL SERVICES

Exempt per:





**EXHIBIT A**  
**STANDARD AGREEMENT**

**SCOPE OF WORK**

1. This Agreement is between the Department of Pesticide Regulation, hereinafter referred to as DPR, and The Regents of the University of California, hereinafter referred to as UC Davis or Contractor.
2. This Agreement will commence on the start date March 1, 2011 as presented herein or upon final approval by the State, whichever is later and no work shall begin before that time. This Agreement is of no effect unless approved by the State. Contractor shall not receive payment for work performed prior to approval of the Agreement and before receipt of notice to proceed by the Contract Manager. This Agreement shall expire on December 31, 2013. The services shall be provided during normal working hours.
3. The Project Representatives during the term of this Agreement will be:

- A. All official communications, except invoices, from the Contractor to DPR shall be directed to the attention of the DPR Contract Manager, Michael Ensminger, at:

Department of Pesticide Regulation  
Environmental Monitoring Branch, MS 3B  
1001 I Street  
P.O. Box 4015  
Sacramento, CA 95812-4015

Phone (916) 324-4186      Fax (916) 324-4088  
E-mail: mensminger@cdpr.ca.gov

- B. All invoices from the Contractor to DPR shall be directed to:

Department of Pesticide Regulation  
Attn: Accounts Payable  
P.O. Box 4015, MS 4A  
Sacramento, CA 95812-4015

- C. All programmatic communications from DPR to the Contractor shall be directed to the attention of Dr. Loren Oki:

Dr. Loren Oki  
Department of Plant Sciences, MS 6  
UC Davis  
One Shields Avenue  
Davis, CA 95616-8780

Phone: (530) 754 4135; Fax: (530) 754 4883

**EXHIBIT A**  
**STANDARD AGREEMENT**

Email: [lroki@ucdavis.edu](mailto:lroki@ucdavis.edu)

- D. All administrative communications, except payments, from DPR to the Contractor shall be directed to:

Wendy Ernst  
Office of Research, Sponsored Programs  
1850 Research Park Drive, Suite 300  
Davis, CA 95618-6153

Phone (530) 754-7982 Fax (530) 754-8229  
Email: [wbernst@ucdavis.edu](mailto:wbernst@ucdavis.edu)

- E. All payments from DPR to the Contractor shall be directed to:

The Regents of the University of California  
Cashier's Office  
P.O. Box 989062  
West Sacramento, CA 95798-9062

- F. The Project Representatives during the term of this Agreement may be changed by mutual written agreement without the necessity of formal amendment to this Agreement.

**4. Contractor Responsibilities**

**A. Background and Goals**

- 1) Large quantities of pesticides are used in urban areas. Although the total amount is unknown due to unreported homeowner use, it has been estimated that hundreds of millions of pounds of urban pesticides are applied annually. With this high level of use there is potential for pesticide runoff into urban creeks and rivers. Studies have shown that urban surface waters are polluted with numerous different pesticides. Pyrethroids, fipronil (and degradates), carbamate, and organophosphorus insecticides, some fungicides, and numerous different classes of herbicides are frequently found in urban surface waters. Most often several different pesticides are found in surface waters simultaneously, and these combinations may have a synergetic toxic effect to aquatic organisms. Water is a main method of transporting pesticides into surface waters and much pesticide runoff occurs during the rainy season in California. However, pesticide runoff is not limited to rain storm events. Pesticide runoff during non-storm conditions accounts for significant pesticide loading. In California, during the dry (non-rainy) summer and early fall months, urban surface waters are augmented with water from numerous sources, as lawn and landscape irrigation, washing of

**EXHIBIT A**  
**STANDARD AGREEMENT**

cars, hosing down of hardscape surfaces, etc. All of these sources will potentially carry pesticides into urban surface waters.

- 2) A main goal of urban pesticide mitigation is to reduce pesticide runoff into surface waters. At the homeowner level, integrated pest management, reducing/modifying irrigation systems and landscape systems, altering application methods, etc. all may help to reduce pesticide runoff into urban surface waters. At the city level, other mitigation methods may be necessary to reduce pesticide runoff. Although little work has been conducted in urban environments, mitigation methods in agriculture have been well studied. Wetlands, holding ponds, and vegetative ditches have shown to reduce pesticide runoff from agricultural fields. These methods may also be suitable mitigation methods for limiting urban pesticide runoff into surface waters, although they may be difficult to incorporate into urban landscapes. However, in newer housing developments, these types of landscape features can be planned and built. Such is the case with two residential areas in the Sacramento, California area. Roseville, with a population of about 116,000, is a suburb of Sacramento located in Placer County. Pleasant Grove Creek runs through the residential area of the city; storm drain outflows are separated from the mainstem river by small feeder streams that are highly vegetated with oak trees, grasses, cattails, and small broadleaf plants, mimicking vegetative ditches used in agricultural mitigation studies. Roseville has been a study system in urban pesticide runoff studies and pesticide detections are frequently higher for several pesticide groups than other areas of California, even though Roseville has been described as a "typical" Californian suburb. Other residential areas in the Sacramento area can be compared to Roseville to determine if the high level of pesticides detected in surface waters is typical for the Sacramento area. Folsom is one such site that warrants testing for pesticides in surface waters. Folsom, with a population of about 71,000 is located in Sacramento County. In a newer residential area of this city, storm drain outflows drain in to a wetland or holding pond prior to entering the main receiving water, thus mimicking these two other agricultural mitigation methods.
- 3) Thus, these two areas (Folsom and Sacramento) are prime areas to study pesticide runoff from residential neighborhoods into storm drain outflows and to study the potential mitigation benefits of vegetative ditches and wetlands/holding ponds. Other major urban areas in California (to be determined) will also provide useful information on pesticide runoff and/or the effectiveness of mitigation practices. The objectives of this work are three-fold: 1) determine pesticide concentrations in water and sediments from storm drain outflows in representative urban areas during both dryflow and rain events; 2) determine the mitigation effects of vegetative channels (streams) and/or wetlands/small ponds on reducing pesticide inputs into urban creek receiving waters during dryflow

**EXHIBIT A**  
**STANDARD AGREEMENT**

and rain events; and 3) determine the aquatic toxicity of urban surface waters and sediments through toxicity testing.

**B. Work to Be Performed**

**1) Task 1 - Set up Automated sampling equipment**

- a.** Set up three automated sampling equipment boxes ("green boxes") for collecting water samples in Folsom CA and two green boxes in southern California, or other appropriate sampling sites in California as agreed upon between DPR and UCD (a total of five green boxes for collecting water samples automatically). Green boxes will contain equipment to allow for (remote) automated collection of water samples, flow rates, and water quality data from storm drain or receiving waters. Equipment at a minimum will be (or equivalent): a) Hach/Sigma 900 autosampler with standard insulated base and distributor with arm for 24 bottles (or acceptable composite sample container); b) Hach/Sigma 950 AV flow meter; c) power source (solar panel and/or battery); d) sensors to collect dissolved oxygen (DO) (after DO sensors purchased by DPR), electrical conductivity (EC), water temperature, pH, and rainfall totals; e) modem/remote wireless internet connection for remote access and data download; f) Teflon lined polyethylene tubing g) housed in Greenlee 2260 slant top jobsite storage boxes (or equivalent); h) pest control in green boxes and all other equipment to ensure the collection of quality and timely water samples.
- b.** Install a cement pad or footings to support each of the green boxes.
- c.** Maintain automated sampling equipment.
- d.** Remove all sampling equipment and materials at the end of the study, unless agreed by both DPR and UCD, to keep equipment and materials in place.

**2) Task 2 - Monitoring and Sample Collection**

- a.** Prepare monitoring equipment and supplies for automated and grab sampling.
- b.** Collect water samples, either with the use of automated sampling equipment (green boxes) or through grab sample collection, during approximately three non-storm (dryflow) and three rainstorm sampling events per year from each of the northern and southern California monitoring sites as appropriate. May include overnight travel (up to 8 nights lodging per year) and up to 12 days of overtime pay (per year). Water samples will be collected for chemical analysis and aquatic invertebrate toxicity testing.
- c.** During storm runoff sampling when automated sampling equipment is used, collect and provide rainfall totals (rain storm events only), pH, DO, water temperature, EC, and flow data for the length of the sampling period. DO collected only after DPR-purchased DO sensors are installed.

**EXHIBIT A  
STANDARD AGREEMENT**

- d. Collect sediment samples for chemical analysis and aquatic invertebrate toxicity testing.
  - e. Deliver sediment and water samples for chemical analysis to DPR's West Sacramento, CA facilities and for aquatic invertebrate testing to UCD ATL (University of California, Aquatic Toxicity Lab). DPR will arrange with UCD ATL for timing and appropriate study design. The Costs of the toxicity analysis shall be paid through this Agreement.
- 3) Task 3. Results, data summary, and data analysis
- a. Jr. Specialist will conduct total organic carbon and total suspended sediment analysis of collected water samples and total organic analysis of sediment samples with the use of DPR's Shimadzu Total Organic Carbon Analyzer at DPR's facilities at West Sacramento, CA, with the assistance of DPR staff. Sediment samples can be prepared (dried, ground, and sieved) off-site.
  - b. Enter monitoring data collected from automated sampling equipment or from grab samples into DPR Surface Water's existing ACCESS Urban Database. Data includes (but not limited to) information collected on field data sheets, analytical data, and QA/QC checks of the data.
  - c. Perform data summary, data analysis, and report writing, including summarizing and analyzing monitoring and toxicity data and writing of papers relevant to DPR.

4) Project Timeline

Task Activities	10/11		11/12				12/13				13/14	
	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall
1. Site selection	X	X										
Equipment Installation		X	X									
2. Maintenance and Monitoring	X	X	X	X	X	X	X	X	X	X	X	
3. Data Entry & Analysis	X	X	X	X	X	X	X	X	X	X	X	
Annual Reports				X				X				X

5. DPR's Responsibilities

DPR shall review and approve of the annual reports within 30 days of submission by the Contractor.

**EXHIBIT B**  
**Standard Agreement**

**BUDGET DETAIL AND PAYMENT PROVISIONS**

**1. Invoicing**

- A. Upon receipt and approval of invoices by the Contract Manager for services performed according to the attached Scope of Work and the terms of this Agreement, DPR agrees to compensate Contractor, in arrears, for actual allowable costs incurred as specified herein and in accordance with the rates specified herein or attached hereto. Incomplete or disputed invoices shall be returned to Contractor, unpaid, for correction.
- B. Invoices shall include the Agreement Number and shall be submitted in triplicate, quarterly in arrears, to:

Department of Pesticide Regulation  
Attn: Accounts Payable  
P.O. Box 4015, MS-4A  
Sacramento, CA 95812-4015

**2. Budget Contingency Clause**

- A. It is mutually agreed that if the Budget Act of the current year and/or any subsequent years covered under this Agreement does not appropriate sufficient funds for the program, this Agreement shall be of no further force and effect. In this event, DPR shall have no liability to pay any funds whatsoever to Contractor or to furnish any other considerations under this Agreement and Contractor shall not be obligated to perform any provisions of this Agreement.
- B. If funding for any fiscal year is reduced or deleted by the Budget Act for purposes of this program, DPR shall have the option to either cancel this Agreement with no liability occurring to DPR, or offer an Agreement Amendment to Contractor to reflect the reduced amount.

**3. Payment**

- A. Costs for this Agreement shall be computed in accordance with State Administrative Manual (SAM) Sections 8752 and 8752.1.
- B. Nothing herein contained shall preclude advance payments pursuant to Article 1, Chapter 3, Part 1, Division 3, Title 2 of the California Government Code, Sections 11256 and 11257.
- C. Transportation and subsistence costs shall not exceed rates authorized to be paid at the rates currently in effect, as established by the Regents of the University of

**EXHIBIT B**  
**Standard Agreement**

California, UC Davis Policy G-28 and the California State Contracting Manual, Section 3.18(A) for traveling within California.

- D. Contractor will be reimbursed for direct costs, other than salary costs, that are identified in the Contractor's rates.
- E. Contractor will bill in arrears for costs incurred during the billing period. If applicable, salary costs will be itemized and billed by position. Documentation supporting specific salary costs will be presented if requested by DPR. Non-wage costs will be billed, in summary, according to general expense categories. A detailed report of transactions will support the billing. Individual expenditures exceeding \$500.00 will be supported by a photocopy of the original documentation. Documentation in support of expenditures less than \$500.00 will be presented if requested by DPR.
- F. Contractor shall not commence performance of work or services until this contract has been approved by the State. No payment will be made prior to approval nor for any work performed prior to approval of this Agreement.
- G. Ten percent (10%) of the total amount of this Agreement shall be withheld by DPR until completion of the services performed according to the Scope of Work and the terms of this Agreement.

**EXHIBIT B  
Standard Agreement**

**4. Rates**

Rates for these services are as follows:

**Table I – Budget Total**

<b>Budget Line Item</b>	<b>FY 10-11</b>	<b>FY 11-12</b>	<b>FY 12-13</b>	<b>TOTAL</b>
1. Salaries & Wages	\$20,032	\$35,270	\$21,240	\$76,542
2. Benefits <sup>①</sup>	\$6,046	\$10,602	\$6,392	\$23,040
3. Travel <sup>②</sup> (in state)	\$2,000	\$2,000	\$1,000	\$5,000
4. Training <sup>③</sup>	\$500	0	0	\$500
5. Supplies <sup>④</sup>	\$8,000	\$27,000	0	\$35,000
6. Minor Equipment <sup>⑤</sup>	\$6,450	\$2,000	0	\$8,450
7. Overhead <sup>⑥</sup> @25%	\$10,757	\$19,218	\$7,158	\$37,133
<b>Total</b>	<b>\$53,785</b>	<b>\$96,090</b>	<b>\$35,790</b>	<b>Grand Total \$185,665</b>

①Benefits include: Worker's Compensation and other benefits appropriate for title

②Travel includes: Invoice for payments on travel shall be based on current UC rates and guidelines

③Training for topics related to monitoring project.

④Supplies include: Copying services and toxicity testing costs for toxicity tests at UCD ATL.

⑤Minor supplies and equipment: line item does not include any equipment with a unit acquisition of \$5,000 or more.

⑥Indirect Cost: 10 - 25% indirect cost rate includes: depreciation of buildings and equipment, utility consumption, operations and maintenance costs, administrative services provided at the departmental and central level, and library costs.

**Table II – Personnel Details**

**FY 2010-2011**

	<b>Monthly</b>	<b>Number of Months</b>	<b>Percentage of Time</b>	<b>Total Amount</b>
<b>Salaries &amp; Wages</b>				
Horticultural Assoc	\$6,392	0.5	100%	\$3,196
Junior Specialist	\$2,806	6	100%	\$16,836
<b>Total Salaries &amp; Wages</b>				<b>\$20,032</b>
<b>Benefits</b>				
Horticultural Assoc (31.14%)	\$1,990	0.5	100%	\$995
Junior Specialist (30%)	\$842	6	100%	\$5,051
<b>Total Benefits</b>				<b>\$6,046</b>
<b>FY 10- 11 Personnel &amp; Benefits Total</b>				<b>\$26,078</b>

**EXHIBIT B**  
**Standard Agreement**

**FY 2011-12**

<b>Salaries &amp; Wages</b>	<b>Monthly</b>	<b>Number of Months</b>	<b>Percentage of Time</b>	<b>Total Amount</b>
Horticultural Assoc	\$6,392	0.25	100%	\$1,598
Junior Specialist	\$2,806	12	100%	\$33,672
<b>Total Salaries &amp; Wages</b>				<b>\$35,270</b>
<b>Benefits</b>				
Horticultural Assoc (31.14%)	\$1,990	0.25	100%	\$498
Junior Specialist (30%)	\$842	12	100%	\$10,104
<b>Total Benefits</b>				<b>\$10,602</b>
<b>FY 11- 12 Personnel &amp; Benefits Total</b>				<b>\$45,872</b>

**FY 2012-13**

<b>Salaries &amp; Wages</b>	<b>Monthly</b>	<b>Number of Months</b>	<b>Percentage of Time</b>	<b>Total Amount</b>
Horticultural Assoc	\$6,392	0.25	100%	\$1,598
Junior Specialist	\$2,806	7	100%	\$19,642
<b>Total Salaries &amp; Wages</b>				<b>\$21,240</b>
<b>Benefits</b>				
Horticultural Assoc (31.14%)	\$1,990	0.25	100%	\$498
Junior Specialist (30%)	\$842	7	100%	\$5,894
<b>Total Benefits</b>				<b>\$6,392</b>
<b>FY 12- 13 Personnel Benefits Total</b>				<b>\$27,632</b>

**EXHIBIT B**  
**Standard Agreement**

**5. Cost Limitation**

- A. The total amount of this Agreement shall not exceed \$185,665.00.
- B. It is understood and agreed that this total is an estimate and that DPR will pay for only those services actually rendered as authorized by the DPR Contract Manager or his/her designee.

**EXHIBIT D**  
**Standard Agreement**

**SPECIAL TERMS AND CONDITIONS**

**1. Termination**

- A. Either Party reserves the right to terminate this agreement without cause upon thirty (30) days written notice to the other Party, or immediately in the event of a material breach. In the event of termination, Contractor shall be paid for all allowable costs incurred up to the date of termination, including any non-cancelable obligations.
- B. In the event that the total Agreement amount is expended prior to the expiration date, DPR may, at its sole discretion, terminate this Agreement with 30 days notice to contractor.

**2. Subcontracting**

Contractor shall perform the work contemplated with resources available within its own organization and no portion of the work shall be subcontracted.

**3. Dispute Resolution**

- A. DPR reserves the right to issue an order to stop work in the event that a dispute should arise, or in the event that the DPR gives the performing agency a notice that this Agreement will be terminated. If DPR exercises this right, the stop-work order will be in effect until the dispute has been resolved or this Agreement has been terminated.
- B. Any dispute concerning a question of fact arising under the terms of this Agreement which is not disposed of within a reasonable period of time by agency employees normally responsible for the administration of this agreement, shall be brought to the attention of the Executive Officer or designated representative of each agency for joint resolution.
- C. The Contractor shall continue to perform all its responsibilities under this agreement during any dispute until notified to stop work or expiration of this Agreement.

**4. Harassment Free Workplace**

The Department of Pesticide Regulation (DPR) is committed to providing a safe, secure environment, free from sexual misconduct. It is policy of the Department that employees have the right to work in an environment that is free from all forms of discrimination, including sexual harassment. This policy specifically speaks to freedom from a sexually harassing act that results in the creation of an intimidating, hostile or offensive work environment or that otherwise interferes with an individual's employment or work performance. As a Contractor with DPR, you and your staff are expected to comply with a standard of conduct that is respectful and courteous to DPR employees and all other persons contacted during the performance of this Agreement. Sexual harassment is unacceptable, will not be tolerated; and may be cause for prohibiting some or all of the Contractor's staff from performing work under this Agreement.

**EXHIBIT E**  
**Standard Agreement**

**ADDITIONAL PROVISIONS**

**1. Disposition of Work Product**

DPR retains use and non-commercial governmental distribution rights to all deliverables identified in Exhibit A of this Agreement.

**2. Contractor Evaluation**

The Contractor is hereby notified that its performance under this Agreement may be evaluated within thirty (30) calendar days following the Expiration of this Agreement. The evaluation may include statements on the adequacy of the service or the product, whether the service was satisfactory, whether the service or the product was provided or completed within the time limitations, reasons for time or cost overruns, whether the product is operational or being utilized by the State, and/or the State plans for implementation, and the State's general impression as to the competency of the Contractor and its staff. The evaluation shall be filed in the State's official Contractor Evaluation File.

**3. Consulting Services**

A. The Contractor is hereby advised of its duties, obligations and rights under Public Contract Code § 10335.5.

B. The Contractor's key personnel assigned to perform work under this Agreement and their level of responsibility shall be mutually acceptable to the State and the Contractor.

## EXHIBIT F Standard Agreement

Curriculum Vitae for Lorence (Loren) R. Oki  
Associate Specialist in Cooperative Extension, Landscape Horticulture

Department of Plant Sciences, MS 6  
University of California  
One Shields Avenue  
Davis, CA 95616-8780 USA

1110 Env Hort  
Phone: (530) 754-3145  
Fax: (530) 754-4883  
email: [lroki@ucdavis.edu](mailto:lroki@ucdavis.edu)

I have been a member of the faculty at UC Davis since 2002 and serve as the Cooperative Extension Specialist in Landscape Horticulture. This appointment is held jointly with the Department of Plant Sciences (80%) and the Landscape Architecture Program in the Department of Environmental Design (20%).

My research focuses on water issues in urban horticulture. I currently lead a large project funded by the California State Water Resources Control Board and the CALFED Bay-Delta Program that is characterizing runoff from residential areas and studies the effectiveness of management methods to reduce the runoff and the pollutants that may be included in it. There are four study sites in Sacramento County and four more in Orange County used in this project. This project also develops information to promote the implementation of low impact landscape management methods and measures the effectiveness of outreach methods. From our data, pollutant loading models are being developed to demonstrate how changes in landscape features might affect loading.

To refine irrigation management in urban landscapes, my research group is examining the water use of plants selected from the UC Davis Arboretum that are potential ornamental landscape plants. Selected plants are distributed to several demonstration sites around the State for further evaluations by UCCE Master Gardeners for garden performance in different climate zones.

A completed project funded by the Santa Clara Valley Water District quantified the tolerance of Coast Redwood to sodium and chloride when they are irrigated with low quality water. Future work will look at the tolerance of landscape plants to irrigation with low quality water such as reclaimed municipal water.

My group is examining how slow sand filtration and other natural water treatment systems remove plant pathogens, including *Phytophthora ramorum* the organism that causes Sudden Oak Death disease, and other pollutants from nursery irrigation runoff. The treated water could then be safely reused for irrigation.

My Ph.D. is in Ecology (2002) from UC Davis and I conducted my dissertation research in the Environmental Horticulture (now Plant Sciences) Department quantifying the effects of salinity on rose stem elongation rates. I hold an M.S. in Plant Science from UC Riverside (1976) where I worked in plant tissue culture studying the role of chromosomal proteins in cell differentiation. My B.S. in Ornamental Horticulture (1974) is from California State Polytechnic University, San Luis Obispo. Prior to receiving my doctorate, I worked in the horticulture industry as a grower of nursery and greenhouse crops in the Sacramento area.

## EXHIBIT F Standard Agreement

**Lorence (Loren) R. Oki**  
Associate Specialist in Cooperative Extension  
Landscape Horticulture

Department of Plant Sciences, MS6  
University of California  
Davis, CA 95616-8780  
Room 1110 Env Hort  
(530) 754-4135  
lroki@ucdavis.edu

### EDUCATION

**Ph.D.**, Ecology, University of California, Davis, March 2002. Dissertation: Effects of Substrate Salinity on Rose Stem Elongation. Advisor: Dr. J. Heinrich Lieth

**Certificate**, Program in College Teaching, University of California, Davis, June 1998

**Master of Science**, Plant Science, University of California, Riverside. June 1976. Advisor: Dr. Toshio Murashige

**Bachelor of Science**, Ornamental Horticulture, California Polytechnic State University, San Luis Obispo, June 1974. Advisor: Dr. Howard Brown.

### RESEARCH

UC Davis, October 2002 - present

Characterizing runoff from urban sources. Developing management methods to reduce water use, runoff, and pollutant loading from urban landscapes. Evaluating the water use of landscape plants. Introduction of plants for landscape uses. Using slow sand filtration systems to treat runoff. Tolerance of landscape plants to low quality water.

### TEACHING (SELECTIONS)

**Instructor**. Urban Ecology. PLS162. UCD. Winter 2009 & 10. Presented class on pollution from urban landscapes.

**Instructor**. Integrative Horticulture and Agronomy - Practices. HRT200A. UCD. Spring 2008, Fall 2008, 09, & 10. Presented classes on landscape water issues.

**Instructor**. Proseminar, LDA 190, UCD. Fall 2003. Organized "Landscape Management" series.

**Instructor**. Greenhouse and Nursery Management, ENH125. Presented classes and labs on bedding plant production and fertility management. Winters 2002-10

**Instructor**. Introduction to Greenhouse Management. UC Davis Extension. 2001, 2002, 2003.

### PUBLICATIONS (SELECTIONS)

Lin, K., D. Haver, L. Oki, and J. Gan. 2009. Persistence and sorption of fipronil degradates in urban stream sediments. *Env. Tox. & Chem.* 28(7): 1462-1468.

Lin, K., D. Haver, L. Oki, and J. Gan. 2008. Transformation and sorption of fipronil in urban stream sediments. *J. Agric. Food Chem.* 56(18): 8594-8600.

Reid, S.K. and L.R. Oki. 2008. Trial identifies promising selections for UC Davis Arboretum "All-Stars" Plant Introduction Program. *Calif. Ag.* 62(3): 97-104.

Lieth, J.H. and L.R. Oki. 2007. Irrigation in Soilless Production. In: Soilless Culture: Theory and Practice. M. Raviv & J.H. Lieth, eds. Elsevier Press, Amsterdam.

Coates, R.W., M.J. Delwiche, R.Y. Evans, L.R. Oki, and P.H. Brown. 2007. Site-specific water and nutrient application by wireless valve controller network. ASABE Annual Meeting, June 17-20, 2007. Paper No. 072247. St. Joseph, MI. 11 pages.

**EXHIBIT F**  
**Standard Agreement**

**Oki, L.R.**, N.S. Mattson, and J.H. Lieth. 2006. Predicting stem length of cut flower roses as harvest using stem elongation rates in relationship to developmental events. *Acta Hort.* 718:113-120.

**Oki, L.R.** and J.H. Lieth. 2004. Effect of changes in substrate salinity on the elongation of *Rosa hybrida* L. 'Kardinal' stems. *Sci. Hort.* 101: 103-119.

**ACADEMIC SERVICE, UNIVERSITY OF CALIFORNIA (SELECTIONS)**

Co-Director, UC Nursery and Floriculture Alliance, 2009-present  
Director, Env. Horticulture Research & Info. Ctr., Div. Agric. and Nat. Res., 2009-present  
Associate Editor, Environmental Horticulture, Div. Agric. and Nat. Res., 2003-2009  
Member, UCCE Hansen Trust Research Advisory Committee, 2007-present  
Co-Chair, CA Ctr. for Urban Horticulture Implementation Comm., UCD CA&ES, 2005-06  
Member, Env. Hort. & Urban Forestry Major Comm., UCD Dept. Plant Sci., 2005-present  
Chair, Div. Agric. and Nat. Res., Landscape Horticulture Workgroup, 2003-08  
Member, Div. Agric. and Nat. Res., Landscape Horticulture Workgroup, 2002-present  
Member, Div. Agric. and Nat. Res., Floriculture and Nursery Workgroup, 1998-present  
Member, Div. Agric. and Nat. Res., Turfgrass Workgroup, 2007-present  
Member, Div. Agric. and Nat. Res., Water Quality Workgroup, 1998-present

**PROFESSIONAL SERVICE AND AFFILIATIONS (SELECTIONS)**

**CA Dept of Water Resources**

Senate Bill x7-7 Urban Stakeholder Committee Member, 2010-present

**Ecolandscape California**

Committee Member, 2004-present

**International Plant Propagators' Society**

Member, 1979-present  
Member, Western Region Board of Directors, 1989-94  
International Alternate Delegate Western Region, 1993-94  
Chair, Western Region Long Range Planning- Nominating Committee, 1993-94  
President, Western Region, 1992-93  
Vice President, Western Region, 1989-92  
Member, Western Region Annual Meeting Committee, 1986, 88, 92 (Chair), 96, 2010

**California Association of Nurseries and Garden Centers**

Member, 1978-present  
Member, Career and Education Committee, 2000-2008  
Member, Research Advisory Committee, 1983-present  
Member, Board of Directors, Superior Chapter, 1978-88, 91-92, 2003-present  
Chair, Research Advisory Committee, 1989-91  
Member, Board of Directors, 1986-88, 91-92  
Founding Chair, Plant Protection Issues Committee, 1988-89  
Member, Plant Protection Issues Committee, 1988-1994  
Founding Member, Legislative and Regulatory Committee, 1988-90

**EXHIBIT F**  
**Standard Agreement**

Secretary, Superior Chapter, 1981-84, 2004-07  
President, Superior Chapter, 1986-87  
President Elect, Superior Chapter, 1985-86  
Vice President, Superior Chapter, 1984-85

Member, American Society of Horticultural Science, 1999-present  
Member, International Society of Horticultural Science, 1999-present  
Member, American Nursery and Landscape Association, 2002-present  
Member, California Landscape Contractors' Association, 2005-present  
Member, Society of Environmental Toxicology and Chemistry, 2007-present  
Member, American Chemical Society, 2009-present

**PROFESSIONAL EXPERIENCE**

Oki Nursery Company, Sacramento, CA, 1978-93