

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

AGREEMENT NUMBER

**DRR14150**

REGISTRATION NUMBER

1. This Agreement is entered into between the State Agency and the Contractor named below:

STATE AGENCY'S NAME

Department of Resources Recycling and Recovery (CalRecycle)

CONTRACTOR'S NAME

**Office of Environmental Health Hazard Assessment (OEHHA)**

2. The term of this Agreement is: June 30, 2015 through June 15, 2018  
Or upon DGS approval, whichever is later
3. The maximum amount of this Agreement is: \$2,858,000.00  
(Two million eight hundred fifty eight thousand dollars and zero 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.

Exhibit A – Scope of Work	9 page(s)
Exhibit B – Budget Detail and Payment Provisions	3 page(s)
Exhibit C* – General Terms and Conditions	GIA 610
Exhibit D – Special Terms and Conditions	2 page(s)
Attachment 1 – Recycled Content Certification	2 page(s)

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 [www.ols.dgs.ca.gov/Standard+Language](http://www.ols.dgs.ca.gov/Standard+Language)

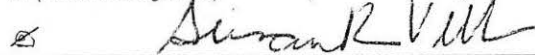
IN WITNESS WHEREOF, this Agreement has been executed by the parties hereto.

**CONTRACTOR**

CONTRACTOR'S NAME (if other than an individual, state whether a corporation, partnership, etc.)

Office of Environmental Health Hazard Assessment

BY (Authorized Signature)



DATE SIGNED (Do not type)

6-10-15

PRINTED NAME AND TITLE OF PERSON SIGNING

Susan Villa, Deputy Director

ADDRESS

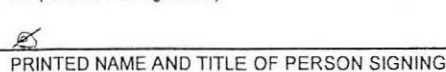
1001 I Street, MS12-B  
Sacramento, CA 95814

**STATE OF CALIFORNIA**

AGENCY NAME

Department of Resources Recycling and Recovery

BY (Authorized Signature)



DATE SIGNED (Do not type)

PRINTED NAME AND TITLE OF PERSON SIGNING

Tom Estes, Deputy Director

ADDRESS

1001 I Street  
Sacramento, CA 95814

California Department of General  
Services Use Only

☐ Exempt per:

## **EXHIBIT A**

### **SCOPE OF WORK**

1. The Contractor agrees to provide the Department of Resources Recycling and Recovery (CalRecycle), with risk assessment services as described herein.
2. The Project Coordinators during the term of this Agreement will be:

CalRecycle Contract Manager

Name: Robert Carlson  
Phone: (916) 323-3411  
Email: robert.carlson@calrecycle.ca.gov

Direct all agreement inquiries to:

CalRecycle

Contracts Unit

Attention: Shelly Lewis  
Address: 1001 I Street  
Sacramento, CA 95814  
Phone: (916) 341-6649  
Email: shelly.lewis@calrecycle.ca.gov

Office of Environmental Health Hazard Assessment

Name: David Ting  
Phone: (510) 622-3226  
Email: david.ting@oehha.ca.gov

Office of Environmental Health Hazard Assessment

Name: Patty Foey  
Address: 1001 I Street  
Sacramento, CA 95814  
Phone: (916) 324-6440  
Email: patty.foey@oehha.ca.gov

3. Statement of Work

#### **I. INTRODUCTION/OBJECTIVES**

Under contract with CalRecycle, the Office of Environmental Health Hazard Assessment (OEHHA) previously published two studies on the potential health impacts of using synthetic turf field and playground mats (OEHHA, 2007 and 2010). These two studies were screening in nature and limited in scope. In this agreement, OEHHA will conduct a series of scientific studies designed to further our understanding of the chemicals that can be released from crumb rubber under various environmental conditions, human exposures to these chemicals, and the associated chemical hazards and risks to human health.

#### **II. WORK TO BE PERFORMED**

OEHHA will conduct the tasks enumerated below. At the onset of Tasks 2, 3, 4, and 5, and iteratively, as necessary, OEHHA will perform a review of the pertinent literature to ensure that the most current information is being used to inform each piece of the project.

- 1) *Expert and stakeholder input and consultation:* Convene an advisory panel of experts to provide advice on study design and implementation, and hold one or more public meetings to engage the public and stakeholders in the study process. Consult with other departments in state government and the U.S. Environmental Protection Agency (EPA) on the design and conduct of the study.
- 2) *Hazard identification:* Identify the hazards to human health as a result of exposure to chemicals that may be released from crumb rubber in synthetic turf.
- 3) *Exposure scenario development:* Characterize the exposure pathways, routes, and activities leading to various levels of human exposure experienced on synthetic turf.

- 4) *Sampling and analysis of new and in-field synthetic turf:* Develop protocols, and collect samples of and perform laboratory tests on:
- new crumb rubber and artificial grass blades from synthetic turf that has not been installed,
  - in-the-field samples of crumb rubber and artificial grass blades, from fields of various ages and from different geographic locations in California, and
  - air above indoor and outdoor synthetic turf fields and playground mats.

Extraction methods will simulate conditions of human oral, dermal and inhalation contact with materials.

- 5) *Biomonitoring study protocol development:* OEHHA will develop protocols for obtaining samples of biological fluids from and exposure monitoring of children and adults who play on synthetic turf.
- 6) *Reporting:* Throughout the project, OEHHA will prepare written quarterly reports to the CalRecycle Contract Manager. The quarterly reports will describe the status and progress of the work performed. OEHHA will also prepare and submit written summaries of the findings of Tasks 2 through 4 below, and a brief summary of recommended next steps. Other deliverables are noted in the task descriptions below.
- 7) *Health assessment from play on synthetic turf and playground mats:* OEHHA will conduct an assessment of potential health impacts associated with use of synthetic turf and playground mats. OEHHA will prepare a draft report that will be made available for review and comment by an expert panel and the public, and a final report for submission to CalRecycle.

### III. TASK DESCRIPTIONS

In order to provide a comprehensive understanding of the potential health impacts associated with using recycled tire rubber in synthetic turf and playground mats, OEHHA proposes six separate, major tasks. The seven tasks are described below.

#### **Task 1: Expert, public and interagency consultation and input**

- A. ***Expert input:*** OEHHA will seek the advice and guidance of a panel of experts, preferably recruited from universities in California, on the design and implementation of the project. Panel members would have expertise in various specialties of the exposure and health sciences. Panel members will receive a lump sum payment per meeting to partially compensate them for meeting preparation and participation. Panel members will also be reimbursed for travel, according to state guidelines. Researchers who have previously published relevant studies will also be consulted at early stages of protocol development. It is anticipated that three meetings of the panel will be held over the course of the study. All meetings of the expert panel will be open to the public and the public will be given the opportunity to provide input at these meetings. The meetings will be webcast.
- B. ***Interagency consultation:*** OEHHA will consult with the Department of Public Health (DPH) and the Department of Toxic Substances Control (DTSC) on environmental monitoring and biomonitoring protocol development, with DTSC and the Air Resources Board (ARB) on air and material sample collection, and with CalRecycle on synthetic turf composition, industry input strategy, overall study design and public participation. OEHHA will also communicate with and gather information from other states studying this issue (e.g., Washington, Connecticut) and the U.S. EPA.

- C. **Public participation:** OEHHA will seek input from the general public on study plans in an open, public meeting that will also be webcast. A world café style workshop may be used to obtain early public input.

*Deliverables: Public meetings and summaries of action items and advisory panel and public recommendations from meetings.*

### **Task 2. Hazard Identification**

OEHHA will conduct a scientific literature review to identify the hazards to human health as a result of exposure to chemicals that may be released from synthetic turf, such as chemicals: 1) listed in the March 25, 2015 version of SB 47; 2) identified by researchers and published in the scientific literature, and; 3) identified as present in tires and potentially emitted or otherwise released from tire crumbs. The expert panel and the public will be given opportunities to provide input on the selection of chemicals (Task 1).

*Deliverable: Written summary of findings.*

### **Task 3. Exposure Scenario Development**

OEHHA will analyze and develop exposure scenarios using well-established scientific approaches and methods identified, in part, by a literature review. In doing so, OEHHA will conduct an analysis that considers the varying exposure activities, environments (different climatic regions of California), frequency and duration of play, ages of populations playing on artificial turf, and exposure pathways. Type of use, as well as sensitive or heavily exposed sub-groups, such as small children, youth sport players, and soccer goalies, will also be considered. The analysis will also consider indoor and outdoor exposures, likely and high-end exposures, and various exposure routes (e.g., inhalation of chemical vapor released from recycled tire rubber, ingestion of crumb rubber, dermal uptake from crumb rubber, artificial grass blades and soccer balls). The expert panel and public will provide input on exposure scenarios, exposure routes, and activity patterns (Task 1).

*Deliverable: Written summary of findings.*

### **Task 4. Characterization of chemicals that can be released from synthetic turf and playground mats and determination of human exposure potentials**

Based on the results of a literature review and input from the advisory panel and stakeholders, OEHHA will design a study to determine the identity and quantity of chemicals that can be released from synthetic turf made from recycled tire and other material and artificial grass blades, both under laboratory conditions and as experienced in the field. OEHHA will collect samples and contract with a laboratory or laboratories to conduct chemical analyses of:

- A. New, uninstalled crumb rubber and artificial grass blades.
  - 1. Aqueous extracts simulating various exposure pathways. Information will be used to evaluate inhalation, ingestion, and dermal exposures.
  - 2. Vapor emitted from crumb rubber that has been heated to simulate chemical releases during summer conditions. Information will be used to evaluate inhalation exposures.
- B. In-use crumb rubber and artificial grass blades from indoor and outdoor fields of various ages throughout California.
  - 1. Aqueous extracts simulating various exposure pathways. Information will be used to evaluate ingestion and dermal exposures.

2. Vapor samples that have been taken at various heights. Information will be used to evaluate inhalation exposures.
  3. Particulate in air samples that have been taken at various heights. Information will be used to evaluate inhalation exposures.
- C. Wipe samples from fields and balls used on those fields.
- Aqueous extracts simulating various exposure pathways. Information will be used to evaluate ingestion and dermal exposures.

This task is comprised of sub-tasks.

**Task 4a. Procedure development to analyze chemicals of concern in crumb rubber and artificial grass blades**

OEHHA will develop contracts with suitable analytical (preferably governmental and/or university) laboratories to develop sampling, sample pre-treatment, and analytical procedures to simulate oral, dermal and inhalation exposure pathways from play on synthetic turf fields and playground mats. The expert panel and public will provide input on procedures (Task 1).

- A. Procedures that will be developed include protocols for:
- i. Field and new sample collection
  - ii. Weathering/heating of new (not installed) samples in the laboratory
  - iii. Chemical aqueous extractions from sample, combining the different simulated oral extracts from saliva, gastric juice, intestinal juice, aqueous sample division/aliquoting
  - iv. Generation of chemical vapor from new (not installed) material
  - v. Chemical analyses for targeted identification of chemicals
  - vi. Chemical analyses for non-targeted identification of chemicals
  - vii. Quality assurance and control
- B. *Sample collection:* Protocol development will involve multiple aspects, including deciding which old and new fields to sample in different geographical locations, where on the field to take the sample, techniques used to remove the crumb rubber and blade samples from the field, taking of blank samples, containing and transporting samples, labeling of samples, maintaining chain of custody. For use in estimating inhalation exposure, chemical vapors and particulates will be monitored above varying aged indoor and outdoor fields and in various locations throughout California. Appropriate sampling collection methods and procedures will be developed to enable the analysis of particulates and other air contaminants released from synthetic turf, as discussed further below.
- C. *Aqueous extractions of chemicals/sample preparation (new material and field samples):* Protocols for simulating chemical release and exposure by these pathways will be developed. Chemicals will be extracted from new (not installed) and in-field synthetic turf of different ages with one or more of the following artificial biofluids:
- lung (on respirable tire crumbs),
  - sweat,



- saliva,
- gastric juice, and
- intestinal juice.

Extraction with artificial biofluids is used, rather than total extraction, to better estimate dose following oral, dermal, or inhalation exposures of individuals playing on synthetic turf fields. Protocols will be developed to optimize the extraction conditions, including but not limited to the amount of sample used and duration of extraction.

A protocol to recombine the oral exposure related elements of the extraction (saliva, gastric juice, intestinal juice) will be developed. Aqueous extracts simulating lung and sweat would not be combined. The protocol to use in dividing up the various aqueous samples for the various analytical panels would then be specified. It would include clean-up and concentration procedures to prepare the samples for specific chemical analyses.

- D. *Generation of chemical vapor from new (not installed) material:* For use in estimating inhalation exposure, chemical vapors released from new crumb rubber will be collected and analyzed. Efforts will be made to optimize the testing conditions, including but not limited to the amount of sample used, sample pre-treatment (e.g., grinding) as well as testing temperature and duration. Vapor trapping or collection methods will be developed to prepare the samples for chemical analyses.
- E. *Chemical analyses for targeted identification of chemicals:* Chemical groups likely to be analyzed by sample type are provided in the table below.

<i>Aqueous extracts:</i>	<i>Air samples emitted from new material in laboratory:</i>	<i>Field air samples:</i>
• VOCs	• VOCs	• VOCs
• sVOCs	• sVOCs	• sVOCs
• PAHs	• PAHs in vapor form	• PAHs in vapor form
• Metals		• PM <sub>10</sub> and PM <sub>2.5</sub> (e.g., PAHs, carbon black, and metals)

Additional chemicals or chemical groups may be added to the lists above based on literature review and/or input from the advisory panel or stakeholders (Task 1).

- F. *Chemical analyses for non-targeted identification of chemicals:* Protocols for non-targeted analyses will be developed via a contract, preferably with an academic or government laboratory.

**Task 4b. New (not installed) crumb rubber: Sample collection and identification of chemicals extracted or emitted**

CalRecycle will arrange for samples of new crumb rubber and playground mats from several major producers to be provided to OEHHA. Information related to chemicals used in the tire and the turf manufacturing process will also be provided to OEHHA. This information, as well as chemicals identified in Task 2, will be used to determine the chemicals of concern. Protocols developed

under Task 4a for sample handling and preparation will be followed. Targeted analyses for chemicals of concern will be conducted, by a commercial accredited laboratory with which OEHHA will contract.

In addition to the chemicals of concern identified from the literature, OEHHA will contract with a laboratory to identify other chemicals that can be extracted or emitted from crumb rubber samples, both new and from in-use fields. The purpose of these analyses is to identify chemicals that may be of concern but have not been previously noted as such in publications on chemical exposures from synthetic turf. Advanced analytical technologies such as "non-targeted" time of flight mass spectrometry, gas chromatography-mass spectrometry (GC-MS), or gas chromatography-mass spectrometry-mass spectrometry (GC-MS-MS) may be used for this task. To control the cost of performing this type of analysis, the number of samples analyzed using a "non-targeted" method will be limited. The work will be done via an interagency agreement with a University of California laboratory.

The purpose of this task is to determine the range of chemicals that can be released from recycled tire material from different manufacturers and made from different processes and over time.

**Task 4c. Field samples of installed synthetic turf and playground mats: Collection and analyses of crumb rubber, artificial grass blade, air, and wipe samples**

A. *Outdoor athletic fields:* Air, wipe (field and ball), crumb rubber, and artificial blade samples will be collected from outdoor fields of different ages in different locations in California. For good characterization of outdoor fields, OEHHA assumes sample collection from multiple outdoor fields of different ages (e.g., <12 months, 1-5 years old, and over 5 years old) or usage levels in different climatic regions of California (e.g., Northern (cold winter), Central Valley, San Francisco Bay, Los Angeles region, San Diego region, Imperial County) would be needed. Sample collection at each field would likely entail:

- Multiple crumb rubber samples (for aqueous extraction), plus blanks, if appropriate
- Artificial grass blade samples plus field blank, plus blanks, if appropriate
- Multiple wipe samples (field and ball, combined) (for aqueous extraction) plus field blank
- Multiple air samples (vapor) + reference (background) samples for comparison
- Multiple air samples (particulates) + reference (background) samples for comparison

For air monitoring, stations will be set up at up-wind and down-wind locations of the field in order to differentiate ambient (background) concentrations of measured chemicals from those released from synthetic turf. Some samples could be taken at the height of breathing zone (approximately 4 ft) and others at a low height (e.g., 1 ft from the ground level). This will provide information about the level of chemicals inhaled by players. The exact protocol will be decided in Task 4a.

- B. *Indoor athletic fields.* This task will also collect samples from multiple indoor athletic fields, for example, two each of the three different ages (e.g., <12 months, 1-5 years old, and over 5 years old). Because indoor fields are expected to be less affected by the climate, results of indoor fields in one region will be used to represent the whole state.
- C. *Synthetic playground mats.* Air and wipe samples will be collected from multiple outdoor and indoor playground mats of different ages (e.g., <12 months, 1-5 years old, and over 5 years old)

in different climatic regions of California. The number of mats sampled will be limited to control cost.

For air monitoring, stations will be set up at up-wind and down-wind locations of the mats in order to differentiate ambient (background) concentrations of measured chemicals from those released from the mats. All air samples will be taken at a low height, for example, 1 ft. from the surface of the mats. This will provide information about the level of chemicals inhaled by small children using the mats. The exact protocol will be decided in Task 4a.

*Deliverable: Written summary of findings of Tasks 4a through c.*

### **Task 5. Biomonitoring and personal monitoring protocol development**

Considering the results of the tasks above, a scientific literature review, and input from the advisory panel and public (Task 1), OEHHA will develop a protocol to collect and analyze biological specimens or other personal monitoring measures of exposure from players on synthetic turf. OEHHA will select chemicals of concern that are released from synthetic turf and determine whether players using these fields are exposed to greater than expected concentrations of these chemicals compared to relevant controls or established standards, if applicable. Consideration will also be given to monitoring for specific markers of risk for diseases such as cancer (e.g., DNA adducts with tire chemicals and chromosomal damage in circulating lymphocytes), personal air monitoring (to estimate inhalation exposures) and skin and/or clothing testing (to estimate dermal exposures) while playing on synthetic turf fields.

A main objective will be to develop a study plan for Institutional Review Board (IRB) approval. The first task will be to develop a preliminary study plan, including: participant recruitment strategy, participant materials (e.g., recruitment materials, informed consent forms, exposure assessment questionnaire, individual results return template), chemicals and/or markers to be evaluated, sample collection and processing protocols, timeline, and budget. The plan will be prepared for approval by the California Committee for the Protection of Human Subjects, who would review the study protocol and all materials to ensure that participants' rights would be safeguarded.

### **Task 6. Reporting**

#### **Task 6a: Quarterly Reports**

OEHHA will provide quarterly reports summarizing the work performed to date on Tasks 1 through 5, along with an estimate of the percentage of that task that has been completed to date.

#### **Task 6b: Task Summaries**

As noted under the individual task descriptions, OEHHA will provide summaries of the findings of Tasks 2 through 4, and a biomonitoring study plan for IRB review under Task 5.

*Deliverable: Quarterly reports, written summary of findings of Tasks 2 through 4.*

### **Task 7. Health Assessment from Play on Synthetic Turf and Playground Mats**

Considering the results of year 1 and 2 activities regarding the toxicity of chemicals of concern, concentrations of those chemicals that individuals using synthetic turf and playground mats may be exposed to, the estimated duration and frequency of those exposures, and other relevant



information, OEHHA will conduct an assessment of potential health impacts associated with use of synthetic turf and playground mats. OEHHA will prepare a draft and final report for submission to CalRecycle.

- A. **Expert input:** OEHHA will seek the advice and guidance of the panel of experts described in Task 1 to review the draft and revised draft. Under Task 7, the panel will likely be expanded to include 3 to 4 additional members with expertise in key aspects of risk assessment. All meetings of the expert panel will be open to the public and the public will be given the opportunity to provide input at these meetings
- B. **Public participation:** OEHHA will seek input from the general public on the draft report in a world café style workshop.

Taking into account input from the panel and public on the draft report, OEHHA will prepare a final report.

*Deliverables: Written Draft and Final Health Assessment Reports*

#### IV. CONTRACT TASK/TIME FRAME

NOTE: Deliverables are briefly listed in the table below. See description of each task for full description of what shall be included in each deliverable.

The term of the contract will be approximately 36 months with all project deliverables completed by April 2018. Task start and end dates shown below are estimates and may be adjusted after consultation between OEHHA and CalRecycle Contract Managers.

Task Number	Task Description	Start Date	End Date
Task 1	Expert, public and interagency consultation and input	June 2015	May 2017
Task 2	Hazard Identification	October 2015	March 2016
Task 3	Exposure Scenario Development	April 2016	September 2017
Task 4	Characterization of chemicals that can be released from synthetic turf and playground mats and determination of human exposure potentials	July 2015	June 2017
Task 4a	Procedure development to analyze chemicals of concern in crumb rubber and artificial grass blades	--	--
Task 4b	New (not installed) crumb rubber: Sample collection and identification of chemicals extracted or emitted	--	--
Task 4c	Field samples of installed synthetic turf and playground mats: Collection and analyses of crumb rubber, artificial grass blade, air, and wipe samples	--	--
Task 5	Biomonitoring and personal monitoring protocol development	June 2016	June 2017

Task 6a	Quarterly Reports	June 2015	April 2018
Task 6b	Task Summaries	June 2015	April 2018
Task 7	Health Assessment from Play on Synthetic Turf and Playground Mats	July 2017	April 2018

**EXHIBIT B**

**BUDGET DETAIL AND PAYMENT PROVISIONS**

**1. INVOICING AND PAYMENT:**

- A. For services satisfactorily rendered and upon receipt and approval of the invoices, the State agrees to compensate the Contractor for actual expenditures incurred in accordance with the rates specified herein.
- B. Itemized invoices shall be submitted in triplicate, with two sets of supporting documentation (e.g., receipts, timesheets, etc), not more frequently than monthly in arrears to:

Accounts Payable  
Department of Resources Recycling and Recovery  
Fiscal Services Branch  
U.S. Postal Correspondence:  
P.O. Box 4025, MS-19A  
Sacramento, CA 95812-4025  
Federal Express Correspondence:  
1001 I Street, MS-19A  
Sacramento, CA 95814

- C. Each invoice submitted to CalRecycle must include the following information:
  - Invoice Number
  - Contract Number
  - Description of Rendered Activities/Services
  - Submitting Contractor's Address
  - Invoice Period

**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, the State shall have no liability to pay any funds whatsoever to the Contractor or to furnish any other considerations under this Agreement and the 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, the State shall have the option to either: cancel this Agreement with no liability occurring to the State, or offer an Agreement Amendment to the Contractor to reflect the reduced amount.

3. BUDGET:

Personnel Costs		Position Count (Personnel Years)	Estimated Salary Range (Monthly)		Total by Position
Personnel by Position					
<b>Public Health Medical Officer III</b>		0.25		\$13,333	\$40,000
Monthly Salary Range: \$9,812-\$13,463			<b>With benefits (46.54%)</b>	<b>\$19,539</b>	<b>\$58,616</b>
<b>Senior Toxicologist</b>		3.05		\$7,760	\$284,000
Monthly Salary Range: \$6,868-\$8,553			<b>With benefits (46.54%)</b>	<b>\$11,371</b>	<b>\$416,173</b>
<b>Staff Toxicologist</b>		2.25		\$7,296	\$197,000
Monthly Salary Range: \$6,404-\$7,979			<b>With benefits (46.54%)</b>	<b>\$10,692</b>	<b>\$288,684</b>
<b>Associate Toxicologist</b>		2.10		\$5,714	\$144,000
Monthly Salary Range: \$4,833-\$6,596			<b>With benefits (46.54%)</b>	<b>\$8,374</b>	<b>\$211,019</b>
<b>Research Scientist III</b>		2.95		\$6,525	\$231,000
Monthly Salary Range: \$5,796-\$7,255			<b>With benefits (46.54%)</b>	<b>\$9,562</b>	<b>\$338,507</b>
Benefits include OASDI (6.2%), Health/Vision/Dental (14.61%), Retirement (BA 2014) (24.28%), Medicare (1.45%)			Total Wages		\$896,000
			Total Wages with Benefits		\$1,313,000
			<b>Total Personnel Costs</b>		<b>\$1,313,000</b>
<b>Operating Expenses</b>					
C&P, Interdeptal.	Includes facilitation services, laboratory testing protocol development, and laboratory chemical analysis. Contractor shall use California agencies, California State Universities, and University of California campuses as subcontractors whenever possible, but up to \$600,000 may be subcontracted to private laboratories if necessary. Contractor shall follow all applicable state contracting laws and policy in awarding subcontracts. Contractor is limited to charging overhead on only the first \$25,000 of each subcontract (per SCM 3.06.B).				\$892,000
General Expense	These are ongoing expenses which fall under the category of General Expense. Expenses include but may not be limited to miscellaneous office supplies, photocopy charges/supplies, protective clothing, shipping, minor equipment, office equipment rental or maintenance; secure file storage, shelving, or record storage cabinets, etc.				\$33,000
Printing	Includes photocopy supplies, copy paper, copier maintenance, etc.				\$11,000
Communications	Includes hard lines, cellular phones, and other necessary communications.				\$11,000
Postage	Includes postage via US Mail and private courier (UPS, FedEx, etc) of sample materials and necessary correspondence.				\$4,000
Travel	Includes taxicab service, overtime meals, per diem, hotel costs, etc., in support of program investigations.				\$40,000
Training	Includes necessary training costs for project personnel.				\$11,000
Facilities Ops.	Includes rent for buildings and grounds, utilities, etc., as required to support the project.				\$102,000
IT	Includes information technology expenses necessary for project.				\$22,000
				<b>Total Operating Expenses</b>	<b>\$1,126,000</b>
<b>Indirect Costs</b>	≈32% of Wages with Benefits			<b>Total Indirect Costs</b>	<b>\$419,000</b>
Costs for this Agreement shall be computed in accordance with State Administrative Manual Section 8752 and 8752.1.					
				<b>Total Cost</b>	<b>\$2,858,000</b>



## EXHIBIT D

### SPECIAL TERMS AND CONDITIONS

1. AMENDMENT: No amendment or variation of the terms of this Agreement shall be valid unless made in writing, signed by the parties and approved as required. No oral understanding or agreement not incorporated in this Agreement is binding on any of the parties. CalRecycle reserves the right to amend this Agreement through a formal written amendment signed by both parties, for additional time and/or funding.
2. COPYRIGHTS AND TRADEMARKS: Contractor shall assign to CalRecycle any and all rights, title and interests to any copyrightable material or trademarkable material created or developed in whole or in any part as a result of this Scope of Work of this Agreement, including the right to register for copyright or trademark of such materials. Such title will include exclusive copyrights and trademarks in the name of the State of California.

For contracts of \$5,000 or more, any document or written report prepared for or under the direction of CalRecycle, shall include a notation on the inside cover as follows:

"Prepared as part of CalRecycle contract number DRR14150, Total Contract Amount \$2,858,000.00, pursuant to Government Code Section 7550."

3. DELIVERABLES: All documents and/or reports drafted for publication by or for CalRecycle in accordance with this contract shall adhere to CalRecycle's Contractor Publications Guide at [www.calrecycle.ca.gov/Publications/PubGuide/](http://www.calrecycle.ca.gov/Publications/PubGuide/) and shall be reviewed by CalRecycle's Contract Manager in consultation with CalRecycle editor.  
*(The Contractor is encouraged to consult with CalRecycle's project management and editorial staff early in the development process to ensure deliverable requirements are clearly understood and to minimize the need for revisions.)*
4. ENVIRONMENTAL JUSTICE: In the performance of this Agreement, Contractor shall conduct its programs, policies, and activities that substantially affect human health or the environment in a manner that ensures the fair treatment of people of all races, cultures, and income levels, including minority populations and low income populations of the State. (Government Code Section 65040.12(e)).
5. RECYCLED-CONTENT CERTIFICATION AND REPORTING: Contractors shall certify in writing, under penalty of perjury, to CalRecycle, the minimum, if not the exact, percentage of postconsumer and secondary material in the products, materials, goods, or supplies purchased with contract dollars (PCC§ 12205(a)) This certification shall be provided to CalRecycle as supporting documentation submitted with every invoice on the Recycled Content Certification Form (Exhibit D, Attachment 1), also available at:  
<http://www.calrecycle.ca.gov/Contracts/Forms/default.htm> CalRecycle will report these purchases in its annual State Agency Buy Recycled Campaign (SABRC) Procurement Report; therefore, to avoid double counting these purchases, the Contractor should not include these purchases on their SABRC Procurement Report that is submitted to CalRecycle [if the contractor is required to submit a report]
6. RECYCLED-CONTENT PRODUCT PURCHASING: In the performance of this Agreement, the Contractor shall purchase used and/or recycled-content products as set forth on the back of the Recycled-Content Certification Form (Exhibit D,

Attachment 1). For assistance in locating recycled-content products, please search the recycled-content product database available at: [www.calrecycle.ca.gov/RCP](http://www.calrecycle.ca.gov/RCP). If after searching the database, contractors are unable to find the recycled-content products they are looking for, please notify CalRecycle's Contract Manager. All recycled content products purchased or charged/billed to CalRecycle that are printed upon such as promotional items, publications, written materials, and other educational brochures shall have both the total recycled content (TRC) and the post-consumer (PC) content clearly printed on them.

In addition, any written documents such as, publications, letters, brochures, and/or reports shall be printed double-sided on 100% post-consumer (PC) paper. Specific pages containing full-color photographs or other ink-intensive graphics may be printed on photographic paper. The paper should identify the post-consumer recycled content of the paper (i.e., "printed on 100% post-consumer paper"). When applicable, the Contractor shall provide the Contract Manager with an electronic copy of the document and/or report for CalRecycle's uses. When appropriate, only an electronic copy of the document and/or report shall be submitted and no hard copy shall be provided.

7. SUBCONTRACTING: All subcontracting must comply with the requirement of the State Contracting Manual, Section 3.06.
8. TERMINATION: CalRecycle shall have the right to terminate this Agreement at its sole discretion at any time upon thirty days written notice given to the Contractor. In the case of early termination, a final payment will be made to the Contractor upon approval by the Contract Manager of a financial report, invoices for costs incurred to date of termination and a written report describing all work performed by the Contractor to date of termination.
9. WASTE REDUCTION: In the performance of this Agreement, the Contractor shall take all reasonable steps to ensure that materials purchased or consumed in the course of the project are utilized both effectively and efficiently to minimize the generation of waste. The steps should include, but not necessarily be limited to, the use of reusable products, the use of recyclable and compostable products, discretion in the amount of materials used, the provision of alternatives to disposal for materials consumed, and the practice of other waste reduction measures where feasible and appropriate.

STATE OF CALIFORNIA  
Department of Resources Recycling and Recovery (CalRecycle)  
CalRecycle 74C (Rev. 06/10 for Contracts)

**Recycled-Content Certification**

To be completed by Contractor	
Name of Contractor:	
Contract #:	Work Order #:

☐ Check this box if no products, materials, goods, or supplies were purchased with contract dollars and submit to the CalRecycle Contract Manager.

This form to be completed by contractor. The form must be completed and returned to CalRecycle with a row completed for each product purchased with contract dollars. Attach additional sheets if necessary. Information must be included, even if the product does not contain recycled-content material. Product labels, catalog/website descriptions, or bid specifications may be attached to this form as a method of providing that information. Add additional rows as needed.

Contractor's Name \_\_\_\_\_ Date \_\_\_\_\_  
Address \_\_\_\_\_ Phone \_\_\_\_\_  
Fax \_\_\_\_\_ E-mail \_\_\_\_\_ Web site \_\_\_\_\_

Product Manufacturer	Product Description / Brand	Purchase Amount (\$)	<sup>1</sup> Percent Postconsumer Material	<sup>2</sup> SABRC Product Category Code	Meets SABRC

Public Contract Code sections 12205 (a) (1) (2) (3) (b) (1) (2) (3).

I certify that the above information is true. I further certify that these environmental claims for recycled content regarding these products are consistent with the Federal Trade Commission's Environmental Marketing Guidelines in accordance with PCC Section 12205.

Print name \_\_\_\_\_ Signature \_\_\_\_\_ Company \_\_\_\_\_ Date \_\_\_\_\_

(See footnotes on the back of this page.)

1. Postconsumer material comes from products that were bought by consumers, used, and then recycled. For example: a newspaper that has been purchased and read, next recycled, and then used to make another product would be postconsumer material.

If the product does not fit into any of the product categories, enter "N/A." Common N/A products include wood products, natural textiles, aggregate, concrete, electronics such as computers, TV, software on a disk or CD, or telephone.

2. Product category refers to one of the product categories listed below, into which the reportable purchase falls. For products made from multiple materials, choose the category that comprises most of the product by weight, or volume.

Note: For reused or refurbished products, there is no minimum content requirement.

For additional information visit [www.calrecycle.ca.gov/BuyRecycled/](http://www.calrecycle.ca.gov/BuyRecycled/)

Code	Description Product Categories (11)	Minimum content requirement
1	Paper Products - Recycled	30 percent postconsumer fiber, by fiber weight
2	Printing and Writing - Recycled	30 percent postconsumer fiber, by fiber weight
3	Compost, Co-compost, and Mulch – Recycled	80 percent recovered materials. i.e., material that would otherwise be normally disposed of in a landfill
4	Glass – Recycled	10 percent postconsumer, by weight
5	Rerefined Lubricating Oil - Recycled	70 percent re-refined base oil
6a	Plastic – Recycled	10 percent postconsumer, by weight
6b	Printer or duplication cartridges	a. Have 10 percent postconsumer material, or b. Are purchased as remanufactured, or c. Are backed by a vendor-offered program that will take back the printer cartridges after their useful life and ensure that the cartridges are recycled and comply with the definition of recycled as set forth in Section 12156 of the Public Contract Code.
7	Paint – Recycled	50 percent postconsumer paint (exceptions when 50% postconsumer content is not available or is restricted by a local air quality management district, then 10% postconsumer content may be substituted)
8	Antifreeze – Recycled	70 percent postconsumer material
9	Retreated Tires - Recycled	Use existing casing that has undergone retreading or recapping process in accordance with Public Resource Code (commencing with section 42400).
10	Tire- Derived - Recycled	50 percent postconsumer tires
11	Metals – Recycled	10 percent postconsumer, by weight