Draft Scope of Work
2020 Commercial Generator-Based Edible Food Waste Characterization Study

Section VI Description of Work

Work to be Performed

This Contract is to select a Contractor to conduct a comprehensive statewide Commercial Generator-Based Edible Food Waste Characterization Study to gather accurate, representative data to measure edible food discarded in California. The study will help track progress toward established targets set forth by SB 1383 (Lara, Chapter 395, Statutes of 2016), to achieve reductions in the level of the statewide disposal of organic waste, with special requirements for edible food waste reduction.

The Contractor shall be responsible for:

- recruitment of generator sites.
- coordination of field work with the generators.
- scheduling sampling from disposal bins and organics bins (such as, but not limited to yard waste bin, food waste bin, or yard/food waste combination bin). Perform the required photography as described in this document.
- on-site visual assessment of food waste in generator recycling bins.
- securing sorting locations and coordinating with sorting locations staff to establish individual sorting sites.
- performing all fieldwork.
- providing a draft of a Food Waste Diversion Activity survey.
- conducting the Food Waste Diversion Activity surveys.
- entering data.
- implementing data quality assurance and quality control (QA/QC).

The Contractor shall provide a draft Study Implementation Plan (Plan) for the study that addresses how they will accomplish each task and subtask. In addition, the Contractor shall include the following in their proposal:

1. How the Contractor will staff the project (roles, responsibilities, and numbers of staff and supervisors).

2. How the Contractor will train staff.

3. A draft of the Food Waste Diversion Activity survey. Below is a description of the general aim and scope of the Food Waste Diversion Activity Survey (Survey) to be conducted by the Contractor. The Contractor shall include in their Proposal a draft of the Survey. The Survey will be finalized by CalRecycle. The Contractor will have an opportunity to suggest alteration before the Survey is finalized. The Contractor shall collect qualitative and quantitative data on other food waste diversion practices used by each generator (e.g. donating food to food rescue organizations, placing food waste in the disposal bin, sending food waste to animal feeding operations or to rendering). This data will be collected by asking each generator a set of Survey questions. The Survey shall also include questions about prevention activities the generator uses to reduce the volume of surplus food they generate (source reduction). Source reduction activities include but are not limited to: use of food waste prevention technology, use of a best practice order guide to ensure employees order the appropriate amount of product and do not over-order, creating recipes that use the entire plant or animal to reduce food preparation waste, educating employees about

the importance of preventing food waste, etc. The Contractor shall also collect data from the generator about the primary reasons why different types of food waste are discarded at the generator site. CalRecycle staff will work with the Contractor to develop Survey questions.

4. A tentative timeline of work, including:
    a. start-up tasks,
    b. logistical arrangements,
    c. training,
    d. travel,
    e. set-up,
    f. sample collection,
    g. sample sorting,
    h. visual assessment of food waste in generator recycling bin,
    i. diversion activity Survey,
    j. data entry,
    k. data quality control, and
    l. delivery of final data sets to CalRecycle.

5. A thorough discussion of how all proposed approaches, methodologies, and/or alternatives will result in representative data, and achieve the goals of the study.

6. A discussion of contingency measures to deal with logistical, equipment (e.g. weighing scale malfunction), weather, or other problems encountered in the field, including refusal of participation or cooperation by a generator or a sorting site, or other unforeseen circumstances.

Tasks Identified

Task 1 – Initial Meeting to Review Study Implementation Plan

A. Within 10 calendar days after Contract approval, the Contractor shall meet in person with CalRecycle's Contract Manager (Contract Manager) at the CalRecycle office in Sacramento, to identify logistical details and fine-tune the approaches in each of the following areas:
    1) Recruitment – timeline and logistics.
    2) Field Sampling, visual assessment and Survey - timeline and logistics.
    3) Confirmation of final lists for material types and industry groups.

B. Within 15 calendar days of initial meeting, the Contractor shall submit any proposed refinements to the approaches based on the initial meeting.

C. The Contract Manager will review this submittal to ensure it accurately represents the agreed upon details and is consistent with both this Scope of Work and with the Proposal. The Contract Manager will respond within 15 calendar days with any needed edits to the proposed revisions.

D. The Contractor shall make required changes, if any, and submit to the Contract Manager within 15 calendar days of receiving the edits.

E. The Contractor shall not commence work on any subsequent task without the Contract Manager's written acknowledgement that this task has been completed to the satisfaction of the Contract Manager.

Task 2 – Recruiting Sampling Nodes and Generators

A. RECRUITMENT OF SAMPLING NODES: The Contractor shall identify and recruit at least one site (sampling node) within each region to serve as the location for sample sorting and handling of waste after sorting has been completed. The Contractor shall recruit transfer stations or landfills as sampling nodes (as done in prior studies) or suggest alternative sites. The Contractor shall consider the ease of sample handling after sorting when recruiting sample nodes. The Contractor shall select sampling nodes in locations with adequate numbers of individual generators within the industry groups to be sampled. The Contractor shall be responsible for recruiting the sampling nodes and coordinating the logistics necessary to sort and characterize samples at the chosen node.

B. IDENTIFICATION OF POTENTIAL GENERATORS: The Contractor shall identify generators in each industry group using relevant and up-to-date sources of information or databases. The Contractor shall use the North American Industry Classification System (NAICS) codes and any other information supplied by the Contract Manager for each industry group to identify appropriate candidate pools. For an industry group without a NAICS code, the Contractor shall propose and use an alternative method to identify individual generators within the industry group. The Contractor shall obtain the information on individual generators for a large enough area around each sampling node to identify adequate numbers of individual generators within the industry groups to be sampled, taking into account potentially low rates of generator participation in the study.

C. SELECTION OF INDIVIDUAL GENERATORS TO SAMPLE: The Contractor shall propose and use a method for selecting individual generators in a manner that is representative and does not introduce bias. The Contractor shall:

1) attempt to recruit generators in predetermined areas or on a predetermined route.
   or
2) tier the selection by initially attempting to recruit from within 10 miles of each node and expand as necessary (not to exceed 30 miles from the node).
   or
3) propose another alternative to select individual generators.

4) recruit generators, within each business group, that have a disposal bin and an organics bin (such as, but not limited to: yard waste bin, food waste bin, or yard/food waste combination bin). If the recruited generator also has a recycling bin, then the Contractor shall perform a visual assessment of the recycling bin as specified in Task 3D. If a recruited generator does not have a recycling bin, then the Contractor must assess the generators recycling activities through the Diversion Activity Survey outlined in Task 3G.

5) during initial stages of recruitment, keep track of any generator that does not have an organics bin of any sort. Though these generators will not be recruited, it

is valuable data for CalRecycle. Gathering and compiling this data can be further discussed during the kickoff meeting.

D. RECRUITING INDIVIDUAL GENERATORS TO SAMPLE: The Contractor shall be responsible for recruiting and coordinating with individual generators. The Contractor shall complete all recruitment of generators within 6 months of contract execution. Though the Contractor is responsible for over-all recruitment, CalRecycle will provide assistance, when appropriate and necessary (i.e. for business groups that CalRecycle may have additional contacts to help in the recruitment process).
   1) Since participation by individual generators is voluntary, the Contractor shall attempt to recruit and secure permission to sample, perform visual assessment, and conduct Surveys at each selected generator site.
   2) The Contractor shall employ methods that effectively result in the initial participation and ongoing cooperation of individual generators
   3) As stated above, the Contractor shall confirm and note that a specific recruited generator has a disposal bin and organics bin. It is essential that the type of organics bin (i.e. yard waste bin, food waste bin, yard/food waste combination bin, etc.) is noted. Additionally, the Contractor shall also inquire if the generator has a recycling bin to be used for the visual assessment.
   4) During recruitment, the Contractor shall confirm that each generator is in the targeted industry group and shall assess the suitability of the selected generator for sampling (e.g. no bins shared with other generators, adequate volume of waste for sampling, pick up schedule that coincides with sample collection schedule, etc.).
   5) During recruitment, the Contractor shall collect all necessary logistical information needed for sample collection (e.g. contact person, number and location of bins, access to bins, waste collection day by hauler, etc.).
   6) The Contractor shall have contingency plans for cases in which recruitment falls short of required targets, and for cases in which generators drop out of the study after agreeing to participate.

E. RECRUITMENT SUMMARY:
   1) At least 21 calendar days before fieldwork begins, the Contractor shall provide the following to the Contract Manager:
      a) A list of selected sampling nodes that have agreed to take part in the study;
      b) The number of recruited generators from each industry group listed in Table 3 by region;
      c) A list of selected generators who have agreed to take part in the study and types of bins on site (disposal bin, organics bin and/or recycling bin);
      d) A tentative schedule for sampling, sorting, visual assessment of recycling bins and conducting diversion activity Surveys, including start-up tasks, travel, sample collection, sorting days, and locations, and;
      e) A confirmation of the material types to be used.

   2) The Contract Manager will review the submittal within 7 calendar days and identify any concerns.

   3) The Contractor shall address any concerns within 7 calendar days.

Task 3 – Collecting and Sorting Samples

A. SAMPLING PERIOD: The Contractor shall collect and sort all samples, perform visual assessment of recycling bin and conduct diversion activity Surveys not to exceed 1 year after the contract execution date.

B. SAMPLE COLLECTION: From the industry groups listed in Table 3, the Contractor shall collect one sample from the disposal bin and one sample from the organics bin. If the generator has both a yard waste bin and a food waste bin, the Contractor shall collect a sample from the food waste bin. Under such circumstances the Contractor shall also look in the yard waste bin and note the presence of any food waste contamination, as a simple “Yes” or “No”.

   1) MULTIPLE BINS: To be performed SEPARATELY for disposal bins and organic bins. The Contractor shall inspect all bins at the site and record the number, size, and collection frequency of the bins. If the bins represent different streams disposed by the generator, or if substantial differences exist in the composition of the materials in the bins, the Contractor shall take subsamples from the bins and combine them into one representative sample. The Contractor shall size each subsample to be proportional to the stream it represents.

   2) COMPACTOR: In the case where a generator uses a compactor, the Contractor shall provide a rolling cart to the generator to deposit waste into for one or more days, instead of into the compactor, or provide some other way for the generator to set aside waste that can be collected as a sample.

   3) SAMPLE WEIGHT: From the industry groups listed in Table 3, the Contractor shall collect one sample from the disposal bin and one sample from the appropriate organics bin. Each sample must weigh at least 200 pounds.
      a) If a site has less than 200 pounds of waste to sample from the disposal and/or the organics bins, the Contractor shall collect additional waste on subsequent days until the total weight exceeds 200 pounds. After combining the subsamples, the Contractor shall handle and count the aggregate as one sample.
      b) If multiple disposal bins and/or organics bins of the same type are sampled at one generator, the Contractor shall ensure that the aggregated sample weighs at least 200 pounds. After combining the subsamples, the Contractor shall handle and count the aggregate as one sample.
      c) The Contract Manager shall reject each underweight sample and the Contractor shall substitute underweight samples with additional samples that meet the weight requirement. If submitted sample data is below the agreed upon weight, the samples will not be accepted as fulfilling the contract, and the Contract Manager will have the discretion to withhold an appropriate amount of payment for each underweight sample.

   4) SAMPLE VOLUME: To be performed SEPARATELY for disposal bins and organic bins. The Contractor shall determine the combined bin volume of the waste bins on-site and estimate the total volume of all on-site waste at the time of sample collection. The Contractor shall estimate the in-place sample volume at the time of sample collection.

C. HAND-SORTING THE MATERIAL: The Contractor shall hand-sort all generator samples (disposal and organics bins).

1) The Contractor shall hand-sort samples from the disposal bin and organics bin into the 9 individual material types on the finalized list from Task 1 (see Tables 1 and 2 for the initial list) plus “non-food residual.”

2) The Contractor shall sort all food waste materials with a particle size of 2 inches or larger. If it is practical to sort distinct, easily identifiable food waste material (such as cherries) that are smaller than 2 inches (i.e. 2-inch-minus material), the Contractor shall do so. The Contractor shall include the remaining not-easily identifiable 2-inch-minus material as “non-food residual.”

3) For material that is difficult-to-sort due to adhesion, wetness, or partial decomposition, the Contractor shall make their best judgement to categorize the material. If it is practical to separate joined materials (such as a zip lock bag with a sandwich in it), the Contractor shall do so.

D. VISUAL ASSESSMENT OF RECYCLING BIN: Of recruiter generators who also have a recycling bin, the Contractor shall:

1) Perform a visual assessment of the recycling bin for food waste contamination and record, in relation to total volume of material in the bin, if food waste is:

a) 0 percent food waste contamination

b) More than 0 percent, and up to 30 percent food waste contamination

c) More than 30 percent, and up to 60 percent food waste contamination

d) More than 60 percent food waste contamination

2) Take a minimum of two overhead digital images of the recycling bin contents, with the required specifications outlined in Task 3E DIGITAL IMAGES, that clearly shows the food waste contamination and verifies the percent volume recorded.

3) For recycling bins that contain greater than 30 percent food waste contamination, the Contractor shall gather information and record why so much food waste contamination is present in the recycling bin. This may be conducted as part of the Diversion Activity Survey, or the Contractor may propose an alternative method to collect and report this data and information.

4) If more than one recycling bin is present on site, the Contractor shall average the food waste contamination of multiple bins and only report one number to represent the average food waste contamination of recycling bins at the generator site.

E. DIGITAL IMAGES: The Contractor shall provide a photography plan that will allow the Contract Manager to visualize and confirm correct sorting of the material types per provided list and definitions in Tables 1 and 2. The plan must include, but is not limited to, the following specifications:

1) When taking a digital image of each bin/sample, the Contractor shall place a placard on, adjacent, or near the bin/sample clearly identifying the unique sample ID number, location, and date. The Contractor shall name each digital image file so it correlates to the unique bin/sample ID. The Contractor shall provide images with a minimum resolution of 12-megapixels.

2) To ensure correct sorting of material types, CalRecycle requires images of sorted materials, per material type list, in their appropriate bins following completion of a

sample sort. CalRecycle will require images of the sorted material (from the 9 material types in Table 1) from a minimum of ten (10) samples throughout the study. These images must be provided to CalRecycle on a biweekly basis during the sampling and sorting period. This will help CalRecycle ensure that sorting of samples is being completed according to the definitions provided in Table 2.

3) For each generator, the Contractor shall take:
   a) Image(s) that clearly allow for visualization of each bin (disposal and organics bins) that the waste sample will be obtained from, before removal of the waste sample to show overall composition and fullness of the bin.
   b) At least 2 images of the waste sample that clearly shows the entire content of the waste sample. If needed, the Contractor shall break open garbage bags and/or spread out the sample to obtain adequate digital images. If digital images are submitted and garbage bags are not broken open and/or the sample is not spread out to adequately show the contents of the load, the Contract Manager will have the discretion to withhold an appropriate amount of payment for each digital image.

F. DATA COLLECTION:

1) The Contractor shall collect the following information at each generator site:
   a) Confirmation of number and size of disposal, organics (number and type of organics bin as previously defined) and recycling bins at the site,
   b) Collection frequency for the disposal bin, organics bin sampled and recycling bin,
   c) Measurement of the volume of material in the disposal, organics and recyclables bins at sample collection,
   d) Sample collection and bin observations on whether it was an appropriate day to obtain representative data on volumes,
   e) Confirmation of number of employees (or other factor as specified by the Contract Manager for each industry group), and
   f) Information to estimate waste amounts, including:
      1. Volume of waste in disposal bin, organics bin and recycling bin
      2. Accurate accumulation time of waste or rate of accumulation (cubic yards/hours of bin accessibility) and raw data for accumulation time calculations, and
      3. Density of waste in disposal bin, and organics bin
      4. Determine and report the business operating hours
   g) Other pertinent information.
2) The Contractor shall assign a unique identification number to each sample, and record the date and time of collection, name of the generator (unless the specific generator wishes to remain anonymous, than the Contractor will assign and report a unique identifier for that generator), and the location.
3) The Contractor shall record the weight of each sorted material type and total sample weight. The Contractor shall use a scale that is accurate to within 0.01

pounds and is connected to a computer to record weights. The Contractor shall record weights in decimal pounds.

G. DIVERSION ACTIVITY SURVEY: The Contractor shall conduct Diversion Activity Surveys, of all recruited generators, to gather information on the amounts, frequency and potential destination of diverted food. The structure and content of the Diversion Activity Survey will be finalized by the Contract Manager and presented to the Contractor after award of the contract. The Contractor may suggest alterations to the Survey, but the final survey will be provided by the Contract Manager.

H. QUALITY CONTROL: The Contractor shall implement QA/QC measures in the field to ensure the accuracy of the data collected.

I. HEALTH AND SAFETY: The Contractor shall have a health and safety plan, implement health and safety measures, conduct training and monitor effectiveness. The Contractor shall comply with all local, state, and federal health and safety codes and laws.

J. EQUIPMENT: The Contractor shall provide all equipment needed for fieldwork, including health and safety equipment.

K. FIELD OBSERVATIONS: The Contractor shall accommodate observation by the Contract Manager, CalRecycle staff, and possibly other interested parties, during the collection of samples at generator sites or sorting of samples at sampling nodes.

L. SUPLEMENTAL DATA COLLECTION BY CALRECYCLE: The Contractor shall accommodate collection of supplemental information by the Contract Manager, CalRecycle staff, or representatives of CalRecycle, at generator sites.

Task 4 – Data Entry and Data QA/QC

A. At least 21 calendar days prior to the sample collection, the Contractor shall submit sample printouts displaying database and/or spreadsheet format to the Contract Manager for approval. The Contract Manager will review the submittal within 7 calendar days and identify any concerns. The Contractor shall address any concerns within 7 calendar days.

B. For the disposal and organics bins, the Contractor shall provide field-sorting data for each sorted sample (weight of each material type in the sample) and total sample weight for each generator sampled, as well as waste volume measurements and any other data collected during the study used to calculate disposal rates and density.

C. For the visual assessment activity, the Contractor shall provide data (as a percent of total volume of all material in the recycling bin) on visual assessment of recycling bin food waste contamination for each generator sampled, as well as any other data collected during the study used to calculate and confirm the reported data.

D. The Contractor shall perform all data entry and follow all quality control measures in their plan to ensure the accuracy of the data entered. The Contractor shall resolve any errors or discrepancies in data discovered during quality control activities and/or review by the Contract Manager.

E. The Contractor shall enter all data collected into electronic spreadsheets (i.e. Microsoft Excel) compatible with CalRecycle's computer system. The Contract Manager will approve the format and software. The Contractor shall submit all final data to CalRecycle in electronic form (e.g. via e-mail or uploaded to a secure shared drive).

F. The Contractor shall submit complete data for each sample/site, including:

1) Sample ID number.
2) Region and sampling node used for sorting.
3) Date collected.
4) Generator type.
5) NAICS code.
6) Total disposal and organics sample weight.
7) In-place sample volume.
8) Weight of each discarded component in the disposal and organics sample by material type.
9) Data used to calculate waste amounts.
10) Total volume of material in recycling bin.
11) Percent volume of food waste contamination in the recycling bin, of the total volume of the contents in the recycling bin.
12) All digital images.
13) Any notes on special circumstance or other pertinent information, as applicable.

G. The Contractor shall submit final and correct data, after the Contractor had thoroughly reviewed and subjected the data to stringent QA/QC procedures.

H. The Contract Manager shall review the submitted data to ensure it is complete, understandable, and usable for subsequent analyses. The Contractor shall respond to any questions and address any problems or discrepancies found by the Contract Manager within 15 calendar days.

Task 5 – Submit Field Data and Summary Reports to CalRecycle

A. The Contractor shall submit preliminary/field data to the Contract Manager, as it becomes available and passes QA/QC, within two weeks of the sample collection date.
B. The Contractor shall provide monthly progress reports that summarize Contract status and pertinent issues, progress made, work done, work pending, any deviation from the plan, and a detailed explanation for the deviation. When appropriate, these reports shall also include meeting minutes.
C. During field sampling operations, the Contractor shall prepare and submit to the Contract Manager weekly reports, in a format provided by CalRecycle (See Sample Weekly Report below), containing the following:

1) Final schedule/sampling plan for the upcoming week.

2) Summary of sampling completed during the previous week, including numbers and locations (at the city level) of samples characterized from each generator and industry groups.

3) Copies of all field sheets and digital images taken in the previous week.

4) Reports describing any problems, contingency measures taken, or significant findings encountered in the previous week.

5) Recommendations and justification for adjustments of field procedures, sites, or general study parameters, if needed.

6) Electronic files that contain the preliminary data collected from the previous week.

D. Not more than 20 calendar days after the end of the sampling period, and a minimum of 45 days before the end of the contract, the Contractor shall:

1) Ensure that all data has been transmitted to the Contract Manager.

2) Provide the Contract Manager with any final changes or corrections to the data.

- Once the data is transmitted, the Contract Manger will have 30 calendar days to review the data. If any issues arise, the Contractor will be notified and will have 15 days to resolve the issue.

3) Submit a summary report to the Contract Manager containing, at a minimum, the following information:

a) The total number of recycling bins visually assessed for food waste contamination, collected and characterized by industry group,

b) The total number of disposal bins and organics bins (total number and types of organic bins as previously defined) that were collected and hand-sorted by industry group,

c) For each sample, the location (at the city level) of the generator where the sample was obtained or assessed and the sampling nodes they were sorted at,

d) A description and explanation of any differences between the final sampling plan and the actual field sampling performed,

e) A description of any unusual circumstances, and

f) A discussion of lessons learned and recommendations for future studies.

Sample Weekly Report

Project Name:	
Project Status Reporting Period: *From:*	*To:*
Project Manager:	**Report Prepared By:**
Weekly Project Summary: *Enter a brief summary of the project status, noting any key issues for the week. Comment on major deliverables completed; milestones reached and percent complete. Is this project on time and within budget?*	

Current Task Summary			
Task or Deliverable	Scheduled Completion Date	Actual Completion Date	Issues? If yes, explain

Accomplished this week
Sites and samples
Hand-Sorting: *Indicate number of hand-sorts completed per industry group, at which sites and day(s) and provide required attachments such as photos or site details*
Attachments provided? Yes/No If no, provide a reasonable explanation.

Weekly look ahead - Planned/Scheduled Completion in Next Two Weeks
What industry groups and how many generators?
Sample Plan (Confirming the Plan Provided by CalRecycle)
Deliverables Due:
Other items, concerns, issues:

CalRecycle Responsibilities:

CalRecycle will determine the list of material types that the Contractor shall use when sorting samples from disposal bins and organics bins. The Contractor shall hand sort the food waste found in samples into 9 food waste types, using the list in Table 1.

Table 1. Food Waste Categories

Edible - Potentially Donatable	**Edible - Not Donatable**	**Inedible**
1) Vegetative	6) Meat	8) Inedible Parts
2) Eggs, dairy, and dairy alternatives	7) Non-Meat	9) Non-food compostable material
3) Meat		
4) Cooked/baked/prepared perishable items		
5) Packaged non-perishable		

The Contractor shall not further sort any other materials found in the disposal or organics waste samples and shall designate the remainder as "non-food residual." The definition for each material is included in Table 2. CalRecycle does not anticipate changes to the material types.

Table 2. Food Waste Definitions

Material Types	**Definitions**
1) Food - Potentially Donatable - Vegetative	**Food - Potentially Donatable -** Vegetative means cooked or uncooked fresh vegetables, fruits, and fungi that are in a whole state (i.e., not partially consumed) and are unmixed with non-vegetative food types. Examples of "fresh vegetative" include but are not limited to: mixed fruit salad, whole apple, sliced fruits, sliced vegetables, entire head of lettuce, unopened package of mushrooms, etc. Items that are EXCLUDED from this category include condiments, non-perishable packaged fruits and vegetables such as: packaged dried fruits and vegetables, packaged dried legumes/lentils, canned fruits and vegetables, and nuts. Unpackaged vegetables fruits, and fungi found in a whole state in commercial loads are included in this category.
2) Food - Potentially Donatable - Eggs, Dairy, and Dairy Alternatives	**Food - Potentially Donatable - Eggs, Dairy, and Dairy Alternatives** means egg or dairy products and dairy alternatives that are in a whole state, unmixed with other food types, and in the original unopened package. Examples of "eggs, dairy, and dairy alternatives" include but are not limited to: milk, cheese – *whole or sliced*, eggs, yogurt, soy and nut yogurts, soy and nut cheeses, soy/nut/rice/coconut milks – *whether shelf stable or not)* and tofu.
3) Food - Potentially Donatable - Meat	**Food - Potentially Donatable - Meat** means any uncooked or cooked meat (beef, poultry, pork, lamb) or fish product that is in a whole state, is unmixed with other food types, and is in the original unopened package. Examples of "animal meat" include but are not limited to: a whole rotisserie chicken in original unopened package, raw steak in original unopened package, raw fish in original unopened package, sliced deli meat in original unopened package,

	prepared meats in original unopened package such as chicken nuggets, jerky, and canned meat and fish.
4) Food - Potentially Donatable - Cooked/Baked/Prepared Perishable Items	**Food - Potentially Donatable - Cooked/Baked/Prepared Perishable Items** means items that are in a whole state, but could have multiple food types mixed together as a part of cooking or preparation, and are still in their original unopened package. Examples of "cooked/baked/prepared perishable items" include but are not limited to: a whole egg sandwich in original unopened package, whole tray of lasagna, whole tray of chow mein, whole frozen pizza in original unopened package, whole baked goods such as whole loaves of breads, whole pastries, whole bag of tortillas in original unopened package, also includes unopened perishable beverages such as fresh fruit or vegetable juice.
5) Food - Potentially Donatable - Packaged Non-perishable	**Food - Potentially Donatable - Packaged Non-perishable** means shelf-stable foods that are in a whole state and are in the original unopened package. Examples of "packaged non-perishable" include but are not limited to: canned and bottled foods, rice, pasta, beans, lentils, nuts, nut butters, flour, sugar, spices, oils, condiments, and foods contained in aseptic or retort packages and other products that do not require refrigeration until after opening, also includes non-perishable beverages such as sodas. **Items that are <u>EXCLUDED</u> from this category** include shelf-stable meats, shelf-stable dairy products, and shelf-stable dairy alternatives.
6) Food - Not Donatable – Meat	**Food - Not Donatable – Meat** means any food that is predominantly meat or fish, but the product is not in a whole state (i.e., partially consumed), or the product's packaging has been opened, or the product was not contained in any packaging at all. Examples of "not donatable – meat" include but are not limited to: a partially consumed rotisserie chicken, deli meat in opened package, unpackaged raw meats, a hamburger which is mostly meat by weight, meat and fish trimmings.
7) Food - Not Donatable – Non-meat	**Food - Not Donatable – Non-meat** means any food that is <u>not predominantly</u> meat or fish, not in a whole state, or not in its original unopened package. Examples of "not donatable – non meat" include but are not limited to: any non-meat partially consumed foods, any non-meat foods in a package that has been opened – *as best as can be determined*, any non-meat foods that are not in their original packaging, half eaten burrito, partially consumed lasagna - *even if the dish contains small amounts of meat*. ***This category also includes*** fruit and vegetable peels and skins (e.g. carrot peels, potato peels), trimmings (e.g. greens of root vegetables, broccoli and cauliflower stalks), cores (e.g. apple and pear cores) and ends (cucumber ends). In addition, this category also includes any indistinguishable food. **Excludes** items that are generally not

	intended for human consumption (e.g. banana peels, watermelon rinds, citrus rinds, corn cobs, pineapple tops, peach pits).
8) Food - Inedible	**Food - Inedible** means items typically not consumed by people in the United States. Categories of inedible parts include bones, pits (e.g. peach and avocado pits), shells (e.g. egg shells, nut shells), coffee grounds and tea leaves, rinds (e.g. citrus rinds and melon rinds), woody stems/tops and vines (e.g. pumpkin stems, pineapple tops, tomato vines), and corn cobs/husks. *Note that small amounts of edible material associated with the inedible material are permitted to be included as "inedible."* ***Excludes*** other fruit and vegetable peels, skins, trimmings cores, and ends not included in the previous categories (e.g. potato peels, carrot tops, apple cores, broccoli stalks, cucumber ends).
9) Non-food compostable material	**Non-food compostable material** refers to material such as paper-related, yard-waste and wood waste.

CalRecycle will select the industry groups from which the Contractor shall sample. The preliminary list includes seventeen industry groups for disposal sampling, organics sampling and recyclable bin visual assessment, (See Table 3. Food Waste Generator Industry Groups). CalRecycle does not anticipate changes to the total number of industry groups, but the Contract Manager may modify the initial list of seventeen (Table 3) by combining and/or modifying industry groups. The Contract Manager will provide the final list to the Contractor at the meeting in Task 1. CalRecycle understands and acknowledges that recruiting generators in certain business groups will be more difficult than others and will have some flexibility. The details of such a circumstance will be discussed between the Contract Manager and the Contractor, as issues arise.

Table 3. Food Waste Generator Industry Groups to Be Sampled For the study

NAICS Code	Generator Industry Group
72232	Caterers (food production facility)
722514	Cafeterias, grill buffets, and buffets
72111	Hotels (except casino hotels) and motels
6221	Hospitals
623312	Assisted living facilities for the elderly
711	Performing arts, spectator sports and related industries (may also include large venues and large events)
611110	K-12 schools
44511	Supermarkets & other grocery stores (except convenience stores)
4244	Grocery and related product merchant wholesalers
722513	Limited-service restaurants
452311	Warehouse clubs and supercenters
722511	Full-service restaurants
311811	Retail bakeries
311812	Commercial bakeries
3114	Fruit, vegetable, & specialty foods manufacturing
311991	Perishable prepared food manufacturing
922140	Correctional institutions

CalRecycle requires at least one sample from the disposal bin and one sample from the organics bin of the same generator from a total at least 30 individual generators within each of the seventeen industry groups represented in Table 3, for a total of 1,020 hand-sort samples. If the number of industry groups change, the 1,020 hand-sorted samples will be re-distributed among the groups accordingly. Additionally, CalRecycle requires one visual assessment for food waste contamination of the recycling bin of the same industry groups represented in Table 3, for a total of 510 visual assessments. To summarize, regardless of the number of total business groups sampled, a minimum of 1,020 hand-sort samples from the disposal bin and the organics bin (equally distributed), and a minimum of 510 visual assessments of the recycling bin must be completed by the end of the contract.

To capture the effect of factors that may influence food waste generation and disposal (such as California's diversity in geography, economy, population density, and waste management infrastructure), CalRecycle will allocate the minimum 30 samples for each industry group in Table 3 between three regions: the San Francisco Bay Area, the Central Valley, and the Los Angeles Basin. CalRecycle will determine the regional distribution of the minimum 30 samples from each industry group using employment data. The Contract Manager will provide the final distribution to the Contractor at the meeting in Task 1.

CalRecycle will set the tentative sampling period from March 1, 2020 to May 31, 2020. This coincides with the proposed statewide disposal facility-based characterization study (https://www.calrecycle.ca.gov/Contracts/) but CalRecycle would prefer earlier completion of this study.

Contract/Task Time Frame
The timeframe below (Table A) reflects the task/time frame of the Contract from date of Contract execution. As such, the dates in *italics* are tentative. CalRecycle will substitute specific start and end dates to the table below upon Contract execution. As part of the Proposal, the Contractor may propose start and end dates that complete the tasks earlier than the tentative dates below.

Table A: Task Time Frame

Task	Task Description	Start Date	End Date
Task 1	Initial Meeting to Review Study Implementation Plan	Contract execution date	*2 months post contract execution date*
Task 2	Recruiting Sampling Nodes and Generators	*No later than 2 months post contract execution date*	*No later than 6 months post contract execution date*
Task 3	Collecting and Sorting Samples, conducting visual analyses and performing Diversion Activity Surveys	*No later than 6 months post contract execution date*	*No later than 10 months post execution date*
Task 4	Data entry and Data QA/QC	*No later than 6 months post contract execution date*	*No later than 12 months post execution date, AND 45 days prior to contract termination*
Task 5	Submit Field Data and Summary Reports to CalRecycle	*No later than 6 months post execution date*	*No later than 12 months post execution date AND 45 days prior to contract termination*

Location of Services
Services shall be provided state-wide. The location for meetings with the Contract Manager will be determined by the Contract Manager. Meetings will be held via teleconference, at the Sacramento Environmental Protection Agency Headquarters (1001 I Street, Sacramento, CA 95814), or by other appropriate means such as webinar.

Control of Work

The Contract Manager has the authority to determine the quality and acceptability of the following:

- Work to be performed
- Rate and progress of the work
- Fulfillment of the services provided by the Contractor
- Compensation for services provided by the Contractor

These decisions will be deemed final and enforceable by the Contract Manager when the Contractor fails to complete orders required by this Contract.

The Contractor shall immediately bring any unanticipated issues to the attention of the Contract Manager. The Contract Manager will confer with appropriate CalRecycle staff, if necessary, and the Contractor to resolve the issue.

The Contractor will designate a Project Manager who holds the following authority:

- Act as the Contractor's Representative for work to be provided under this Contract
- Act as the Contractor's Representative regarding contractual matters relating to this Contract

If during the course of the Contract, it is deemed necessary to replace the Project Manager, Contract Manager approval is required.