**Exhibit E**

**LAWN TO LANDSCAPE CHECKLIST**

The Lawn to Landscape checklist is a requirement for the StopWaste Lawn to Landscape grant. The checklist is a basic set of sustainable practices to improve the environmental performance of the landscape. The practices are from the Bay-Friendly Rated Landscape Scorecard requirements and/or the state’s model Water Efficient Landscape ordinance. Projects are required to meet all applicable measures on the checklist. The project manager can request a waiver from the StopWaste grant manager from any practice. In addition, all “non-applicable” practices also need to be approved by the StopWaste grant manager. Projects are encouraged to meet WELO and the Bay-Friendly Rated Landscape standard.

Project Name:

Site Location:

Date:

Project Manager:

|  |
| --- |
| Earthwork and Soil Health |
| Yes No N/A | 1. Protect all planting areas with a minimum of 3 inches of mulch. |
| [ ]  [ ]  [ ]  | Requirement All non-turf planting areas on site are protected with a minimum of 3 inches of mulch.Recommendation * Use local mulch recycled from plant trimmings or recycled lumber mulch.
* Trees identified for removal are chipped and used on-site as mulch, on-site storage space permitting.

Resources* Directory of Bay Area Compost and Mulch Suppliers [www.lawntogarden.org](http://www.lawntogarden.org)
* Bay-Friendly Landscape Guidelines, Bay-Friendly Planting Specification 329300, A Bay-Friendly Guide to Mulch [www.bayfriendly.org](http://www.bayfriendly.org)
 | Verification* Bid documents specify a minimum of 3 inches of mulch.
* A minimum of 2.5 inches of mulch is visually verified.

Notes      |
| Yes No N/A  | 2. Incorporate quality organic compost into the soil at a rate of 4CY/1000 sf. |
| [ ]  [ ]  [ ]   | Requirement A minimum of 4 cubic yards of quality organic compost is applied per 1000 square feet of planting area.Compost must be listed by the California Department of Food and Agriculture as an Organic Input Material (OIM) or must be approved by OMRIExceptions:* Organic matter (OM) in soil is 6%.
* Organic matter in soil meets plant palette needs per soil lab.

RecommendationPurchase compost from a producer who participates in the U.S. Composting Council's Standard Testing Assurance (STA) program to ensure quality. Resources* Directory of Bay Area Compost and Mulch Suppliers, [www.lawntogarden.org](http://www.lawntogarden.org)
* Bay-Friendly Landscape Guidelines, Bay-Friendly Planting Specification 329300, A Bay-Friendly Guide to Mulch [www.bayfriendly.org](http://www.bayfriendly.org)
* U.S. Composting Council Standard Testing Assurance program: [www.compostingcouncil.org](http://www.compostingcouncil.org)
* Organic Materials Review Institute, [www.omri.org](http://www.omri.org)
 | Verification* Bid documents specify and define quality compost meeting the practice description and require correct quantity of compost, AND
* Receipts for compost show correct volume, OR
* Soil report indicates OM of >6%.
* OM in soil meets plant palette needs per soil lab.

Notes      |
| Yes No N/A | 3. Install sheet mulch for lawn conversion. |
|  [ ]  [ ]  [ ]   | Requirement Specify sheet mulch for lawn conversion. Pernicious and invasive weeds or warm season grass such as Bermuda and Kikuyu are likely to need additional control, such as removal before installation of the sheet mulch. Sheet mulch uses a layer of corrugated cardboard a minimum of 1.5 inches (~4 CY/1000sf) of compost and 3 inches of mulch. Compost may be incorporated into soil or installed as a layer with the cardboard and mulch. The preferred material for the sheet mulch weed barrier is corrugated cardboard (B-flute). Unacceptable materials for the weed barrier include: plastic sheeting, and woven and non-woven landscape fabric. Burlap and jute may be used in combination with cardboard on slopes but, for the purposes of this credit, may not be used alone. Resources* Directory of Bay Area Compost and Mulch Suppliers [www.lawntogarden.org](http://www.lawntogarden.org)
* Bay-Friendly Landscape Guidelines, Bay-Friendly Planting Specification 329300, A Bay-Friendly Guide to Mulch, [www.bayfriendly.org](http://www.bayfriendly.org)
 | Verification* Bid documents show that sheet mulching meets the practice description.
* Weed barrier is visually verified. If barrier cannot be visually verified receipts or photo documentation for weed barrier must be provided.

Notes      |
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| Materials |
| Yes No N/A | 4. Divert 50% of construction and demolition waste, and 100% of excavated soil and land clearing debris. |
| [ ]  [ ]  [ ]   | Requirement Divert (reuse or recycle) at least 50%, by weight, of all construction and demolition (C&D) debris from construction, demolition and renovation projects plus 100% of excavated soil, plant and land clearing debris. Contaminated materials, excavated soil, and land clearing debris should not be calculated as part of the 50% diversion. Sheet mulching lawn in place avoids waste generation. Alternative Daily Cover is not an acceptable form of diversion for plant material. If local code is more stringent, project must comply with local code requirements. Building debris may be included in diversion calculations. Verify the local jurisdiction's minimum requirement and reporting procedures for construction and demolition (C&D) recycling. Resources* Bay-Friendly Construction Waste Management and Disposal 017419 and Bay-Friendly Debris Recovery Plan [www.bayfriendly.org](http://www.bayfriendly.org)
* StopWaste provides extensive resources about C&D waste management, including information about ordinances, specifications and codes, a report on diversion rates at local mixed C&D recycling facilities: [www.stopwaste.org](http://www.stopwaste.org)
 | Verification Construction waste management plan shows diversion meeting the practice description.Notes      |
| Plants |
| Yes No N/A | 5. Choose and locate plants to grow to their natural size. |
| [ ]  [ ]  [ ]  | Requirement Plants located adjacent to buildings, sidewalks, roads or other obstructions are installed to accommodate their minimum spread, according to a published third-party reference. Trees and vines are not subject to these spacing requirements. EXAMPLE: *Muhlenbergia rigens* is listed as having a 48-inch spread according to the *Sunset Western Garden Book* and a 36- to 48-inch spread according to *California Native Plants for the Garden*. Therefore, to accommodate a minimum spread of 36 inches, when this plant is located adjacent to a building, sidewalk or road, it must be 18 inches minimum from the center of the plant to the obstruction. Resources* *Bay-Friendly Landscape Guidelines,* Bay-Friendly Plant Legend Template, and Bay-Friendly Natural Hedges Plant List, [www.bayfriendly.org](http://www.bayfriendly.org)
* *California Native Plants for the Garden,* Carol Bornstein, David Fross and Bart O’Brien, Cachuma Press, 2005.
* *Plants and Landscapes for Summer-Dry Climates,* Nora Harlow (ed.), East Bay Municipal Utility District, 2004.
* *Landscape Plants for California Gardens*, Robert C. Perry, Land Design Publisher, 2010.
* *Sunset Western Garden Book,* editors of Sunset Magazine,Oxmoor House, 2012.
 | Verification * Bid documents show plant spacing meeting the practice description.
* Bay-Friendly Plant Legend Template identifies plant species, proposed spacing, minimum spread and source of spread information meeting the practice description.
* Statement is signed by the Landscape Designer verifying that installed plants meet this requirement.

Notes      |
| Yes No N/A | 6. Do not plant species listed as invasive in Cal-IPC’s Don’t Plant a Pest brochure.  |
| [ ]  [ ]  [ ]  | Requirement None of the plant species listed by CAL-IPC's Don't Plant a Pest as invasive in the project’s region shall be specified or installed.DefinitionAn invasive species is defined as a species that is non-native (or alien) to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health. Federal Executive Order 1311.Resources* Bay-Friendly Landscape Guidelines, [www.bayfriendly.org](http://www.bayfriendly.org)
* Cal-IPC’s Don’t Plant a Pest brochure for the San Francisco Bay Area, [www.cal-ipc.org/landscaping/dpp/brochures.php](http://www.cal-ipc.org/landscaping/dpp/brochures.php)
 | Verification * None of the plants on the Bay-Friendly Plant Legend Template are listed as invasive by Cal-IPC’s Don’t Plant a Pest brochure.
* Statement is signed by the Landscape Designer confirming that no invasive plants are installed, in accordance with the practice description.

Notes      |
| Yes No N/A | 7. Grow drought tolerant climate adapted plants. |
| [ ]  [ ]  [ ]  | RequirementA minimum of 75% of the total number of plants in non-turf areas must be species that require no or little summer watering once established. Species should be adapted to the climate in which they will be planted, as referenced by a published plant reference. Sources used to determine climate adaptation and watering requirements with their qualifying irrigation designations include:* Bornstein, Carol, David Fross and Bart O’Brien, *California Native Plants for the Garden* (occasional, infrequent, or drought tolerant).
* East Bay Municipal Utility District’s publication *Plants and Landscapes for Summer Dry Climates* (occasional, infrequent or no summer water, occasional to moderate depending on microclimate).
* Sunset Western Garden Book (little or no water).
* University of California Cooperative Extension’s Guide to Estimating Irrigation Water Needs of Landscape Plantings in CA, www.owue.water.ca.gov/docs/wucols00.pdf (Low or Very Low)
* *Landscape Plants for California Gardens*, Robert C. Perry, Land Design Publisher, 2010 (low/ very low and moderate/ low in irrigation group 2).

Recommendation * California native or Mediterranean species are strongly recommended.

Resources* *Bay-Friendly Landscape Guidelines,* Bay-Friendly Plant Lists: Natural Hedges, Lawn Alternatives and Groundcovers, Vegetated Swale, and Bay-Friendly Plant Legend Template, [www.bayfriendly.org](http://www.bayfriendly.org)
 | Verification * Plant Legend Template identifies species, number of plants, irrigation requirements (and reference source of the water requirement), total number of drought tolerant plants and total number of non-turf plants meeting the practice description
* Statement is signed by the Landscape Designer verifying that installed plants meet this requirement.

Notes      |
| Yes No N/A | 8. Group plants in hydrozones.  |
| [ ]  [ ]  [ ]  | RequirementEach hydrozone shall have plants with similar water use. Individual hydrozones that mix high and low water use plants are not permitted. Individual hydrozones that mix plants of moderate and low water use plants or moderate and high water use are allowed. Each valve shall control a hydrozone with similar microclimate conditions including slope, sun exposure and soil conditions. Plants in biotreatment soils shall be on a separate valve. It is strongly encouraged that trees are placed on separate valves from shrubs and groundcovers to facilitate the appropriate irrigation of trees. Any water features should also have a separate valve. On the irrigation plans identify the following information either next to each valve:* Valve number
* Flow rate (gallons per minute), Application rate (inches per hour)
* Design operating pressure (pressure per square inch)
* Valve Size

Contractor must install a reduced size laminated irrigation plan showing hydrozones in the irrigation controller for subsequent management purposes. The plan can be in the form of a separate hydrozone exhibit or be a copy of the irrigation design plan and Water Use Calculator showing hydrozone information for each valve. Resources* California Water Efficient Landscape Ordinance (CA WELO), [www.water.ca.gov/wateruseefficiency/landscapeordinance](http://www.water.ca.gov/wateruseefficiency/landscapeordinance)
 | Verification * Bid documents irrigation plan delineates hydrozones meeting the requirements of the credit.
* Statement is signed by Landscape Designer confirming as-installed hydrozones meet the practice description.
* Irrigation hydrozone plan within the irrigation controller is visually verified.

Notes      |
| Irrigation |  |
| Yes No N/A | 9. Install a weather-based (evapotranspiration) or soil moisture-based irrigation controller including a rain shutoff device. |
| [ ]  [ ]  [ ]  | Requirement Weather-based (evapotranspiration) irrigation controllers, soil moisture based controllers shall be installed and fully functional for all irrigation systems.A rain shutoff feature is required for all irrigation systems. The rain shutoff may be located on a different site as long as it communicates with the irrigation system. It is recommended that additional sensors (freeze, wind, etc.) that suspend or alter irrigation operation during unfavorable weather conditions are installed as appropriate for typical local climate conditions. Additionally, the controller shall have at a minimum the following capabilities: * Water budgeting feature (percent adjustment).
* Multiple start time capability.
* Runtimes able to support low volume applications.
* Irrigation intervals for days of the week or same day intervals.
* Three or more operating programs {A (turf)/ B(shrubs)/ C (water feature)}.

Landscapes with temporary irrigation systems that irrigate solely for the plant establishment period are exempt from this required credit. Resources* *Bay-Friendly Landscape Guidelines*, [www.bayfriendly.org](http://www.bayfriendly.org)
 | Verification * Bid documents identify a weather-based or soil moisture-based controller meeting the practice description.
* Weather-based or soil moisture-based controller with rain shutoff is visually verified.
* Statement is signed by the Contractor confirm­ing that weather-based con­troller is properly installed to receive weather data.

Notes      |
| Yes No N/A | 10. Install Low volume irrigation in required areas. |
| [ ]  [ ]  [ ]  | Requirement Install low volume irrigation in the following areas: * All mulched planting areas.
* Slopes greater than 10%.
* Areas within 24 inches of non-permeable surfaces unless land­scape is adjacent to permeable paving or non-permeable surface drains into the landscape.

Install subsurface irrigation (or other means that produce no runoff or overspray) in the following areas:* Narrow or irregularly shaped areas less than 10 feet in width in any direction.

Landscapes with temporary irrigation systems that irrigate solely for the plant establishment period are exempt from this required credit. Definitions* Low volume irrigation means applying irrigation water at low pressure through a system of tubing or lateral lines and low volume emitters such as drip, drip lines and bubblers. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants. (Source: CA WELO.)
* Subsurface irrigation means irrigation placed either under the soil or under the mulch on top of the soil.

Resources* Bay-Friendly Landscape Guidelines and Bay-Friendly Water Efficient Landscape Ordinance, [www.bayfriendly.org](http://www.bayfriendly.org)
 | Verification * Statement is signed by the Contractor verifying as-installed low volume irrigation meets the practice description.
* Low volume irrigation installed in required areas is visually verified.

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