

- a. Investigation or characterization of Hazardous Materials or preparation of a remediation plan;
- b. Hazardous Materials brought onto the Site by any Contractor-Related Entity or Hazardous Materials where the removal or handling involved negligence, willful misconduct, or breach of Contract by any Contractor-Related Entity;
- c. Hazardous Materials that could be reasonably anticipated based on the Final Environmental Documents;
- d. Hazardous Materials that could have been avoided by reasonable design modifications or construction techniques; or
- e. Hazardous Materials on additional properties requested by Contractor.

## **44.0 Sustainability**

In addition to California regulatory requirements and Project specifications, the Contractor shall address Project sustainability while carrying out the Work under the Contract.

### **44.1 Project Sustainability Requirements**

The Project Sustainability Requirements are as follows:

- a. Exemplary energy use minimization and energy efficiency;
- b. Minimize water use;
- c. Reduce GHG emissions and dependency on fossil fuels;
- d. Employ sustainable, healthy materials and reduce the extraction of scarce resources; and
- e. Eliminate concrete and steel waste to landfill, reduce all other waste.

### **44.2 Requirements**

The Contractor shall manage and minimize construction waste by diversion of construction and demolition debris from landfills, which shall not be less than that required by local regulations. The minimum percentages for diversion of construction and demolition waste are 75 percent of construction and demolition waste from landfills and 100 percent of steel and concrete construction and demolition waste from landfills. Excavated soil shall be excluded from the waste calculation. Contaminated materials shall be excluded from the waste calculation.

Within 60 days following issuance of NTP, the Contractor shall enter and upload the estimated weight and volume of construction waste and demolition debris via the Authority's web portal, EMMA.

Within 60 days following issuance of NTP, the Contractor shall submit estimated construction phases, equipment type, make and model year, estimated operations hours, and fuel type.

The Contractor shall comply with reporting requirements identified in the VERA between the Authority and the San Joaquin Valley Air Pollution Control District (SJVAPCD). Within 60 days



following the issuance of NTP, the Contractor shall develop an inventory of equipment that will be used on Site. The inventory will be entered and uploaded in EMMA. The inventory form shall include at least the following fields for on- and off-road equipment that will be used on Site, whether owned or rented by the Contractor: type of equipment, serial number/tag ID, DOORS number, model, model year, engine model year, rated horsepower, load factor and photograph of ARB engine tag and EIN number. This inventory shall be updated by the Contractor when actual equipment is delivered to the Site.

The Contractor shall also develop an inventory of on-road equipment used for off-site deliveries to the Site. The inventory will be entered and uploaded in EMMA. The inventory form shall include at least the following fields for on-road equipment that shall be used to deliver materials or other goods to the Site, whether owned or rented by the Contractor: type of equipment, serial number/tag ID, DOORS number, model, model year, engine model year, rated horsepower, load factor, photograph of ARB engine tag and EIN number.

Within 60 days following issuance of NTP, the Contractor shall survey Project employees and staff and develop an inventory of employee and staff commuting. The inventory will be entered and uploaded in EMMA. The inventory shall include at least the following: vehicle type, vehicle make, vehicle model, vehicle model year, total distance traveled daily, and fuel type.

- a. The Contractor shall reduce emissions and energy use below regulatory requirements and the estimated baseline by:
  - i. Use of cleaner engines, including non-road engines meeting or exceeding Tier III, and on-road engines meeting 2004 On-Highway Heavy Duty Engine Emissions Standards or cleaner, whether the equipment is owned or rented;
  - ii. Use of cleaner fuels including ultra-low sulfur diesel;
  - iii. Use of cleaner diesel control technology, including EPA or California Air Resources Board verified Diesel Particulate Filters or Diesel Oxidation Catalysts;
  - iv. Efficient use of fuel;
  - v. Use of Renewable Diesel or Bio-Diesel
  - vi. Reduction of energy use;
  - vii. Efficient energy practices;
  - viii. Efficient construction practices;
  - ix. Materials delivery streamlining; and/or
  - x. Other Contractor identified initiatives.
- b. The Contractor shall practice water conservation and efficiency in water use as described in the Water Conservation Guidance located in Book IV.
- c. The Contractor shall apply pollution controls beyond regulatory requirements.
- d. The Contractor shall procure environmentally preferable products. refer to:



<http://www.dgs.ca.gov/buyinggreen/Home/BuyersMain.aspx>;

- e. The Contractor shall promote sustainability activities and successes as part of its public involvement requirement. Sustainability goals shall be included in on-boarding presentations for site workers.
- f. Where practicable the Contractor shall use post-consumer, post-industrial recycled products and materials or waste materials, such as fly-ash, Ground Granulated Blast-Furnace Slag, crushed glass, recycled aggregate and Tire Derived Aggregate.
- g. Where feasible the Contractor shall use renewable energy.
- h. The Contractor shall evaluate the use of all reasonably feasible renewable energy sources. Sources of renewable energy include solar, wind, and biomass and biogas. Examples of renewable energy technologies include photovoltaic panels, wind turbines, digesters, gasifiers, and microturbines.
- i. The Contractor shall conduct a cost analysis that compares the energy costs from renewable sources versus traditional electricity sources provided by local utilities, over the expected Project schedule. Similarly, an evaluation of the avoided emissions as a result of using renewable energy sources versus traditional energy sources provided by local utilities shall be performed.
- j. The Contractor shall also evaluate the cost of purchasing green power from organizations that offer green power within the appropriate utility provider.
- k. The Contractor shall provide Environmental Product Declarations from its suppliers and manufacturers for concrete mix designs used in elements of the Project, including pre-cast and cast-in-place concrete, and all steel. The Contractor shall enter and upload Environmental Product Declarations in EMMA for concrete and steel.

## 44.3 Plans

### 44.3.1 Sustainability Management Plan

The Contractor shall submit to the Authority a SMP for review within 90 days after NTP. The SMP is subject to SONO by the Authority. The plan shall demonstrate how the Contractor shall meet or exceed regulatory and Contract requirements during design and construction activities. The plan shall identify and establish a sustainability baseline from which improvements shall be measured and against which progress shall be tracked. The plan shall identify how the Contractor will track and report site fuel, emissions, energy, water consumption (Construction GHG Emissions baseline), waste, materials, and other appropriate subcategories. The SMP shall identify staff assigned for implementation of the plan and collection and reporting of data. The SMP shall identify how sustainability management is integrated into the overall management of the Project. The SMP shall include reference to the estimated number of site staff, and how staff will be oriented concerning Project sustainability requirements and goals. The SMP shall include Contractor's process for demonstrating performance of sustainability strategies and corrective actions for nonperformance.



#### 44.3.2 Construction Waste Management Plan

Included in the SMP, the CWMP will demonstrate how the Contractor shall comply with the regulatory and Contract requirements to divert the specified percentage of construction and demolition debris from landfill. The CWMP will include a map identifying waste management areas throughout the site, proposed travel routes from the site to recycling facilities, and either written or graphic information or both to indicate how waste will be diverted from landfills, and calculations of estimated quantities to establish the sustainability baseline. The CWMP will include a write up of the process for waste separation and recycling. The CWMP shall include the following details:

- a. The collection and separation of each type of waste deemed reusable or recyclable. Designation of specific area(s) on the construction site for segregated or comingled collection of recyclable materials;
- b. Tracking of recycling efforts throughout the construction process;
- c. Materials to be recycled, which may include cardboard, asphalt, metal, brick, mineral fiber panel, concrete, plastic, clean wood, glass, gypsum wallboard, carpet, and insulation;
- d. Materials to be re-used in the Work, such as demolished concrete to be crushed and used as aggregate base. Indicate items to be salvaged and re-used in the Work, and items to be salvaged and turned over to jurisdictional authorities or utilities in accordance with Contract requirements;
- e. Items to be removed for salvage and sale or re-use through donation to identified charitable or other organizations; and
- f. Materials that are not recyclable or otherwise recoverable, and which will be disposed of in landfill (or other means acceptable to the State and other jurisdictional authorities). Explain why these materials are not recyclable or otherwise recoverable. Include a list of permitted landfill or other permitted disposal facilities that will be accepting waste materials.
- g. The identified recycling facilities and demonstration of capacity to receive identified materials.

#### 44.3.3 Innovative Project Sustainability Methods

Within the plans above, the Contractor shall consider improvements to the sustainability of the Project with innovations such as:

- a. Construction and demolition debris which may be candidates for recycling and reuse on-site include non-hazardous and non-contaminated solid waste resulting from construction, repair, renovation, or demolition operations such as, concrete, cement, masonry materials, scrap metal, rock, wood (not treated), glass, plastics, landscape materials, piping/plumbing materials, drywall, asphalt pavement, and other construction materials; Modular construction and offsite fabrication to minimize on-Site waste;
- b. Using low impact development approaches like permeable pavement and cool and green roofs for temporary facilities;



- c. Reusable formwork;
- d. Packaging take-back arrangements with suppliers;
- e. Selection of compostable or re-usable temporary erosion control devices;
- f. Minimizing site travel;
- g. FSC-certified timber for on-site carpentry or formwork;
- h. Recycling and composting facilities in Site offices;
- i. Recycled paper for Site office use;
- j. Purchase products formulated with safer chemicals to reduce chemical exposures to workers and the public;
- k. Use of electronic reference standards; and
- l. Paperless documentation, records management, and submittal process during design and construction to the extent permitted by the Authority and other governmental agencies including federal and state.

The SMP shall document all measures the Contractor shall take that are beyond regulatory requirements and Contract requirements for use of recycled materials, construction site emissions, energy efficiency, water efficiency, pollution controls, construction waste management, and any other sustainability practices that the Contractor considers exemplary.

#### **44.3.4 Water Conservation Plan (WCP)**

The Contractor shall submit to the Authority a WCP for review within 90 days following issuance of NTP. The WCP is subject to SONO by the Authority. The WCP shall demonstrate the Contractor shall meet or exceed regulatory and Contract requirements during design and construction activities and implement the water conservation requirements and strategies described in the Water Conservation Guidance located in Book IV. This plan shall be complementary to the SMP and include strategies for monitoring compliance with the WCP, identifying opportunities to enhance performance, and addressing non-compliance conditions.

#### **44.4 Reporting**

The Contractor shall enter and upload monthly reporting via EMMA on its sustainability and construction waste management activities including:

- a. Off-Site recycling services and identification of the hauler of each designated material or item, who have agreed to accept and divert that item from landfill, in the proposed and actual quantities. Schedule each item and list off-site recycling service and hauler company name, telephone number, address, and person(s) contacted;
- b. Delivery receipts for the materials and waste materials sent to the permitted recycling facilities, processing facilities, or landfill;
- c. Delivery receipts for the materials and salvaged items donated, sold, or delivered to jurisdictional authority or Utility Owner;



- d. Documentation for these materials and salvaged items re-used as part of the Work;
- e. Data including: off-road equipment inventory and total hours used, by equipment, on-road equipment inventory and total distance traveled, fuel use (by type of fuel), water use, power use, materials delivery (distance, equipment type and model year, fuel type), waste (recycled quantity, reused quantity, type of waste and disposal destination), and diesel emissions (of any equipment or activity not captured elsewhere), Environmental Product Declarations, employee commute data; and
- f. The use of post-consumer, post-industrial recycled products, and materials including data on type of material/product, quantity, location/structure, and dollar value.

At Substantial Completion, the Contractor shall complete a Contract close-out report, documenting final levels of fuel used, emissions generated, energy used, water used, recycling/waste diversion rates achieved, and materials recycled quantity achieved.

#### **44.4.1 Materials Quantity Estimate**

The Contractor shall provide quantity estimates as inputs to the Authority's energy analysis for construction materials. Upon completion of final design for incremental sections, the Contractor shall enter and upload a quantity estimate for that section of completed design, using the materials report form in EMMA, of the following materials:

- a. Concrete (cast in place) cubic yards by mix design
- b. Pre-cast cubic yards
- c. Aggregate cubic yards
- d. Imported fill or soil cubic yards
- e. Rebar ton
- f. Structural steel ton

Prior to Final Acceptance, the Contractor shall enter and upload an updated materials report form in EMMA with the actual material quantities incorporated into the Project based on the as-built drawings.

## **45.0 Labor Code Requirements**

### **45.1 Worker's Compensation**

By executing the Contract, the Contractor makes the following certification, as required by Section 1861 of the California Labor Code:

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the

