

## SECTION 01 35 51

## ADDITIONAL CLEAN CONSTRUCTION REQUIREMENTS ON MAJOR CONSTRUCTION PROJECTS

## PART 1 – GENERAL

## 1.01 SUMMARY

- A. This project is located within the Air Pollutant Exposure Zone (APEZ) in San Francisco and is within 1,000 feet of a Sensitive Use, as set forth in Chapter 25 of the Environment Code and Section 6.25 of the Administrative Code. Therefore, Section 01 35 51 incorporates additional requirements of the San Francisco Clean Construction Ordinance ("Ordinance") for projects that meet the requirements of Environment Code Section 2504(a), which are located in the Air Pollutant Exposure Zone (APEZ) and which are within 1,000 feet of a Sensitive Use, as set forth in Chapter 25 of the Environment Code and Section 6.25 of the Administrative Code.
- B. The Department of the Environment is responsible for administering the Ordinance. For more information about the Ordinance and its implementation, please visit the Department of Public Health website at:  
<https://www.sfdph.org/dph/EH/Air/CleanConstruction.asp> and  
[https://www.sfdph.org/dph/files/EHSdocs/AirQuality/San\\_Francisco\\_Clean\\_Construction\\_Ordinance\\_2015.pdf](https://www.sfdph.org/dph/files/EHSdocs/AirQuality/San_Francisco_Clean_Construction_Ordinance_2015.pdf).
- C. The following project alignment(s) fall within the APEZ zone:
  - 1. Project alignment along Mission St - Geneva Ave to Trumbull St
  - 2. Project alignment along Geneva Ave - Mission St to Prague St
- D. The following project alignment(s) fall within the APEZ zone AND is within 1,000 feet of a Sensitive Use:
  - 1. Project alignment along Mission St - Geneva Ave to Trumbull St
  - 2. Project alignment along Geneva Ave - Mission St to Prague St
- E. The following project alignment(s) that fall within the APEZ zone AND is within 100 feet of a school zone:
  - 1. Project alignment along Geneva Ave - Mission St to Prague St
- F. All work in this Section shall be incidental work to mobilization (Bid Item SW-36).

## 1.02 DEFINITIONS

- A. "Air Pollutant Exposure Zone" means a zone having a substantially greater than average concentration of air pollutants as defined in Health Code Section 3804.
- B. "Alternative Fuels" means any transportation fuel that is less polluting than gasoline or petroleum diesel fuel, as determined by the California Air Resource Board and that is shown to have lower lifecycle carbon emissions than gasoline or petroleum diesel. Alternative Fuels may include, but are not limited to: natural gas; propane; biofuels from low carbon, sustainable and preferably local sources; hydrogen produced from low carbon and/or renewable sources; and electricity.
- C. "Alternative Sources of Power" means utility-based electric power or other power sources

other than diesel engines.

- D. "ARB" means the California Air Resources Board.
- E. "Clean Construction" means the performance of all work required to be performed under a Public Works contract meeting the requirements in Sections 2504, 2505 and 2506 of the Environment Code, as applicable.
- F. "Construction" means building, demolition, excavation, grading or foundation work, whether or not the work requires a City permit.
- G. "Construction Activities" means the performance of all work involved in or required for Construction, except for the issuance or obtaining of a site permit for a project.
- H. "Construction Phase" means a particular construction activity over a certain period of time. Construction phases may include, but are not limited to, demolition, site preparation, grading, building construction, architectural coatings, and paving. Multiple Construction Phases of a single project may take place at the same time.
- I. "Equipment" means off-road and on-road equipment.
- J. "Equipment Type" means a category of off-road equipment. Types of off-road equipment include bore/drill rigs, cranes, crawler tractors, excavators, graders, off-highway tractors, off-highway trucks, other construction equipment, pavers, paving equipment, rollers, rough terrain forklifts, rubber-tired dozers, rubber-tired loaders, scrapers, skid steer loaders, surfacing equipment, tractors/loaders/backhoes, and trenchers.
- K. "Major Construction Project" means a public work to be performed within the geographic limits of the City that uses off-road equipment and that is estimated to require 20 or more cumulative days of work, including non-consecutive days, to complete.
- L. "Most Effective Verified Diesel Emission Control Strategy" means a device, system or strategy that is verified, pursuant to Division 3, Chapter 14, of Title 13 of the California Code of Regulations, to achieve the highest level of pollution control from an off-road vehicle.
- M. "Off-Road Engine" means a non-road engine as defined in Title 40 of the Code of Federal Regulations, Section 89.2.
- N. "Off-Road Equipment" means equipment with an off-road engine having greater than 25 horsepower and operating for more than 20 total hours over the entire duration of Construction Activities.
- O. "On-Road Equipment" means a heavy-duty vehicle as defined in Title 40 of the Code of Federal Regulations, Section 86.1803-01.
- P. "Portable Diesel Engine" means a diesel engine that is portable as defined in 71 California Code of Regulations, Section 93116.2(bb).
- Q. "Sensitive Use" means a category of building use identified as a "Sensitive Use" in Health Code Section 3804.
- R. "Tier 2 Off-Road Emission Standards" means the Tier 2 new engine emission standards in Title 13, California Code of Regulations, Section 2423(b)(1)(A) and/or Title 40, Code of Federal Regulations, Part 89.112(a).
- S. "VDECS" means a verified diesel emission control strategy, designed primarily for the reduction of diesel particulate matter emissions, which has been verified by ARB

pursuant to "Verification Procedures, Warranty and In-Use Strategies to Control Emissions from Diesel Engines," Title 13, California Code of Regulations, Sections 2700-2710. VDECS can be verified to achieve Level 1 diesel particulate matter reductions (at least 25 percent), Level 2 diesel particulate matter reductions (at least 50 percent), or Level 3 diesel particulate matter reductions (at least 85 percent).

### 1.03 SUBMITTALS

- A. Construction Emissions Minimization Plan:
  - 1. Contractor shall submit its initial Construction Emissions Minimization Plan no less than 28 days prior to mobilization. (See Subsection 1.04B.)
  - 2. Contractor shall submit an updated Construction Emissions Plan on a quarterly basis in compliance with Subsection 1.04B.5.a and submit each quarterly report within seven business days of the end of each quarter.
  - 3. Contractor shall submit a final Construction Emissions Minimization Plan report summarizing construction activities within two weeks of achieving Substantial Completion in compliance with Subsection 1.04B.5.b.
- B. Clean Construction Emissions Plan Certification Statement: Contractor shall submit this statement with its Construction Emissions Minimization Plan. (See Subsection 1.04B.3.)
- C. Waiver Request: Contractor shall submit a waiver request to the Department Head no less than two weeks prior to the planned use of a specific piece of off-road equipment. (See Subsection 1.05A.).

### 1.04 REQUIREMENTS FOR MAJOR CONSTRUCTION PROJECTS WITHIN THE AIR POLLUTANT EXPOSURE ZONE

- A. For all Major Construction Projects that meet the requirements of Environment Code Section 2504(a) and which are located in the Air Pollutant Exposure Zone and within 1,000 feet of a Sensitive Use, the following requirements apply:
  - 1. All off-road equipment shall be fueled by biodiesel fuel grade B20, and have engines that (a) meet or exceed either United States Environmental Protection Agency or ARB Tier 2 off-road emission standards, and (b) have been retrofitted with an ARB Level 3 VDECS. Equipment with engines meeting Tier 4 Interim or Tier 4 Final off-road emission standards automatically meet this requirement. See Section 1.05A regarding the procedure for requesting a waiver to this requirement.
  - 2. Where access to alternative sources of power is available, use of portable diesel engines to perform work on the project shall be prohibited. See Section 1.05B regarding the waiver procedure for this requirement.
  - 3. Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes at any location, except as allowed for in applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions, safe operating conditions). If within 100 feet of a school zone idling times shall be limited to 30 consecutive seconds. The Contractor shall post legible and visible signs, in English, Spanish, and Chinese, in designated queuing areas and at the construction site to remind operators of the idling limit. Refer to the following link for the Clean Construction Sign Template:  
<https://www.sfdph.org/dph/EH/Air/CleanConstruction.asp>.

4. The Contractor shall instruct construction workers and equipment operators on the maintenance and tuning of construction equipment, and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications.
- B. Construction Emissions Minimization Plan: All Major Construction Projects that meet the requirements of Environment Code Section 2504(a), which are located in the Air Pollutant Exposure Zone and are within 1,000 feet of a Sensitive Use, also must comply with the following requirements:
1. Before starting on-site Construction Activities, the Contractor shall submit a Construction Emissions Minimization Plan ("Emissions Plan") to the City Representative for review and approval. The Emissions Plan shall state, in reasonable detail, how the Contractor will meet the requirements of Section 2505 of the Environment Code.
  2. The Emissions Plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for each Construction Phase.
    - a. The description may include, but is not limited to: equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation.
    - b. For the VDECS installed, the description may include, but is not limited to: technology type, serial number, make, model, manufacturer, ARB verification number level, and installation date and hour meter reading on installation date.
    - c. For off-road equipment using alternative fuels, the description shall also specify the type of alternative fuel.
    - d. Contractor may use the Clean Construction Equipment Inventory Template to satisfy the Emissions Plan requirements. Refer to the following link for that template: <https://www.sfdph.org/dph/EH/Air/CleanConstruction.asp>.
  3. The Contractor agrees to comply fully with the Emissions Plan and acknowledges that a significant violation of the Emissions Plan shall constitute a material breach of the Agreement. Contractor must submit a signed Clean Construction Emissions Plan Certification Statement to the City Representative. Refer to the following link for the Emissions Plan Certification Statement Template: <https://www.sfdph.org/dph/EH/Air/CleanConstruction.asp>.
  4. After City review and approval, the Contractor shall make the Emissions Plan available to the public for review onsite during working hours.
    - a. The Contractor shall post at the construction site a legible and visible sign summarizing the Emissions Plan. Refer to the following link for the Clean Construction Sign Template: <https://www.sfdph.org/dph/EH/Air/CleanConstruction.asp>.
    - b. The sign shall also state that the public may ask to inspect the Emissions Plan for the project at any time during working hours, and shall explain how to request to inspect the Emissions Plan.
    - c. The Contractor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way.

## 5. Reporting:

- a. After Construction Activities begin, the Contractor shall update the Emissions Plan on a quarterly basis documenting changes from the original plan and demonstrating compliance with the Emissions Plan. The report shall be submitted to the City Representative quarterly and a copy shall also be maintained at the construction site.
- b. Prior to receiving a Notice of Final Completion, or within six months of completion of Construction Activities if a final certificate of acceptance is not required, the Contractor shall submit to the City Representative a final report summarizing Construction Activities, including the start and end dates and duration of each Construction Phase, and the specific information required in the Emissions Plan.

## 1.05 WAIVERS

## A. Waivers Under Subsection 1.04A.

1. The Contractor may request to waive the equipment requirements of Paragraph 1.04A.1 if: (a) a particular piece of off-road equipment with an ARB Level 3 VDECS is technically not feasible; (b) the equipment would not produce desired emissions reduction due to expected operating modes; (c) installation of the equipment would create a safety hazard or impaired visibility for the operator; or, (d) there is a compelling emergency need to use off-road equipment that is not retrofitted with an ARB Level 3 VDECS.
2. Contractor shall submit a waiver request to the Department Head, or designee, no less than two weeks prior to the planned use of a specific piece of off-road equipment.
3. If the Department Head, or designee, grants the waiver specified in Section 1.05A.1, the Contractor must use the next cleanest piece of off-road equipment, according to Table 1, below.

<p style="text-align: center;"><i>Table 1</i> Off-Road Equipment Compliance Step Down Schedule*</p>		
Compliance Alternative	Engine Emission Standard	Emissions Control
1	Tier 2	ARB Level 2 VDECS
2	Tier 2	ARB Level 1 VDECS
3	Tier 2	Alternative Fuel**
<p>* If the City determines that the equipment requirements cannot be met, the Contractor must meet Compliance Alternative 1. If the City determines that the Contractor cannot supply off-road equipment meeting Compliance Alternative 1, then the Contractor must meet Compliance Alternative 2. If the City determines that the Contractor cannot supply off-road equipment meeting Compliance Alternative 2, then the Contractor must meet Compliance Alternative 3.</p>		
<p>** Alternative fuels are not a VDECS</p>		

## B. Waivers Under Subsection 1.04A.2.

1. The Department Head, or designee, may waive the alternative source of power requirement set forth in Subsection 1.04A.2 if an alternative source of power is

limited or infeasible at the project site. If the City grants the waiver, the Contractor must submit documentation that the equipment used for onsite power generation meets the requirements of Subsection 1.04A.1, above.

- C. All Other Waivers: The Department Head or designee also may waive the requirements of the Ordinance on the grounds set forth in Section 2507 of the Environment Code.
- D. For any waiver granted in this Subsection 1.05, the City Representative will within two business days prepare a written notice of the waiver and a written memorandum explaining the basis for the waiver and the steps that will be taken to safeguard public and City employee health during the noncomplying work. The memorandum will also state the steps that the City and the Contractor will take to minimize the use of noncomplying equipment or engines during the noncomplying work.

#### 1.06 NONCOMPLIANCE AND PENALTIES

- A. Liquidated Damages: By entering into the Agreement, Contractor and City agree that if Contractor uses off-road equipment and/or off-road engines in violation of the Clean Construction requirements set forth in Administrative Code Section 6.25 and Chapter 25 of the Environment Code, the City will suffer actual damages that will be impractical or extremely difficult to determine. Accordingly, Contractor and the City agree that Contractor shall pay the City the amount of \$100 per day per each piece of off-road equipment and each off-road engine used to complete Work on the Project in violation of the Ordinance. Such amount shall not be considered a penalty, but rather agreed monetary damages sustained by City because of Contractor's failure to comply with the Clean Construction requirements.
- B. False Representations: False representations by the Contractor, in connection with the bidding, execution or performance of any City contract, regarding the nature or character of the off-road equipment and/or off-road engines to be utilized, on the contract, or to the City about the nature or character of the off-road equipment and/or off-road engines actually used may subject the Contractor to the consequences of noncompliance specified in Section 2510 of the Environment Code, including but not limited to the penalties prescribed therein. The assessment of penalties for noncompliance shall not preclude the City from exercising any other rights or remedies to which it is entitled.

END OF SECTION