
CHAPTER 25:

CLEAN CONSTRUCTION REQUIREMENTS FOR PUBLIC WORKS

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Editor's Notes:

The sections of this Chapter originally were designated as Sections 25.1 through 25.10 when enacted by Ord. [28-15](#). The sections were renumbered by the editor as shown in order to preserve the consistency of the numbering system employed in this Code.

Subsequent to the addition of this Chapter to the Code by Ord. [28-15](#), Ord. [156-15](#) was adopted to provide, in part, as follows:

Section 1. [. . .] Section 3 of Ordinance No. 28-15 stated that the operative date would be January 1, 2015. The intent of the Board of Supervisors in adopting Ordinance No. 28-15, which was originally introduced in July 2014, was that the new requirements would not impact existing contracts and that affected City departments would have additional time beyond the effective date to implement the new requirements. Therefore, the Board is adopting this subsequent ordinance, Ordinance No. 156-15, to make it clear that the requirements of Ordinance No. 28-15 only apply to new contracts and to allow additional time within which to implement that ordinance, as stated in Section 2, below.

Section 2. The requirements of Ordinance No. 28-15 shall apply only to construction contracts first advertised or initiated on or after the effective date of this Ordinance No. 156-15. All actions taken by the City with regards to implementation of Ordinance No. 28-15 between April 19, 2015 and the effective date of this Ordinance No. 156-15 [September 5, 2015] are hereby approved.

See Sections 1 and 2 of Ord. [156-15](#), File No. 150526, adopted 8/6/2015, effective 9/5/2015.

SEC. 2501. FINDINGS.

(a) Scientific studies have found an association between exposure to particulate matter and significant human health problems, including: aggravated asthma; chronic bronchitis; reduced lung function; irregular heartbeat; heart attack; and premature death in people with heart or lung disease. Exposure to air pollutants that are carcinogens has significant human health consequences as well. For example, exposure to diesel exhaust is an established cause of lung cancer.

(b) One in three Americans has heart or blood vessel disease; heart disease and stroke are the first and fourth leading causes of death in the U.S., respectively. Air pollution affects heart health and can trigger heart attacks and strokes. Exposure to air pollutants contributes to most of the leading causes of death for San Franciscans: ischemic heart disease; lung, bronchus and tracheal cancers; cerebrovascular disease; chronic obstructive pulmonary disease; hypertensive heart disease and lower respiratory infection. Short-term effects of exposure to air pollution include constriction or chest tightening that causes discomfort or limits normal activity and that makes exercise difficult. And long-term changes in lung function may include lung tissue inflammation, leading to chronic lung disease.

(c) Persons living in close proximity to air pollution sources, such as freeways or busy roadways, have poorer lung functions and are more susceptible to develop asthma and other respiratory problems, compared with persons living at a greater distance from sources. The California Air Resources Board's 2005 Land Use Guidance document, *Air Quality and Land Use Handbook: A Community Health Perspective*, reviewed traffic-related air pollution studies and found that particulate matter pollution levels decrease by about 70 percent at 500 feet from freeways and high-traffic roadways, defined as urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day.

(d) Proximity to sources of air pollution increases exposure and proximity to sources is more common for the poor and for certain ethnic minorities.

(e) Consequently, health vulnerability varies among neighborhoods and populations within San Francisco, as measured by population health records of air pollution-associated hospital discharges and emergency room visits, and non-accident mortality. Health vulnerable populations are likely to have more significant health consequences from air pollutant exposure compared to populations that are less vulnerable.

(f) Construction activities can be a significant source of diesel exhaust emissions. When such emissions are not controlled, they can become a nuisance and public health risk.

(g) According to the California Air Resources Board off-road equipment, which includes construction equipment, is the sixth largest source of diesel particulate matter emissions in California.

(h) The City and County of San Francisco ("the City") has an interest in protecting public health by reducing diesel exhaust emissions from publicly funded construction sites.

(i) The City can reduce exhaust emissions from off-road diesel equipment by requiring City contractors on public works projects within an Air Pollutant Exposure Zone, as defined in the Health Code, to use equipment with lower exhaust emissions and to reduce exhaust emissions through a construction emissions minimization plan.

(j) The use of newer technologies, such as verified diesel emission control strategies, combined with newer engines (Tier 2 or later), can reduce particulate matter emissions from construction equipment between 89 and 94 percent compared to older, dirtier equipment.

(k) It is feasible to require City contractors to use these newer technologies and newer engines in limited areas within San Francisco based on the wide availability of newer technologies and the availability of newer engines across all sizes of fleets, equipment types, and sizes of engines, as shown by California Air Resources Board inventories. Furthermore, both the state and federal governments have adopted regulations, such as the California Air Resources Board's In-Use Off-Road Diesel Vehicle Regulation, that will require newer, cleaner equipment as the useful life of older engines expires and the engines become obsolete.

(l) The City can further reduce the exposure to diesel emissions from off-road diesel equipment by creating and implementing bidding incentives for City contractors to utilize the cleanest possible off-road diesel equipment on public works projects.

(m) The City can also reduce the exposure to diesel emissions from off-road diesel vehicle fleets by seeking funding to retrofit City owned equipment and other off-road diesel equipment operated in the City. Existing funding sources include incentive programs such as the Carl Moyer Air Quality Standards Attainment Program.

(n) By adopting this Chapter 25, the City intends to exercise its power to make economic decisions involving its own funds as a participant in the marketplace and to conduct its own business as a municipal corporation to ensure that purchases and expenditures of public monies are made in a manner consistent with clean construction practices.

(o) Nothing in this Chapter 25 shall be interpreted or applied so as to create any power or duty in conflict with any federal or state law.

■ (Added by Ord. [28-15](#), File No. 140805, App. 3/19/2015, Eff. 4/18/2015)

SEC. 2502. TITLE AND PURPOSE.

This Chapter 25 may be referred to as the "San Francisco Clean Construction Ordinance." This Chapter is intended to protect the public health, safety and welfare by requiring contractors on City public works projects to reduce diesel and other particulate matter emissions generated by constructions activities.

■ (Added by Ord. [28-15](#), File No. 140805, App. 3/19/2015, Eff. 4/18/2015)

SEC. 2503. DEFINITIONS.

For purposes of this Chapter 25, the following definitions shall apply. Where a federal, State, or City law is cross-referenced as part of a definition, it is intended that the cross-reference include future amendments to the cross-referenced provision.

"Air Pollutant Exposure Zone" means a zone having a substantially greater than average concentration of air pollutants as defined in Health Code Section 3804.

"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.

"Alternative Sources of Power" means utility-based electric power or other power sources other than diesel engines.

"ARB" means the California Air Resources Board.

"City" means the City and County of San Francisco.

"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, as applicable.

"Construction" means building, demolition, excavation, grading or foundation work, whether or not the work requires a City permit. "Construction" does not include the issuance or obtaining of a site permit for a project.

"Construction Activities" means the performance of all work involved in or required for Construction.

"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.

"Contractor" means a party who contracts directly with the City to perform construction services relevant to a Public Work or improvement.

"Contractor" also includes a City department when the department itself performs construction services relevant to a Public Work or improvement.

"Department Head" means the general manager, director, or executive director of a City department authorized to perform Public Works, or that person's designee.

"Equipment" means off-road and on-road equipment.

"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.

"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.

"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.

"Off-Road Engine" means a non-road engine as defined in Title 40 of the Code of Federal Regulations, Section 89.2.

"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.

"On-Road Equipment" means a heavy-duty vehicle as defined in Title 40 of the Code of Federal Regulations, Section 86.1803-01.

"Portable Diesel Engine" means a diesel engine that is portable as defined in 71 California Code of Regulations, Section 93116.2(bb).

"Public Work" means a contract for the erection, construction, renovation, alteration, improvement, demolition, excavation, installation, or repair of any public building, structure, infrastructure, bridge, road, street, park, dam, tunnel, utility or similar public facility that is performed by or for the City, and the cost of which is to be paid wholly or partially out of moneys deposited in the City Treasury or out of trust monies under the control of or collected by the City.

"Sensitive Use" means a category of building use identified as a "Sensitive Use" in Health Code Section 3804.

"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).

"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).

■ (Added by Ord. [28-15](#), File No. 140805, App. 3/19/2015, Eff. 4/18/2015)

SEC. 2504. CLEAN CONSTRUCTION REQUIREMENTS.

(a) All work performed on a Major Construction Project shall be carried out in compliance with the requirements of this Chapter 25. All calls for bids for contracts for work to be performed on a Major Construction Project shall contain the provisions required in Administrative Code Section 6.25.

(b) Notwithstanding Subsection (a), work performed on a Major Construction Project is not subject to the requirements of this Chapter 25 if there are no Sensitive Uses within 1,000 feet of any portion of the construction site and/or the project requires a limited amount of Off-Road Equipment for a limited duration, such as projects exempt from the requirements of the Department of Building Inspection's Green Building Code. If the project is changed during the course of construction and results in the use of Off-Road Equipment for 20 or more days in total, then the Contractor must immediately comply with this Chapter 25.

(c) Contract-awarding authorities are encouraged to require contractors to meet the standards for Clean Construction, as appropriate, in contracts not otherwise covered by this Chapter.

■ (Added by Ord. [28-15](#), File No. 140805, App. 3/19/2015, Eff. 4/18/2015)

SEC. 2505. REQUIREMENTS WITHIN AIR POLLUTANT EXPOSURE ZONES.

(a) **Requirements.** For all work performed on a Major Construction Project located in an Air Pollutant Exposure Zone:

(1) All off-road equipment shall 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;

(2) Where access to alternative sources of power is available, use of portable diesel engines to perform work on the project shall be prohibited;

(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). 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; and

(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) Waivers.

(1) The Department Head may waive the alternative source of power requirement of Subsection (a)(2) if an alternative source of power is limited or infeasible at the project site. If the Department Head grants the waiver, the Contractor must submit documentation that the equipment used for onsite power generation meets the requirements of Subsection (a)(1).

(2) The Department Head may waive the equipment requirements of Subsection (a)(1) if a particular piece of off-road equipment with an ARB Level 3 VDECS is technically not feasible; the equipment would not produce desired emissions reduction due to expected operating modes; installation of the equipment would create a safety hazard or impaired visibility for the operator; or, there is a compelling emergency need to use off-road equipment that is not retrofitted with an ARB Level 3 VDECS. If the Department Head grants the waiver, the Contractor must use the next cleanest piece of off-road equipment, according to Table 25.5.1, below.

Table 25.5.1

Off-Road Equipment Compliance Step Down Schedule*

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**

* If Department Head determines that the equipment requirements cannot be met, the Contractor must meet Compliance Alternative 1. If the Department Head determines that the Contractor cannot supply off-road equipment meeting Compliance Alternative 1, then the Contractor must meet Compliance Alternative 2. If the Department Head determines that the Contractor cannot supply off-road equipment meeting Compliance Alternative 2, then the Contractor must meet Compliance Alternative 3.

** Alternative fuels are not a VDECS

(c) **Construction Emissions Minimization Plan.** Before starting on-site Construction Activities, the Contractor shall submit a Construction Emissions Minimization Plan ("Emissions Plan") to the Department Head for review and approval. The Emissions Plan shall state, in reasonable detail, how the Contractor will meet the requirements of this Section 2505.

(1) 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. 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. 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. For off-road equipment using alternative fuels, the description shall also specify; the type of alternative fuel

(2) The Department Head shall ensure that all applicable requirements of the Construction Emissions Minimization Plan have been incorporated into the contract specifications. The contract shall include a statement that 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 contract.

(3) The Contractor shall make the Emissions Plan available to the public for review onsite during working hours. The Contractor shall post at the construction site a legible and visible sign summarizing the Construction Emissions Minimization Plan. 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. The Department Head shall review and approve the sign before the Contractor posts it. 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.

(d) **Monitoring.** After the start of Construction Activities, the Contractor shall maintain quarterly reports at the construction site documenting compliance with the Construction Emissions Minimization Plan. After the completion of Construction Activities and prior to receiving a final certificate of acceptance, or within six month of completion of Construction Activities if a final certificate of acceptance is not required, the Contractor shall submit to the Department Head 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.

■ (Added by Ord. [28-15](#), File No. 140805, App. 3/19/2015, Eff. 4/18/2015)

SEC. 2506. REQUIREMENTS OUTSIDE OF AIR POLLUTANT EXPOSURE ZONES.

For public works projects located outside Air Pollutant Exposure Zones, the Contractor shall utilize only off-road equipment and off-road engines fueled by biodiesel fuel grade B20 or higher and utilize only off-road equipment that either: (a) meets or exceeds Tier 2 standards for off-road engines, or (b) operates with the most effective VDECS.

■ (Added by Ord. [28-15](#), File No. 140805, App. 3/19/2015, Eff. 4/18/2015)

SEC. 2507. WAIVERS.

(a) **Emergency.** A Department Head may waive the requirements of this Chapter 25, in whole or in part, prior to the Controller's certification of the contract, where the contract is to be awarded under the emergency provisions of Administrative Code Section 6.60 and there is no immediately available contractor capable of performing the work in compliance with this Chapter 25.

(b) **Performance Standards.** A Department Head may waive the requirements of this Chapter 25, in whole or in part, prior to the solicitation of bids, where there are no complying off-road vehicles or off-road engines for some or all of the required work.

(c) **Cost Prohibitive.** A Department Head may waive the requirements of this Chapter 25, in whole or in part, prior to the solicitation of bids, where compliance would be cost prohibitive under the circumstances.

(d) **Other.** If for any other reason strict compliance with the requirements of this Chapter 25 is impractical or infeasible, the Department Head may waive the requirements, in whole or part, as to specific off-road equipment or off-road engines essential to complete the project, provided that such waivers for specific equipment or engines do not cumulatively exceed 25% of the total operating hours of all off-road equipment or off-road engines used on the project.

(e) **Notices and Supporting Memoranda.** For any waiver granted under this Section 2507, the Department Head shall 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. For waivers granted under Subsection (a), the memorandum shall also state the steps that the Department Head and the Contractor will take to reduce the likelihood that a similar emergency waiver will be required in the future. For waivers granted under Subsection (d), the memorandum shall also state the steps that the Department Head and the Contractor will take to minimize the use of noncomplying equipment or engines during the noncomplying work. The Department Head shall post a list of all waivers granted on the Department's website, as well as a notice that copies of the waiver notices and supporting memoranda prepared under this Subsection (e) are available from the Department.

(Added by Ord. [28-15](#), File No. 140805, App. 3/19/2015, Eff. 4/18/2015)

SEC. 2508. REGULATIONS.

The Director of the Department of Public Works, in consultation with the Department of the Environment and other interested City departments, may adopt rules, regulations or guidelines as necessary or appropriate to carry out the purposes and requirements of this Chapter 25.

■ (Added by Ord. [28-15](#), File No. 140805, App. 3/19/2015, Eff. 4/18/2015)

SEC. 2509. ASSISTANCE AND REPORTING.

(a) **Technical Assistance to Local Businesses.** The Department of the Environment shall provide technical assistance to businesses certified as Local Businesses Enterprises (LBEs) by the Human Rights Commission and other local businesses in securing available local, State and Federal public incentive funding to retrofit, re-power or replace off-road equipment or off-road engines operated by such businesses within the City.

(b) **Annual Reporting Requirement.** The Department of the Environment annually shall prepare and distribute to City departments with off-road equipment or off-road engines summary information, including application procedures and deadlines, about available local, State and Federal public incentive programs to retrofit, re-power, or replace older, more polluting off-road diesel equipment. The Department of the Environment shall include in its Report to the Mayor and the Board of Supervisors, required in Section 412, the following:

- (1) information supplied to the Department of the Environment by City Departments about the extent to which each City Department's off-road equipment and off-road engine fleet meets or exceeds either Tier 2 off-road standards for off-road engines or utilizes the most effective VDECS;
- (2) a summary of the results of grant applications made and awarded for the prior year to retrofit, re-power or replace off-road equipment and engines in the City's fleet, including fleet upgrades funded and completed;
- (3) a summary of technical assistance provided to LBEs and other local businesses, and results, if known; and
- (4) recommendations to the Board of Supervisors, Mayor, and City Departments for procedural, policy, or legislative changes to reduce air pollution emanating from off-road equipment and off-road engines.

(Redesignated from Sec. 411 to Sec. 426 and amended by Ord. 278-10, File No. 101009, App. 11/18/2010; redesignated from Sec. 426 to Sec. 2509 and amended by Ord. [28-15](#), File No. 140805, App. 3/19/2015, Eff. 4/18/2015)

SEC. 2510. ENFORCEMENT.

(a) If a Department Head determines that a person or entity being considered for a contract, or under contract, with the City has, in connection with the bidding, execution or performance of any City contract, falsely represented to the City the nature or character of the off-road equipment and/or off-road engines to be utilized, on the contract, or has falsely represented to the City the nature or character of the off-road equipment and/or off-road engines actually used, the Department Head may impose such sanctions or take such other actions as are appropriate to ensure compliance with the provisions of this Chapter and to deter additional violations.

(b) Violations of this Chapter 25, or of any regulation adopted pursuant to it, shall be punishable by:

- (1) Refusal to certify the award of a contract;
- (2) Suspension of a contract;
- (3) Withholding City funds due the contractor under any City contract;
- (4) Recession of the contract based upon a material breach of contract provisions or pertaining to representations made in bidding, execution or performance of the contract;
- (5) Debarment of a bidder, proposer or contractor from eligibility for providing commodities or services to the City for a period not to exceed five years, with a right to review and reconsideration by the City upon a showing of corrective action indicating violations are not likely to reoccur; and,
- (6) Any other remedy authorized in law or equity.

(c) Nothing in this Chapter 25 shall be construed to relieve a contractor of responsibility to perform the contract.

(Added by Ord. [28-15](#), File No. 140805, App. 3/19/2015, Eff. 4/18/2015)