July 1, 2010	**SANTA ROSA FIRE DEPARTMENT** FIRE PREVENTION BUREAU PLAN REVIEW CHECKLIST
City of Santa Rosa	**DRY CLEANING**

Address:		**Permit #:**
Inspector:	**Date:**	**Status:**
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		A-Approved; AC-Approved w/comments; I-Incomplete; D-Denied

This Checklist outlines general requirements. Information contained herein applies to typical instances and may not address all circumstances.

PURPOSE

This standard outlines the general requirements for new or modified dry cleaning operations.

CODE REFERENCES

2007 California Building Code (CBC) Chapter 4 (415.6.4)
2007 California Fire Code (CFC) - Chapter 12

FILE REVIEW

	Y	N	
1.	☐	☐	Review file – If applicable, is there an alternate method application approved.
2.	☐	☐	Review plans and plan notes.
3.	☐	☐	Approved plans and permit on site.
4.	☐	☐	Plans match system(s) manufacturer model and size.

CLASSIFICATIONS

Solvent or Liquid Classifications. A method for classifying solvents or liquids according to the following classes:

- **Class I solvents.** Liquids having a flash point below 100°F(38°C).
- **Class II solvents.** Liquids having a flash point at or above 100°F (38°C) and below 140°F (60°C).
- **Class IIIA solvents.** Liquids having a flash point at or above 140°F (60°C) and below 200°F (93°C).
- **Class IIIB solvents.** Liquids having a flash point at or above 200°F (93°C).
- **Class IV solvents.** Liquids classified as nonflammable.

Classification of dry cleaning plants and systems. *(CFC 1203.2***)** Dry cleaning plants and systems shall be classified based on the solvents used as follows:

1) Type I—systems using Class I solvents.

2) Type II—systems using Class II solvents.

3) Type III-A—systems using Class IIIA solvents.

4) Type III-B—systems using Class IIIB solvents.

5) Type IV—systems using Class IV solvents in which dry cleaning is not conducted by the public.

6) Type V—systems using Class IV solvents in which dry cleaning is conducted by the public.

Spotting and pretreating operations conducted in accordance with Section 1206 shall not change the type of the dry cleaning plant.

	Y	N	
5.	☐	☐	**Multiple solvents.** *(CFC 1203.2.1)* Dry cleaning plants using more than one class of solvent for dry cleaning shall be classified based on the numerically lowest solvent class.
6.	☐	☐	**Design. (***CFC 1203.3)* The occupancy classification, design and construction of dry cleaning plants shall comply with the applicable requirements of the *California Building Code.*

GENERAL REQUIREMENTS

7.	☐	☐	**Prohibited use** *(CFC 1204.1*). Type I dry cleaning plants shall be prohibited. Limited quantities of Class I solvents stored and used in accordance with this section shall not be prohibited in dry cleaning plants.
8.	☐	☐	**Building services** *(CFC 1204.2).* Building services and systems shall be designed, installed and maintained in accordance with this section and Chapter 6.
9.	☐	☐	**Ventilation** *(CFC 1204.2.1).* Ventilation shall be provided in accordance with Section 502 of the *California Mechanical Code* and DOL29CFRPart 1910.1000, where applicable.
10.	☐	☐	**Heating** *(CFC 1204.2.2).* In Type II dry cleaning plants, heating shall be by indirect means using steam, hot water or hot oil only.
11.	☐	☐	**Electrical wiring and equipment** *(CFC 1204.2.3).* Electrical wiring and equipment in dry cleaning rooms or other locations subject to flammable vapors shall be installed in accordance with the *California Electrical Code.*
12.	☐	☐	**Bonding and grounding** *(CFC 1204.2.4).* Storage tanks, treatment tanks, filters, pumps, piping, ducts, dry cleaning units, stills, tumblers, drying cabinets and other such equipment, where not inherently electrically conductive, shall be bonded together and grounded. Isolated equipment shall be grounded.

OPERATING REQUIREMENTS

13.	☐	☐	**Ventilation** *(CFC 1205.2.3).* A mechanical ventilation system which is designed to exhaust 1 cubic foot of air per minute for each square foot of floor area [0.0058 m3/(s · m2)] shall be installed in dry cleaning rooms and in drying rooms. The ventilation system shall operate automatically when the dry cleaning equipment is in operation and shall have manual controls at an approved location.

Y N

14. ☐ ☐ **Type IV and V systems** *(CFC 1205.3).* Type IV and V dry cleaning systems shall be provided with an automatically activated exhaust ventilation system to maintain a minimum of 100 feet per minute (0.51 m/s) air velocity through the loading door when the door is opened. Such systems for dry cleaning equipment shall comply with the *California Mechanical Code.*

Exception: Dry cleaning units are not required to be provided with exhaust ventilation where an exhaust hood is installed immediately outside of and above the loading door which operates at an airflow rate as follows:

(Equation 12-1)
$Q = 100 \times A_{LD}$

where:

= flow rate exhausted through the hood, cubic feet per minute (m^3/s).

A_{LD} = area of the loading door, square feet (m^2).

SPOTTING AND PRETREATING

15. ☐ ☐ **Spotting tables** *(CFC 1206.3.1).* Scouring, brushing or spotting tables on which articles are soaked in solvent shall have a liquid-tight top with a curb on all sides not less than 1 inch (25 mm) high. The top of the table shall be pitched to ensure thorough draining to a 1.5-inch (38 mm) drain connected to an approved container.

16. ☐ ☐ **Special handling** *(CFC 1206.3.2).* When approved, articles that cannot be washed in the usual washing machines are allowed to be cleaned in scrubbing tubs. Scrubbing tubs shall comply with the following:

1) Only Class II or III liquids shall be used.

2) The total amount of solvent used in such open containers shall not exceed 3 gallons (11 L).

3) Scrubbing tubs shall be secured to the floor.

4) Scrubbing tubs shall be provided with permanent 1.5- inch (38 mm) drains. Such drain shall be provided with a trap and shall be connected to an approved container.

17. ☐ ☐ **Ventilation** *(CFC 1206.3.3).* Scrubbing tubs, scouring, brushing or spotting operations shall be located such that solvent vapors are captured and exhausted by the ventilating system.

18. ☐ ☐ **Bonding and grounding** *(CFC 1206.3.4).* Metal scouring, brushing and spotting tables and scrubbing tubs shall be permanently and effectively bonded and grounded.

19. ☐ ☐ **Type V systems** *(CFC 1206.5).* Spotting operations using flammable or combustible liquids are prohibited in Type V dry cleaning systems.

DRY CLEANING SYSTEMS

20. ☐ ☐ **General equipment requirements** *(CFC 1207.1).* Dry cleaning systems, including dry cleaning units, washing machines, stills, drying cabinets, tumblers, and their appurtenances, including pumps, piping, valves, filters and solvent coolers, shall be installed and maintained in accordance with NFPA 32 (Dry Cleaning Plants, 2004 edition). The construction of buildings in which such systems are located shall comply with the requirements of this section and the *California Building*

Code. B:C portable fire extinguishers shall be provided near the doors inside dry cleaning rooms containing Type II, Type III-A and Type III-B dry cleaning systems.

	Y	N	
21.	☐	☐	**Type II systems** *(CFC 1207.2).* Type II dry cleaning and solvent tank storage rooms shall not be located below grade or above the lowest floor level of the building and shall comply with Sections 1207.2.1 through 1207.2.3.

Exception: Solvent storage tanks installed underground, in vaults or in special enclosures in accordance with Chapter 34.

22. ☐ ☐ **Fire-fighting access** *(CFC 1207.2.1).* Type II dry cleaning plants shall be located so that access is provided and maintained from one side for fire-fighting and fire control purposes in accordance with Section 503.

23. ☐ ☐ **Number of means of egress** *(CFC 1207.2.2).* Type II dry cleaning rooms shall have not less than two means of egress doors located at opposite ends of the room, at least one of which shall lead directly to the outside.

24. ☐ ☐ **Spill control and secondary containment** *(CFC 1207.2.3).* Curbs, drains, or other provisions for spill control and secondary containment shall be provided in accordance with Section 2704.2 to collect solvent leakage and fire protection water and direct it to a safe location.

25. ☐ ☐ **Solvent storage tanks** *(CFC 1207.3).* Solvent storage tanks for Class II, IIIA and IIIB liquids shall conform to the requirements of Chapter 34 and be located underground or outside, above ground.

Exception: As provided in NFPA 32 for inside storage or treatment tanks.

FIRE PROTECTION

26. ☐ ☐ **Automatic sprinkler system** *(CFC 1208.2).* An automatic sprinkler system shall be installed in accordance with Section 903.3.1.1 throughout dry cleaning plants containing Type II, Type III-A or Type III-B dry cleaning systems.

27. ☐ ☐ **Automatic fire-extinguishing systems** *(CFC 1208.3).* Type II dry cleaning units, washer-extractors, and drying tumblers in Type II dry cleaning plants shall be provided with an approved automatic fire-extinguishing system installed and maintained in accordance with Chapter 9.

Exception: Where approved, a manual steam jet not less than 0.75 inch (19 mm) with a continuously available steam supply at a pressure not less than 15 pounds per square inch gauge (psig) (103 kPa) is allowed to be substituted for the automatic fire-extinguishing system.

28. ☐ ☐ **Portable fire extinguishers** *(CFC 1208.4).* Portable fire extinguishers shall be selected, installed and maintained in accordance with this section and Section 906. A minimum of two 2-A:10-B:C portable fire extinguishers shall be provided near the doors inside dry cleaning rooms containing Type II, Type III-A and Type III-B dry cleaning systems.