



**HOUSTON FIRE DEPARTMENT
LIFE SAFETY BUREAU (LSB)**



**LSB STANDARD 19, rev. 04
RAW WOOD WASTE PROCESSING / RECYCLING
STORAGE AND OPERATIONS**

SUPERCEDES: LSB STANDARD 19, Rev. 03, Effective 12/31/10

Note: A vertical line in the left-hand margin delineates changes since the previous version.

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LSB Standards are established in accordance with provisions of the City of Houston Fire Code. They are subject to the administrative sections covering alternative materials and methods, modifications, and the Board of Appeals.

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SECTION 19.1 --- GENERAL

19.1.1 Scope

The storage and processing of wood chips, hogged material, fines, compost, mulch and raw products in association with yard waste and recycling facilities located within Houston city limits shall be in accordance with the Houston *Fire Code* and this standard.

19.1.2 Purpose

This standard shall provide guidelines for raw wood waste processors and recyclers and their operations. Wood chipping, hogging, composting and mulching operations and storage create a significant fire hazard and are rated as a very high hazard with a 'Heat of Output' Btu per pound of product.

While generally more difficult to ignite than usual Class A combustibles such as paper and cardboard, after being ignited the spread of fire and smoke can be rapid and deep-seated. The larger the storage of raw wood products, the greater the fire hazard and the more difficult a fire is to control. Wood waste processors and recyclers and their operations shall comply with this standard.

19.1.3 Plans

The owner or operator shall develop the following plans for monitoring, controlling, and extinguishing spot fires and submit the plans to the Fire Marshal for review and approval.

19.1.3.1 Plot Plan

Plot plans shall be submitted to the Fire Marshal for all raw wood waste processing and recycling operations. Plot plans shall include fire department access roads throughout, area division of piles, pile height and width, and all exposures.

19.1.3.2 Operation Plan

Operational plans indicating procedures and schedules for inspection, monitoring and restricting of excessive internal temperatures in static piles.

19.1.3.3 Emergency Plan

Emergency plans for monitoring, controlling, extinguishing spot fires and the reporting of all fires.

SECTION 19.2 – DEFINITIONS

19.2.1 Permits required.

A Wood Products permit shall be required to use an open area or portion thereof to store or process wood chips, logged material, compost, mulch and raw products in

excess of 200 cubic feet. A Waste Handling permit is required for the operation of wrecking yards, junkyards and waste material-handling facilities.

Permit Office contact information for Wood Products and/or Waste Handling is as follow:

The Houston Permitting Center

Third Floor

1002 Washington Avenue

Houston, Texas 77007

Hours of operation: 8:00 a.m. to 3:30 p.m. Central Time

Monday through Friday

Office phone (832)394-8811

To Email Customer Service Questions: hfd.permitoffice@houstontx.gov

Link to City Wide Fee Schedule: www.houstoncityfees.org

19.2.2 Raw Wood Waste Processors and Recyclers

A raw wood waste processor and recycler is any person who, in compliance with all applicable state, federal and local laws, rules and regulations, disposes of or converts wood product produced from yard waste, debris, timber removal or pruning, or lumbering operations to other purposes. Including but not limited to person who:

- (a) Landfill, incinerate, or otherwise dispose of raw wood waste or as fuel.
- (b) By shredding, hogging, grinding or chemically treating, raw wood into basic components for mulch, compost or other marketable material.

Exception: Commercial plywood, pressed wood, veneer and paper production facilities.

19.2.3 Static piles

Piles in which processed wood product is mounded and is not being turned or moved.

SECTION 19.3 --- INSIDE BUILDING STORAGE

19.3.1 Storage and operations inside of a building

Storage and operations inside of a building shall be in accordance with *Fire Code*.

SECTION 19.4 --- OUTDOOR STORAGE AND USE

19.4.1 Site identification

Facility name and address shall be posted at main entrance and clearly visible from the street. A 24-hour emergency contact telephone number shall be posted at the main entrance and clearly visible from the street.

19.4.2 Storage site

Storage sites shall be level and on solid ground or paved with blacktop, concrete or other hard surface material. Sites shall be thoroughly cleaned before transferring wood products to the site or starting new piles.

Operating plans for the buildup and reclaiming of the pile(s) should be based upon a maximum turnover time of 1 year under ideal conditions. Piles containing other than screened chips can be subject to greater degree of spontaneous heating and thermal degradation and should be reclaimed more frequently.

19.4.3 Area division

Every outdoor area used for storage or operation of raw wood waste processing and recycling shall be divided into single storage and fire area combinations by a driveway 30 feet in width and main aisles 10 feet in width.

19.4.4 Area limitation

There shall be no materials stored within a single storage area (fire area) more than 35 feet from any driveway having access to a public street nor more than 15 feet from a main aisle.

19.4.5 Size of piles

Piles shall not exceed a maximum of 25 feet in height, 150 feet in width and 250 feet in length. The pile size should be limited. Fundamentally, several small piles with low heights are better than one large pile.

Exception: The Fire Marshal is authorized to allow the pile size to be increased when additional fire protection is provided in accordance with the *Fire Code*. The increase shall be based upon the capabilities of the system installed.

19.4.6 Pile height indicators

Indicator posts of sufficient construction and taller than the highest point of each pile Pole shall be marked at readily recognizable 10-foot increments, shall be provided to give visual height references at or near the highest point(s) of each pile. The post(s) shall not be positioned so as to interfere with access to the piles.

19.4.7 Static Pile protection

Piles shall be monitored by an approved means to measure temperatures within the static piles. Internal temperatures shall be monitored and recorded weekly. Records shall be kept on file at the facility and made available for inspection.

19.4.8 Pile fire protection

Automatic sprinkler protection shall be provided in conveyor tunnels and combustible enclosures that pass under a pile. Combustible conveyor systems and enclosed conveyor systems shall be equipped with an approved automatic sprinkler system. Temporary conveyors and motors on the surface or adjacent to the piles should be avoided.

Where pile height and width is such that all portions of the pile cannot be reached by direct hose streams from the ground, arrangements shall be made to provide firefighting service in these areas, and small stream supplies shall be available on top of the pile for handling surface fires and for wetting the pile in dry weather.

19.4.9 Drainage

Stored material shall be arranged to facilitate and promote drainage from stored materials.

19.4.10 Screening of property

A fence of at least 6 feet in height of non-combustible material or other suitable means to prevent access of any unauthorized persons shall surround the entire property. Sufficient "No Trespassing" signs shall be posted. An adequate number of gates shall be provided in the surrounding fence or other barriers as determined by the Fire Marshal so as to provide ready access of fire apparatus. Access gates shall be in accordance with Houston Fire Department LSB Standard 04.

19.4.11 Buildings in storage areas

Buildings in outside storage areas shall be of 1-hour rated construction as required by the City of Houston *Building Code* if located within 50 feet from the nearest storage pile.

19.4.12 Maintenance of premise

The entire storage site shall be kept free from accumulation of unnecessary combustible materials. Weeds and grass shall be kept down and regular procedure provides for the periodic clean up of the entire area. The use of Weed Burners or any type of burning is prohibited.

19.4.13 Heating equipment and smoking prohibited

No heating equipment shall be allowed in the storage or use area. Smoking or open flames shall be prohibited outside of designated areas. Sufficient "No Smoking" signs posted. All welding and other hot work shall be performed in accordance with the *Fire Code*.

19.4.14 Protection from heat

Physical protection should be provided to prevent heat sources such as steam lines, air line, electrical motors and mechanical drive equipment from becoming buried or heavily coated with combustible material. A high standard of housekeeping shall be maintained around all potential heat sources.

19.4.15 Material-handling equipment and vehicles

Approved material-handling equipment or scoop-type vehicles shall be available for moving wood chips, hogged material, wood fines and raw product during firefighting operations. All vehicles shall be garaged in separate detached buildings or parked in designated areas located 50 feet from chipping or hogging operations or storage. All fuel handling shall be done in accordance with applicable provisions of the *Fire Code*.

19.4.16 Fire protection

Fire protection provided shall be in accordance with this section and the *Fire Code*.

19.4.16.1 Water supply

A fire protection system consisting of approved monitor nozzle(s), water supply system, and fire hydrants capable of supplying the minimum required flow of 500 GPM, shall be provided to within 150 feet of all portions of the yard. Additional flows should be

provided as needed where conditions are likely to produce serious surface fires or large internal fires. Where fire hose houses/stations are provided, fire hydrants connected to yard mains should be provided in accordance with NFPA Standard No. 230, Appendix E-5.

19.4.16.2 Fire extinguishers

Approved listed portable fire extinguishers, with minimum rating of 2-A: 60BC, shall be provided on all vehicles and equipment operating on the piles and at all processing equipment. Additional minimum 2-A fire extinguishers shall be provided for every 75 feet of unobstructed path of travel and in accordance with Houston Fire Department LSB Standard 01.

19.4.17 Fire Department notification

Means shall be provided at all times on site for contacting the fire department in event of an emergency. There shall be no delays in reporting fires. The fire department shall be immediately notified of all fires, by telephoning: “**9-1-1**”.

19.4.18 Texas Commission on Environmental Quality (TCEQ) notification

The TCEQ shall be notified of all Raw Wood Waste Processing and Recycling Operations in accordance with TCEQ regulations and other state and local ordinances. Where there is a conflict with this standard and other state and local requirements the most restrictive shall apply. Compliance with TCEQ rules does not indicate automatic approval for a fire department permit.

REFERENCES

1. City of Houston *Fire Code*, International Fire Code, 2006 edition, as amended.
2. City of Houston Building Code, International Building Code, current edition, as amended.
3. Houston Fire Department, Life Safety Bureau (LSB) Standard No.1, "Installation and Maintenance of Portable Fire Extinguishers".
4. Houston Fire Department, Life Safety Bureau (LSB) Standard No.4, "Access Control Gates".
5. National Fire Protection Association (NFPA) Standard No. 230, "Fire Protection of Storage", Appendix E-5.