



Houston Fire Department Life Safety Bureau (LSB)



LSB Standard No. 19, Rev. 05

Raw Wood Waste Processing/Recycling Storage and Operations

Supersedes: LSB Standard No. 19, Rev. 04, 05/01/2012

Effective Date: xx/xx/xx



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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Raw Wood Waste Processing/Recycling Storage and Operations

Section 19.1 – General

19.1.1 Scope.

The provisions of this standard shall apply to all storage and processing of wood chips, hogged materials, fines, compost, mulch, and raw products in association with yard waste, and recycling facilities located within Houston city limits.

19.1.2 Purpose.

The purpose of this standard is to provide guidelines for raw wood waste processors and recyclers and their operations. Wood chipping, hogging, composting, mulching, and storage of such materials, create a significant fire hazard and are rated as a very high hazard with a high “Heat Output” Btu per pound of product.

While generally more difficult to ignite than usual Class A combustibles (such as paper and cardboard), after wood chips, hogged materials, fines, compost, mulch, and raw products are 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 the fire is to control. Wood waste processors, recyclers, and their operations shall comply with this standard and the City of Houston *Fire Code*.

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 woods 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 shall be submitted to the Fire Marshal indicating procedures and schedules for inspecting, monitoring, and restricting excessive internal temperatures in static piles.

19.1.3.3 Emergency Plan.

Emergency plans for monitoring, controlling, extinguishing spot fires, and fire reporting shall be submitted to the Fire Marshal.

19.1.4 Permits Required.

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

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

Permit Office contact information is as follows:

The Houston Permitting Center

1002 Washington Avenue

Houston, Texas 77002

Hours of operation: 8:00am to 3:30pm (CST)

Monday through Friday

Office phone: (832) 394-8811

To E-mail Customer Service Questions: hfd.permitoffice@houstontx.gov

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

Section 19.2 – Definitions

19.2.1 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. This definition includes, but is not limited to, persons who place in landfill, incinerate, or otherwise dispose of raw wood waste or recycle into fuel 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.

19.2.2 Static Piles.

Static piles are 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 the City of Houston *Fire Code*.

Section 19.4 – Outdoor Storage and Use

19.4.1 Site Identification.

Facility name and address shall be posted at main entrances and be clearly visible from the street. A 24-hour emergency contact telephone number shall be posted at the main entrance and be 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 another 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 City of Houston *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 is required. Indicator posts shall be marked at readily recognizable 10-foot increments to give visual height references at or near the highest point(s) of each pile. An indicator post shall not be positioned so that it interferes 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. The use of temporary conveyors and motors on the surface of or adjacent to the piles should be avoided.

Where pile height and width are 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 noncombustible material or other suitable means to prevent access of any unauthorized person(s) shall surround the entire property. Sufficient "No Trespassing" signs shall be posted. An adequate number of gates, as determined by the Fire Marshal, shall be provided in the surrounding fence or other barriers so as to provide ready access of fire apparatuses. Access gates shall be in accordance with LSB Standard No. 04, "Access Control Gates."

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 mowed to a height acceptable to the fire code official. Regular procedures shall provide for the periodic cleanup 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 shall be posted. All welding and other hot work shall be performed in accordance with the City of Houston *Fire Code*.

19.4.14 Protection from Heat.

Physical protection should be provided to prevent heat sources such as steam lines, air lines, 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 City of Houston *Fire Code*.

19.4.16 Fire Protection.

Fire protection shall be provided to the site by the owner and shall be in accordance with this section and the City of Houston *Fire Code*.

19.4.6.1 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.

19.4.6.2 Fire Extinguishers.

Approved listed portable fire extinguishers, with minimum rating of 2-A, 60-B:C, 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 LSB Standard No. 01, "Installation and Maintenance of Portable Fire Extinguishers."

19.4.17 Fire Department Notification.

There shall be provided at all times on-site a means of contacting the fire department in the 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 between this standard and other state and local requirements, the most restrictive requirements shall apply. Compliance with TCEQ rules does not assure automatic approval for a fire department permit.

References

1. City of Houston *Fire Code*
2. City of Houston *Building Code*
3. National Fire Protection Association (NFPA) Standard 230, "Fire Protection of Storage"
4. Life Safety Bureau (LSB) Standard No. 01, "Installation and Maintenance of Portable Fire Extinguishers"
5. Life Safety Bureau (LSB) Standard No. 04, "Access Control Gates"

All reference materials used under this Life Safety Bureau standard shall be in accordance with the most current adopted City of Houston *Construction Code*.