Property Protection Checklist

Protecting Your Building and Its Contents

Open for Business[sm]

Property Protection Checklist

The following checklist is designed to help you look for items that have an important bearing on the safety of your building, and to protect your building and its contents from damage. It is not meant to be an all-inclusive list of how to protect your property from damage in the event of an earthquake, wind (hurricane, high winds, tornado/hail), flood, wildfire or freezing weather occurrence, but it contains key elements for disaster resistance.

Though building owners have more control over their property than renters, business tenants have many of the same concerns, as the issues are virtually the same whether the occupants own the building or rent space in it. Renters may want to discuss items with their landlord or building manager.

The checklist can serve multiple purposes. In addition to giving you an idea of steps for improving building security, the checklist can be used to guide decisions regarding building upgrades and maintenance. Replacement windows and doors, materials for a new roof and other items can have a big impact on building integrity and building safety. These checklist items are also useful for business people considering buying or leasing new space. Going down the checklist as you look over a piece of property may help you decide where to locate.

Regular checks and maintenance of the building exterior and major mechanical components, such as heating and cooling equipment, are important no matter where a building is located. This keeps small problems from becoming big ones, while ensuring building integrity.

For more detailed information about property protection,
go to http://www.ibhs.org/business_protection

Please put a "Y" for "Yes", a "N" for "No" and a "U" for "Unsure" on the line next to the
statement. You can always update this checklist as you take recommended actions.

In earthquake areas

Earthquake Risk Assessment

The following building characteristics describe the types of building configuration or features that can make your building *less* vulnerable to earthquake damage. This does not mean, however, that there is a low risk of earthquake damage.

Additional risk may be imposed on a building due to its irregular features, presence of brick veneer, and vulnerable foundation types. Characteristics that could make your building more vulnerable to earthquake damage may not be so important if your building was designed by a professional. In that case, the building should have been designed in a way that accounts for the features listed below.

_ A simple building design. A box-like building is generally more stable than an irregularly shaped building, or a building with multiple stories that vary significantly in height. One example of this is when a multi-story office building has a grand entrance on the first floor with raised ceilings.

_ A roof that has no openings, such as for access doors or skylights, or only openings with a dimension less than 12 feet or less than 50 percent of the smallest roof dimension. Large openings can weaken a roof.

_ Light roofing materials, such as asphalt shingles and metal panels or tiles. The use of relatively light roofing materials will help keep the building's center of gravity low, thereby improving its performance and reducing the likelihood of damage during an earthquake.

_ Absence of a large garage door, first story parking, or other large ground floor openings in multiple-story buildings. Presence of these features increases earthquake damage risk.

_ Absence of brick or stone veneer on the exterior of the building. Not only is brick and stone veneer cracked and easily damaged in an earthquake, but it also introduces extra loads into the exterior walls – above and beyond the forces they would otherwise have to carry.

_ Type of foundation. The foundation of a structure plays a crucial role in the structure's performance during an earthquake. There are several types of foundation systems. The first is a foundation system built directly on the ground as a slab-on grade system. The other three examples are of foundation systems where the bottom floor is elevated above grade.

The first two types are the most resistant to earthquake damage.

The foundation types are:

- _ slab-on-grade with integral footing (the footing and slab are a single unit)
- _ crawlspace or basement foundation wall system consisting of a continuous concrete or masonry wall system
- _ crawlspace or basement foundation wall system consisting of a wood stud cripple wall
- _ pier or pile foundation system consisting of wood, concrete, or steel

Note: A professional engineer should always be consulted when any structural improvements are being considered.

Refer to the following checklist for additional actions that should be taken to protect your employees, customers and visitors as well as your building, contents and inventory, regardless of your building's configuration.

Check for:

_ Windows, skylights and doors with either tempered glass or safety film applied on the interior side of the glass, to reduce the chances of the glass shattering. Check for etching in the corner of the window that says "tempered" or "laminated." Safety film is an adhesive film applied to the inside of the glass.

_ Natural gas lines with flexible connections and an automatic shut off valve. A flexible gas line is not rigid. It is made of a material such as rubber or plastic that you can bend yourself. This reduces the chances of the line rupturing, resulting in a fire. The automatic shut off valve is typically installed near the gas meter.

_ Flexible supply line to toilet(s).

_ Flexible couplings on sprinkler systems.

_ Major appliances, such as boilers, furnaces, and water heaters, braced to the wall and/or floor such that the appliance will not overturn or shift in the event of an earthquake.

_ Hangers (usually strips of sheet metal or stiff steel rods) less than 12 inches long that support your mechanical and plumbing systems. Longer hangers may allow too much sway during a temblor.

_ Computer and other electronic equipment secured to the floor or desk with braces, Velcro, or some other means of attachment, so it will not overturn.

_ Suspended ceilings braced to the structure to limit the amount of displacement during an earthquake.

_ File cabinets with locks or latches that must be released manually in order to open the drawers. Locks or latches will keep cabinet drawers from swinging open during an earthquake and spilling contents.

_ Cabinets, bookcases and storage racks secured to the walls and/or floor, to keep them from tipping over.

If you are in an earthquake area, consider adding earthquake coverage to your insurance policy.

In windstorm areas (hurricane, high wind, tornado/hail)

Check for:

_ Roof condition. A roof in good condition has all metal flashing secured to the structure and free of rust, preventing uplift and peeling off of roof coverings. Roof coverings are secure and show no signs of weather damage (cracking, rust, punctures, etc.). All vents and other roof penetrations are flashed and sealed, and all roof equipment is

bolted down. The roof drainage system is working properly, with no "ponding" of water. There are no leaves or other debris blocking drainage.

_ On asphalt shingle roofs, shingle tabs that overlap and adhere to the shingles below. Loose shingle tabs can be fixed by applying a dab of asphalt cement on their underside.

_ If you have a low slope roof (“flat roof”), and/or a steep slope roof with any kind of roof covering other than asphalt shingles, have a roofing consultant evaluate your roof’s condition to determine if there is a need for repair or replacement.

Re-roofing in hail-prone areas:

_ If you plan on using asphalt shingles or metal roofing, consider an impact resistant product that has been tested to meet the UL2218 Class 4 standard.

_ If you plan on using wood or tile as your roof covering, consider an impact resistant product that meets the FM 4473 Class 4 standard.

Re-roofing in hurricane or high wind areas:

_ If you plan on using asphalt shingles, consider using a wind-resistant shingle that meets the ASTM D 3161 (110 mph) standard.

_ Roof-to-wall straps, brackets, or other connectors that attach each rafter or roof truss (whether wood or light frame steel) to the wall, to keep the roof from blowing off the building.

_ Carports, canopies, and/or overhangs secured to the structure with rust-free anchors and tightened bolts/nuts.

_ Signs, vent stacks, rooftop mechanical equipment and other vertical projections secured to the structure or the site foundation with rust-free anchors, tightened bolts/nuts, guy wires, or other secure methods – *do not use sheet metal screws alone.*

_ Exterior windows and doors with a minimum design pressure rating of 50 pounds per square foot. Look for a label or sticker in the corner of the glazing or inside the frame itself or contact the window/door manufacturer.

_ Exterior doors with a deadbolt and supported by at least three hinges. In general, the more hinges your doors have, the more wind resistant they are. A deadbolt latching mechanism adds to wind resistance and security.

_ Exterior double doors with head and foot bolts on the inactive door, or another method of securing the door, such as locking it into a mullion/center post.

_ Impact-resistant windows and doors. Look for a sticker or label in the corner of the glass or frame itself, indicating it meets one or more of the following standards: ASTM E 1996 (9lb), SSTD 12, Dade County PA201, or FBC TAS201.

_ An exterior lightning protection system. Look at your roof to see if there are metal rods or probes. The lightning protection system needs to be securely anchored to the roof. Otherwise it may whip around in a storm and damage the building.

_ Surge protectors on all computer systems, telephone lines, and other electronic systems, to protect against lightning damage that often occurs in windstorms.

In flood areas

Check for:

_ Whether your business is located in a Special Flood Hazard Area – V zone, Coastal A Zone or Non-Coastal A Zone. If so, what is the Base Flood Elevation (BFE) or Design Flood Elevation (DFE) at your location? Contact your local building or planning department for this information.

BFE: DFE:

The base flood elevation (BFE) is the elevation shown on the Flood Insurance Rate Map (FIRM) developed by the Federal Emergency Management Agency. This flood elevation is the elevation that has a 1 percent chance of being equaled or exceeded in any given year (100-year flood).

The design flood elevation (DFE) is the locally adopted regulatory flood elevation. The DFE is always greater than or equal to the BFE.

_ Whether your community participates in the National Flood Insurance Program (NFIP). Go to http://www.fema.gov/fema/csb.shtm, click on your state and you will see a list of participating jurisdictions. If you are in a Special Flood Hazard Area, be sure you have flood insurance. Remember, even if you live in an area that is not flood prone, it is advisable to have flood insurance. Between 20 and 25 percent of the NFIP's claims come from outside high flood risk areas.

_ If you are in a Special Flood Hazard Area, ensure that electrical, plumbing and Heating/Ventilation/Air Conditioning (HVAC) equipment are installed above the flood elevation applicable at your location. Examples of plumbing equipment include water heater, pump (if applicable) and all piping system openings for the water and sewage systems, including openings for toilets, sinks, showers, tubs, etc. Electrical equipment refers to the entire electrical system, including the power supply, circuit breaker, all wiring and outlets, and any electrical appliances that are more or less stationary and permanent. HVAC equipment includes the condensing unit, air handler, furnace and

all ductwork. Electrical, plumbing and HVAC equipment installed above the base flood elevation, or better yet, the design flood elevation, is most likely to survive a flood.

_ If you are in a Coastal A Zone or V Zone, make sure that you have an open foundation (piles, piers, etc.) or breakaway wall system designed by a registered Professional Engineer for any portions of the building below the BFE. These features allow floodwaters to flow through.

_ In an A Zone, either coastal or non-coastal, a minimum of two openings on multiple walls of each enclosed area. This means that there should be two openings on one wall (minimum) and two openings on an opposite wall (minimum) for each enclosed area. The openings must be on exterior walls and not into another enclosed area. The flood vents should be located within 1 foot above grade and with at least 1 square inch of opening for each square foot of enclosed area.

Flood vents are openings in a wall that allow floodwaters to freely enter and exit the foundation.

In wildfire areas

Wildfire Risk Assessment:

Wildfire is a potential risk everywhere. Wildfire danger occurs where there is a wildland/urban interface – that is, wherever buildings are nestled among trees and other combustible vegetation such as grasses, brush and shrubs. Whether near large urban areas or remote rural locations, interface areas exist all over the country. Determine how much you are at risk by reviewing the factors listed below. Then continue with the wildfire checklist for additional actions to take to protect yourself from wildfire.

Your risk is the *highest* if:

_ there is a history of nearby wildfires,

_ you are in a climate with a dry season of more than 3 months,

_ there is wildland within 100 feet of your building,

_ there is steep forested terrain with grades that average over 20 percent in any direction from the building,

_ there are other fuel sources (wood piles, brush, furniture) less than thirty feet from your building,

_ you are in a rural area,

_ the nearest fire hydrant is over 500 feet away,

_ there is limited access for fire trucks.

Ideally, the nearest fire hydrant should be less than 300 feet away. If there are no fire hydrants in the area, firefighters must truck in water or pump it from a pond or other water source. As a result, the building has a higher fire risk.

Check for:

_ "Survivable" space around the building. This is space that is cleared of brush and other fuel sources and maintained so that a wildfire will not spread to the structure. The survivable space recommendations are: 30 feet in low-risk fire areas, 50 feet in moderate-risk areas and 100 feet in high-risk areas. Survivable space should be increased on any side where there is a downward slope away from the building, and if the exterior of the building is combustible.

_ Roofing materials with a UL 790 Class A, ASTM E108 Class A, or UBC 15-2 fire rating. (You will find the rating label displayed on the packaging of the roofing material.) Class A fire-rated roof coverings provide the best protection for a business during a fire.

_ Eaves enclosed with fire resistant materials and screens over soffit vents. Fire resistant materials include aluminum or other metals and plywood 1/2 inch or greater thickness. Combustible materials include vinyl, PVC, and plywood less than 1/2 inch thick.

_ Attic, crawlspace and/or foundation exterior vents of non-combustible materials (e.g. aluminum, other metals, or plywood 1/2” or more thick). The vents should be less than one foot by one foot and covered with non-combustible screening with openings of 1/4” or less. This prevents sparks from entering your building.

_ Exterior walls covered with a non-combustible siding/veneer. Examples of non-combustible siding include stucco, brick veneer, and concrete block. Examples of combustible siding/veneer include vinyl siding and wood veneer.

_ Double-pane tempered glazing or other windows tested in accordance with ASTM E119. Double-pane tempered glazing filters out extreme heat better than single pane or non-tempered window glazing. Check for etching in the corners of your windows that says "tempered" or "laminated."

_ A monitored smoke alarm system, to automatically alert the local fire department if fire breaks out.

_ A fire sprinkler system, to automatically start fire suppression.

_ Underside of above-ground decks and balconies enclosed with fire resistant materials. Examples of fire resistant materials include aluminum, stucco, brick veneer, concrete, and plywood greater than 1/2 inch thick.

_ Address numbers that are non-combustible, at least 4 inches, reflectorized, on contrasting background, and visible from the road from both directions of travel.

Address numbers must be easily viewed from the road so firefighters can find your building.

_ Access route with a minimum width of 12 feet with at least 13.5 feet of vertical clearance near the structure. The main approach to your business must be large enough for a fire truck to have easy access in the event of a fire.

In freezing weather areas

Check for:

- A secondary moisture barrier that extends from the edge of the eaves to at least 24 inches beyond the inside of the exterior wall, if the roof is sloped. Heat that escapes into the attic space warms the underside of a sloped roof, causing snow to melt and refreeze when it reaches the roof eave, outside the area of warmth. Moisture barriers prevent melted snow that backs up underneath the roof covering from entering the building.

- No attic or mechanical room with heat sources directly under the roof. Heat sources directly beneath a roof can cause ice damming and water backups.

- Sealed and insulated recessed light fixtures that may be installed in the ceiling immediately below the attic space or mechanical room. This keeps heat from melting snow on the roof and causing water backups.

- Attic penetrations properly sealed and insulated to prevent heat intrusion into the attic.

- Access doors to attic space or mechanical room properly insulated, sealed, weather-stripped or gasketed to prevent heat intrusion into the attic space or mechanical room.

- Insulation installed over water or sprinkler supply piping located in exterior walls, unheated drop ceilings, or other unheated spaces, to prevent frozen or burst pipes.

  If space is unoccupied for more than 24 hours (e.g. holidays, vacation, weekends, etc.), there should be a plan in place to inspect the building once a day for freezing pipes during the winter months.