City of Bellevue
Development Services
Handout B-2

2006 High-Rise Checklist

March 2008

This checklist is intended for use to prepare for pre-development services meetings and to serve as a design and review aid for high-rise buildings as described in 2006 International Building Code (IBC) 403. Please note that there are several City of Bellevue (COB) amendments to the high-rise provisions in the IBC. COB Ordinance 5750 modifies the IBC and Ordinance 5749 modifies the International Fire Code (IFC). This checklist applies to the applicable codes as part of the Washington State Building Code as adopted and amended by the COB; refer to Bellevue City Code (BCC), Title 23. This checklist primarily addresses the 2006 IBC and 2006 IFC and includes the standards of the National Fire Protection Association (NFPA) as specifically referenced in the IFC, the 2005 National Electrical Code (NEC), and the American Society of Civil Engineers (ASCE) 7-05. This checklist is only a general list and is not intended to address all possible conditions.

General Building Code Requirements

- ☐ **List basic code information** such as number of stories & basements, building address(es), etc.
- ☐ **Indicate if the building is reducing the fire-resistance rating** per IBC 403.3. Where sprinkler-control valves are equipped with supervisory initiating devices and water-flow initiating devices for each floor, reductions in fire-resistive ratings can apply. These devices are required by IFC and Bellevue Fire Department Development Standards (BFDDS) in all high rises. Refer to modifications to this section in BCC 23.10.403.3.1. In some cases, a reduction of the type of construction is not permitted.
- ☐ **Show the distance to property lines** and to the centerline of public ways per IBC Table 602.
- ☐ **Emergency escape and rescue openings** required by IBC 1026 are not required per IBC 403.4.
- ☐ **For underground buildings**, refer to IBC 405 as amended in BCC 23.10.405.1 which requires all stairs in parking garages 30' below grade to be pressurized when taking advantage of IBC 405.1, Exception 2. For standby and emergency power requirements, refer to BCC 23.10.405.9 & 23.10.405.10.
- ☐ **Accessibility.** Identify accessible routes of travel between buildings on the site and to all amenity spaces within the building per IBC 1104.2. Show locations of accessible entrances per IBC 1105; please note that 60% of all public entrances must be accessible. Show locations of all accessible parking spaces, van parking spaces, passenger loading zones, and the route of travel from these spaces to building entrances per IBC 1106. Accessible means of egress must be provided and labeled on the drawings per IBC 1007. The locations of audible and visible alarms should be on the drawings per IBC 907.9. Accessibility detailing must meet the standards of ICC/ANSI A117.1-2003.
- ☐ **Deferred submittals.** List all deferred submittals on the drawings per BCC 23.05.105(E); items to be submitted as deferred submittals must be approved. Typical deferred submittals include curtain walls; firestopping; prefabricated stairs; signage; seismic anchorage of architectural, mechanical, and electrical components and systems; etc.
- ☐ **Construction documents** submitted for review must be complete and bear the seal and signature of the appropriate design professional per BCC 23.05.105(A). Typically, only architectural and structural drawings will be reviewed for the building permit. However, the submitted documents must contain all necessary information to review building code issues such as exit signs, exit lighting, emergency power, audible/visible alarms, stairway communication systems, smoke detectors, smoke control concept language, smoke zone boundaries, etc. Separate permit applications and associated drawings are required for mechanical, electrical, and plumbing work.
- ☐ **Fire-resistant joint systems.** Protection needs to be provided at joints between rated walls, floors, and roofs per IBC 713.1 and at the void created at the intersection of a floor/ceiling assembly and an exterior curtain wall assembly per IBC 713.4. Specific approved assemblies should be referenced on the drawings unless specifically listed as a deferred submittal.

- ☐ **Fire-resistive assemblies** need to be specifically identified on the drawings by hourly rating, testing agency, and assembly reference number. In addition, all materials and components as well as connection information needs to be called out on the drawings for each assembly used.
- ☐ **Pedestrian protection** must be provided per IBC 3306. If not provided on permit drawings, pedestrian protection needs to be listed as a deferred submittal per BCC 23.05.105(E) and must be approved and installed prior to construction. A Right-of-Way Use Permit is required if work impacts the public way.
- ☐ **Phased occupancy** is regulated by BCC 23.05.140(C) and may require a performance bond or other assurance device.
- ☐ **Operable windows.** In R-2 occupancies, window sills located more than 72" above the finished grade must be a min**imum of 24" above t**he finished floor per IBC 1405.12.2.
- ☐ **Yards.** Yards adjacent to exterior walls that provide natural light and ventilation cannot be less than 3 feet for 1- and 2-story buildings. For taller buildings, yards must be increased at the rate of 1' for each additional story (up to 15' max.) per IBC 1206.2.
- ☐ **Code alternates.** Where alternate materials, design, and methods of construction and equipment are approved, they must be specifically referenced on the drawings. Preapproved Alternate Materials, Methods, or Modifications Request Forms must be provided on the drawings. Refer to BCC 23.05.080(K).
- ☐ **Door schedule.** A complete door schedule must be provided which includes detailed hardware information to address special egress-control devices, closers, smoke protection, fire-resistance ratings, etc.

Egress and Shafts

- ☐ **Provide an exiting plan.** Show exits, separation of exits or exit-access doorways per IBC 1015.2, travel distance calculations per IBC 1016, corridors, stair enclosures, floor areas per occupancy per floor, etc.
- ☐ **Exit width** must be calculated per IBC 1005.1. Where exits from floors above and below converge at an intermediate level, the capacity of the means of egress from the point of convergence must be the sum of the two floors per IBC 1004.5.
- ☐ **Exit signs** must be provided per IBC 1011.1. Tactile exit signs are also required to be provided per IBC 1011.3 in conformance with ICC/ANSI A117.1-2003, which can be included in a deferred submittal for signage.
- ☐ **Areas of refuge.** To be considered an accessible means of egress, exit stairways need to incorporate an area of refuge, or a horizontal exit needs to be provided per IBC 1007.3.
- ☐ **The common path of egress travel** needs to be considered per IBC 1014.3. This should be carefully considered for future tenant improvement layouts.
- ☐ **Stair pressurization or smokeproof enclosures** (IBC 1020.1.7). Each exit that serves stories where the floor is more than 75 feet above the lowest level of fire department vehicle access or more than 30 feet below the level of exit discharge shall be a smokeproof enclosure or pressurized stairway in accordance with IBC 909.20. As supported by IFC 901.4.3, additional stair enclosures in parking garages may be required to be pressurized. Identify each pressurized stair and the extent of each on the drawings.
- ☐ **Elevator Shaft Pressurization** needs to comply with IBC 707.14.2.
- ☐ **Exit passageways.** Per IBC 1020.1.1, a door is required between the exit enclosure and the exit passageway at the level of exit discharge. When a pressurized stair leads through an exit passageway before reaching the exterior of the building, it must also be pressurized to conform with the requirement in IBC 1018.1 which states that the level of protection cannot be reduced until arrival at the exit discharge. Per COB approval, passageways can be pressurized from the stairs by using a one-way barometric smoke damper through the rated wall. This restriction would not apply with the specific conditions where a pressurized stair is permitted to discharge at a lobby under the parameters of IBC 1024.1.
- ☐ **Stairway door operation.** Specify any doors to be locked from the stairway side. These doors must be capable of being unlocked simultaneously without unlatching upon a signal from the fire command center per IBC 403.12 and IFC 509.1, Item 7. Stairway doors must also unlock automatically upon activation of the fire alarm system, when phased evacuation is utilized for the building.
- ☐ **Stairway communications system.** A telephone or other two-way communications system connected to an approved constantly attended station is required at not less than every fifth floor in

each required stairway where the doors to the stairway are locked per IBC 403.12.1. Please note that a building radio system does not substitute for this requirement.

- ☐ **Stairway to roof.** One stairway must extend to the roof per IBC 1009.11. If the other stairway does not continue to the roof, a hatch must be provided unless the standpipe is extended per IFC 905.4, as amended in BCC 23.11.905.4.
- ☐ **Roof hatches** should be a minimum of 16 s.f. with a minimum dimension of 3 feet to meet COB Fire Department requirements and IBC 1009.11.
- ☐ **Special doors** or doors with controlled access must be identified. Refer to IBC 1008.1.3.
- ☐ **Supply and exhaust shafts in parking garages** that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction are not required to have fire/smoke dampers per IBC 716.5.3.
- ☐ **Means of egress illumination.** Egress pathway lighting in parking garages must have 1 footcandle minimum in the means of egress pathway down each drive aisle leading to each exit per IBC 1006.2.

Atriums

- ☐ **Smoke control** is required per IBC 404.4 for atriums that connect more than 2 floors.
- ☐ **Identify all required separations** from adjacent spaces by a 1-hour fire barrier wall per IBC 404.5. Indicate if using the exception for a sprinklered glass wall, 3/4-hour glass block assemblies, or adjacent spaces included in atrium volume on up to three floors.
- ☐ **Interior finish.** Specify the class of the interior finish of walls and ceilings of atriums. IBC 404.7 indicates that not less than a Class B interior finish is required with no reduction in class for sprinkler protection.
- ☐ **Travel distance.** Specify travel distances within the atrium on an egress plan. In other than the lowest level of the atrium, where the required means of egress is through the atrium space, the portion of exit access travel distance within the atrium space shall not exceed 200 feet per IBC 404.8.

Sprinkler System & Standpipes

- ☐ **A sprinkler system is required** per IFC 903.3.1.1 with a secondary water supply per IFC 903.3.5.2, as amended in BCC 23.11.903.3.5.2.
- ☐ **Specify locations with quick-response sprinkler heads.** Except for kitchens, mechanical & electrical rooms, and similar rooms, quick-response heads are required per IFC 903.3.2 for typical light-hazard occupancies per NFPA 13. No intermixing of sprinkler heads is permitted in the same area.
- ☐ **Residential sprinklers** in Group R occupancies are required per IFC 903.3.2.
- ☐ **Seismic bracing** at sprinkler piping hangars must be designed per ASCE Ch. 13, or the 2007 edition of NFPA 13.
- ☐ **Class I wet standpipes** are required to be provided in every required stairway per IBC 905.3.1 and IFC 905.4 as amended in BCC 23.11.905.4. Each required standpipe must include roof outlets if the roof slope is less than 4:12. **Exception:** The topmost hose valve may be positioned on the intermediate landing of a stair that accesses the roof (an alternating tread device is the minimum quality "stair") whether by hatch or stair penthouse.
- ☐ **Hose connections** are required to be provided on every intermediate floor level landing in every required stairway and elsewhere as required by NFPA 14 and IFC 905.4.
- ☐ **Standpipe systems during construction** shall be provided per IBC 3311 and IFC Chapter 14.
- ☐ **Hose reach requirements.** Per IFC 905.4, Item 6, the most remote portion of a sprinklered floor or story shall be within 200 feet travel distance to a protected, accessible hose connection. Travel distances in parking garages may be increased to 240 ft subject to the approval of the fire code official, and routing cannot be between vehicle stalls. Refer to BCC 23.11.905.4. To qualify, the stall must remain open and be marked as “NO PARKING”.
- ☐ **Loading docks** within a structure shall be sprinklered at a density of 0.40 per 2,500 s.f.
- ☐ **Two fire department connections** are required for high-rise complexes with two or more structures above a common garage or foundation, or those which may otherwise be rendered inaccessible to the Fire Department. These are generally to be located on opposite sides of the project at approved locations. Supervision shall be per NFPA 72. Fire department connections must be facing the street in an approved location per IFC 903.3.7.

- ☐ **Garage sprinkler systems** must be zoned floor by floor. Dry standpipes are not permitted per IFC 905.8.
- ☐ **Heat tracing** will only be allowed under the approval of the Fire Code Official.
- ☐ **Fire Pumps on High-Rise Buildings-Electrical Plan Review Issues** handout should be referred to in preparation for electrical plan review of the fire pump system.

Fire Alarm and Detection Systems

- ☐ **The location of the fire command center(s)** needs to be shown on the drawings per IBC 403.8. The command center must comply with IFC 509 and be approved by the Fire Department. IFC 509.1 describes the requirements of the fire command center and includes a requirement for a 1-hour fire-resistance-rated fire barrier to separate it from the rest of the building. The fire command center shall have direct exterior access.
- ☐ **Specific provisions for occupancy types** need to be addressed per IFC 907.2.1 through 907.2.9.
- ☐ **Alarms and communication.** High-rise buildings are to be provided with an automatic fire alarm system and emergency voice/alarm communication system per IFC 907.2.12. The emergency voice messaging system shall be provided per Bellevue Fire Department requirements and the type of system specified.
- ☐ **Audible and visible alarm** locations need to be on the permit drawings per IBC 907.9 or specifically noted as a deferred submittal.
- ☐ **Automatic fire detection.** Smoke detectors are to be provided per IFC 907.2.12.1. Smoke detectors must be connected to an automatic fire alarm system. The activation of any detector shall operate the emergency voice/alarm communication system. While this section and IFC 907.2.9 do not require corridor smoke detection in R2 occupancies, applied smoke-control methods may require such detection.
- ☐ **Fire department communication system.** Per IFC 907.2.12.3, an approved two-way, fire department communication system designed and installed in accordance with NFPA 72 shall be provided for fire department use.
- ☐ **Building radio coverage.** BCC 23.11.511 adds IFC 511 to require support of adequate radio coverage with an 800 MHz system for City emergency services workers.
- ☐ **Elevator lobbies**, if provided on garage levels, must have smoke detection in the lobbies where not exposed to 40ºF or colder conditions or otherwise prohibited by NFPA 72. If smoke detector installation is prohibited, other automatic fire detection shall be provided per NFPA 72.
- ☐ **Battery (UPS) rooms.** Identify any locations where there are battery rooms. Provide an approved automatic, supervised smoke detection system in areas containing stationary lead-acid battery systems having a liquid capacity of more than 50 gallons per IFC 907.2.23. Full compliance with IFC 608 is required regarding ventilation of UPS rooms. Refer to IBC Table 508.2 for fire barrier requirements. If quantities of hydrogen exceed the limits of IBC Tables 307.7(1) or 307.7(2), the room must be classified as the appropriate H occupancy.
- ☐ **Fire extinguishers** must be provided per BCC 23.11.906.1.

Elevators

- ☐ **Elevator operation and installation** requirements must comply with IBC 707.14.1 as modified by BCC 23.10.707.14.1 as well as NEC 620, which was amended by the State of Washington. Elevator lobbies are required to be provided with one-hour fire partitions unless meeting one of the exceptions (such as where street floor lobbies are provided, smoke partitions are substituted, or the elevators and stair enclosures are pressurized). Pressurized stair shafts must comply with the standards for elevator shaft pressurization in IBC 707.14.2, WAC 51-50-0909, and IBC 909.6.3.
- ☐ **Standby power** is required for elevators in accordance with IBC 3003 per IBC 403.10,BCC 23.10.403, and NEC 700.
- ☐ **Specify rating of shafts and opening protectives** per IBC 707. The rating of elevator doors must be per IBC 715.4 for doors in fire partitions.
- ☐ **Number of elevator cars in a hoistway.** Separate hoistways are required where four or more elevator cars serve all or the same portion of a building. Not more than four elevator cars shall be located in any single hoistway enclosure per IBC 3002.2.
- ☐ **Emergency signs.** Address all emergency signage per IBC 3002.3. Emergency signage is not required for elevators that are part of an accessible means of egress complying with IBC 1007.4. If

emergency signage is to be a deferred submittal, this needs to be listed on the drawings per BCC 23.05.105(E).

- ☐ **Elevator car to accommodate ambulance stretcher.** At least one elevator shall be provided for fire department emergency access to all floors that can accommodate a 24-inch by 84-inch stretcher with not less than 5" radius corners in the horizontal position per IBC 3002.4. Identify these elevators for each tower proposed to show that all floors are served and note that they will be identified with the "star of life" as indicated in IBC 3002.4.
- ☐ **Accessible means of egress.** IBC 1007.2.1 requires at least one elevator to comply with IBC 1007.4 at floors four or more stories above or below a level of exit discharge unless the floor is provided with a horizontal exit or ramp. IBC 1007.4 requires emergency operation, signaling devices, and standby power.
- ☐ **Hoistway venting** is required per IBC 3004.1 unless the shaft is pressurized per IBC 707.14.2; see also IBC 707.14.2.7. The intent is to have "remote" manual control of this venting.
- ☐ **Machine Room Venting.** Specify the location of all elevator machine rooms and provide each with an independent ventilation or air-conditioning system to protect against the overheating of the electrical equipment. Refer to IBC 3006.2.
- ☐ **Machine rooms and machinery spaces.** Per IBC 3006.4, **e**levator machine rooms and machinery spaces must be enclosed with fire barriers having a fire-resistance rating not less than the required rating of the hoistway enclosure served by the machinery. Openings must be protected with assemblies having a fire-resistance rating not less than that required for the hoistway enclosure doors. Machine rooms cannot open directly onto vertical exit enclosures per IBC 1020.1.1.

Standby Power and Emergency Power Systems

- ☐ **Where required.** Refer to IBC Table 403(1) per BCC 23.10.403 for equipment on standby and emergency power as well as run times.
- ☐ **An approved remote fueling station** is required at an approved location per IFC 3404.2.7.5.2.
- ☐ **Power sources.** NFPA 20 Section 9.6.2.1 requires power sources for fire pumps to comply with Section 6.4 and meet the requirements of Level 1, Type 10, Class X systems of NFPA 110, Standard for Emergency and Standby Power Systems, including the 8-hour run-time requirement of Table 403(1).
- ☐ **Fuel-fired emergency generator sets** and associated fuel storage, including optional generator sets, located more than 75 feet above the lowest level of Fire Department vehicle access requires the approval of the Fire Code Official per IBC 403.10.1 and BCC 23.10.403.10.
- ☐ **Rated separation.** If the standby system is a generator set inside a building, the standby system, including automatic transfer switch, must be located in a separate room enclosed with 2-hour fire barriers per IBC 403.10.1, as amended by BCC 23.10.403.10.
- ☐ **System supervision** with manual start and transfer features must be provided at the fire command center per IFC 509.
- ☐ **Ventilation** directly to the outside must be provided from the generator room per IBC 909.11, as amended in BCC 23.10.909.11.
- ☐ **Other equipment.** NFPA 110 Section 5-2.2 prohibits the installation of any other electrical equipment within generator rooms.
- ☐ **Generators and UPS.** NFPA 72 Section 1-5.2.7 allows the use of a generator for stand-by power provided a UPS is installed to not allow loss of signals during the start of the generator.
- ☐ **Load Calculations.** When submitting for the electrical permit, size the generator for sequenced starting loads.

Smoke Control

- ☐ **A smoke-control system** meeting the requirements of IBC 909 shall be provided in all high-rise buildings per IBC 403.15, as amended in BCC 23.10.403.15.
- ☐ **Concept design.** The smoke-control permit (permit type FH) is required to be submitted prior to, or at the time of, the building permit submittal (permit type BB). Refer to COB handout Conceptual Smoke Control Submittal #42A for smoke-control submittal requirements. Review and approval of the conceptual submittal outlined in this handout is required prior to issuance of a building permit.
- ☐ **Loading docks.** Smoke removal for the loading dock area within a building should have a minimum exhaust volume of 10 air changes per hour and must be approved by the COB Fire Department. Fans for truck loading bay must be on emergency generator.

- ☐ **Fire-resistance rating for protection of smoke-control system.** Shaft pressurization equipment, control wiring, power wiring, and ductwork for stair and elevator shaft pressurization must be separated from the remainder of the building and other equipment with a 2-hour fire barrier per IBC 909.20.6.1, as amended in BCC 23.10.909.20.6.1.
- ☐ **Special inspection for smoke control.** Special inspection and acceptance testing is required for smoke-control systems per IBC 1704.14 & IFC 909.18. Refer to the COB document entitled Special Inspector Requirements for Smoke Control/Management Systems.
- ☐ **Requirements for Electrical Smoke Control Plans** handout should be referred to in preparation for electrical plan review of the smoke-control system.

Hazardous Materials

- ☐ **The location, quantity, and use of hazardous materials** need to be clearly identified on the drawings for each control area. For example, IBC Table 307.1(1) limits Class II combustible liquids in storage to 120 gallons. This can be increased to 240 gallons in a sprinklered building then again to 480 gallons if stored in approved storage cabinets or as otherwise noted in this table. If not planned for, significant operational difficulties may be encountered.
- ☐ **H-occupancy classifications.** Refer to IBC 307.1 for exceptions to H-occupancy classifications.
- ☐ **For batteries utilized for facility emergency power**, refer to IBC 307.1, Item 11; IBC Table 307.7(2); IFC 608 and NEC 700.12(A).

Transformer Vaults

Oil-filled Transformers:

- ☐ **Sprinklers.** Transformer vaults are required to be sprinklered when exterior access is not provided per IFC 102.8 and 901.4.3.
- ☐ **Location.** Identify the location of all transformer vaults. Per NEC 450.41, vaults must be located where they can be ventilated to the outside air without using flues or ducts wherever such an arrangement is practicable. If not practicable, this must be approved by the Building Official and Fire Code Official.
- ☐ **Construction of walls, roofs, and floors.** The walls and roofs of vaults shall be constructed of materials that have adequate structural strength for the conditions with a minimum fire resistance of 3 hours per NEC 450.42. The floors of vaults in contact with the earth must be constructed with a minimum of 4" thick concrete, but where the vault is constructed with a vacant space or other stories below it, the floor shall have adequate structural strength for the load imposed thereon and a minimum fire resistance of 3 hours (6" minimum concrete). Studs and wallboard construction is not acceptable (except at shafts leading away from the vault). Refer to NEC 450.42 for additional information and for an option for using a 1-hour rating when sprinklered (remember shafts penetrating a 2-hour floor would still require the 2-hour rating per IBC 707.4).
- ☐ **Doorways.** Vault doorways shall be protected in accordance with NEC 450.43(A), (B), and (C). Doors must have a 3-hour rating and locks (1 hour rating would be appropriate if the vault is one hour). IBC 715.4.9 requires an automatic-closing device to be provided when utilizing a rolling fire shutter. Unless providing drains and approved by PSE, a sill or curb to confine oil from the largest transformer in the vault (but not less than 4") may be required. Personnel doors must swing out and be equipped with panic bars, pressure plates, or other devices that are normally latched but open under simple pressure.
- ☐ **Spill control and secondary containment.** Indicate capacity of vaults. Areas occupied for storage of hazardous materials must be provided with a means to control spillage and provide secondary containment of drain-off spillage and fire protection water per IBC 414.5.5 & IFC 2704.2.
- ☐ **Ventilation openings.** Where required by NEC 450.9, openings for ventilation shall be provided in accordance with NEC 450.45(A) through (F). Refer to these code sections for requirements for location of ventilation openings, arrangement of openings, size of ventilation openings, covering limitations over openings, dampers, and ducts. Exhaust ventilation openings are not permitted to be dampered.
- ☐ **Water pipes and accessories.** Any pipe or duct system foreign to the electrical installation must not enter or pass through a transformer vault per NEC 450.47. Piping or other facilities provided for vault fire protection or for transformer cooling would not be considered foreign to the electrical installation.
- ☐ **Storage in Vaults.** Materials shall not be stored in transformer vaults per NEC 450.48.

Dry Transformers:

- ☐ Dry transformers rated over 112.5 kVA. One-hour construction and one-hour doors are required at the transformer room per NEC 450.21(B).

Structural Requirements

- ☐ **The Seismic Design Category** must be specified per IBC 1613.5.6 along with the Occupancy Category per IBC Table 1604.5.
- ☐ **Fire-resistive protection** of structural components must be specified on the drawings.
- ☐ **Seismic-force-resisting system.** For concrete shear wall buildings, determine if the seismic-force-resisting system is to be considered a bearing wall system or a building frame system. Refer to ASCE 12.2.
- ☐ **Seismic design for nonstructural components.** Provide design for the support and attachment of architectural, mechanical, and electrical components per ASCE Ch. 13. Refer to IBC 1707.7 for special inspection requirements. These components must be designed by a structural engineer. If the seismic anchorage design is to be submitted as a deferred submittal, this must be listed on the drawings per BCC 23.05.105(E).
- ☐ **A statement of special inspection** must be prepared by the registered design professional in responsible charge in accordance with IBC 1705.
- ☐ **Special inspections** must be provided as required in IBC 1704 and include special materials and systems utilized in the building per IBC 1704.13 and special inspections for seismic resistance as outlined in IBC 1707.
- ☐ **Structural observation** is required per IBC 1709.2.
- ☐ **Plaza levels** may be required to be able to support fire truck outrigger loads when determined to be necessary by the Fire Department. Design loading conditions are required to meet the requirements of the COB handout entitled Structural Slab Design Loading dated 11/90. Contact a structural engineer with the Building Division for additional design information.
- ☐ **A clear headroom height of 7 feet** must be provided in garages per IBC 406.2.2. This needs to be shown in section on the drawings and consideration for clearance at sprinkler piping, drain pipes, etc. must be considered.

Mechanical and Electrical

- ☐ **HVAC system.** Describe the building HVAC system. Identify location and number of fans.
- ☐ **Pressurization.** Describe the elevator and stair pressurization system, including location of intake, exhaust, and fans. Show the location and extent of each pressurized elevator and stair.
- ☐ **Supply air at corridors.** Describe any system that supplies air to or from rated corridors.
- ☐ **Hoods.** Describe the exhaust system for any Type I cooking hood anticipated in the project. Include fire separations and termination locations.
- ☐ **Electrical vaults.** Describe the mechanical system for any electrical vault including supply and exhaust, fire separations, and locations. Describe vault gravity vent to exterior.
- ☐ **Electrical switchgear rooms** may require a rated room per NEC 450.21(B).
- ☐ **Survivability issues.** Describe how the voice messaging circuitry (NFPA-72 requires 2-hr protection) and smoke control riser is protected from a general fault during an incident in one zone.

COB Handouts Referenced in this Checklist *(reference to heading in this document)*

- ☐ **Alternate Materials, Methods, or Modifications Request Form.** *(Gen. Bldg Code Requirements)*
- ☐ **Fire Pumps on High Rise Buildings.** *(Sprinkler System & Standpipes)*
- ☐ **Conceptual Smoke Control Submittal #42A.** *(Smoke Control)*
- ☐ **Special Inspector Requirements for Smoke Control/Management Systems.** *(Smoke Control)*
- ☐ **Requirements for Electrical Smoke Control Plans.** *(Smoke Control)*
- ☐ **Pressurization/Ventilation Equipment Serving Smokeproof Enclosures.** *(Smoke Control)*
- ☐ **Structural Slab Design Loading** for plaza level designs. *(Structural Requirements)*