

CLARK COUNTY DEPARTMENT OF BUILDING



COMMERCIAL BUILDING INSPECTION CHECKLISTS 2006 CODE

August 30, 2010

GENERAL NOTES

- This checklist is intended for use as a GUIDE to assist and promote consistency in the application of the building code and standard practices within Clark County.
- This list is for use of county inspectors and for the general public.
- This checklist is intended mainly for wood frame and light commercial structures. The information in this checklist is not, nor was it ever intended to be, all-inclusive. It does not include all code or individual plan requirements. It is intended to reflect local policies, procedures and practices within Clark County. This checklist does not waive any specific code requirements not listed or allow for the decrease in the requirements of an engineered design. It also does not add requirements where the minimum of the code has been met.
- All approved plans, documents and revisions to plans must be maintained on site and available for review at all times the building is under construction.
- All plans and paperwork will be reviewed before performing any inspection. When any reference is made to plans in the check list it is referring to these approved plans.
- The owner, permit holder or responsible person, on the job site, is responsible for establishing safe access to perform all inspections.
- In the event that ladders are necessary to perform inspections, all ladders and equipment shall meet minimum OSHA standards. Inspectors are not responsible for setting up or moving ladders from one location to another, within or to other buildings or structures.
- Inspectors are not responsible for unscrewing /unbolting of items to verify information that is part of an inspection.

Code references coding

- A= amendment
- E= energy code
- EL= NEC, electrical code
- R= residential code

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COMMERCIAL FOUNDATION FOOTING (2222)

- 22.02.460(A) Pad certification shall be submitted and approved prior to any inspection being made.
- 1803 Pad is level and built **5 feet** outside of building foot print.
- Plans Verify location of building, front, side, and rear setback per site plans and zoning requirements.
- 1805.2 Check for zone of influence in relationship to retaining walls and property lines.
- 1805.2 Footings depth a minimum of **12 inches** into undisturbed soil.
- 1805.1 Bottom of footings clean and level.
- Plans Verify all footings for size, location and per details.
- Plans Reinforcement in place per plan location.
- Plans Verify all steel for proper size, type and grade.
- Plans Steel in footing and special locations have minimum lap per engineering.
- Plans Check shear plans to verify holddown type and locations.
- Plans ALL holddowns to be templated into place.
- EL250.50 Ufer in place and noted size and location on history card. Ufer is approved under the electrical permit.

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COMMERCIAL CONCRETE SLAB ON GRADE (2229)

- 22.02.460B All items under the slab in and approved (plumbing, mechanical, electrical).
- Plans Slab thickness is per plan .
- Plans Check all notes relating to the slab for construction detail requirements.
- ACI Post-tension cables are properly supported, straight, level or per plan detail (1 in 6 maximum deviation from straight).
- ACI Cable jacketing not damaged or properly repaired.
- Plans Check for miscellaneous steel requirements in slab, slab edge.
- Plans Verify any details for slab edges, for infill or pour strip connections.
- Plans Check for miscellaneous steel requirements in isolated footings.
- 1906.3 Plumbing piping in or thru concrete wrapped where required for movement.
- 1805.4.2.6 Forms level and supported.
- Plans Verify requirement for vapor barrier, if required installed and intact as per plan.

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COMMERCIAL CONCRETE SLAB ON GRADE (2229)

PAGE 1 OF 1

COMMERCIAL FLOOR/ROOF SHEATHING (2236)

- 22.02.525B2 Check for QAA contract requirements for wood or other related items.
- 1704 Nailing spacing <4 inches o.c. requires QAA contract and QAA inspection.
- 22.02.525 Review QAA report for completeness and verify accuracy of the report.
- 2303.4 County approved truss calculations or engineering design on site.
- 2303.4.1.7 Follow truss layout plan and verify truss calculations for each truss.
- 2303.4.1.6 Attachment of trusses to top plate and bearing locations per engineer of record.
- 2303.4.1.7 Look for broken, damaged or modified trusses.
- 2303.4.1.7 All truss repairs require County approval of engineering repair.
- Plans Verify blocking locations and completeness of blocking.
- Plans Drag strapping and blocking, locations and connections are per plan.
- Plans Verify gable end bracing requirements and spacing.
- 2308 Over-build areas, verify grade, size and bracing requirements of all members.
- 1203.2 Ventilation openings through over-build areas.
- 2304.7 Verify sheathing material grade, type, thickness and span rating.
- 2304.7 Min 1/8 inch edge and end spacing of sheathing.
- 2304.7 Sheathing installed perpendicular to roof framing.
- T2304.7(3) Minimum width of sheathing **24 inches** unless all edges blocked.
- 2304.7 Minimum grade "C" exposure rating for exposed underside (eves) edge material (starter board).
- 2304.7 Minimum **6 and 12** Edge and field nailing of sheathing.
- Plans Spacing and size of staples.
- 2304.9.2 Over and/or under driven nailing.
- Plans Shear transfer nailing locations and requirements.
- 2111.4 Chimney anchoring.
- 1507.2.9.4 Crickets of all roof obstructions wider than **30 inches**.
- Plans Verify ledger size and anchoring to structure per plan.

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COMMERCIAL SHEAR WALLS (2239)

- 22.02.525 Check for QAA contract requirements.
- 1704 Nailing spacing <4 inches o.c. requires QAA contract and QAA inspection.
- 22.02.525 Review QAA report for completeness and verify accuracy of the report.
Epoxy repair reports complete and ready for turn-in (inspector to pick up report and return to office).
- 2303.1 Verify framing materials for proper wood species and grade of lumber or size and gage of metal.
- 2305.3.11 Anchor bolts with 3x3 square washers (seismic zone D) on all shear walls.
- 2308.9.2.1 Top plates breaks minimum 4 foot separation, lapped, nailed or strapped.
- Plans Verify location of shear walls, shear types, and nailing requirements.
- Plans Hold downs complete and on double king studs (not on trimmers).
- Plans All structural framing details are complete and done per plan.
- Plans Verify size and location of all headers, king studs, trimmer studs.
- Plans Verify beam sizes, with load transfer to foundation.
- Plans All transfers/drag, straps and miscellaneous hardware in place.
- Plans Verify continuous shear diaphragm from foundation to roof sheathing, unless shown different on approved plans.
- Plans Verify all points of bearing are continuous to the foundation.

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COMMERCIAL SHEAR WALLS (2239)

COMMERCIAL MASONRY/CONCRETE TILT-UP (2226/2225)

- 22.02.525 Verify QAA report is in compliance with the plans, notes and details.
- 22.02.525 Review QAA report for completeness and verify accuracy of the report.
- Plans Check rebar for size and location.
- Plans Check steel grade.
- Plans Check all imbeds and attachment points are per plan.
Does the QAA report include the weld plates?
- Plans Masonry walls verify steel on proper face of wall per plans.
- Plans Masonry lintel headers per plan.

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COMMERCIAL MASONRY/CONCRETE TILT-UP (2226/2225)

PAGE 1 OF 1

COMMERCIAL ROOF UNDERLAYMENT (2268)

- 1503.1 Proper roof underlayment material is being used or approved to be used.
- 1503.2 Flashings in place for valleys and roof penetrations.
- Plans Wall flashings and transitions per details.
- 1507.2.8 Underlayment seams lapped **2 inches** horizontally, **6 inches** vertically and secured to roof.
- 1507.3.2 Minimum 4:12 roof slope for tile roof material.
- 1507.6.2 Minimum 1:12 roof slope for roll roof material.

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COMMERCIAL ROOF UNDERLAYMENT (2268)

PAGE 1 OF 1

COMMERCIAL FRAMING (2244)

WOOD

- J105.1.5 Finish floor certification must be submitted and approved prior to any inspection being made.
- 22.02.460C1 All roughs and required inspections approved prior to framing approval.
- 22.02.525 Check any QAA requirements for wood, steel, welding, etc.
- 22.02.525 Review QAA report for completeness and verify accuracy of the report.
- 717.2.1 Fireblock top plate penetrations seal penetrations with a class one flame spread material.
- 717.2.2 Fire blocking at ceiling line, drop ceiling line, or soffit lines.
- 717.2.2 Fire blocking framing penetrations every **10 feet** horizontally.
- 717.3 Check for floor truss draft stopping for areas exceeding **1000 square feet**.
- 717.3.2 Attic draft stops required on R2 buildings of 3 or more dwelling units and all R1 buildings. Draft stops shall be in line with unit separation.
- 717.4 All other groups attic draft stops every **3,000 square feet**.
- 2308.9.11 Bored holes **40%** bearing and exterior studs, **60%** others.
- 2308.9.10 Maximum notches **25%** bearing and exterior studs, **40%** others.
- 2308.9.8 Top plate more than **50%** bored/notched have metal strap with 6 nails each side
Trade damage to studs, shear, trusses and structural members.
- 1009.3 Verify stair min **4 inch** rise max **7 inch** rise and min **11 inch** run.
- 1009.4 Stair landing length minimum **48 inches** in direction of travel.
- 1009.4 Stair landing width same as stair width.
- 1009.2 Verify stairway head clearance **6 feet 8 inches**.
- 1209.2 Attic access opening, location and minimum **22 inches by 30 inches**.
- 1203.2 Attic ventilation **1/150** or **1/300** if half openings high, plus any combustion air requirements (see mechanical).
- 1026.2 Escape/rescue window size minimum **20 inches** wide, **24 inches** high, **5.7 square feet** of area.
- 1026.3 Escape/rescue window sill height maximum **44 inches** above floor.
- 2111.11 Fireplace clearance to framing.
- 2111.10 Fireplace hearth extensions.
- 2111.11 Fireplace opening to combustibles.

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COMMERCIAL FRAMING (2244)

METAL NON-LOAD BEARING, Reference ASTM C754 & ES report 4943P

1. Finish floor certification must be submitted and approved prior to any inspection being made.
2. Check any QAA requirements for steel, welding, etc.
3. Review QAA report for completeness and verify accuracy of the report.
4. Anchoring top and bottom tracks.
5. Proper gauge of stud for wall type and height of wall.
6. Studs attached to both sides of track, both top and bottom tracks.
7. Bracing top of partition walls to structure **4 foot** on center alternating sides.
8. Verify any internal bracing of high walls and unbalanced walls.
9. Openings framed in for access doors and other items.
10. Verify any repairs to fireproofing of beams (Mono coating).
11. Verify fire caulking of rated floor penetrations within wall cavity are in compliance with approved assemblies.
12. Framed ceiling wires minimum **9 gauge**, spaced **4 foot** on center.
13. **1 ½ inch** Black iron, spaced **4 feet** on center.
14. Hat rack properly attached to black iron with saddle tie, tie wire.
15. Hat rack lapped **min 8 inches** and properly secured.
16. Engineered ceiling systems per manufactures information.
17. Penetrations of rated walls above the ceiling line fire caulked.

METAL BEARING

- 1 Finish floor certification must be submitted and approved before inspection can be made.
- 2 Check any QAA requirements for steel, welding, etc.
- 3 Review QAA report for completeness and verify accuracy of the report.
- 4 Framing per structural details.
- 5 Rafters centered over studs max $\frac{3}{4}$ **inch** from center line.
- 6 Studs full bearing in top and bottom tracks.
- 7 No holes in studs within **7 inches** of the ends of studs.

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COMMERCIAL SHAFT ENCLOSURE (2255)

- Plans Determine minimum fire rating for height of the building.
- Plans Grease duct approved (by mechanical inspector).
- FIG-B-014 Verify approved type system or listed system being used.
- Plans Follow plans for clearance to combustibles (**18 inches**), limited combustible (**3 inches**), and non-combustible (**0 inches**).
- Manufacturer Follow construction details.
- Manufacturer Follow ES report for listed systems installation.
- Manufacturer Ducts wider than **24 inches** have support pins for wrap material. Manufacturer Structural members cannot be used as part of or encapsulated within the shaft enclosure.
- FIG-B-014 Enclosure supported separate from duct system.
- FIG-B-014 Openings in shaft enclosure to match duct openings in size and location.
- FIG-B-014 Access opening doors can be removed without the use of tools.
- FIG-B-014 Access door has same fire rating as enclosure.

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COMMERCIAL EXTERIOR LATH (2249)

One Coat Stucco [Per ES Report]

1. Review for compliance to ES report for foam and stucco system being used.
2. Verify installers card.
3. Weep screed location and tight to framing with **4 inch** clearance to earth or **2 inch** clearance to concrete.
4. Foam tongue and groove joints tight, with the tongue going up.
5. Foam vertical joints touching and on framing members.
6. Lath tight and lapped properly.
7. Lath shall have **2 inches** horizontal and **6 inches** vertical laps.
8. **6 inch** on center stapling of lath field and perimeter.
9. Verify nail/staple length in relation to foam thickness.
10. Caulking of all penetrations.
11. Verify doors and window openings flashed and weather tight.
12. Check if foam is cut back at **45°** angle from windows and doors or per ES report details.
13. Outside edge corners shall have the foam held back from edge or lath doubled.
14. Electrical panel flashed and weather tight.
15. Verify proper attachment of pop-outs.
16. Minimum **2 inch** transitions lap through corners from lath to high rib ceilings.
17. Verify thermal barrier material for separation from foam materials and heat producing appliances in an attic.
18. Verify double layer weather barrier paper over wood sheathing.

Three Coat Stucco

- | | |
|----------|--|
| 2512.12 | Weep screed location and tight to framing with clearance of 4 inches to earth or 2 inches to concrete. |
| 2510.6 | Verify double layer weather barrier paper over wood sheathing. |
| ASTM | Lath tight and lapped properly. |
| ASTM | Lath shall have minimum 2 inches horizontal and 6 inches vertical laps. |
| ASTM | Verify doors and window openings flashed and weather tight. |
| ASTM | 6 inches on center nailing of lath field and perimeter. |
| | Electrical panel flashed and weather tight. |
| ASTM | Minimum 2 inch transitions lap through corners from lath to high rib ceilings. |
| E502.4.3 | Caulking or sealing of all penetrations for energy code. |

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COMMERCIAL EXTERIOR LATH (2249)

COMMERCIAL INSULATION (2252)

WALLS

- E501.1 Verify compliance to energy calculations (wall, ceiling and knee wall insulation requirements).
- E502.2.3 Quality of insulation work is right, behind boxes, around pipes and wires, tight into all corners with no gaps.
- E502.3.2 Check glazed openings for U-value (smaller the number the better).
- E502.3.2 Verify solar heat gain coefficient (SHGC) for each window type (smaller the number the better).
- E502.4.3 Verify sealing around window and door frames.
- E502.2.3 Verify insulation in concealed locations (double shear, behind tubs/showers, behind fireplaces).
Verify baffles provided for eve vents with blown attic insulation.
For blown-in insulation depth markers installed every **300 square foot** of area.

ATTIC

- Plans Check blown attic insulation is proper depth.
Blown insulation is uniform in thickness.
- Plans Batts R-value per energy calculations.
- E502.2.3 Batts placed together for full coverage.
- 719.3 No exposed craft face insulation in attic/open ceiling areas.
- E401.3 Energy calcs posted in the building (attic most common).
- A,E401.3 Bring insulation cert back to the office.
- E502.4.3 Weather stripping on access opening.

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COMMERCIAL INTERIOR LATH/DRYWALL (2259)

Plans	Check shear plans for any drywall shear locations.
Plans	Verify shear locations and nail schedule requirements.
ASTM	General drywall application, field and edge nailing (8 inches o.c. for walls, 7 inches o.c. for ceilings and 12 inches o.c. for screws).
703	Verify garage wall penetrations are properly fire caulked. Check for router damage to electrical wires in boxes.
NEC 314.21	Verify electrical boxes are flush with maximum gap around sides of 1/8 inch .
1210.2	In wet locations verify material being used per manufacture installation instructions or code requirements.
Plans	Check for rated assembly locations.
703	Verify any penetration requirements for rated assemblies per listed assemblies requirements.
1209.2	Attic access opening is cut out and accessible location.

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COMMERCIAL INTERIOR LATH/DRYWALL (2259)

PAGE 1 OF 1

**COMMERCIAL SUSPENDED CEILING (2273)
PER FIG-B-007**

1. Rough plumbing, mechanical, electrical approved above ceiling area.
2. Heavy duty grid main runner system used.
3. Hanger wires minimum 12 gauge, **4 feet** on center.
4. Seismic bracing on all rooms over **144 square feet**.
5. Two inch wide wall molding.
6. Grid attached to wall angle on two adjoining sides.
7. **¾ inch** gap between end of tee and wall on unattached ends.
8. Wires straight and tied with minimum **three turns in three inches** at both ends.
9. Perimeter wires on all terminal ends within **8 inches** of the wall.
10. Terminal ends tied together (spreader bars) to prevent spreading (verify at final).
11. An approved compression strut at each bracing location.
12. Changes in ceiling plane positively braced to structure.
13. Walls braced independent of ceiling.
14. 2500 square feet areas separated by approved expansion joint.
15. Fixtures positively attached to ceiling system.
16. Slack wires on lights and ceiling items.
17. Electrical and mechanical systems independently supported from the ceiling.

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COMMERCIAL BUILDING FINAL (2299)

	Accessible	Type A	Type B Option A	Type B Option B
On accessible route?	Yes	Yes	Yes	Yes
Inside spaces accessible?	Yes	Yes	Yes	Yes
Turning Radius Each room?	Yes	Except non conforming baths	No ¹	No ¹
Door Maneuvering space?	Yes	Yes	Outside Only	Outside Only
Threshold Height?	½"	¾" at slider	¾" at slider	¾" at slider
Passage door width?	32"	32"	31 ¾"	31 ¾"
Toilet/Bath Comply?	All	All Accessible	All except Powder ¹	Only One ¹
Bars?	Yes	Yes	No	No
Vertical Bars?	Yes	No	No	No
Reinforcement?	Yes	Yes	Yes	Yes
Forward Approach Lavatory?	Yes	Yes	Yes	Parallel Allowed
Encroach Toilet/Bath Space?	No	No	Yes	Yes
Removable Cabinet?	No	Yes	Yes	Yes
Forward Approach Kitchens?	Yes	Yes	Parallel Allowed	Parallel Allowed
Number required	Varies (Approx 3%)	2%(if over 20)	All Except single/two Units	All Except single/two Units

R Occupancy Accessibility Comparison

¹ Need 30" x 48" clear of door swing at bathroom.

COMMERCIAL BUILDING FINAL (2299)

- BI-PP-033 Verify all clearances approved before inspection is made.
- BI-PP-033 Verify sub trade finals approved before inspection is made.
- J105.1.2 Finish site grading complete, **6 inch** clearance from earth to wood items.
- Title 30 Special landscape requirements in place (site plan).
- J105.2 Verify site drainage complies with site plan.
- Title 30 Address posted, illuminated, size per zoning and set back distance from street (includes address on signs and each suite).
Roofing complete and cleaned off.
- 1203.2 Attic tile vents in place (right number).
- 705 Rated wall penetrations complete.
- 907.2.10.1.2 Smoke detectors are in all the required locations.
- 907.2.10.3 Smoke detectors working and tied together.
- 1012.1 Stairway handrails size, (min **1 1/4 inch** max **2 inch**) with returns and/or extensions.
- 1012.2 Stairway handrails mounting height **34-38 inches** to top of rail.
- 1013.3 Guardrails pattern and height (<**4 inch sphere**).
- 1013.2 Guardrail height minimum **42 inches high** (even along common stairs).
- 2406 Tempered glass in areas subject to human impact.
- FIG-B-007 Verify spreader bars for suspended ceiling.
- ANSI Ramps for handicap access in place and per ANSI standard.
- ANSI Bathroom elements, where required, in compliance with ANSI standard.
- ANSI Accessibility standards for all elements.
- 1008.1.4 Door landings in place, for size, slope and elevation difference each side of door.
- ANSI Exit path from parking into the building defined and marked with proper signage.
- 1011 Exit signage in proper locations and in working order.

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COMMERCIAL BLOCK WALLS

FOOTINGS (2222)

Plans	Verify if County plan or engineered plan.
L104.2	Verify location of wall from site plan.
Plans	Private property line walls need approval of both land owners.
Standard	Footings minimum 15 inches deep 12 inches thick.
Plans	Minimum width per plan.
Plans	If retaining wall, size per plan.
ACI 318	Steel in place 3 inch clearance to earth to all steel.
ACI 318	Minimum 24 inch lap on all steel.
County	Verify proper clearance around light poles, fire hydrants, water mains, etc.

PREGROUT (2226)

Title 30	Verify height of wall 6 foot maximum without variance.
Title 30	Total wall height, retainer and block wall 14 feet high.
Plans	Vertical steel in cells.
Standard	Intermediate and top bond beam in place OR alternate Durawall every other course in bed joint.
Plans	Vertical steel into top block.
Plans	Pylons/expansion joint locations per plan.
L104.2	If retaining wall, damp proofing in place.
Standard	If retaining wall, drainage holes every 8 feet or per plan.

FINAL (2299)

	Wall grouted.
Plans	If required, cap in place.
ACI 318	No steel protruding from top of wall. Site drainage around wall completed. Maximum 24 inch backfill next to wall.

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