St. Louis County Department of Public Works
Division of Code Enforcement

Mall Tenant Improvement Certification

The following checklist is intended to streamline St. Louis County's code review and permitting process for typical retail and food service tenant finishes at the proposed mall.

The project applicant and design professional(s), as applicable, are required to fill the box adjacent to each item with either a check mark indicating compliance or a N/A indicating not applicable. Upon completion of the certification checklist, the design professional(s) are required to sign their name(s) along with their Missouri Professional License Number and attach copies of this Certification to each set of plans submitted.

A. Submittal Compliance:

☐ 1. Four assembled and bound sets consisting of Architectural, Mechanical, Electrical and Plumbing plans are provided.

☐ 2. All plan sheets for all disciplines, the cover sheet of structural calculations and specifications are stamped and signed by the responsible professional architect or engineer registered in Missouri. All cover sheets bear "wet" or embosses seals and original signatures with date.

☐ 3. Project Construction Breakdown – A letter is included which lists the bid/contractor construction costs broken down by trades (general construction, electrical, plumbing, mechanical, kitchen equipment and sprinkler) as applicable to the project. These individual breakdowns are needed so that appropriate permit fees can be fairly assessed.

☐ 4. City of Chesterfield Zoning Approval – Plans will be submitted separately to the City of Chesterfield for Zoning Approval concurrent with the plan submittal to St. Louis County Public Works. It is understood Public Works will not issue a building permit without confirmation of Chesterfield Zoning Approval.

I, the undersigned certify that as the project applicant; have complied with all of the submittal requirements of the St. Louis County Department of Public Works.

_____

Signature and printed name

B. Building Code Compliance:

Plans shall comply with the 2009 International Building Code as adopted and amended by St. Louis County Ordinance. (Copy of the St. Louis County Adoptive Ordinance including amendments to the 2009 International Building Code is available at: www.stlouisco.com/YourGovernment/CountyDepartments/PublicWorks).

☐ 1. The following tenant and building classification is provided on the cover sheet of the plans:

   a. Occupancy Use Group Classification
   b. Type of Construction
   c. Occupant Load of the tenant space
   d. Tenant Square Footage
   e. Automatic Sprinkler System Provided
   f. Tenant address with suite number or mail location ID designation

☐ 2. Tenant scope of work is clearly differentiated from existing permitted construction.

☐ 3. A key plan showing proposed tenant location within building is provided. Exiting beyond the tenant space is clearly identified and location of nearest mall public restrooms is shown.

☐ 4. Architectural plans are drawn to scale and fully dimensioned.

☐ 5. Plans include floor plan, ceiling plan, roof plan (see comment 27), and elevations.

☐ 6. Each tenant space is separated from other tenant spaces by a one-hour rated wall which extends to the ceiling above per Building Code Section 402.7.2.

☐ 7. Details of rated walls and ceilings and reference the listing number of the assembly are provided. References are from UL. The details for rated assemblies note all required components (such as nails sizes and spacing, etc.) so the inspectors can verify the assembly without referring to additional documents.

☐ 8. Details showing how both partition walls and suspended ceilings are braced to withstand seismic loading as required by Building Code Chapter 16 are provided.

☐ 9. Any wood used in a wall assembly is fire-retardant treated wood per Building Code Section 2303.2.

☐ 10. Plastic signs and panels comply with Building Code Section 402.16.

☐ 11. Interior finish materials comply with Building Codes Section 803. Class II (flame spread 26-75) required for ceilings of retail tenant spaces exceeding 3000 sq. ft.

☐ 12. A door and hardware schedule is provided.

☐ 13. Two exits are provided when the occupant load exceeds 50 and/or the exit travel distance exceeds 75 feet. If two exits are required they are 1/3 the maximum diagonal distance apart (for mall equipped with automatic fire suppression system). See Building Code Sections 1021 and 1015.2.1.

☐ 14. Doors swing in the direction of egress when the occupant load is 50 or greater.

☐ 15. Security grills and doors comply with Building Code Section 1008.1.4.5. Structural calculations are provided for the support of the security grilles.

☐ 16. Hardware at accessible doors complies with Building Code 1008.1.9. Lever type hardware is indicated on the plans.

☐ 17. The width of level area on the side to which the door swings (pull side) extends 18 inches past the strike edge of the door for interior doors. If the door has a closure and a latch, 12" is provided on the opposite (push) side per ICC/ANSI A117.1-2003.

☐ 18. A Dimensioned floor plan and elevation for the restrooms showing compliance with The American National Standard Accessible Usable Buildings and Facilities/ICC/ANSI A117.1-2003 is provided. The construction documents incorporate all the following requirements listed and shown in the illustration.

a. Access into and/or from the restroom is provided.

b. A 5' clear diameter turnaround space is provided within the restroom.

c. Doors may swing into the clear floor space required for any fixture only in a restroom for individual use where there is a 30" by 48" clear floor space provided beyond the arc of the door swing.

d. The clear floor spaces at fixtures and controls, the accessible route and the turning space may overlap.

e. The water closet is located 16" minimum to 18" maximum from the side wall. Clearance around the water closet is 60" minimum from the side wall and 56" minimum for the rear wall. No other fixtures are located within the clear space.

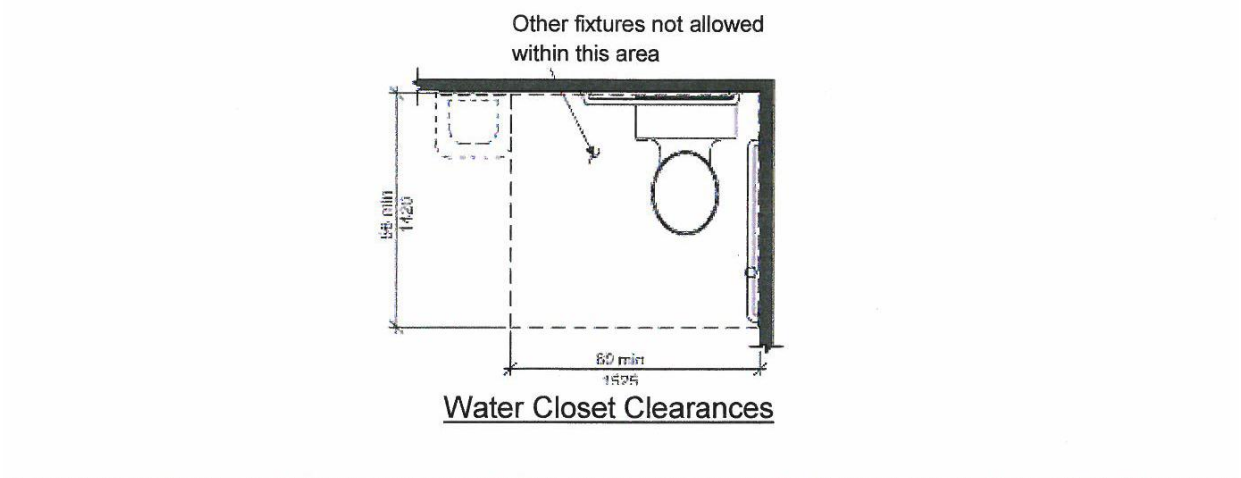
f. A 42" long horizontal grab bar shall be provided on the side wall next to the water closet. This grab bar shall be mounted 33"-36" above the floor. In addition a vertical grab bar a minimum of 18" in length shall be mounted on the side wall with the bottom of the bar located 39"-41" above the floor. The centerline of the vertical grab bar located 39"-41" from the rear wall.

g. A 36" wide access door is provided for the needed 32" clear width.

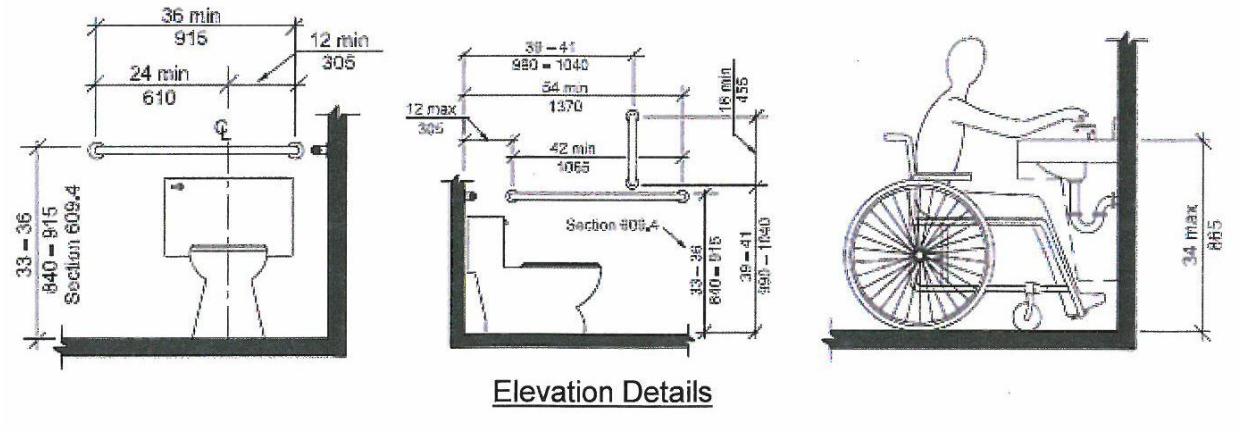
h. Bottom of mirror is mounted no higher than 40" above the floor.

i. Lavatories are mounted with the rim 34" maximum above the floor and have a maximum depth of 6 1/2".

j. Water closets have a height of 17"-19" to the top of the seat.



Water Closet Clearances



Elevation Details

☐ 19. In occupancies of use groups A and M, an accessible unisex toilet room is provided where an aggregate of six or more male and female water closets and urinals are required per Building Code Section 1109.2.1.

☐ 20. Elevations and dimensioned plans of the accessible dressing room shows compliance to ICC/ANSI A117.1-2003 including height of mirror and clothing hoods, bench location, size and height.

☐ 21. A seating plan is provided for restaurant and food court dining areas showing the location of accessible seats.

☐ 22. Egress through a stock room shall comply with Section 1014.2#4, Exception 2.

☐ 23. Plywood sheathing (regular or fire retardant-treated) proposed for a horizontal surface such as the top of a restroom or dressing room must be placed over the top of a noncombustible framing and sheathing.

☐ 24. Four sets of structural plans and one set of structural calculations (sealed by a Missouri Professional Engineer) are required to address gravity and seismic designs of restroom/dressing rooms where items are stored on the decking above.

Exception: The area is posted with “No Storage in This Area” signage.

☐ 25. Structural calculations and details are provided for any structural work or modifications to the existing permitted structure.

☐ 26. For food establishments that have Type I cooking hoods the plans provide a detail for a one hour rated cooking hood exhaust duct enclosure with structural bracing as required by 506.3.10 of the Mechanical Code.

☐ 27. A master floor/roof framing plan for each tenant modifying the floor/roof framing for installation of proposed equipment is provided to show the location and design changes needed for supporting new roof top A/C units not provided as part of the original mall building. Structural calculations and details for the support of new equipment on the roof and any other equipment are included.

I, the undersigned certify that as the project architect of record, have complied with all of the above noted building code requirements and the 2009 International Building Code as adopted and amended by the County as part of my scope of work.

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Signature and printed name Missouri License #

C. Mechanical Code Compliance

Plans shall comply with the 2009 International Building Code as adopted and amended by St. Louis County Ordinance. (Copy of the St. Louis County Adoptive Ordinance including amendments to the 2009 International Building Code is available at: www.stlouisco.com/YourGovernment/CountyDepartments/PublicWorks).

☐ 1. All plan sheets for all disciplines, the cover sheet of structural calculations and specifications are stamped and signed by the responsible professional architect or engineer registered in Missouri. All cover sheets bear "wet" or embossed seals and original signatures with date.

☐ 2. Seismic bracing and restraints for mechanical, electrical and plumbing equipment and ductwork/piping as required by the St. Louis County Rules, Regulations and Interpretations on Earthquake Resistance are provided. Equipment supports are designed and installed for the seismic forces in accordance with the Building Code. Construction documents include St. Louis County Seismic Code Block, engineering details of the location, anchorage attachment, and computations.

☐ 3. Heat loss/gain calculations are included. The amount of required outside air has been provided for within the calculations and complies with Table M-403.3 including, but not limited to the following excerpts from the table most applicable to a typical retail or food service tenant.

REQUIRED OUTDOOR VENTILATION AIR FOR SPECIALTY SHOPS				
OCCUPANCY CLASSIFICATION	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE CFM/PERSON	AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE R_8 CFM/FT^{2A}	DEFAULT OCCUPANT DENSITY #/1000 ft^{2a}	EXHAUST AIRFLOW RATE CFM/FT^{2a}
Retail Stores, Sales Floor and Showroom Floors				
Sales (except as below)	7.5	0.12	15	--
Dressing rooms	--	--	--	0.25
Mall common areas	7.5	0.06	40	--
Shipping and receiving	--	0.12	--	--
Smoking lounges[b]	60	--	70	--
Storage rooms	--	0.12	--	--
Specialty Shops				
Barber	7.5	0.06	25	0.5
Beauty and nail salons[b.h.]	20	0.12	25	0.6
Pet shops (animal areas)[b]	7.5	0.18	10	0.9
Supermarkets	7.5	0.06	8	--
Sports and amusement				
Game arcades	7.5	0.18	20	--

REQUIRED OUTDOOR VENTILATION AIR FOR SPECIALTY SHOPS				
OCCUPANCY CLASSIFICATION	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE CFM/PERSON	AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE R_8 CFM/FT^{2A}	DEFAULT OCCUPANT DENSITY #/1000 ft^{2a}	EXHAUST AIRFLOW RATE CFM/FT^{2a}
Food and Beverage service				
Bars, cocktail lounges	7.5	0.18	100	--
Cafeteria, fast food	7.5	0.18	100	--
Dining rooms	7.5	0.18	70	--
Kitchens (cooking)[b]	--	--	--	0.7

☐ 4. Mechanical drawings with ductwork layout, equipment locations and equipment installation details are provided. CFM for air devices is indicated, ducts and piping sized, and volume dampers are shown.

☐ 5. All mechanical equipment is specified; capacities and other parameters are indicated in equipment schedules. The amount of required outside air is indicated in the equipment schedule.

☐ 6. Mechanical specifications for all equipment, materials, controls, duct construction, insulation and installation are provided.

☐ 7. Installation details for A/C equipment, fire, smoke dampers, duct work construction and connections including the following are provided:

a. Condensate drain from A/C unit to plumbing drainage system conforms to Section M-307.

b. Gas piping from meter to equipment is specified and sized and conforms to Chapter 4 of International Fuel Gas Code. Shut-off valve, union and sediment trap are provided for each connection.

c. Combustion air for gas-fired equipment installed indoors complies with Section 304 of International Fuel Gas Code. Combustion air calculations are provided.

d. Smoke detectors are installed in return air systems and conform to M-606.2. Smoke detectors are specified in mechanical documents.

e. Kitchen hoods and kitchen exhaust ducts are detailed and clearance to combustibles shown. Exhaust ducts serving a Type I hood are enclosed with one hour fire rated construction from the point of penetration of ceiling, wall, or floor to the outlet terminal.

☐ 8. Fire rated and/or smoke walls are indicated on drawings and dampers are shown where required. A damper schedule is provided. Duct access door for each fire damper is provided.

I, the undersigned certify that as the project architect of record, have complied with all of the above noted building code requirements and the 2009 International Building Code as adopted and amended by the County as part of my scope of work.

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Signature and printed name Missouri License #

D. Electrical Code Compliance

Plans shall comply with the 2009 International Building Code as adopted and amended by St. Louis County Ordinance. (Copy of the St. Louis County Adoptive Ordinance including amendments to the 2009 International Building Code is available at: www.stlouisco.com/YourGovernment/CountyDepartments/PublicWorks).

☐ 1. All plan sheets for all disciplines, the cover sheet of structural calculations and specifications are stamped and signed by the responsible professional architect or engineer registered in Missouri. All cover sheets bear "wet" or embossed seals and original signatures with date.

☐ 2. Seismic bracing and restraints for mechanical, electrical and plumbing equipment and ductwork/piping as required by the St. Louis County Rules, Regulations and Interpretations on Earthquake Resistance are provided. Equipment supports are designed and installed for the seismic forces in accordance with the Building Code. Construction documents include St. Louis County Seismic Code Block, engineering details of the location, anchorage attachment, and computations.

☐ 3. An electrical one line diagram from Main Switch Board to the tenant panel(s) is provided.

☐ 4. Service entrance and grounding details for tenants' service and transformer are sown in compliance with NEC 230 & 250.

☐ 5. Panel schedule(s) and load calculations in compliance with NEC 408 & 220 are provided.

☐ 6. Power and lighting plans are included.

☐ 7. Locations of panel(s), transformer, and equipment are shown.

☐ 8. New work is differentiated from work previously permitted.

☐ 9. Disconnects for equipment on roof top units and GFI receptacles are provided as required by NEC 440 & 210-8.

I, the undersigned certify that as the project architect of record, have complied with all of the above noted building code requirements and the 2009 International Building Code as adopted and amended by the County as part of my scope of work.

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Signature and printed name Missouri License #

E. Plumbing Code Compliance

Plans shall comply with the 2009 International Building Code as adopted and amended by St. Louis County Ordinance. (Copy of the St. Louis County Adoptive Ordinance including amendments to the 2009 International Building Code is available at: www.stlouisco.com/YourGovernment/CountyDepartments/PublicWorks).

☐ 1. All plan sheets for all disciplines, the cover sheet of structural calculations and specifications are stamped and signed by the responsible professional architect or engineer registered in Missouri. All cover sheets bear "wet" or embossed seals and original signatures with date.

☐ 2. Seismic bracing and restraints for mechanical, electrical and plumbing equipment and ductwork/piping as required by the St. Louis County Rules, Regulations and Interpretations on Earthquake Resistance are provided. Equipment supports are designed and installed for the seismic forces in accordance with the Building Code. Construction documents include St. Louis County Seismic Code Block, engineering details of the location, anchorage attachment, and computations.

☐ 3. Restrooms are provided for both employees and customers in accordance with a, b, or c below based on size of tenant space;

a. For employees, in tenant spaces with a floor area of one hundred fifty (150) square feet or less:

- Maximum distance from store to public restroom does not exceed 300 ft. (no tenant restroom proved). (412.5.3)

  or

- Unisex restroom is provided for store.

b. In tenant spaces with a total floor area of greater than one hundred fifty (150) square feet up to twenty five hundred (2500) square feet.

- Unisex restroom is provided for store for employees and customers. (412.3)

c. In tenant spaces greater than twenty five hundred (2500) square feet:

- For ten (10) or less people, unisex restroom is provided for store.

  or

- For greater than ten (10) employees, separate facilities are provided for employees, provided according to the Mercantile or Retail Buildings category from Table 4-1 listed below:

  and in addition

- For customers, maximum distance from store to public restroom does not exceed 500 ft. No additional fixtures needed within tenant space restroom(s).

  or

- For customers, maximum distance from store to public restroom exceeds 500 ft., additional fixtures provided according to the Mercantile or Retail Buildings category from Table 4-1 listed below.

d. For restaurants other than those located in the Food Court:

- Separate facilities are required according to the Restaurants, Pubs & Lounges category found in Table 4-1 of the Plumbing Code (Ordinance #24441).

Type of Building or Occupancy[2]	Water Closets[24] (Fixtures per Person)		Urinals[5,10] (Fixtures per Person)	Lavatories (Fixtures per Person)		Bathtubs or Showers (Fixtures per Person)	Drinking Fountains[3,13] (Fixtures per Person)
Mercantile or Retail Buildings[17] *(M Use Group)	Male 1: 1-200 2: 201-400 3: 401-600	Female 1: 1-50 2: 51-100 3: 101-300	Male 0: 1-100 1: 101-300 2: 301-600	Male 1/2 # of water closets & urinals (round up)[7,8]	Female 1/2 # of water closets (round up)[7,8]		0: 0-100[12] 1: 101-200 2: 201-600 3: 601-1000 Add 1 fixture for each additional 1000 persons

☐ 4. Plumbing fixture traps are individually vented (901.1, 1002.1).

☐ 5. Floor drains, floor sinks, and hub drains being used as indirect waste receptors for drip drainage and other similar discharges are directly trapped and vented if the indirect waste pip is 15’ or greater (803.0). Indirect waste pipes more than 5” and less than 15” shall be directly trapped but such traps need not be vented.

☐ 6. A floor drain is provided with 15 feet and in the same room as the water heater. (411.2.5, St. Louis County Ordinance).

☐ 7. Water heater is seismically braced in accordance with St. Louis County Seismic Rules.

☐ 8. Where the water heater is located above a ceiling or in furred space, or above the ground or basement level and does not have a floor drain available, a watertight safe pan of corrosion resistant materials is installed beneath the water heater, and it is laid on or supported by a structurally sound base, with a minimum 1 1/4 inch diameter drain which terminates and discharges through an air gap or air break into a properly trapped and vented receptor. (508.4, St. Louis County Ordinance).

☐ 9. The safe pan provided beneath the water heater is constructed with .0276” galvanized sheet metal. The side walls of the safe pan are at least two (2”) inches high or of such shape and capacity as to prevent splashing or flooding, and made watertight. (508.4, St. Louis County Ordinance).

☐ 10. Items 58 through 62 are applicable to Food Service Establishments (NA to Retail Tenants):

☐ 11. Pot sinks, scullery sinks, dishwashing sinks, silverware sinks and similar fixtures are connected directly to the drainage system (704.3).

☐ 12. Food preparation sinks, steam kettles, potato peelers, ice cream dipper wells, dishwashing machines, silverware washing machines, and similar equipment are indirectly connected to the drainage system by means of an air gap or air break (801.2.3, St. Louis County Ordinance).

☐ 13. All floor sinks being used as indirect waste receptors for food handling fixtures or equipment are individually wasted and vented. (801.2.3, St. Louis County Ordinance).

☐ 14. The interior grease trap has been sized as follows: (1014.2.2, Table 10-2, St. Louis County Ordinance)

a. Determine total capacity of sink including all compartments in cubic inches.

b. Divide cubic inches by 231 to determine the capacity in gallons.

c. Multiply total capacity by 75% to determine the actual drainage load in gallons.

d. Determine the flow rate for a one minute drainage period by dividing the actual drainage load by the drainage period of one minute, the result being in GPM.

e. Select the grease interceptor by choosing the next largest size when the flow rate is between two sizes.

f. Two pounds retention capacity is equal to 1 GPM flow rate.

TABLE 10 – 2

Hydro-mechanical Interceptor Sizing Using Gravity Flow Rates [1]

Diameter of Grease Waste Pipe	Maximum Full Pipe Flow (gpm) [2]	Size of Grease Interceptor	
		One-Minute Drainage Period (gpm)	Two-Minute Drainage Period (gpm)
2	20	20	10
3	60	75	35
4	125	150	75
5	230	250	125
6	375	500	250

(1) For interceptor sizing by fixture see the example below.

(2) 1/4" (.240) slope per foot based on Manning's formula with friction factor N = 0.12

(3) One minute drainage period shall be used in design for St. Louis County.

EXAMPLE FOR SIZING

HYDROMECHANICAL INTERCEPTOR(S) USING FIXTURE CHART

Step 1: Determine the flow rate form each fixture.

Length x Width x Depth / 231 = Gallons x .75 fill factor / Drain Period (1 min)

Step 2: Calculate the total load from all fixtures that discharge into the interceptor.

Fixtures	Compartments	Load (gallons)	Size of Grease Interceptor	
			One-Minute Drainage Period (gpm)	Two-Minute Drainage Period (gpm)
Compartment Size				
24" x 24" x 12"	2	44.9		
Hydrant		3		
Rated Appliance		2		
		49.9	50	25

☐ 15. Each fixture discharging into the grease interceptor is individually trapped and vented in an approved manner. (1014.1.1).

I, the undersigned certify that as the project architect of record, have complied with all of the above noted building code requirements and the 2009 International Building Code as adopted and amended by the County as part of my scope of work.

_____ _____

Signature and printed name Missouri License #