

Non-Residential Building Guidelines



**DEVELOPMENT
SERVICES
DEPARTMENT**

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DISCLAIMER: THIS CHECKLIST DOES NOT COVER ALL CODIFIED REQUIREMENTS, BUT IS INTENDED TO PROVIDE SOME GUIDANCE BASED ON BEST PRACTICES. THE APPLICANT IS RESPONSIBLE FOR MEETING ALL CODIFIED AND APPLICABLE REQUIREMENTS.

TO BE COMPLETED BY APPLICANT	YES	NO	N/A
PUBLIC UTILITY REQUIREMENTS			
1. Show location and size of grease traps with approval letter from the Fats, Oils and Grease Supervisor (919) 250-7825			
2. If a swimming pool is proposed, show how water will be discharged to sanitary sewer system (limit 50 GPM)			
ZONING REQUIREMENTS			
1. Copy of the Approved Site Plan			
2. Floor plans and building elevations			
STORMWATER REQUIREMENTS			
1. Reference set of approved Site Plan and/or Infrastructure Construction Drawings			
2. If in flood hazard area, identify Regulatory Flood Protection Elevation			
3. A Flood Study is required for any encroachment into a regulatory floodway and must be sealed by the design engineer			
URBAN FORESTRY REQUIREMENTS			
1. A copy of the latest Recorded Plat showing the tree conservation areas			
2. Provide on plans metes and bounds descriptions for all required Tree Conservation Areas and Watershed Protection Overlay Districts and reference the book of maps and page where they are recorded			
FLOODPLAIN REQUIREMENTS			
1. Proposed finished floor elevation of building, electrical, and mechanical equipment should be shown on architectural plans			
2. Identify Regulatory Flood Protection Elevation (RFPE) on all architectural plans			
3. Wet or Dry Flood Proofing: Provide all structural and installation details for flood proofing measures including retrofits and proposed building materials			
4. Provide Emergency Preparedness Action Plan: The plan is a document detailing how flood protection measures are to be installed and the responsible parties for floodproofed buildings. (A sample plan may be obtained from the Stormwater Engineer's office.)			
GENERAL PLAN REVIEW REQUIREMENTS			
1. Wind Speed - 100 MPH, Fastest wind speed three second gust , Snow Load for Raleigh, NC - 15 lbs. , Frost Depth - 12 inches			
4. The following shall be indicated on all plans: Reproduction of Design Criteria of Fire Resistive Designs, Fire Walls, Fire Barriers, Floor/Ceiling assemblies, Smoke Resistant Walls, Smoke Barriers, Fire Resistive Joints, Penetrations, Smoke Tight Walls and Exit passageways			
5. Drawings must indicate the required fire resistive systems used in the projects, their locations on the plans, as well as how to be constructed in accordance with approved tested procedure (i.e. UL/FM)			
6. The manufactured listed components as tested shall be reproduced on all sheets (i.e. Building, Mechanical, Electrical, Plumbing, and Fire Protection)			
7. A wall legend of each type of rated and non-rated wall systems to be used in the project must be provided on all floor plans throughout the set			
ARCHITECTURAL PLAN REVIEW REQUIREMENTS			
1. Provide architectural floor plans of each floor showing the location and ratings of all walls proposed for the project			
2. The square footage of each floor must be shown on the corresponding floor plans			
3. A door schedule that defines the applicable rated doors, frames, and hardware should be provided			
4. Indicate hazardous area locations for glass			
5. Elevations with dimensions defining overall building height, floor-to-floor heights, or heights to ridge and eave as applicable to the type of building construction proposed should be shown			
6. A roof plan showing roof slopes, drainage system and through wall scuppers must be provided, if applicable to the project			
7. Wall sections showing material sizes, construction and fire-rated assemblies, as applicable to the project, must be provided			
8. Shell building plans shall show all proposed plumbing, HVAC and electrical work on the plans, if any are to be included			
9. Masonry construction requires type of brick ties, spacing of weep holes, control joints, flashing, shelf and relief angles indicated on plans			

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10. A floor slab vapor barrier must be shown			
11. For pre-engineered metal buildings, submit the manufacturer's letter of engineering certification, an engineered sealed foundation plan and complete architectural plans. The letter of engineering certification shall state the model number, size and design loads for the building. The letter also should state that the structural integrity of the building will be maintained as shown in the architectural plans and that the building meets the North Carolina State Building Code for live and dead loads for Raleigh. These loads must be stated in the correspondence. The foundation plans must be designed by a registered architect or engineer and show the size and reinforcement of footings or turn-down slab and reaction loads for all columns. Also, specify reinforcing, bolt pattern and bolt size for the building. Metal building drawings and columns reactions shall be submitted			
12. For any building constructed with any part of the structure below the regulatory flood plain elevation, flood-proofing certification must be provided at time of plans submittal			
13. If appropriate for the proposed occupancy, complete City of Raleigh Hazardous Material Summary form			
14. All fabric awnings or canopies must be accompanied by a letter of certification of fire resistance from the manufacturer. Fabric awnings and canopies must meet the ground snow loads and be constructed to support all live and dead loads			
15. Provide on the plans the calculations for the means of egress, widths for the entire floor occupancy load and the exiting capacity of all exits including all stairs, doors, corridors and ramped exits. See Building Code Summary			
16. Posting of Occupant load will determine minimum facilities count			
17. Assembly Occupancies and Assembly Use areas will require: Clearly indicate type of assembly on area or rooms (A-1, A-2, etc)			
18. Seating Arrangement, if used for occupant load			
19. Exit capacity for the means of egress			
ELECTRICAL REQUIREMENTS			
1. Power plans for each area (alteration/renovation) must indicate all device and equipment locations/direct hook-ups			
2. Show and size all equipment disconnects			
3. Show lighting plans (on reflected ceiling plans) for each area of alteration/renovation must indicate control locations, fixture and lamp types, number of lamps and ballast(s) and voltage operation			
4. Specify location of all service, service disconnects, panels, transformers and distribution equipment (new and existing) within space and/or where affected by this project			
5. Provide all panel schedules (new and existing) within space and/or where affected by this project must include branch wiring and O.C. device size(s)			
6. Show both (new and existing) 'connected' and 'code' load calculations for all panels, busses, feeders, generators, and services, including continuous/non-continuous contributions			
7. Provide a single line-riser diagram showing service and feeder wire, equipment grounds, conduit and O.C. device sizes, fuse types, maximum available, fault current and equipment and device bracing. Include transformer sizes, grounding electrodes, conductors and grounding bonding jumper sizes and identifying ground electrodes to be used			
8. Indicate location of all (new and existing) services with plaques, if required			
9. Show compliance and distance per DOI interpretation regarding entrance distances. Horizontally not more than twice the nominal width of the service enclosure and vertically not more than the greater of 5' or twice the nominal height of the service enclosure			
10. Show wiring methods to be used, including conductor material and insulation types, and conduit types. Compliance with NCSBC, Volume X for all "new work". Indicate both specified and allowed values for interior exterior application			
11. Approval of overhead service. (Note: Within a development (subdivision or site plan), all utilities that serve a project shall be underground and originate from pad mounted or subterranean distribution points located off the public right of way. Comply with the City of Raleigh Ordinance 10-3059c.)			
PLUMBING REQUIREMENTS			
1. Show isometric riser and floor plan view for water service/distribution system			
2. Show proper protection of potable water supply			
3. Provide plumbing fixture schedule. Show floor plan of fixtures with gender identification			
4. Show complete DWV isometric and floor plan view for all plumbing fixtures			
5. Show all traps, interceptors and separators. Oil for grease interceptors require Public Utilities' approval with a minimum of 1000 gallon capacity			
6. Show sizing compliance for storm drainage (primary and secondary) roof drain location with complete isometric diagram			
7. Provide details and dimensions for all elements pertaining to the Accessibility Code (ANSI A117.1 and Chapter 11 of the NCBC-2009). Coordinate with architect for plan location of elements			
8. For alteration/renovation show code compliance for all equipment changes/addition of system. See above requirements			

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MECHANICAL REQUIREMENTS			
1. Show ventilation air compliance for all habitable space. (Outside air; system controls)			
2. Show exhaust systems compliance. (Type, discharge, pressure equalization, etc.)			
3. The size of all ducts shall be clearly labeled and delineated on mechanical plans			
4. Provide location and type of damper. Fire, fire/smoke, or smoke damper must be clearly shown			
5. Show compliance for all boiler/water heaters			
6. Show calculations for refrigerant limits and machinery room compliance, when required			
7. Commercial kitchen equipment information shall be sealed by a Design Professional for code compliance (i.e. Canopy Hoods)			
8. Provide all mechanical equipment location and clearances on mechanical plans			
9. For alteration/renovation, show code compliance for all equipment changes/addition of system. See above requirements			
10. Provide total square footage of refrigerated area for walk in coolers, freezers, refrigerated cases or refrigerant systems not part of a heating/cooling system to be installed by licensed refrigerant contractor for permit fee			
FUEL GAS PLAN REVIEW REQUIREMENTS			
1. Show developed length, type of gas, and pressure supplied to equipment			
2. Design shall be shown by isometric drawing with location and line sizing identified			
3. Provide equipment identification at branch termination with BTUH listing			
STRUCTURAL PLAN REVIEW REQUIREMENTS			
1. Complete footing and foundation plans with a footing schedule defining footing sizes and the required reinforcing			
3. The established footing depth below grade must be shown			
4. The thickness of the floor slab and size of reinforcing must be shown			
5. Provide location, size and amount of reinforcing steel			
6. Provide strength of concrete according to design			
7. Wood beams, joists, girders, headers and rafters with details of connections and supports must be shown			
8. The sizes, species, and design strength of all members must be provided			
9. All steel columns, girders, joists, purloins, beams and base plates must be provided			
10. A complete lintel schedule must be provided			
11. Indicate the type of anchoring for steel bearing directly on masonry			
12. Complete shop drawings for engineered components (pre-cast, wood trusses, etc.) shall be submitted			
13. The total of dead and live loads for floor areas, roofs, balconies, porches, breezeways, corridors, stairs, mezzanines and platforms must be shown. Also, show concentrated loads, such as file rooms, machinery and fork-lift areas, if greater than those shown on the Code Summary Sheet. Identify shear walls, bracing, strapping, fastening, reinforcement and any special anchoring required			
14. Indicate on roof framing plan where concentrated loads (such as mechanical equipment, cranes, etc.) may be placed			
15. Complete structural plans for canopies over entrances, exterior exit stairs and gas pumps, if applicable, should be included in the submittal			
FIRE REQUIREMENTS			
1. Provide reflective ceiling plan showing fire protection devices (dimensions) of each floor showing the location and ratings of all walls proposed for the project see fire protection guide. Manufactures cut sheets and current water flow test. Provide fire sprinkler piping plan with type, size, calculations nodes, riser, underground to test hydrants of each floor showing the location and ratings of walls proposed for the project see fire protection guide. Manufactures cut sheets.			
2. Provide Fire alarm design including manufactures cut sheets. See fire protection guide			
3. Provide kitchen hood design with restaurant equipment			
4. Provide needed fire flow calculations. (See NC Fire code 2012 Section 507 and Technical Bulletin #13)			
5. Reference guide for Fire Protection Requirements for fuel tanks (NC Fire code 2012 sections: 21.0 Above ground storage tank requirements and 22.0 Underground storage tank requirements)			
6. Refer to the Fire Submittal Guide for fire protection plan submittal			
TRANSPORTATION REQUIREMENTS			
1. Infrastructure surety posted and copy provided, if applicable			
2. Fees(s)-in-lieu of construction paid and copy of receipt provided, if applicable			
3. Approved NCDOT driveway and encroachment permits provided, is applicable			
4. Approved traffic and pedestrian control plan(s) included, if applicable			
5. Parking areas clearly shown and labeled, including dimensioning of parking spaces and drive aisles			