



MACON-BIBB COUNTY Building & Fire Safety

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Macon, GA 31201

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PLAN SUBMITTAL REQUIREMENTS: Fire Plan Reviews

Plans and project construction documents, when accepted and approved by Macon-Bibb County Fire Department Office of the Fire Marshal become a legal document that is used during construction and then archived under state law. Submittals must accurately and clearly convey what is being constructed and demonstrate compliance with those codes and standards adopted at time of approval.

Except for the General Plan Requirements, which are outlined below the composition of your submittal can be altered to fit the proposed design scope of work. However, the construction documents must accurately reflect the proposed construction and demonstrate compliance with the adopted codes and standards.

Comments may be provided during the review process that may require additional information on your plans to demonstrate compliance with the adopted codes and standards, and the Macon-Bibb County Code of Ordinances.

1. GENERAL REQUIREMENTS

- 1.1. All Documents shall be in Portable Document Format (PDF) and NOT drawing (DWG) or computer aided design (CAD) document formats.
- 1.2. The plan set submitted in PDF must include all design disciplines (architectural, structural, mechanical, electrical, fire, plumbing, etc.) grouped within the same document, without providing individual plan sheets or plan sets broken into individual disciplines.
- 1.3. Orient all sheets so the top of the page is at the top of the computer screen and the title bar is on the right side of the screen.
- 1.4. In addition to being oriented correctly, all sheets within the submittal must be placed in order reflected within the sheet index for the plan set.
- 1.5. All documents creating using CAD or similar drawing files shall have all layers flattened prior to submitting as a PDF. Without flattening the layers, the design information can be altered/filtered and not allow certain review features to function properly. Scanned documents are inherently flattened.
- 1.6. Scanned documents submitted as PDF must be legible. The resolution of some scanned documents may fail to provide the level of resolution necessary to review.
- 1.7. Documents submitted with "Security Settings" shall not prevent this municipality from completing the review and permit issuance process. This may include but is not limited to submitting documents that are locked or use electronic signatures.

For additional clarity, when using an electronic signature on a PDF this may function to secure the entire document, which would limit the review mark-ups and/or approval seals. Please ensure that PDF's submitted for review are NOT locked through a security feature that would limit mark-ups.

- 1.8. All plan sheets within the electronic document submittal shall be of a uniform size throughout the submittal.
- 1.9. Minimum electronic document size shall be:
 - 1.9.1. 11" x 17" for minor commercial permits
 - 1.9.2. 24"x 36" for commercial permits
 - 1.9.3. 8-1/2" x 11" for reports or supporting design information documents. (Not applicable or allowed for the actual design drawings)
- 1.10. Plans shall be prepared using a design or drafting software. Hand drawn plans may be accepted when legible using blue or black ink and scanned as a PDF, which maintains the scale of the drawings.
- 1.11. Text and design drawings on submittals may not use red ink. The use of red for markups and text is reserved for use by this office only.
- 1.12. Plans shall be fully dimensioned and drawn to a minimum 1/4"-1'-0" scale or greater. Other architectural scales may be acceptable but first must be approved by the Macon-Bibb County Fire Department Office of the Fire Marshal or the Fire Plans Examiner prior to submittal.
- 1.13. Interior elevations or details shall be drawn to a minimum 1/2"-1'-0" scale or greater scale. Other architectural scales may be acceptable but first must be approved by the Macon-Bibb County Fire Department Office of the Fire Marshal or the Fire Plans Examiner prior to submittal.
- 1.14. Civil design sheet shall use a minimum scale of 1:30; however, may be acceptable but first must be approved by the Macon-Bibb County Fire Department Office of the Fire Marshal or the Fire Plans Examiner prior to submittal.
- 1.15. The scale shall be indicated on each page and on each separate detail or elevation.
- 1.16. Drawings are to be fully dimensioned, with overall dimensions and dimensions to key construction points shown.
- 1.17. The plan sheets must include a Title Block, with the following minimum information:
 - 1.17.1. Project address
 - 1.17.2. Seal and signature from the registered design professional or system designer
 - 1.17.3. Sheet name
 - 1.17.4. Sheet number

2. FIRE SITE (CIVIL) SUBMITTAL (Land Disturbance Review Process)

2.1. COVER SHEET, with the following:

- 2.1.1. Identify the project name and address.
- 2.1.2. Provide a vicinity map.
- 2.1.3. Provide brief scope of work narrative.
- 2.1.4. Sheet or drawing index.
- 2.1.5. Indicate the name of the Principal Registered Design Professional in Responsible Charge of the submittal and overall design. This must include the name of the firm, address, phone number, name of the point of contact and email address.
- 2.1.6. List all adopted codes and standards applicable to the scope of work. (List only those codes used for this project. As an example, the International Residential Code or International Swimming Pool and Spa Code are not typically applicable to the scope of most commercial projects)

In addition to the adopted codes and standards cited, projects must reference the following:

- Rules and Regulations of the Safety Fire Commissioner Chapter 120-3-3
- 2.1.7. Provide fire flow calculations in compliance with 2018 IFC Sec. 507.3. (See attached Fire Flow Compliance Pathway)
 - 2.1.8. Provide fire flow test results supporting the fire flow calculations, per 2018 IFC Sec. 507.2. (See attached Fire Flow Compliance Pathway)
- 2.2. **UTILITY PLAN:** Provided for verification of underground utilities to the building and location of all existing hydrants (public and private) or other approved sources of fire protection water supplies (IFC Sec. 507.2).

Note: Private fire mains and private hydrants on the property and private fire mains for automatic sprinkler systems are reviewed and permitted separately. The design for these systems must comply with the current adopted edition of NFPA 24 (Standard for the Installation of Private Fire Service Mains and Their Appurtenances)

- 2.3. **ACCESSIBLE ROUTE / EXIT DISCHARGE:** The Accessible Route/Exit Discharge Plan or information is provided to show the running slopes and cross slopes for verification of compliance with the 2010 ADA Standards for Accessible Design and the means of egress requirements of the 2018 Life Safety Code.

- 2.4. **FIRE APPARATUS ACCESS PLAN:** The fire apparatus access plan or information is provided to demonstrate compliance with the prescriptive requirements of 2018 IFC Sec. 503 and 2018 IFC Appendix D. In addition, this plan must show all fire features (hydrant locations, Fire Department Connections (FDC), valves, fire lanes identified, with examples of signage)

2.5. SITE PLAN: The Site Plan is provided to establish the placement of the building or structure. This plan must dimension the building separation to neighboring buildings, property boundary lines and/or assumed property lines between existing buildings. The plan is used to establish fire separation requirements in compliance with 2018 IBC Table 602.

3. FIRE & LIFE SAFETY (BUILDING REVIEW)

3.1. The following information may be modified for tenant improvements within existing buildings; however, consult with the Macon-Bibb County Fire Department Office of the Fire Marshal or the Fire Plans Examiner for specific information required on the plan submittal, if needed.

3.2. Provide a **COVER SHEET**, with the following:

3.2.1. Identify the project name and address.

3.2.2. Provide a vicinity map.

3.2.3. Provide brief scope of work narrative.

3.2.4. Sheet or drawing index.

3.2.5. Indicate the name of the Principal Registered Design Professional in Responsible Charge of the submittal and overall design. This must include the name of the firm, address, phone number, name of the point of contact and email address.

3.2.6. List all adopted codes and standards applicable to the scope of work. (List only those codes used for this project. As an example, the International Residential Code or International Swimming Pool and Spa Code are not typically applicable to the scope of most commercial projects)

In addition to the adopted codes and standards cited, projects must reference the following:

- Rules and Regulations of the Safety Fire Commissioner Chapter 120-3-3

3.2.7. Building Data – list the following information:

3.2.7.1. Life Safety Code Occupancy Classification(s)

3.2.7.2. International Building Code Occupancy Type(s)

3.2.7.3. Building Construction Type

3.2.7.4. Building Area (Square Footage). For additions, provide a square footage breakdown of existing area versus proposed area.

3.2.7.5. Total Design Occupant Load (See Life Safety Plan requirements)

3.2.7.6. Sprinkler System – Y/N

3.2.7.7. Deferred Submittal – List all approved items that will require either a new submittal or plan revision to the project scope.

NOTE: Examples of approved Deferred Submittals include but may not be limited to: Fire Extinguishing Systems (ANSUL for hoods or clean agent systems), Private Fire Mains and Hydrants, Fire Alarms Systems, Automatic Sprinkler Systems, etc.

3.2.8. Provide fire flow calculations in compliance with 2018 IFC Sec. 507.3. (See attached Fire Flow Compliance Pathway)

3.2.9. Provide fire flow test results supporting the fire flow calculations, per 2018 IFC Sec. 507.2. (See attached Fire Flow Compliance Pathway)

3.3. CIVIL PLANS, which may include but not be limited to the following:

3.3.1. UTILITY PLAN: Provided for verification of underground utilities to the building and location of all existing hydrants (public and private) or other approved sources of fire protection water supplies (IFC Sec. 507.2).

NOTE: Private fire mains and private hydrants on the property and private fire mains for automatic sprinkler systems are reviewed and permitted separately. The design for these systems must comply with the current adopted edition of NFPA 24 (Standard for the Installation of Private Fire Service Mains and Their Appurtenances)

The Macon-Bibb County Fire Department requires British Columbia Threads (BCT) on all Fire Department Connections (FDC). (See attached)

3.3.2. FIRE APPARATUS ACCESS PLAN: The fire apparatus access plan or information is provided to demonstrate compliance with the prescriptive requirements of 2018 IFC Sec. 503 and 2018 IFC Appendix D. In addition, this plan must show all fire features (hydrant locations, Fire Department Connections (FDC), valves, fire lanes identified, with examples of signage)

3.3.3. ACCESSIBLE ROUTE / EXIT DISCHARGE: The Accessible Route/Exit Discharge Plan or information is provided to show the running slopes and cross slopes for verification of compliance with the 2010 ADA Standards for Accessible Design and the means of egress requirements of the 2018 Life Safety Code.

3.3.4. FIRE APPARATUS ACCESS PLAN: The fire apparatus access plan or information is provided to demonstrate compliance with the prescriptive requirements of 2018 IFC Sec. 503 and 2018 IFC Appendix D. In addition, this plan must show all fire features (hydrant locations, Fire Department Connections (FDC), valves, fire lanes identified, with examples of signage)

3.3.5. SITE PLAN: The Site Plan is provided to establish the placement of the building or structure. This plan must dimension the building separation to neighboring buildings, property boundary lines and/or assumed property lines between

existing buildings. The plan is used to establish fire separation requirements in compliance with 2018 IBC Table 602.

3.4. LIFE SAFETY / EGRESS PLAN, with:

- 3.4.1.** The Life Safety Plan is a plan view of the means of egress system, which overlays the store fixture, shelving plan, or furniture plan. The floor plan must show all fixed and moveable obstructions that the occupants would be required to navigate around to safely exit the tenant space or building.
- 3.4.2.** The Life Safety Plan must include a line indicating the path of egress travel from the most remote space to the point of exit or exit discharge, with the travel distance indicated in feet and inches. This line of travel must also show the travel path around fixed / moveable objects and the point of divergence in the egress path at the point of the common path of travel. This divergence occurs at the point where the occupant can change directions to another exit discharge point within the total path of egress travel. (2018 Life Safety Code)
- 3.4.3.** Coordinate with the electrical system registered design professional to provide the EXIT and EXIT directional signage on this sheet and within the electrical design sheets. (2018 Life Safety Code Sec. 7.10.1.2 & 7.10.2.1)
- 3.4.4.** Show the location of the portable fire extinguisher(s), as required by the Life Safety Code and NFPA 10 (Standard for Portable Fire Extinguishers).
- 3.4.5.** Include a Design Occupant Load Table on the Life Safety Plan sheet, with the following information:
 - 3.4.5.1.** Provide a column to indicate each room / area name and/or number.
 - 3.4.5.2.** Provide a column with each area (square footage) of the room / area being calculated.
 - 3.4.5.3.** Provide a column with the Occupant Load Factor used from Life Safety Code Table 7.3.1.2
 - 3.4.5.4.** The Design Occupant Load as established using Life Safety Code Table 7.3.1.2 for each room / area.
 - 3.4.5.5.** The Total Design Occupant Load of the entire building

EXAMPLE:

DESIGN OCCUPANT LOAD			
Room / Area	Ft²	Occupant Load Factor (OLF)	Occupant Load
Rm 100 (Office)	144	1:150-ft ²	2
Rm 150 (Conference #2)	500	1:15-ft ²	34
Total Design Occupant Load:			36

- 3.5. BUILDING EXTERIOR ELEVATIONS:** New commercial buildings require an elevation view of each side of the building, with dimensions for building height indicated on the drawing from finished grade and exterior finish materials identified.
- 3.6. ARCHITECTURAL FLOOR PLAN:** This plan must be to scale and fully dimensioned with all rooms and spaces identified. The rooms must be identified by use. Example: Office #2, Break Room, Storage, etc.
- 3.7. INTERIOR and EXTERIOR FINISH SCHEDULES:** These schedules must identify the finishes for Walls, Floors and Ceiling. In addition, Interior Finishes must reference the prescriptive requirements of the Life Safety Code for Flame Spread and Smoke Development.
- 3.8. DOOR & DOOR HARDWARE SCHEDULE:** This information is used to verify compliance with both the egress and ADA prescriptive requirements.
- 3.9. PARTITION / WALL SECTIONS:** Wall section details must show the construction of the wall from the floor (bottom plate) to the top plate, underside of the roof or suspended ceiling, with framing members and connections specified.
- 3.10. FIRE RESISTANCE RATED ASSEMBLIES:** Where fire resistance rated walls or horizontal assemblies are provided, the plan set must include the complete most recently published listed assembly. This may be those assemblies listed and published from but not limited to UL or Gypsum Association.
- 3.11. LISTED THROUGH PENETRATION FIRESTOPPING ASSEMBLIES:** Include where applicable to the design the most recently published complete UL through penetration firestopping assemblies. (2018 IBC Sec. 714.4.1.2 & 714.5.1.2)
- 3.12. EXTERIOR ROOF AND WALL SECTION DETAILS:** Exterior Roof and Wall Section Details, with the composition of the roof and wall construction and finish materials.
- 3.13. FULL BUILDING SECTIONS:** Provide a lengthwise section and a complete section that bisects the building in the opposite direction, at a minimum; however, provide as many sections as necessary to accurately reflect the design.
- 3.14. ENLARGED RESTROOM FLOOR PLANS:** Enlarge plan view of the restroom(s), which is prepared to an approved architectural scale. This plan view must be fully dimensioned, with ADA turning and access shown.
- 3.15. INTERIOR WALL ELEVATIONS OF THE RESTROOMS:** Fully dimensioned interior wall elevations of the restrooms to show compliance with the 2010 ADA and finish requirements. These elevations shall show but not be limited to the height of the toilet, location of flush controls, grab bars, toilet paper dispenser, sink, mirror, soap dispenser, towel dispenser, etc.
- 3.16. MECHANICAL PLANS** (As required by project scope), with the following:
- 3.16.1.** Complete duct layout, with duct sizes and types. Indicate the locations and types of any required fire and/or smoke dampers, with manufacturer's name and product number specified.

3.16.2. Indicate the type and location of all mechanical equipment.

3.16.3. Provide a mechanical equipment schedule.

3.16.4. Provide details for any Type I hood system and grease exhaust systems, in compliance with the 2017 edition of NFPA 96 (Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations), as adopted and amended by the Rules and Regulations of the Safety Fire Commissioner Chapter 120-3-3.-04(70).

3.16.5. Indicate the source of make-up air and air balance requirements.

3.16.6. Building ventilation source and rate.

3.16.7. Indicate any required smoke detection in the supply side of the mechanical system, per 2018 IMC Sec. 606.2.1, as amended by the State of Georgia.

3.17. ELECTRICAL PLANS (As required by project scope), with the following:

3.17.1. Provide a complete panel schedule(s), with any branch circuits supplying the fire alarm system clearly identified.

3.17.2. Electrical Lighting Plan that identifies all egress lighting, emergency lighting, and exit / exit directional signage in compliance with the 2018 Life Safety Code.

3.18. PLUMBING PLANS (As required by project scope), with the following:

3.18.1 Plumbing floor plan to clearly identify all plumbing fixtures provided to comply the 2010 ADA Standards for Accessible Design.

3.18.2 Plumbing Fixture Schedule, with all accessible plumbing fixtures provided to comply the 2010 ADA Standards for Accessible Design.

4. PRIVATE FIRE MAINS & PRIVATE FIRE HYDRANTS

4.1. Design of the private fire main and private fire hydrants must comply with the plan submittal requirements of the 2019 edition of NFPA 24 (Standard for the Installation of Private Fire Service Mains and Their Appurtenances). See NFPA 24-2019 Sec. 4.1.3, as adopted and amended by the Rules and Regulations of the Safety Fire Commissioner Chapter 120-3-3.-04(22) for these specific plan requirements.

NOTE: The Macon-Bibb County Fire Department requires British Columbia Threads (BCT) on all Fire Department Connections (FDC). (See attached)

5. AUTOMATIC SPRINKLER SYSTEMS

5.1. NFPA 13 submittals: The design of automatic sprinkler systems must comply with the requirements of the 2019 edition of NFPA 13 (Standard for the Installation of Sprinkler Systems). See NFPA 13-2019 Sec. 27.1.3, as adopted and amended by the Rules and Regulations of the Safety Fire Commissioner Chapter 120-3-3.-04(10) for these specific plan requirements.

- 5.2. NFPA 13R submittals:** The design of automatic sprinkler systems must comply with the requirements of the 2019 edition of NFPA 13R (Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height). See NFPA 13R-2019 Sec. 8.1.7, as adopted and amended by the Rules and Regulations of the Safety Fire Commissioner Chapter 120-3-3.-04(12) for these specific plan requirements.
- 5.3. NFPA 13D submittals:** The design of automatic sprinkler systems must comply with the requirements of the 2019 edition of NFPA 13D (Standard for the Installation of Sprinkler Systems in One-and Two-Family Dwellings and Manufactured Homes). See NFPA 13R-2019 Sec. 4.4, as adopted and amended by the Rules and Regulations of the Safety Fire Commissioner Chapter 120-3-3.-04(11) for these specific plan requirements.
- 5.4.** The reviewing certificate holder's signature, printed name, and certificate number indicating such compliance shall be indicated on ALL submitted plans. as adopted and amended by the Rules and Regulations of the Safety Fire Commissioner Chapter Regs 120-3-19.-10(2).

NOTE: The Macon-Bibb County Fire Department requires British Columbia Threads (BCT) on all Fire Department Connections (FDC). (See attached)

6. AUTOMATIC FIRE EXTINGUISHING SYSTEMS (Type I Hood Systems)

- 6.1.** The plan submittals for these pre-engineered systems shall comply with the manufacturer's design and installation requirements, and the 2013 edition of NFPA 17A (Standard for Wet Chemical Extinguishing Systems). See NFPA 17A-2013 Sec. 6.1 and 6.3, as adopted and amended by the Rules and Regulations of the Safety Fire Commissioner Chapter 120-3-3.-04(17) for these specific plan requirements.
- 6.2.** Plan submittal shall include the most recently published design manual from the pre-engineered system manufacturer.
- 6.3.** Design and installation of systems shall be performed only by persons properly trained and qualified to design and/or install the specific system being provided, with the following being required:
 - 6.3.1.** The installer shall provide certification to the authority having jurisdiction that the installation complies with the terms of the listing and the manufacturer's instructions and/or approved design.
 - 6.3.2.** The designer shall provide proof of certification from the manufacturer indicating that they hold current certification for installation and design.

Per NFPA 17A-2013 Sec. 6.2, as adopted and amended by the Rules and Regulations of the Safety Fire Commissioner Chapter 120-3-3.-04(17).

7. FIRE ALARM SYSTEMS

- 7.1.** The Design of the fire alarm system must comply with the requirements of the 2019 edition of NFPA 72 (National Fire Alarm and Signaling Code). See NFPA 72-2019 Sec.

7.2.1, as adopted and amended by the Rules and Regulations of the Safety Fire Commissioner Chapter 120-3-3.-04(53) for these specific plan requirements.

- 7.2. The symbols used on the fire alarm plans must comply with the 2018 edition of NFPA 170 (Standard for Fire Safety Symbols), as adopted by the Rules and Regulations of the Safety Fire Commissioner Chapter 120-3-3.-04(85).
- 7.3. The wiring methods used within the design shall demonstrate compliance with the 2020 edition of NFPA 70 (National Electrical Code) and NFPA 72-2019.
- 7.4. Personnel shall provide documentation of their qualification by one or more of the following: (1) Registration, licensing, or certification by a state or local authority, (2) Certification by an organization acceptable to the authority having jurisdiction, (3) Manufacturer's certification for the specific type and brand of system provided. Provide a copy of the designer's Georgia Low Voltage license, with submittal. (NFPA 72-2019 Sec. 10.5.1.3, as adopted and amended by the Rules and Regulations of the Safety Fire Commissioner Chapter 120-3-3.-04(53))

PLAN REVIEW TIMEFRAMES:

Once the project has been accepted for review, the plan review timeframes are as follows:

Submittal Type	Approval / Initial Revision Comments*	Subsequent Review
Multi-Family	10-business days	5-business days
Minor Commercial**	10-business days	5-business days
Commercial	20-business days	10-business days

*- The first day starts after the date of acceptance, which allows for internal routing

**- Minor Commercial is classified as being under \$2 million in overall or total construction valuation

PRE-SUBMITTAL MEETINGS:

Macon-Bibb County offers Pre-Submittal Meetings by appointment only on Tuesdays and Thursdays at no charge to the applicant. Please contact buildingpermits@maconbibb.us to schedule this meeting. Unfortunately, we do not accept walk-in appointments.

These meetings are voluntary to identify all major issues prior to plan submittal and are not meant to serve as a plan review. We encourage designers to schedule these appointments early in the design process, with no limit on the number of meetings provided to an applicant for a project.

FIRE FLOW COMPLIANCE PATHWAY

The following is the compliance path used during the Fire Plan Review process to determine if the prescriptive requirements for fire flow have been met:

	YES	NO
<p>The designer determines which “approved method” will be applied to calculate the volume of water (fire flow) in gallons per minute at what duration or time. (2018 IFC Sec. 507.3) Some of examples of approved calculation methods are found within but not limited to the following:</p> <ul style="list-style-type: none"> • International Fire Code Appendix B (Fire-Flow Requirements for Buildings), based on the edition adopted by the approving authority. • NFPA 1142 (Standard on Water Supplies for Suburban and Rural Fire Fighting), as adopted by the approving authority. • ISO Guide for Determination of Needed Fire Flow 		
<p>The plans must be revised to clearly identify the method used and the fire flow represented in gallons per minute and duration in hours.</p> <p>For compliance the plans would need to include language like the following example:</p> <p style="padding-left: 40px;">“Fire flow demand calculated at 2,000-gpm for a 2-hour duration using 2018 IFC Table B105.1(2)”</p> <p>NOTE: The use of NFPA 1142 or ISO Guide for Determination of Needed Fire Flow will require that the mathematic calculations be included for review.</p>		
<p>Was fire flow reduced for a building equipped with an automatic sprinkler system in compliance with the method used and the approving authority? If allowed, this must be noted with the fire flow calculations.</p>		
<p>As part of the review, the Fire Plans Examiner will verify the source of the fire protection water supply. Examples of approved sources of water supply may be but not be limited to reservoirs, pressure tanks, elevated tanks, or water mains. (2018 IFC Sec. 507.2)</p>		
<p>Fire flow test results or the hydraulically calculated flow have been provided to verify that the fire protection water supply source can provide the calculated fire flow. (2018 IFC Sec. 507.2)</p> <p>This information is embedded within the plan set, with the fire flow.</p>		

MACON-BIBB COUNTY FIRE DEPARTMENT: Hose Coupling Specifications

Couplings on 2-1/2" hose – Macon Threads	
Outside diameter of male end	3"
Thread per inch	8 per inch
Angle or Pitch	60° (sixty degrees)
Couplings on 1-1/2" – Standard Threads	
Outside diameter of male end	2"
Thread per inch	9 per inch
Length of nipple	5/8"
Depth of coupling	19/32"
Depth of coupling (Internal Threads)	15/32"
Steamer Connection	
Steamer connection	4" (N.S.T.)

