



Fire Alarm Plan Requirements

Department of Planning & Development Review Bureau of Permits and Inspections

Policy 08-04

for public distribution

City of Richmond FIRE ALARM PLAN CHECKLIST

All Fire Alarm Projects require plans except for single family or duplexes. Three sets of bound plans provided by an engineer shall be submitted for review. This checklist is to be used by the design professional to ensure his/her plans will meet the minimum standards required.

General

- Drawings and copies shall be neat and legible and all of the same size.
- Drawing shall be either 22" x 34" (D size) or 34" x 44" (E size)
- Drawings shall be at least 1/8" scale or larger. Standard architectural scales are required and all lettering shall be at least 1/8" in height.
- Each sheet shall be numbered.
- Each plan shall have a complete title block. (see example below).
- Show all the engineering details required in this checklist on the plans; providing this information in the specifications only is not sufficient.
- A legend shall be provided for all symbols.
- All spaces and rooms shall be labeled as to their use.
- Indicate occupancy load, use group, (if a change of use so indicate) and building construction type on plans.
- Where typical plans are utilized, provide additional copies as necessary to have an individual plan for each individual unit on each floor.
- New work shall be differentiated from that which exists.
- Engineer shall **seal, sign** and **date** each sheet .
- Provide manufacturers catalog sheets for each piece of equipment, device or panel used in the system.

Title Block

Show title block on each plan.

Sample Title Block

Project Name:	Project Address:		
Designer's Name:	Designer's License No. :		
Telephone No:	Fax No:		
Email:	Scale:		
Title:			Sheet No:

Codes

The design shall comply fully with the following codes. Specify on plans which edition the plans have been designed under.
Virginia Uniform Statewide Building Code- 2009
International Building Code IBC- IBC-2009
National Electrical Code 2008
National Fire Alarm Code – 2007
ASME A17.1-2007 Elevator Code

Project Information- Must appear on front sheet of plans

Building Code Year:	Electrical Code Year:	Construction Type:
Use Group	Change of Use? Yes No	Occupancy Load:
Is project in flood plain?	BFE per NGVD1929:	DFE:

Fire Assemblies/Floor Plans

Label all fire rated assemblies, firewalls, fire separation walls as to their rating in hours on all fire alarm plans. No exceptions!
Provide UL listed fire-stopping detail as found in the latest edition of the UL Fire Resistance Directory for the type of through penetration used – see www.ul.com if help is needed.
If no rated assemblies are on the project put a note on the plans to that effect
If no rated assemblies will be penetrated state that on the plans
Make the indications of rated assemblies easy to pick out from the rest of the plans using darkened lines or hatched lines that show up well.

Revised Plans

Revised plans are required to be the same size as original plans
Provide clouds around new areas of change with numbered revision triangles and remove clouds from previously issued revision's. Be clear on what is a change versus what is original on the drawings.
Provide revision triangles with number, description and date.
Provide a complete list of all fire alarm drawings include all revisions and dates.
Do not skip revisions, submit all revisions for review that affect the permit when they are issued; do not wait until 2 or 3 revisions have been made to submit for review.

Plan Review Procedure

Plans will be reviewed in the order they are received.
Plans that require additional information or that have code deficiencies will have a plan review comments sheet emailed if an email address is available or the comment will be faxed to the applicant and designer if fax number is available
It is the applicant's responsibility to get the revised plans submitted within 30 days.
Failure to get revised plans back within 30 days will result in the permit

Flood Plain

Show Design Flood Elevation on title sheet **OR** state “ **Not in flood plain**” on plans.
Design Flood Elevation is the NGVD29 Base Flood Elevation plus 12 inches.
Show floor elevations and flood elevations on each floor plan.

Drawings Shall Detail the Following, NFPA 72 4.5.1.1

When detectors are used, device locations, mounting heights, and building cross

Sectional details are shown on the plans.

Sectional views of structure, roof, and ceiling, and rooms with beam or solid joists and drop ceilings, etc unless plans declare them smooth ceilings.

Provide a riser diagram showing number and type of devices installed on each circuit, conductor sizes, end of line locations, identification of fire alarm zones (if the system is not addressable), and primary and secondary power supplies.

The primary power supply shall be a minimum 120 volt alternating current branch circuit labeled "Fire Alarm Circuit" whose access is limited to authorized personnel and noted on the drawings.

Denote the location of the Fire Alarm Control Unit (FACU) and when required, the Remote Annunciator panel location near the main entrance .

Provide sequence of operation for all interface of fire safety control functions.

If building is fully sprinkled, so state on fire alarm plans (Type 13, 13R, 13D).

Indicate cd (candela) rating at all visual devices.

Indicate mounting heights on all devices.

Indicate dB ratings on all horns/strobes.

Verify compliance with IBC 907.9.1 and IBC 907.9.2 for Visual and Audible Coverage. Please state on the drawings you have verified and certify proper coverage.

Fire Alarm System Details

Identify separate zones, circuits, devices identification and end of line locations on drawings.

Provide battery calculations and voltage drop calculations on the fire alarm plans.

Indicate the number of signaling devices, current consumption, the end of line voltage for each circuit, and the lowest name-plate operating voltage range for audible and visual notification devices.

Indicate the approximate length of each circuit and resistance of wire using the National Electrical Code conductor ampacity values or provide manufacturers data sheet.

Indicate on drawings circuit identification for each device giving circuit number and ratings.

Provide calculations for the acceptable circuit limits including:

Standby power consumption of all current drawing devices times the hours required by NFPA 72 (24 hours) including power consumption of the control panel module.

Power consumption of all devices on standby power.

The power consumption of all current consuming devices multiplied by the minutes required by NFPA (i.e.: 5 minutes for fire alarms and 15 minutes full load for emergency voice/alarm communication service).



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“Committed to Building a Better Richmond Together”

Reference Documents for this Policy:

2009 International Building Code, Chapter 34, Existing Structures

2009 International Building Code, Chapter 11, Accessibility

Accessible and Usable Buildings and facilities, International Code Council American National Standards Institute, A117.1 2003

Important Phone Numbers:	Electrical Plans	Permits for:	Zoning: 646-6340
Main Number: 646-4169	Review: 646-3611	Sewer Connection, On-site	Fax Number: 646-6948
Single Family Plan Review:	Mechanical Plans	Storm Sewer , Driveways,	<i>For Inspection Requests, please use our automated system, SPANLINK:</i>
646-6975	Review: 646-6982	Work in Streets & Alleys, Land Disturbing;	
Structural Plans Review:		Flood Plain Information;	646-0770
646-6978		Chesapeake Bay Preserva-	
Plumbing Plans Review:		tion Program:	
646-6979		646-6956	

