

**DEVELOPMENT
AND
CONSTRUCTION
INFORMATION
PACKET**

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INTRODUCTION

This booklet is intended to help you prepare plans for submittal to the Glenwood Springs Fire Department for review. It also addresses items that will be checked during the fire final inspection, prior to the issuance of a Certificate of Occupancy. These items are requirements derived from currently adopted Municipal Code, Uniform Fire Code, Uniform Building Code, National Fire Protection Association, ordinances, and policies. It must be understood that this packet may not encompass all requirements that could apply to any particular project.

In reviewing plans for development, the Fire Department has two major areas of concern: access and water supplies for fire fighting. These concerns are examined in detail when a set of construction plans is submitted for approval. A copy of our Standard Comments is enclosed in this packet and, as you will see, these comments are primarily directed at the two major areas of concern. These Standard Comments should be reviewed each time you plan a development or are preparing to submit a set of construction plans for review.

In reviewing plans for remodeling or new construction projects, the Fire Department is concerned with several major items. These items will be checked utilizing the above-mentioned code references. The particular codes used, of course, will depend upon the type of facility being constructed.

Please prepare your plans with the thought in mind that our objective is to insure life safety. While every effort is made to be very thorough in our plan review process, there is a possibility that something may be overlooked at the plan review stage. If this occurs, it may be noted at the time of the Certificate of Occupancy inspection, and compliance may be required prior to the issuance. Therefore, if you feel something will require our particular attention or you have specific questions, please bring this to our attention as soon as possible. We would prefer to utilize the plan review process as a positive time to review important issues rather than try to correct major problems while your tenant is scheduled and waiting to move into the new building.

We encourage preplanning consultations to discuss projects before plans are finished. Please contact our office to request an appointment, and please feel free to call us if you have any questions.

**GLENWOOD SPRINGS FIRE DEPARTMENT
Fire Prevention Bureau
101 West 8th Street
Glenwood Springs, CO 81601
(970) 384-6480**

GLENWOOD SPRINGS FIRE DEPARTMENT CONSTRUCTION CHECKLIST

This checklist references items that are critical to the plan review process and the eventual outcome of the Final Certificate of Occupancy (C.O.) Inspection. This is a partial list only and should not be construed to be all inclusive of fire, building, or city codes. The developer and his agent should be well versed in applicable codes. NOTE: Items within the following checklist may or may not pertain to your specific development.

Plan Review Process

- _____ Comply with all Planning Department requirements
- _____ Plans approved by all applicable intra-city agencies
- _____ Hydrant location plan to be approved prior to Building Permit. The water plan is to show existing and proposed water mains, valves, fire hydrants (including hydrant detail), sidewalks, street curbs, and other appropriate structures. The Fire Department and appropriate Water Department sign-off on the plans are required. The plan, once approved, must be included in your submittal set of construction plans to this Department.
- _____ Building Permit is issued by the City of Glenwood Springs Building Department

Address Requirements

- _____ Address numbers of correct dimension, contrasting with the background and properly posted are required. All buildings, including single and multi-family residential, are required to have numbers five inches high, three inches wide, and 1/2-inch stroke.
- _____ Assigned address numbers are to be posted on construction sites in a highly visible location, facing the addressed street at all times during the construction period of any complex.

Hydrants

- _____ Fire hydrants and access roadways are to be serviceable and unobstructed prior to and during construction.
- _____ Hydrants are to face the proper direction with the steamer connection (large 4 1/2-inch opening) toward the roadway.
- _____ Hydrant caps are to be attached.
- _____ The proper distance from the curb face (2 1/2 feet) is to be provided.
- _____ Hydrant and cap stems are not to be broken or rounded off.

- _____ Proper grading around the fire hydrant must be provided.
- _____ Hydrants must be serviceable and functional during construction (no dry hydrants).
- _____ Bollard protection details (if required) must be provided.
- _____ Private hydrants are to be fully tested and certified for fire flow requirements prior to final approvals. These tests are to be conducted by personnel of the Glenwood Springs Fire Department.

Access Roadways

- _____ Turning radius requirements must be provided (see detail sheet).
- _____ The design criteria for Fire Department turnarounds must be provided (see detail sheet).
- _____ The minimum access roadway width of 20 feet must be provided.
- _____ Roadway materials must meet anticipated loads of fire apparatus.
- _____ Maximum roadway grades must meet the approval of the Fire Department and Garfield County Road Standards.
- _____ Vertical unobstructed clearance of Fire Department access roads must not exceed 13 feet 6 inches.
- _____ Dead end Fire Department access roads in excess of 150 feet in length shall be provided with approved provisions for the turning around of fire apparatus.
- _____ Bridges that are required as part of a Fire Department access road will be constructed and maintained in accordance with nationally recognized standards and designed for a live load sufficient to carry the imposed loads of fire apparatus.

Knox Box

- _____ Contact the Fire Prevention Bureau for ordering the Knox Box and key installation
- _____ This Department highly recommends the Knox Box be mounted no lower (if possible) than 4 feet and no higher than 7 feet above the ground level in a highly accessible and visible Fire Department approved location (see detail sheet).
- _____ Keys to be installed in the Knox Box are to be clearly labeled.
- _____ Key box identification stickers for each entrance door are also highly

recommended.

Fire Extinguishers

(Type of extinguisher may change with occupancy/hazard classification)

- _____ Minimum 2A-10BC (approximately 5 pounds) rating is recommended for most occupancies.
- _____ One extinguisher per 3,000 square feet **per floor**; 75 lineal feet is the maximum travel distance to an extinguisher for light hazard occupancies.
- _____ One extinguisher per 1,500 square feet **per floor**; 50 lineal feet maximum travel distance to an extinguisher for extra hazard occupancies.
- _____ Mounted in a visible and accessible location (in the path of egress, if possible).
- _____ Mounted no closer than 4 inches to the finished floor and no higher than 5 feet above the finished floor to the top of the extinguisher.
- _____ An annual inspection is required. A current inspection tag must be attached to the extinguisher at all times.

Fire Protection Equipment

(Where applicable)

- _____ Fire Department connections are required to remain unobstructed.
- _____ Outside horn and light are to be properly located within 20 feet of the Fire Department connection on the street side in a highly visible Fire Department approved location.
- _____ Sprinkler valves are to be locked in the “open” position or properly supervised.
- _____ Sprinkler heads are to be properly placed and unobstructed, and if required, all concealed spaces properly protected.
- _____ Alarm panels are to be properly labeled for different zones (unless panel has a digital readout).
- _____ Fire Department valves and connections are to be properly labeled.
- _____ No storage or shelving within 18 inches of the plane of sprinkler heads.
- _____ Fire hydrant is to be located a maximum of 150 feet of any Fire Department connection.

Signage

- _____ All sprinkler valves, shut-offs, etc. are to be properly labeled.

- _____ All fire alarm systems and zones are to be properly labeled.
- _____ Exit signs are to be posted as required (see detail sheet).
- _____ “This door to remain unlocked during business hours” signs to be posted as required.
- _____ “No smoking” signs are to be posted as required.
- _____ NFPA 704 placarding is to be provided where required (see detail sheet)
- _____ Knox Box identification stickers are to be placed on each entrance door.

Site Maintenance During Construction

- _____ Exit and exit corridors are to be unobstructed prior to Fire final inspection.
- _____ Adequate removal of debris shall be maintained during construction.
- _____ Compressed gas cylinders are to be secured.
- _____ Access roads and fire hydrants are to be maintained and unobstructed.

Revocable Fire Permits

- _____ Explosives
- _____ Fireworks
- _____ Occupancy Load Increases
- _____ Open Burning
- _____ Tents, Canopies and Temporary Membrane Structures
- _____ Automatic Fire Extinguishing Systems
- _____ Storage & Use of Hazardous Materials

Special System Plans

Most special systems require separate plans to be submitted by the subcontractor and, in some instances separate permits may also be required.

- _____ Fire alarm and/or detection
- _____ Fixed fire protection
- _____ Sprinklers or standpipe

- _____ Compressed gasses
- _____ Hydrant locations
- _____ Spray booths
- _____ Flammable liquid storage, handling or mixing room
- _____ Outside/inside above ground/underground fuel and/or waste oil storage
- _____ Provisions for Article 81, High-Piled Combustible Storage
- _____ Provisions for outside storage of hazardous materials or flammable/combustible liquids
- _____ Hazardous Material Safety Data Sheets (MSDS), chemical lists, and NFPA 704 placarding

System Tests

System tests and written certification are required for the following (minimum 24-hour notification required unless otherwise noted):

- _____ Alarm systems
- _____ Smoke detector systems
- _____ Halon & Inergen systems
- _____ Fire doors (magnetic hold open devices, smoke detectors, smoke seals, and self-closures, as applicable)
- _____ Smoke removal systems
- _____ Blasting (shot plan and 72-hour notification required)
- _____ Sprinkler systems (200# hydrostatic, visual, etc.)
- _____ Flame spread certification, i.e., wall coverings, carpeting, etc. (written required)
- _____ Tank certification, pressurization, and lines
- _____ Fire hydrant flow test (one week notification required)

Inspection Request

24-hour notice is required for all inspections

- _____ Fire Department final inspection is required before a Certificate of

Occupancy is issued.

- _____ Insure that all fire related systems are operational and in place before requesting a final inspection.
- _____ Contact the Fire Prevention Bureau at 384-6480 to request all Fire Department inspections.
- _____ Building is to be unlocked or prior arrangements are to be made so the Inspector can gain entry and complete the inspection.
- _____ Complete "As-Built" drawings of fire protection systems are to be furnished at the end of the Fire final inspection.

Projects with Special Considerations

Contact the Glenwood Springs Fire Prevention Bureau for assistance and preconstruction conferences

- _____ High-rise buildings
- _____ Large malls or shopping centers
- _____ Large warehouses with Article 81 High-Piled Combustible Storage requirements
- _____ Major new developments and/or construction projects
- _____ Projects involving large quantities of storage and/or use of hazardous materials and/or flammable liquids.

DEVELOPER'S NOTEBOOK GENERAL REQUIREMENTS

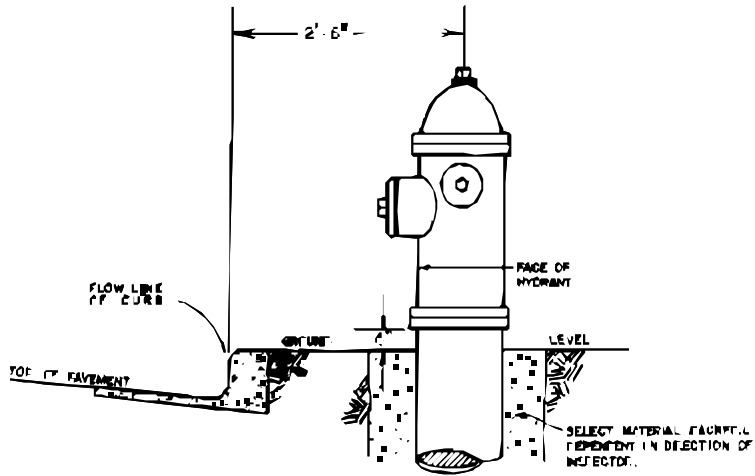
1. All cul-de-sacs are to have a minimum diameter of 90 feet clear space, no parking.
2. No road grades greater than **10%**; grade at intersection no greater than **4%**.
3. Maximum backup distance for fire apparatus, **150 feet**; if greater than 150 feet, provide turnaround (Uniform Fire Code, Article 9).
4. All portions of any structure to be within **150 feet** of drivable surface (Uniform Fire Code, Article 9).
5. Fire Department access roads to have no less than **20 feet** in width of drivable surface (Uniform Fire Code, Article 9).
6. Minimum of **20 feet** of clear access throughout any development under construction and posted "**NO PARKING FIRE LANE**" (Uniform Fire Code, Article 9).
7. Required vertical clearance for Fire Department access roads is **13' 6"** (Uniform Fire Code, Article 9)
8. Vacating streets - Access to any adjoining property shall not be denied.
9. Gridded and/or looped water mains are to be installed whenever possible. Nothing less than **6" water mains** are permitted.
10. Proper fire flow requirements will be met before construction begins to insure proper water main size and that flows are acceptable (Uniform Fire Code, Article 9).
11. Streets or roads shall be identified with approved signs (Uniform Fire Code, Article 9).
12. All new construction projects will have the address posted in a visible area during the construction phase (Uniform Fire Code).
13. Hydrants and access roads to be serviceable prior to and during construction (Uniform Fire Code, Article 9 and 87).
14. Sprinklers and Standpipes - See Uniform Fire Code, Article 9 and 87, and Glenwood Springs Municipal Code.

WATER SUPPLIES

The regulations governing water supplies are found in the Uniform Fire Code, Article 9 and Appendices III-A and III-B, as amended by the Glenwood Springs Municipal Code. These regulations are to be used as guidelines for establishing necessary fire flow and hydrant spacing requirements within the City of Glenwood Springs and the Glenwood Springs Rural Fire Protection District. The data included in these sections will provide adequate information for determining the needs for newly constructed or remodeled facilities.

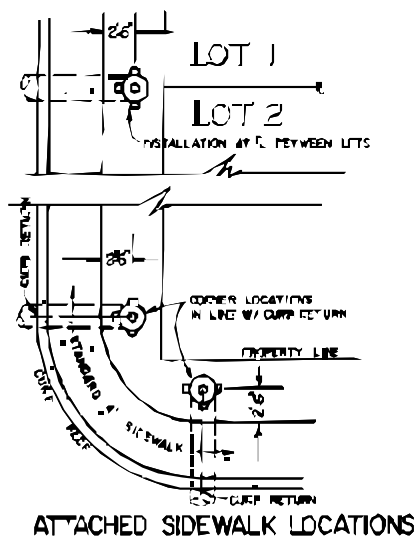
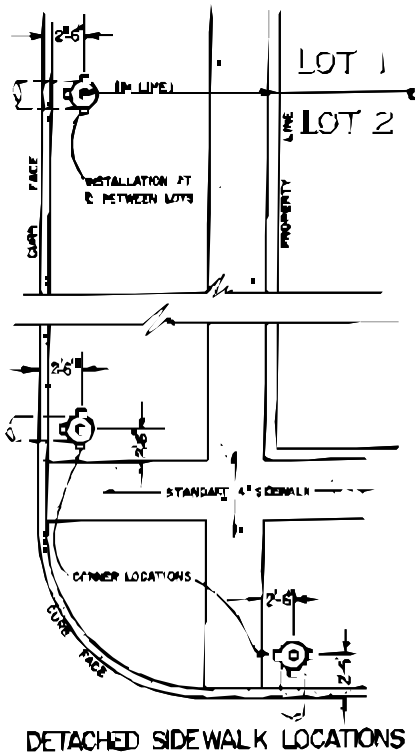
Some additional considerations and information needed to assist you are listed below.

1. Within the City of Glenwood Springs, water mains supplying fire hydrants should be looped. Dead-end lines are not permitted except for very small total run lines; Eight (8) inch mains may have up to five hundred (500) feet of dead-end service with up to two (2) hydrants and one fire sprinkler system on the dead-end. Exceptions to these rules have been permitted when the City of Glenwood Springs Water department agrees that adequate flows can be supplied. It is recommended that no water lines under eight (8) inches in size be used to supply fire flows. This rule may have exceptions where the practicality of large lines or where the water system cannot supply the volume for larger lines. This may occur in rural areas of the Fire District.
2. A Mylar or sepia water plan must be prepared and submitted to the Engineering Department and the Fire Department for review and approval.



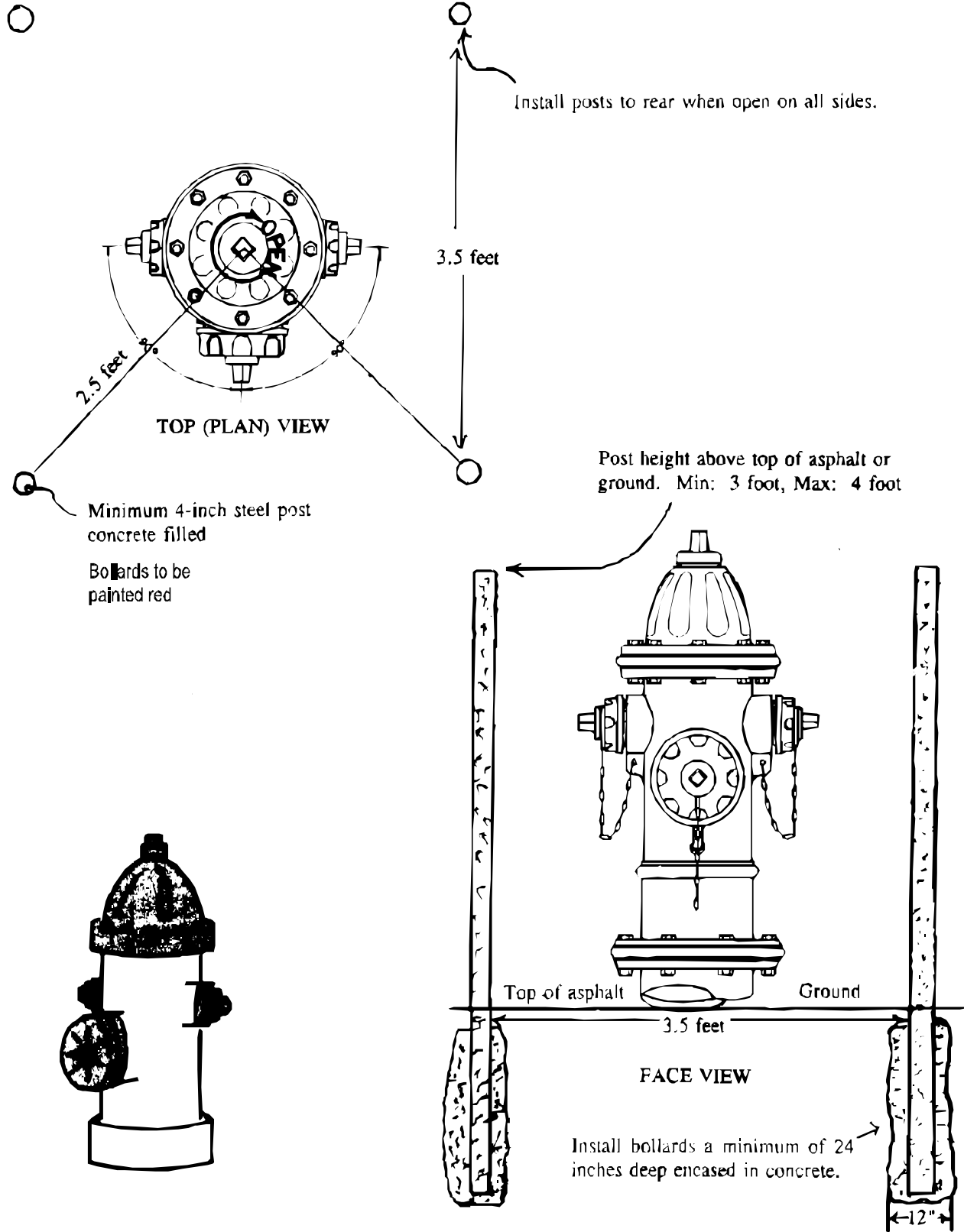
GENERAL NOTES:

- 1) HYDRANT NOZZLES SHALL BE POSITIONED AT RIGHT ANGLE TO CURB, IF NO CURB OR SIDEWALK EXISTS. NOZZLES SHALL BE PLACED AT RIGHT ANGLE TO STREET OR ALLEY.
 - 2) HYDRANTS WILL BE PLACED A MINIMUM OF 5 FT. FROM ANY UTILITY OR DRAINAGE STRUCTURE
- SPRAY HYDRANT BEING INSTALLED WITH CONDITIONS OTHER THAN THOSE MENTIONED ABOVE DETAILED FIELDS WILL REQUIRE SIGNED APPROVAL FROM THE CITY OF COLORADO SPRINGS WATER DIVISION AND FIRE DEPARTMENT



FIRE HYDRANT LOCATIONS			
LOT NO.	HYDRANT NO.	DATE	REMARKS

FIRE HYDRANT BOLLARD DETAIL



ACCESS

Two points of access should be provided to each development and every building. This is a safety consideration that helps the Fire Department avoid being blocked from reaching an emergency. It also provides the public emergency egress from an area.

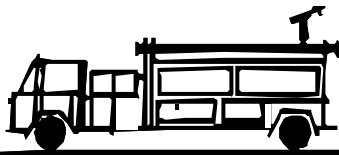
Cul-de-sacs or other single access situations can be addressed by keeping dead-ends to under 500 feet and/or providing a wider than normal road mat. Other factors to consider include keeping road grades well within City and County standards, installing fire suppression and detection systems, providing for intermediate turnarounds, looping water mains, and providing a secondary "Emergency Access Only" roadway.

The emergency access roadway provisions tend to be the least desirable solution, as they tend to fall into disrepair, become obstructed with vegetation, and not be cleared of snow in the winter. If an emergency access is being proposed for a development, please contact the Fire Prevention Bureau for an appointment to discuss your proposal.

Addresses and Signs

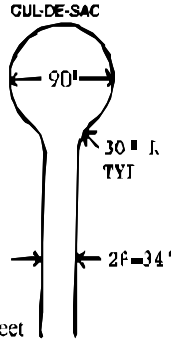
The Uniform Fire Code, Article 9, requires that all new and existing buildings be provided with numbers or addresses. Address numbers on buildings are required to be plainly visible from the street or road fronting the property. The numbers shall contrast with their background. It is recommended that the numbers be a minimum of 5 inches in height with no less than ½-inch stroke.

If access to a premise is provided by a private drive or easement, or if a structure or portion of a structure is obscured by another structure or other feature, either man-made or natural, or a premises is located on the interior of a lot or block, the numeric address shall, in addition to being posted on the building, be posted in a permanent manner at a location in the nearby vicinity of the intersection of the private drive with a public street.

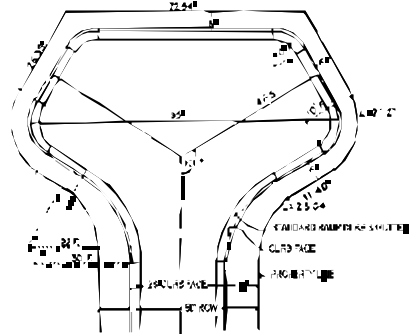


APPROVED ACCESS ROADWAY TURNAROUNDS

City Access Roadways

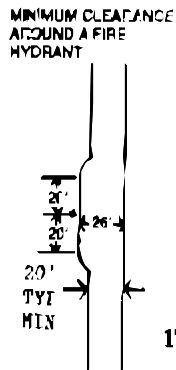
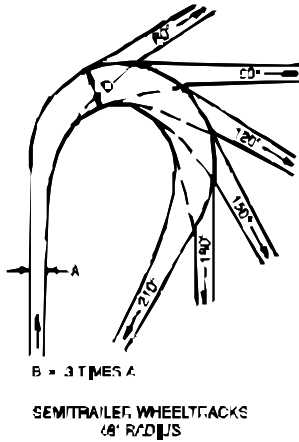
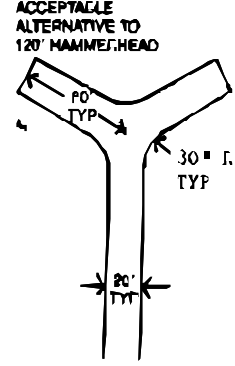
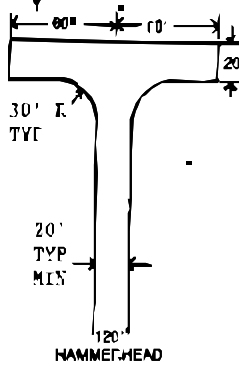
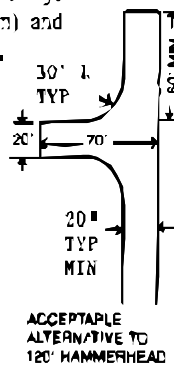


Cul-de-sac not to exceed 500 feet

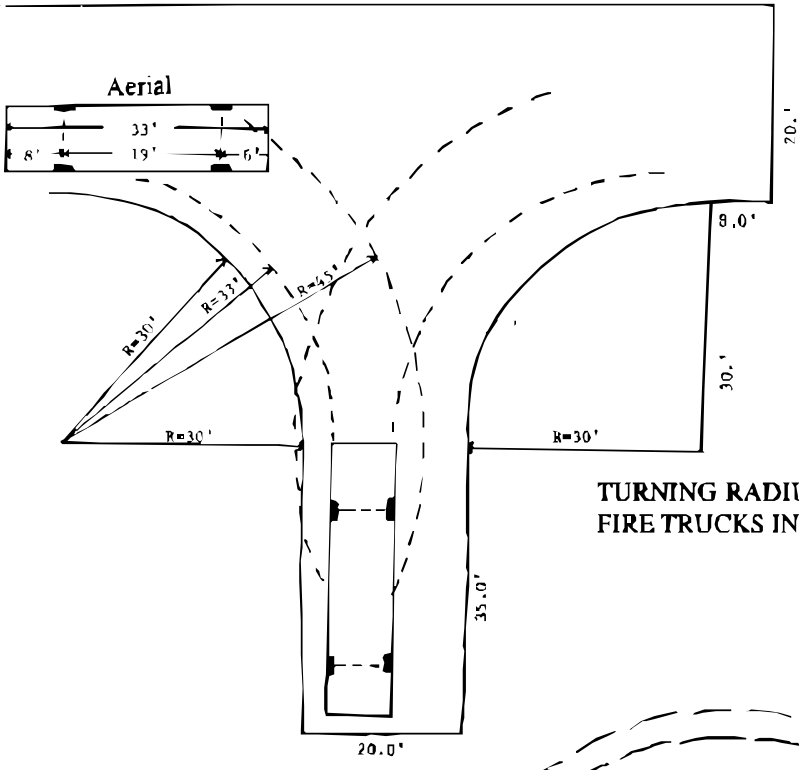


Alternate access roadway considerations for private driveways (one to two homes maximum) and special approved applications.

Any variation between 90 and 180 degrees will be acceptable.



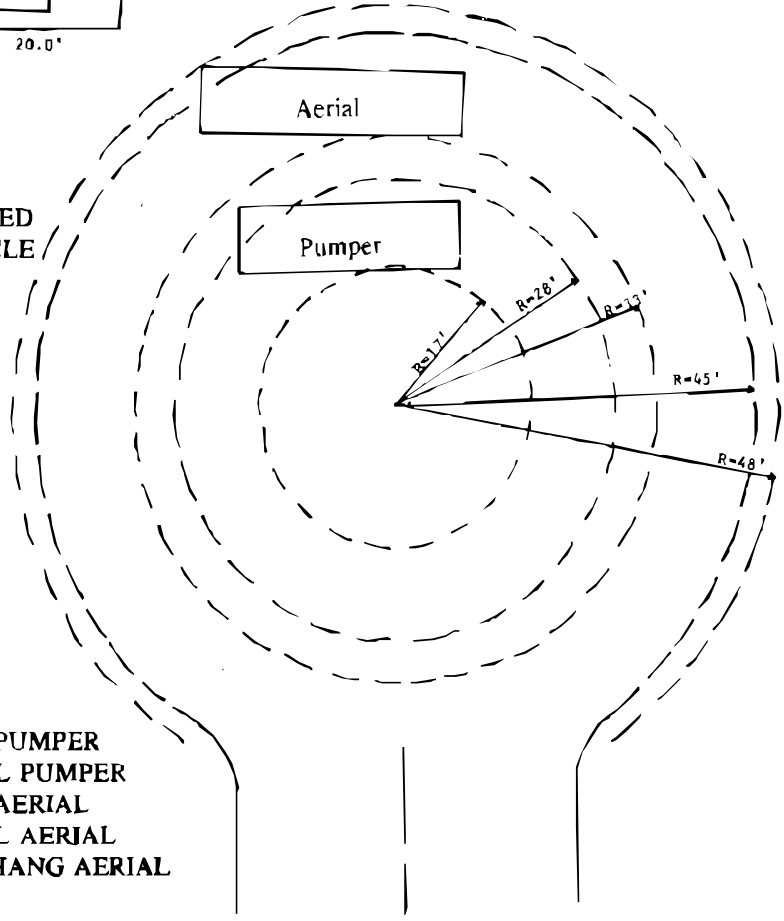
Misc.



TURNING RADIUS SPECIFICATIONS

TURNING RADIUS REQUIRED FOR FIRE TRUCKS IN A TEE TURNAROUND

TURNING RADIUS REQUIRED FOR FIRE TRUCKS IN A CIRCLE TURNAROUND



- R=17'--INSIDE WHEEL PUMPER
- R=28'--OUTSIDE WHEEL PUMPER
- R=33'--INSIDE WHEEL AERIAL
- R=45'--OUTSIDE WHEEL AERIAL
- R=48'--OUTSIDE OVERHANG AERIAL

NFPA 704 PLACARDING SYSTEM UNIFORM FIRE CODE STANDARDS 79-3 and UNIFORM FIRE CODE, ARTICLE 80

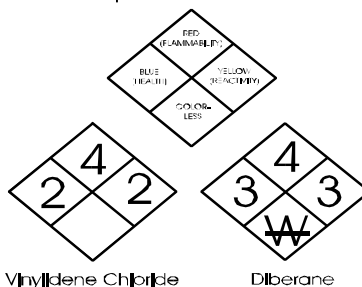
The NFPA 704 Placarding System is a nationally recognized hazardous materials labeling and identification system. NFPA 704 placards shall be placed at all entrances of buildings and locations where hazardous materials are stored, used, handled, or dispensed, and any other location deemed necessary to properly identify all hazardous materials that may be encountered by emergency response personnel in a fire or disaster situation. This requirement includes all stationary above ground tanks containing flammable/combustible liquids and/or hazardous materials. These placards tell Firefighters what they must do to protect themselves from injury while fighting a fire in the area.

For specific information regarding your hazardous materials, contact your supplier and request the applicable Material Safety Data Sheets (MSDS). If additional assistance is necessary, please contact the Fire Prevention Bureau.

STANDARD SIGNAGE SPECIFICATIONS

15' Height - Exterior 10' Height - Interior

Examples of Placards



STANDARD COMMENTS

1. Prior to and during construction: Access roadways must be made serviceable and maintained for fire protection and emergency purposes. Required streets and on-site fire hydrants and water mains must be installed and operable. Compliance with applicable sections of the Uniform Fire Code, Article 9, is required.
2. Add statement to plat: "Delivery of emergency services may be delayed due to access limitations".
3. Access roadways shall extend to within 150 feet of all first story exterior portions of any building (Uniform Fire Code, Article 9).
4. Fire Department access roadways shall: Be a minimum of 20' 0" wide, have 13' 6" vertical clearance, be maintained and unobstructed in all types of weather, be engineered and constructed to support the load of fire apparatus (Uniform Fire Code, Article 9).
5. Dead end Fire Department access roads in excess of 150 feet shall be provided with an approved Fire Department turnaround (Uniform Fire Code, Article 9).
6. Cul-de-sacs should not exceed 500 feet in length without Glenwood Springs Fire Department approval and the turnaround must not be less than 90' in diameter or as approved by the Chief (Uniform Fire Code, Article 9).

FIRE ALARM SYSTEM PLANS AND SUBMITTALS

WHAT THEY SHOULD INCLUDE

A minimum of two sets of drawings are required to be submitted to the Glenwood Springs Fire Department Fire Prevention Bureau as follows:

- I. Drawings
 - A. Floor Plan Drawn to Scale
 - 1. Device locations
 - 2. Type of device
 - 3. Control locations
 - 4. Conduit connections
 - a. Surface mounting installation
 - b. Semi-flush mounting installation
 - c. Flush mounting installation
 - 5. Type and size of wire or cable
 - 6. Exterior mounted devices, weather proof
 - B. Point-to-Point System Wiring Diagram
 - 1. Interconnection of identified devices and control
 - 2. Type of power feed to the control panel
 - 3. External connection of modules
 - C. Symbol List and Equipment Identification on Drawing
 - 1. Symbols to be used on drawing
 - 2. Symbol description
 - D. Alarm Circuit Load Consumption of Furthest Alarm Circuits on Drawing
 - 1. Quantity of bells, furthest circuit, and current consumption
 - 2. Length of furthest circuit and resistance of wire
 - 3. Formula on drawing and acceptable limit
- II. Attachments to Drawings
 - A. Manufacturing Data Sheets on All Equipment Used
 - B. Battery Calculation Sheet
 - 1. Standby power consumption of all current drawing devices times the hours required by N.F.P.A.
 - 2. Alarm power consumption or all current devices times the minutes required by N.F.P.A.
 - 3. Formula format for battery calculations

AUTOMATIC FIRE SPRINKLER SYSTEM REQUIREMENTS

Fire sprinkler systems shall meet the criteria of the Uniform Fire Code Article 10, Title 060 of the Glenwood Springs Municipal Code, and all applicable provisions of N.F.P.A. 13, N.F.P.A. 13-R, and N.F.P.A. 13-D. Plan submittal with required approval, permits, and associated inspections must be secured through the Glenwood Springs Fire Department Fire Prevention Bureau.

A minimum of two sets of drawings are required to be submitted to the Fire Prevention Bureau and shall include, but shall not be limited to, the following items:

1. Piping locations
2. Pipe sizing
3. Hanger locations and details
4. Head locations and details
5. Existing system components (if applicable)
6. Riser specifics including valves and gauges
7. Hydraulic calculations
8. Other items of concern if deemed necessary by the Fire Protection Systems Specialist

Fire Department connections shall be immediately discernable. A minimum of three (3) feet clear space shall be maintained from any Fire Department connection or any outside fire protection control valve. All Fire Department connections shall be installed at locations approved by the Fire Prevention Bureau.

An approved outside electric horn and strobe light unit shall be installed proximate to and within twenty (20) feet of the outside Fire Department connection. Proper signage shall be installed per Fire Department standards where applicable.

Sprinkler control valves shall be secured per the provisions of N.F.P.A. 13. In sprinklered buildings that are protected with fire alarm detection systems, valves shall be tied directly into a supervisory alarm circuit and shall be monitored through the fire alarm system. In buildings that are not protected by fire detection devices, the sprinkler control valves shall be secured by one of the following methods:

1. Locked in the open position with chain and/or padlock
2. Locked in a room designated for that purpose and identified on the door accordingly
3. Locked in a cage or other approved area which can be adequately supervised and secured

Sprinkler systems that require a 200-pound hydrostatic test procedure shall have the test witnessed and approved by the Glenwood Springs Fire Department Fire Prevention Bureau.

Sprinkler piping and hangers shall not be covered and/or concealed by any means prior to being inspected and approved by the Fire Prevention Bureau. This includes grid style ceilings.

Automatic fire extinguishing systems shall be provided with flow switches zoned per floor in multi-story buildings. One flow switch minimum per floor is required. Additional flow switches

may be required on individual floors as deemed necessary due to special building characteristics, large floor areas, different occupancy types or uses, or any special concern on the part of the Fire Prevention Bureau that would warrant their installation. These special requirements would thus set a requirement for a fire alarm system to be centrally monitored by an approved central, proprietary U.L. approved monitoring agency.

Any floor or area of the building that is required to have flow switches as outlined above shall have installed an isolation valve with a corresponding tamper switch. Tamper switches shall be wired such that it would send in a trouble signal on the same zone as the corresponding zone flow alarm.

Tamper switches shall be provided on all automatic sprinkler systems that have flow switches and isolation valves installed and are required to be centrally monitored per Uniform Fire Code, Article 9.

All standpipe and automatic fire sprinkler system Fire Department connections and valves shall be properly identified so as to indicate clearly what each component or each piece of equipment serves.

In buildings used for high piled combustible storage, fire protection shall meet the criteria of Uniform Fire Code Article 81, the applicable provisions of N.F.P.A. 13, N.F.P.A. 231C, N.F.P.A. 231D, N.F.P.A. 231E, and N.F.P.A. 231F.

Automatic sprinkler systems shall be supervised by an approved outside U.L. listed Central Station monitoring agency when the number of sprinklers are:

1. Twenty (20) or more in a Group I Division 1.1 and 1.2 occupancies
2. One hundred (100) or more in all other occupancy types
3. When special building characteristics within multi-story or multi-zone sprinkler systems as detailed above occur

Buildings under construction shall have fire protection equipment installed and maintained in accordance with Uniform Fire Code Article 87.

Shelving units and shelves shall be constructed so as to provide storage no closer than two (2) feet below any ceiling and no closer than eighteen (18) inches below the horizontal plane of any sprinkler head deflector.

Suitable signage must be provided on the door of the enclosure in which any sprinkler system valves/controls are located stating "Fire Sprinkler Control Valves" in two (2) inch high block letters with a stroke of not less than ½ inch and of a color contrasting with it's background. Valves or switches that are located within building elements must also be identified in an approved, suitable, and easily identifiable method or manner at the point/location giving access to said valve or component.

KITCHEN HOOD FIRE EXTINGUISHING SYSTEMS

Cooking hood-extinguishing systems provided for protection of kitchen grease hoods and ducts will be reviewed at the time of permit application. For a complete review to take place, the following information shall be provided:

1. A minimum of two (2) sets of drawings are required to be submitted to the Glenwood Springs Fire Department Fire Prevention Bureau
2. Description of extinguishing system type (automatic sprinkler, carbon dioxide, dry chemical, or liquid agent)
3. Type of system design - either an engineered system or pre-engineered system
4. Engineered and pre-engineered systems shall contain full details of system design
5. Design shall specifically note interconnection for fuel supply shutoff, ventilation control, damper control, associated ducting system, alarm retransmission, etc.
6. Cooking hood extinguishing systems shall be designed in accordance with the latest locally adopted editions of N.F.P.A. 13 and 17, Uniform Fire Code, Uniform Building Code, Uniform Mechanical Code, and any applicable local amendments and rules.
7. Alarm Retransmission - If a kitchen fire extinguishing system is installed in a building with an existing fire alarm, that system is required to be interfaced with the fire alarm control panel through a dedicated zone. This should be indicated on the plans. The Field Inspector will verify alarm retransmission.

ARTICLE 81 - HIGH PILED COMBUSTIBLE STORAGE

High piled combustible storage is combustible materials in closely packed piles more than fifteen (15) feet in height or combustible materials on pallets or in racks more than twelve (12) feet in height. For certain special hazard commodities such as rubber tires, plastics, some flammable liquids, idle pallets, etc., the critical pile height may be as low as six (6) feet.

If your organization is planning for any storage such as this, we highly recommend you contact the Glenwood Springs Fire Department Fire Prevention Bureau in the initial stages of planning and design. Special considerations, as well as numerous options, may be available for each application of this complicated article of the Uniform Fire Code. Design engineers may be needed to properly assist you with all applicable details of this article.

It also may be necessary to provide details of several aspects of design criteria critical to Article 81 requirements. These may include:

- < Specially designed N.F.P.A. Article 231 Series Sprinkler Systems
- < Specially designed fire alarm systems
- < Smoke and heat removal systems
- < Curtain boards

Please contact the Fire Prevention Bureau for assistance on this and any other questions regarding this article. Special forms and/or submittals may be required by the Bureau to satisfy requirements related to this article.

HIGH PILED STOCK INFORMATION

The following information is submitted for determination of the type of fire protection devices that might be required. Any deviations may require additional protection after the building is built.

CompanyName _____

Address _____

List all stock to be stored 12 feet in height or over and give the maximum height and floor areas that will be used for high piled storage.

Materials/List Commodity Group	Height	Pallets or Racks	Floor Area Used (Sq Ft)	In Cartons, Bags, Encapsulated

I hereby certify that the storage of high piled stock will be limited as indicated above.

9 Facility to comply with Article 81

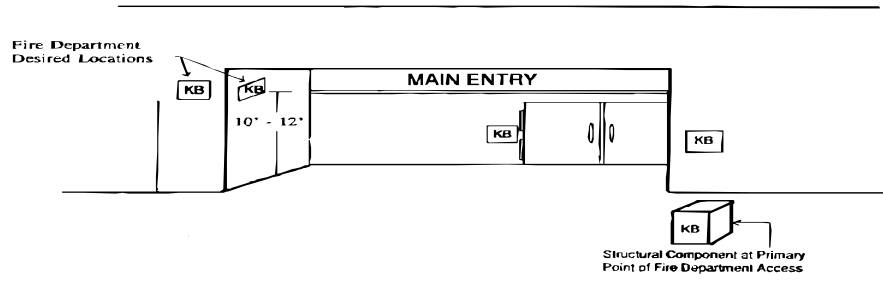
Signature _____ Date _____
 Building Owner or Occupant

Fire Protection Needed:	Construction Changes Required:
By: _____ Date: _____	By: _____ Date: _____

EXIT SIGN REQUIREMENTS

- < Exit signs shall be installed whenever two or more exits are required by the Building Official
- < Additional exit signs, lights or markings may be required to assure that the exit way is easily identified regardless of the occupant load
- < **GRAPHICS**: Words on the exit signs shall be in BLOCK letters six (6) inches in height with a stroke of not less than $\frac{3}{4}$ inch
- < Illumination of exit signs and emergency exit lighting:
- < Battery packs are required on all emergency lighting regardless of the occupant load
- < Required illuminated signs shall be internally or externally illuminated by two (2) bulbs or be of an approved self-luminous type. The exit signs shall be illuminated with an intensity of not less than five (5) foot candles at floor level
- < **EXIT SIGN PLACEMENT**: Exit signs shall be installed at all required exit doorways and where otherwise necessary to clearly indicate the available egress systems. If two or more exits are required, each of the respective exit ways must be indicated with signs to clearly indicate each individual exit egress system.

EXAMPLES OF APPROVED LOCATIONS FOR KEY BOX INSTALLATIONS FOR FIRE DEPARTMENT ACCESS



Uniform Fire Code Article 9

“When access to or within a structure or an area is unduly difficult because of secured openings or where immediately access is necessary for life-saving or fire fighting purposes, or where a fire protection system is installed, the Chief may require a key box to be installed in an accessible location. The key box shall be a type approved by the Chief and shall contain keys to gain necessary access as required by the Chief.”

The key box shall be located at or near the primary Fire Department access into a building or project or as approved by the Fire Department. Such locations are diagramed above. The approved Glenwood Springs Fire Department key box shall be a “Knox Box”. Application forms for a Knox Box may be obtained from the Fire Prevention Bureau.