

# **DEVELOPMENT STANDARDS INDEX**

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# DEVELOPMENT STANDARD #1 ROOFING ASSEMBLY REQUIREMENTS

The Montecito Fire Protection District has mandated that any new or replacement roofing assembly must be "Class A – suitable for extreme fire exposure" to meet the requirements of the current version of the Code.

#### REPLACEMENT

Replacement of existing and/or application of additional new roof material which amounts to more than 25% of the total roof area will require removal and replacement of the entire roof with conforming Class A roofing material.

# PROJECT/PLAN REVIEW

The Fire District is responsible for reviewing plans and contract documents for all new and/or replacement roofing projects occurring within its jurisdiction. Roofing permits are initiated through the standard Fire Protection Certificate Application (FPC) process currently utilized for all building permits within unincorporated areas of the County.

The Fire District reviews plans and/or roofing contracts to verify that a conforming "Class A" roof is being proposed for installation. The contractor or owner's agent is required to produce such documentation for review by Fire District personnel. The County Building Official is responsible for the inspection of any roof installation within the Fire District.

# ROOFTOP GARDENS & LANDSCAPE ROOFS

The Fire District will allow rooftop gardens / landscaped roofs on a case by case basis but must have prior approval by the District Fire Official.

If approval is granted, only succulent vegetation will be permitted for rooftop gardens and landscape roofs and shall be installed and maintained in accordance with Section 317 of the California Fire Code and Sections 1505.0, 1507.16, and 705A of the California Building Code.



# DEVELOPMENT STANDARD #2 VEGETATION MANAGEMENT

This Standard provides provisions intended to identify hazard areas and mitigate the risk to life and structures caused by a wildfire exposure and mitigate fires spreading to wildland fuels that may threaten to destroy life, overwhelm fire suppression capabilities, or result in large property loss.

The purpose of this section is to establish minimum standards for protection of life and property by reducing fuel loading and increasing the ability of a building located in any Fire Hazard Severity Zone within the District to resist the intrusion of flames or burning embers projected by a vegetation fire and contribute to a systematic reduction of conflagration losses through the use of performance and prescriptive requirements.

### Code Standard References:

- California Resource Code Section 4291
- California Government Code Sections 51175 through 51189
- California Fire Code 2019 Edition Chapter 49
- California Building Code 2019 Edition Section 705A

#### **DEFINITIONS**

**DEFENSIBLE SPACE** An area either natural or man-made surrounding a structure or building, where material capable of allowing a fire to spread unchecked has been treated, cleared or modified to slow the rate of intensity of an advancing wildfire or escaping structure fire. The area is characterized by the establishment and maintenance of fuel modification measures that creates an area for fire suppression operations to occur.

**FUEL BREAK** An area, strategically located for fighting anticipated fires, where the native vegetation has been modified or replaced so that fires burning into it can be more easily controlled. Fuel Breaks divide fire-prone areas into smaller areas for easier fire control and to provide access for firefighting.

**FUEL MODIFICATION** A method of modifying fuel load by reducing the amount of non fire-resistive vegetation or altering the type of vegetation to reduce the fuel load.

**FUEL MOSAIC** A fuel modification system that provides for the creation of islands and irregular boundaries to reduce the visual and ecological impact of Fuel Modification.



**GREENBELTS** A facility or land-use, designed for a use other than fire protection, which will slow or resist the spread of a wildfire. May include parking lots, irrigated or landscaped areas, golf courses, parks, playgrounds, maintained vineyards or orchards.

**PARCEL** A portion of land of any size, the area of which is determined by the assessor's maps and records and may be identified by an assessor's parcel number whether or not any buildings are present.

**WILDFIRE EXPOSURE** One or a combination of radiant heat, convective heat, direct flame contact and burning embers being projected by vegetation fire to a structure and its immediate environment.

# FIRE HAZARD REDUCTION

### I. FIRE HAZARD SEVERITY ZONES IN MONTECITO

Fire Hazard Severity Zone (FHSZ) maps are created by the California Department of Forestry and Fire Protection (Cal Fire) to identify areas where a wildfire is more likely to occur. FHSZ maps help homeowners, landscape design and construction professionals determine which exterior wildfire-related construction and landscaping standards, found within the California Building Code apply to their residential or commercial construction projects.

Scientific models are used to geographically identify FHSZ's through an analysis of factors, such as:

- Predominant vegetation type (vegetation is the fuel for a wildfire)
- Terrain (severity of slopes)
- Fire history (past fires are good predictors of future fires)
- Weather patterns (high winds, low humidity, and high temperatures contribute to fire severity)

Please visit <u>www.montecitofire.com/maps</u> to determine whether your property falls in the Moderate, High or Very High Fire Hazard Severity Zone.



#### II. VEGETATION CLEARANCE FROM STRUCTURES

<u>DEFENSIBLE SPACE</u> Research clearly demonstrates how defensible space significantly improves the probability of a structure surviving a fire. For the purposes of this standard, defensible space consists of two zones; 0-30 feet (Zone 1), and an additional 70 feet (Zone 2) totaling 100 feet from all buildings or structures. A greater distance may be required on a case-by-case evaluation. Final approval of the adequacy of the defensible space shall be at the discretion of the Fire Code Official or his or her designee.

1. Property Owners shall maintain defensible space of 100 feet from all sides of any structure but not beyond the property line except when adverse conditions exist as referenced in paragraphs 2 and 3 below.

The level to which the Fire District will require fuel modification will depend on the flammability of the structure pursuant to building materials used, position of the structure in relation to the topography, and characteristics of the surrounding vegetation.

Defensible space shall be maintained so a wildfire burning under average weather conditions would be unlikely to ignite the structure. Further, a working structure fire would be less likely to ignite adjacent vegetation if adequate defensible space is provided.

The most aggressive clearing of vegetation occurs within Zone 1, the first 30 feet around the structure. For the purposes of this section, "fuel", means any combustible material including petroleum-based products and wildland vegetation.

- a. All mature trees shall be trimmed up off the ground 6 feet above ground level. For young/immature trees ensure limbs are trimmed well above ground level. The objective is to prevent a ground fire from spreading into the tree canopy.
- b. All native brush and shrubs within Zones 1 and 2 should be thinned and stripped of dead and/or decadent fuels.
- c. Provide and maintain adequate spacing between the plants in order to minimize fire spread.
- d. Remove that portion of a tree that extends to within 10 feet of the outlet to a chimney or stovepipe, including outdoor kitchen areas



- e. Maintain any tree, shrub, or other plant that is adjacent to or overhanging a building free of dead or dying wood.
- f. Maintain the roof of a structure free of leaves, needles, or other vegetative materials.
- g. Remove dead trees, plants and other vegetative materials within 100 feet of any structure, driveway, road or as determined necessary by the Fire Code Official.
- h. If it is necessary or desirable to re-vegetate, refer to the plant list located on the Fire District website for guidelines.
  - "Creating Firewise Landscapes" www.montecitofire.com
- 2. A greater distance than that required under paragraph 1 may be required by special order from the Fire Chief or designee if additional distance is necessary due to extreme risks. Such risks could include, but are not limited to, slopes greater than 40% and heavy fuel loading.
- 3. Fuels reduction on adjacent properties may be required if it is determined that additional clearing is necessary to significantly reduce the risk of transmission of flame, heat, or embers sufficient to ignite the structure and there is no other feasible mitigation measure to reduce that risk. Additionally, the property owner must have done everything reasonable to meet defensible space requirements on their property. Clearance on adjacent properties shall only be conducted following written consent by the adjacent landowner. It is the responsibility of the property owner to obtain such consent.
- 4. The Fire Chief may authorize the removal of any vegetation on a given property that is not maintained consistent with the standards of this section. Following written notice, the Fire Chief may prescribe a procedure for the removal of such vegetation and seek reimbursement from the property owner for work that was done consistent with the procedures prescribed in the Code.

<u>VEGETATION MANAGEMENT PLAN (VMP)</u> A VMP is a document prepared for a specific project or development that describes ways to minimize and mitigate potential for loss from wildland exposure.

1. A VMP is required for all new construction projects in the Montecito Fire Protection District High & Very High Fire Hazard Areas and may also be required in other plan areas if deemed necessary by the Fire Code Official or designee.



- 2. The VMP must be submitted and approved by the District prior to the erection of combustible materials. The VMP must describe all actions that will be taken to prevent fire from being carried toward or away from structures. The requirements of the VMP shall be applicable for the life of the project or development. The plan shall include:
  - a. A copy of the site plan that includes a landscape plan, property line boundaries, and topographic reference lines
  - b. The building envelope with all structures and improvements
  - c. Designated Fuel Modification Zones
    - i. Zone 1 (Cleared Zone) which is from the structure(s) exterior edge to 30' surrounding the structure(s). Vegetation in this zone is limited to ground covers, green lawns, a limited number of selected ornamental plants, select native species listed on the Fire District's "Desired Plants List", and single specimen trees. All plants, shrubs and trees should be spaced and arranged in a manner that makes it difficult for fire to transfer from one fuel source to another, including the structure itself. Ensure at least 5' of separation from the structure and combustible ground cover such as bark, mulch, etc. Trees (when the canopy is fully grown) shall not be planted closer than 15' from a structure. No plantings shall be connected to the structure.
    - ii. Zone II (Reduced Fuel Zone) which is from 30′ to 100′ from the structure(s) edge surrounding the structure(s). Vegetation in this zone is characterized by disruption of the vertical and /or horizontal continuity of flammable and combustible vegetation with the goal of reducing the rate of fire spread, and providing a safer environment for firefighters to suppress wildfires.
    - iii. Zone III (Constrained Fuel Zone) which is from 100' to 200' from the structure(s) edge surrounding the structure(s). It is defined as having slopes greater than 25% and/or having fuel loads in excess of 100 tons per acre. Clearance distance between vegetation will depend on slope, size, type, and fuel compaction and chemical content.
  - d. Elements of the plan shall include removal of dead vegetation, litter, vegetation that may grow into overhead electrical lines; certain ground fuels, and ladder fuels as well as the thinning of live trees.



### III. VEGETATION CLEARANCE FOR VACANT PARCELS

Annual grasses/ readily combustible fuels (less than ¼ inch shaft diameter). This standard applies to all parcels, regardless of proximity to structures.

- 1. Parcels less than one acre in size: All grasses shall be mowed or disked to less than 3 inches in height.
- 2. Parcels one acre or larger in size: Create 30 foot wide fuel breaks around and across the property dividing it into approximately one acre sections. Grasses shall be mowed or disked to less than 3 inches in height.
- 3. Soil disturbance shall be minimized when working on steep slopes, above waterways, and in environmentally sensitive habitat areas.
- 4. Dead trees, plants and other vegetative materials shall be removed from vacant parcels as determined necessary by the Fire District.

# IV. WILDFIRE RISK AREA (WRA)

<u>RESTRICTED ENTRY TO PUBLIC LANDS</u> Fire Code Official is authorized to determine and publicly announce when an WRA shall be closed to entry and when such areas shall again be opened to entry. Entry on and occupation of an WRA, except public roadways, inhabited areas or established trails and campsites that have not been closed during such time when the WRA is closed to entry, is prohibited.

#### Exceptions:

- 1. Residents and owners of private property within a HFA and their invitees and guests going to or being on their lands.
- 2. Entry, in the course of duty, by peace or police officers, and other duly authorized public officers, members of a fire department and members of the Wildland Firefighting Service.

<u>RESTRICTED ENTRY TO PRIVATE LANDS</u> When the Fire Code Official determines that a specific area within an WRA presents a fire danger because of the density of natural growth, difficulty of terrain, proximity to structures or accessibility to the public, such areas shall be restricted or closed until conditions allow termination of such restriction or closure. Signs prohibiting entry by un-authorized persons shall



be placed on every closed area. Entering and remaining within areas closed and posted is prohibited.

<u>Exception</u>: Owners of private or public property within closed and posted areas; their guests or invitees; authorized persons engaged in the operation and maintenance of necessary utilities such as electrical power, gas, telephone, water and sewer; and local, state and federal public officers and their authorized agents acting in the course of duty.

# V. ROADWAY/DRIVEWAY VEGETATION CLEARANCE

- 1. Property owners are responsible for vegetation maintenance along private roadway / driveways and in most cases along public roads which front their property.
- 2. A minimum 13 ½ foot vertical clearance shall be maintained above full width of the required roadways and driveways to allow for effective response of emergency vehicles at all times.
- 3. Horizontal clearance of vegetation shall be maintained, at minimum, to the road right-of-way or the edge of the pavement depending on individual easements to maintain maximum traffic circulation in the event of emergency evacuation.
- 4. Flammable vegetation such as dead materials, annual grasses, and readily combustible fuels shall be removed for 10 feet on each side of every roadway to prevent wildfire from spreading as a result of vehicular causation (catalytic converters, sparking due to metallic/asphalt abrasion, discarded cigarettes, vehicle fires, etc.).

<u>Exception</u>: Single specimen trees, ornamental vegetative fuels or cultivated ground cover, such as green grass, ivy, succulents or similar plants used as ground cover, provided they do not form a means of readily transmitting fire.

- 5. Remove dead trees, plants and other vegetative materials within 100 feet of any driveway, road, or as determined necessary by the Fire District.
- 6. Excessive accumulation of waste, trash, rubbish and other belongings which prevent fire fighters from accessing the full perimeter of the structure or from gaining access to the structure shall be mitigated.



### VI. PHOTOVOLTAIC SYSTEMS

<u>CLEARANCE</u> The clearance requirements around free standing photovoltaic systems and equipment shall comply with the following:

- 1. A minimum 10-foot clearance for arrays of panels not exceeding 1,500 square feet of combined panel area.
- 2. A minimum 30-foot clearance for arrays of panels greater than 1,500 square feet of combined panel area.
- 3. Arrays shall be separated a minimum of 20 feet.

# VII. ENVIRONMENTALLY SENSITIVE HABITAT (ESH)

Selective fuel management shall be practiced to minimize the removal or clearance of dead and/or decadent native riparian vegetation to the extent feasible. Maintain native vegetation to the maximum extent possible, consistent with fuel modification requirements. It is important to make efforts to minimize soil disturbance.

For clarification or advice on clearing in sensitive areas, please contact County of Santa Barbara Planning and Development.



# DEVELOPMENT STANDARD #4a WATER SUPPLY REQUIREMENTS

It is the policy of the Montecito Fire District to require adequate water supply as described within this standard to all proposed buildings and occupancies within the Fire District. Water supply for fire protection is premised upon minimum available fire flows as stipulated in the Code. The required fire flows shall be from fire hydrants and water main extensions which meet all requirements of the water purveyor.

#### I. FLOW RATES

Individual hydrant spacing and flow rates for buildings having a fire area which does not exceed 3,600 sq ft shall be determined according to Table I, below, of this standard. Spacing and flow rates for all other structures shall be determined according to requirements found in Appendix B and C of the California Fire Code.

All flows are measured at 20 p.s.i. residual pressure.

TABLE I.1

Area Type / Acres	Hydrant Spacing	Hydrant Flow Rate
Commercial	300 feet	1,250 gpm
Urban & Rural Developed Neighborhood	500 feet <sup>2</sup>	500 gpm <sup>3</sup>
Rural 5 to 10 Acres	600 feet	500 gpm <sup>3</sup>
Rural over 10 Acres	600 feet	500 gpm <sup>3</sup>

- Stored water systems should not be used when a water purveyor is available unless augmenting the system and approved by the Fire Chief.
- May be extended up to 700' for buildings provided with a rated automatic sprinkler system
- <sup>3</sup> Buildings provided with a rated automatic sprinkler system

#### II. SPACING POLICY

1. Spacing for one-family and two-family dwellings shall be according to Table I (above) of this standard. Spacing for other than one-family and two-family dwellings shall be according to Appendix C of the California Fire Code.



- 2. Spacing is based on the distance between hydrants along an approved access road. Specific locations will be determined by the Fire District prior to project approval.
- 3. Irrespective of distances provided in the referenced tables, additional hydrants may be required at intersections and near driveways serving buildings at risk.
- 4. Regardless of the hydrant spacing, fire hydrants shall be located such that all points on streets and access roads adjacent to a structure are within the distances listed in Table 1 above, or C102.1 of the California Fire Code.
- 5. Fire hydrants shall be required on both sides of the roadway whenever:
  - i. Roadway easement widths are greater than 60 ft.
  - ii. A center median strip exists.
  - iii. The roadway is a major highway or thoroughfare as identified by the County Department of Public Works, Road Division.
  - iv. In the opinion of the Fire Chief or designee, the use of fire hydrants on the opposite side of the roadway may prove operationally difficult or may create unsafe working conditions.

#### III. PRIVATE ON-SITE HYDRANT REQUIREMENTS

- 1. When required, a fire hydrant shall be installed no closer than 50 ft and no further than 150 ft traveled path distance to the dwelling. Specific location shall be determined by the Fire Code Official or designee.
- 2. Water mains for on-site fire hydrants shall be installed in accordance with the water purveyor standards or National Fire Code (NFPA Standard 24) and shall be a minimum of 4 in. diameter.
- 3. All on-site fire hydrants shall be equipped with a shut-off (street) valve.
- 4. Curb faces shall be painted red to 10 ft on both sides of the hydrant.
- 5. Maintenance of on-site hydrants is the responsibility of the property owner.
- 6. The Fire District shall have unrestricted access to on-site fire hydrants for inspection and testing purposes.



#### IV. GENERAL REQUIREMENTS

- 1. Fire Hydrant Discharge Outlet Configuration
  - i. One- and Two-Family Dwellings
    - a. One 4 in. discharge outlet and one 2-1/2 in. discharge outlet
  - ii. Other than One- and Two-Family Dwellings
    - a. Minimum one 4 in. discharge outlet and two 2-1/2 in. outlets
- 2. All outlets shall have national standard threads and metal caps to protect threads.
- 3. The center of the lowest outlet shall be a minimum of 18 in. above grade and a maximum of 24 in. above grade.
- 4. The fire hydrant shall have pentagonal operating nuts.
- 5. Hydrant barrel shall be painted yellow or as approved by the Fire Code Official or designee.
- 6. Hydrants shall be installed, made serviceable and approved prior to the erection of combustible materials.
- 7. Hydrant locations shall be identified by the installation of approved blue reflective markers located in the roadway 90 degrees to the hydrant. Location should be near the roadway center, but not likely to be obscured by subsequent striping.
- 8. No barricades, walls, fences, landscaping, etc., shall be installed, planted or maintained within a 3-foot radius of a fire hydrant.
- 9. Hydrant flows may be increased and spacing decreased in high fire hazard areas, consistent with nationally recognized standards and industry good practice.
- 10. The Fire District shall receive a letter from the water purveyor which verifies financial arrangements for hydrant and main installations when such improvements are required within fourteen days of fire protection certificate issuance. The work needed to provide this required water supply shall be installed, operational, and have Fire District approval prior to structural framing.
- 11. Flow testing may be required by the Fire District prior to the acceptance of required hydrants. Flow determinations will be developed by the water purveyor upon request of the project applicant. Resulting flows must be consistent with the flow criteria stipulated in this Standard. Upon the successful completion of this testing, the contractor may then proceed with structural framing.



# DEVELOPMENT STANDARD #3 FIRE ACCESS ROADS & DRIVEWAY REQUIREMENTS

Fire apparatus access roads/driveways shall be provided and maintained in compliance with Section 503 of the California Fire Code (CFC) and this Development Standard.

The Fire Code Official or designee is authorized to approve alternate materials or methods provided the proposed design, use, or operation satisfactorily complies with the intent of the California Fire Code and the method of work performed or operation is at least equivalent to that prescribed in this standard in quality, strength, effectiveness, fire resistance, durability and safety.

## **DEFINITIONS**

**ALL WEATHER ACCESS ROAD** A road capable of supporting a 25-ton vehicle after a 10-year storm.

**DEAD END** A Fire Access Road/Driveway that has only one point of ingress/egress, including cul-de-sacs and looped roads. A Fire Access Road/Driveway that ends at a gate is considered to be a Dead End Roadway.

**DWELLING UNIT** A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation.

FIRE APPARATUS ACCESS ROAD A roadway that provides fire apparatus access from a fire station or other staging area to a facility, building or portion thereof. This is a general term inclusive of all other terms such as fire lane, public street, private street, parking lot lane and access roadway and driveway. This road may provide ingress and egress for both the fire department and the general public during emergency events and normal use.

**ROADWAY** Any surface designed, improved, or ordinarily used for vehicle travel. Inclusive of both Roads and Driveways.

**TURNAROUND** A Roadway, unobstructed by parking, which allows for a safe opposite change of direction for emergency equipment.

**TURNOUT** A widening in a Roadway to allow vehicles to pass or emergency equipment to stage off the Roadway.



# FIRE ACCESS ROADS AND DRIVEWAY STANDARDS

# I. MINIMUM REQUIREMENTS DURING CONSTRUCTION

Fire District access and water supply approval must be obtained prior to the start of any structural framing. The finished surface shall be completed prior to final approval for occupancy clearance.

The access roads/driveways shall be installed with a five inch thickness of Class II road base compacted to 95% relative compaction at minimum. A single application of liquid asphalt emulsion sealcoat shall then be applied to this surface.

# II. REQUIRED FIRE ACCESS ROAD/DRIVEWAY WIDTHS

- 1. SINGLE PARCEL OR DWELLING UNIT: Fire Access Roads/Driveways shall have a minimum paved width of fourteen feet.
- 2. TWO TO FOUR PARCELS OR DWELLING UNITS: Fire Access Roads/Driveways shall have a minimum paved width of sixteen feet.
- 3. FIVE OR MORE PARCELS OR DWELLING UNITS: Fire Access Roads/Driveways shall have a minimum paved width of twenty feet.
- 4. NON-RESIDENTIAL OCCUPANCIES: For Fire Access Roads/Driveways shall have a minimum paved width of twenty feet.
- 5. FIRE ACCESS ROAD/DRIVEWAY CURVES: Curves and bends in the road shall have a 40 foot minimum outside turning radius from the centerline and have a minimum width of 16 feet.

# 6. EXCEPTIONS:

- (i) Minimum pavement width shall be fourteen feet except on occasions wherein valued monuments (e.g. large trees, boulders, etc...) might be preserved by reducing the paved width of the driveway/roadway to no less than twelve feet at such points.
- (ii) When walls higher than a curb height of 6 inches are constructed along Fire Access Roads/Driveways, a minimum 2 foot shoulder between the Fire Access Road/Driveway and the wall may be required in addition to the required paved width at the discretion of the Fire District.



#### III. TURNAROUNDS

- 1. Turnarounds shall be provided on all dead-end Fire Access Roadways and Driveways 150 feet or longer.
  - I. Dead-end Fire Access Roads and Driveways shall terminate with an 80 foot diameter bulb turnaround or as approved by the Fire Code Official or designee.
- 2. Inline turnarounds are to be provided at 400 foot intervals along the Fire Access Roadway or Driveway, or at the Fire Code Official's discretion. Line of sight issues, topography, or physical constraints may indicate shorter or longer intervals.
  - I. In-line turnaround configuration shall be either a minimum 80 foot diameter bulb turnaround or a District-approved hammerhead configuration as determined by the Fire Code Official or designee.
- 3. Turnarounds shall have a maximum allowance of 5 percent slope unless otherwise approved by the Fire Code Official or designee.

#### IV. TURNOUTS

Turnouts shall be provided at 200 foot intervals or at the Fire Code Official's discretion. Line of sight issues, topography, or physical constraints may indicate shorter or longer intervals. Minimum turnout configuration shall be 40 foot long by 10 foot wide rectangular area plus 10 foot tapers adjoining the roadway.

## V. SURFACE PAVING STANDARDS:

Fire apparatus access roads and driveways shall be designed, constructed, and maintained in accordance with public road standards with a surface suitable for all-weather driving capabilities and shall have a cross-section complying with one of the following:

- 1. Asphalt or concrete in accordance with public road standards.
- 2. An alternate surface certified by a registered civil engineer as an "All-Weather Access Road" based upon Standard R Value Analysis. A copy of the certification shall be provided to the Montecito Fire Prevention Bureau. Alternate surfacing will be acceptable on grades up to 10%.



NOTE: Compacted dirt or base does not constitute an All-Weather Access Road and "Grass-Crete" or "Turf Block" is not an acceptable method of paving on an access road and will not be permitted in the District.

# VI. SLOPE / GRADE:

- 1. Fire Access Road/Driveway slopes greater than ten percent shall be certified by a civil engineer.
- 2. When Fire Access Road/Driveway slopes are greater than ten percent, alternate surfaces including chip-seal gravel surfaces will not be permitted.
- 3. Maximum allowed grade shall not exceed fifteen percent unless approved by the Fire Code Official. When Fire Access Road/Driveway slopes are in excess of fifteen percent, a concrete surface with broom finish shall be required.
- 4. Grades up to twenty percent may be allowed with extenuating circumstances. At no time shall Fire Department access exceed twenty percent slope.
- 5. Angle of approach and departure shall not exceed 12 percent rise for a thirty foot run, which is to accommodate the overall length of the District's fire apparatus.

#### VII. GATE INSTALLATIONS:

- 1. MINIMUM CLEAR WIDTH: Gate installations shall comply with the Code, and shall have a minimum opening clearance width of not less than the required Fire Access Road/Driveway width when such Fire Access Road/Driveway is required for fire department access.
  - EXCEPTION: A minimum clearance of twelve feet may be allowed at the Fire Code Official's discretion for Fire Access Roads/Driveways not requiring fire department access point or for existing gates with historical significance.
- 2. ACCESS FOR GATED COMMUNITIES: When a single road is provided for ingress and egress, the minimum open gate width shall not be less than the required road width. When there is one road for ingress and one for egress, each gate shall have a minimum clear open width of 15 feet.
- 3. ELECTRONICALLY OPERATED GATES: A Fire District approved key operated switch or box shall be installed at an approved location to allow for emergency response access as stipulated in the Code.



- 4. AUXILLIARY BACK-UP POWER: All security gates shall have a means of auxiliary back-up power in the event of an electrical power outage and shall be maintained operational at all times to ensure a means of egress for residents and for fire response access in accordance with the Code.
- 5. GATE LOCATION: Gates shall be positioned to allow for a minimum 30 foot set-back from the public right-of-way. Also, the gate shall open inward unless otherwise approved by the Fire Code Official.

# VIII. ADDRESS IDENTIFICATION

- 1. New and existing buildings shall have approved address numbers, building numbers, or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. Address numbers identifying all residences shall also be posted at forks in the road and other designated areas which make it obvious for emergency vehicles to locate the correct occupancy.
- 2. Address identification shall be Arabic numbers or alphabetical letters. Residential addresses must be a minimum 4 inches on a contrasting background. Commercial addresses must be a minimum 6 inches on a contrasting background. Larger sized numbers or alphabetical letters may be required at the Fire District's discretion.
- 3. Where multiple addresses are required at a single driveway or roadway, they shall be mounted together on a single post or sign.

# IX. ACCESS TO BUILDINGS/STRUCTURES

- 1. Fire Apparatus Access Roads shall be provided such that any portion of the exterior walls, at grade level, of a Building or Structure is not more than 200 feet from Fire Apparatus Access Roads as measured by an approved route around the exterior of the Building or Structure. There must be 4' of unobstructed access around all exterior sides of a building or structure.
- 2. The Fire Code Official is authorized to require more than one Fire Apparatus Access Road based on the potential for impairment of a single access road by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access.



- 3. A minimum 13 ½ foot vertical clearance shall be maintained above the required clear width of all required access roadways.
- 4. Fire Access Roads/Driveways shall be kept clear of all obstructions. Minimum Fire Access Road/Driveway widths provided in this standard shall not be obstructed in any manner, including parking of vehicles. Parking shall be prohibited in areas designated as turnouts and turnarounds.
- 5. The Fire District reserves the right to require the posting of approved signage to maintain roadway clearance at any time during this occupancy.

#### X. BRIDGES

- 1. All Fire Access Roads/Driveways requiring access over bridges or culverts shall be constructed and maintained in accordance with AASHTO HB-17 (Standard Specification for Highway Bridges) or Standard Cal Trans Bridge Design Specifications and shall have a minimum HS-20 rated capacity.
- 2. Bridges must be evaluated by a California Licensed Civil Engineer at five year intervals.
- 3. Minimum clear width of bridge shall be the same as required of the road served unless waived by the Fire Code Official or designee.
- 4. Vehicle load limits signs shall be posted at both entrances to the bridge as stipulated in the Code.

# XI. DRIVEWAY / ROADWAY MAINTENANCE

- 1. The property owner shall be responsible for maintenance of private Fire Access Roads/Driveways to ensure Fire Access.
- 2. When a Fire Access Road serves two (2) or more parcels, provisions for maintenance of the access road shall be assured by a permanent homeowners association or equivalent organization and a covenant running with the land establishing and setting forth the maintenance requirement shall be recorded on each parcel.
- 3. The Fire District shall be indemnified and held harmless for any damage to roadways resulting from Fire District use.



# DEVELOPMENT STANDARD #4b WATER STORAGE REQUIREMENTS

# WATER STORAGE FOR FIRE PROTECTION

It is the policy of the Montecito Fire District that tank storage of water for firefighting purposes shall be limited to those instances wherein the water purveyor is unable to provide adequate fire flow from its distribution system. All structures to be served from such stored water systems shall be fitted with automatic fire sprinkler systems which comply with the standards of the Fire District as referenced in the National Fire Protection Association (NFPA) Standards 13D, 22, 24 and this Standard.

Plans and specifications drawn by a California Licensed Civil Engineer shall be submitted to the Fire District for review and approval prior to installation of the storage system. These plans shall include valve and piping schedules, grade lines, tank specifications, pump curves and specifications, engineer's certifications (where applicable) and scaled system drawings prior to installation of system components. All work shall be inspected prior to being covered up. The system shall be installed and operational prior to the beginning of structural framing.

The tank system shall be configured such that the required fire flow adequately provides necessary fire protection for a given sized structure as indicated on Figure 4a-1 of this Plan. The minimum fire flow tank capacity is 5,000 gallons for up to a 2,500 square foot structure. For every square foot increase in floor area, an increase of 2 gallons of fire flow capacity is required. The table below will be utilized to determine tank capacity for fire flow capacity. A minimum pressure of 20 psi shall be provided at the system discharge outlets. The following table may be used as a guide in tank sizing:

# **Building Size** Gallons

Up to 2,500 sq. ft	5,000
Up to 3,000 sq. ft	6,000
Up to 4,000 sq. ft	8,000
Up to 5,500 sq. ft	11,000
Up to 7,500 sq. ft	15,000
Up to 10,000 sq. ft	20,000



Shared stored water systems may be utilized where the cumulative square footage of the structures meets requirements stated in the table above. This provision must be approved by the Fire Chief on a case by case basis.

The Fire District will permit property owners to utilize a single tank for supplying both required flows for fire protection and domestic use providing the minimum capacity for fire flow listed above is maintained in the water tank at all times.

Tanks should be from an ICBO (International Conference of Building Officials) recognized manufacturer and shall be installed in accordance with the manufacturer's installation instructions. Appropriate permits shall be obtained from the County as required. Any proposed deviation for these criteria shall be reviewed for structural integrity by and shall bear the stamp and signature of a California Licensed Structural Engineer.

The tank discharge outlet shall have a screen mesh with a minimum nominal size of four (4) inch and be of brass No. 10 B&S (Brown and Sharpe) gage wire.

Above ground piping shall be in compliance with NFPA Standard 20. Underground system piping installation shall conform to NFPA Standard 24.

A four inch class 150 full port shut off valve shall be installed in a locked open position at or near the tank outlet.

When required to achieve necessary fire flow, a centrifugal pump shall be installed and maintained as per NFPA Standard 20. Pump fittings and trim shall include isolation valves, strainer, check valve, pressure relief valve, pressure gauge, mercoid type pressure switch, and adequate provisions for vibration isolation.

System discharge outlet shall be a hydrant by J. Jones all bronze No. 3700 (or district approved equal) with 2 ½ and 4 inch National Standard Thread outlets. Outlet caps shall be bronze. Hydrant shall be installed with a class 51 ductile iron bury and a break off spool. Prior to final acceptance this hydrant shall receive two coats of yellow alkyd gloss paint.

It is to be understood that this system shall be maintained in an operative condition at all times by the property owner for the duration of any occupancy. The Fire District shall be afforded the opportunity to conduct tests of the system when reasonable advance notice is provided. Further, the Fire District shall be notified immediately should the system become inoperative at any time. It shall be the contractor's responsibility to provide a written affidavit that the property owner has been informed of this stipulation before final occupancy clearance will be granted.



# DEVELOPMENT STANDARD #5a RESIDENTIAL AUTOMATIC SPRINKLER SYSTEMS

### RESIDENTIAL AUTOMATIC FIRE SPRINKLER SYSTEM INSTALLATIONS

The purpose of this standard is to provide minimum requirements for fire sprinkler systems in residential use buildings, in order to aid in the detection and control of fires and thus provide improved protection against injury, life loss, and property damage.

This standard, in conjunction with the latest edition of NFPA 13D and NFPA 13R and California Residential Code (CRC) section R313 shall apply to the design and installation of, as well as the modification to, all fire sprinkler systems in residential buildings. In the event of an inconsistency or conflict between the provisions set forth in this Standard, the Montecito Fire Protection District Code, NFPA 13D, NFPA 13R, or CRC R313, the more restrictive provision shall apply.

#### I. RESPONSIBILITY

All individuals and companies who intend to engage in the installation or alteration of fire sprinkler systems are subject to the requirements of this standard.

<u>INSTALLER</u>: The sprinkler system can be installed by an individual who holds a state of California C-16 (sprinklers), C-36 (plumbing) license or, by owner-builder of an owner-occupied, single-family dwelling.

<u>DESIGNER</u>: Plans shall be designed by a C-16 licensed contractor or by a Registered Professional Engineer (Civil, Mechanical, or Fire Protection), licensed by the State of California (Board of Professional Engineers). All copies of the plans shall be stamped and signed by the licensed individual. C-36 must have registered engineer design sprinkler drawings.

# II. PLANS SUBMITTAL GUIDELINES

1. The property owner or applicant shall submit one (1) set of plans, data sheets, and hydraulic calculations for the proposed sprinkler system to the Fire District for review and approval prior to installation.



- 2. Plans will be checked and if approved, will be stamped "Approved", signed and dated. The Fire District will retain a set of plans electronically. Once approved, the plans can be picked up by the owner/applicant at District Fire Station #1 located at 595 San Ysidro Road.
- 3. Sprinkler plans shall be subject to review by a Fire District retained consultant at the Fire Code Official's discretion.
- 4. Any field changes shall be noted on the drawings. The edited drawings may need to be submitted to the Fire District for additional plan check prior to final Fire District approval.
- 5. A copy of the approved plans shall be maintained on the job site during all phases of system installation.
- 6. Copies of Manufacturer's data for all installed system components shall be provided upon Fire District request prior to final system acceptance. All system components shall be installed following manufacturer's guidelines unless specific relief is granted by the Fire Code Official.
- 7. Listed and Labeled: Only UL listed and labeled devices and materials shall be installed and used in accordance with the listing limitations and manufactures guidelines. Only new sprinkler heads and components shall be installed in the systems.

#### III. PLANS

To speed up the plan check process and to avoid the possibility of having the plans returned for corrections, please use the following checklist, which identifies the information that is required on the working sprinkler drawings prior to submittal.

- a. Name of property owner and/or occupant
- b. Address of property
- c. Assessor's Parcel Number (APN)
- d. Name of sprinkler contractor, address, phone number, type of license and license number
- e. Sprinkler contractor's dated signature and seal (on each sheet)
- f. All plans must be to scale or dimension
- g. Plot map indicating all structures, water meter location/size, underground pipe size, point of connection, length and type of pipe to be installed
- h. Full height cross section showing beamed ceilings, vaulted ceilings, attic areas, and sub-floor basements



- i. Sprinkler riser detail including: double check valve assembly, pressure gauge, drain valve, flow switch, pressure relief valve, domestic water control valve
- j. Sprinkler head spacing
- k. Show all non-sprinklered areas
- I. Indicate manufacture, style, sprinkler model orifice size a "K" factor for each sprinkler used
- m. Pipe information: type and size
- n. Hanger detail
- o. Inspectors test valve
- p. Identify each room and space of the buildings
- q. Location of heat sources: Fireplaces, ovens and cook tops, heating devices, FAU
- r. Water flow information: Static pressure, residual pressure, flow

### IV. WATER SUPPLY

- 1. <u>Water Supply</u>: All connections to domestic water supply shall be made in accordance with applicable codes and standards of the County and any local water purveyor.
- 2. <u>Water Supply Main:</u> All residential sprinkler systems shall have a single supply main from the meter serving both domestic demand and the sprinkler system. A dedicated main solely for sprinkler system may be required on a case by case basis.
- 3. <u>Domestic Water Supply Shut Off:</u> Domestic water supply shut off valve on the supply line shall be installed on the domestic side of the sprinkler system riser (system plumbing including flow switch and valves). This is to assure the sprinkler system remains in service when domestic supply is shut off.
- 4. <u>Water Supply:</u> Domestic water supply must be connected to the fire sprinkler system at rough inspection.
- 5. <u>Domestic Water Demand:</u> System hydraulic design shall provide for an allowance of five gallons per minute (GPM) for domestic demand.
- 6. <u>Automatic Booster Pump</u>: When domestic water supply pressure is insufficient to produce enough water flow and pressure to accommodate a fire sprinkler system, a booster pump can be integrated into the system to augment domestic and fire flow demand. The pump must be automatically activated upon system demand, self-priming and listed or approved for electrical safety by a recognized testing laboratory. The pump must be protected from exposure to freezing and brush fires.



#### V. SPRINKLER RISER SYSTEM COMPONENTS

- 1. All risers shall be easily located, preferably on the outside of the building in plain sight. Risers may be installed in an access panel on an outside wall with permanent labeling on the door. Alternate locations must have approval by the Fire Official.
- 2. The system riser shall branch off the domestic supply line on the supply side of the main shut off valve. This is to assure the sprinkler system remains operable when the domestic supply is shut off.
- 3. All risers shall use copper piping and all shut off controls shall be ball valves.
- 4. <u>Riser Location:</u> Separate system risers may be installed remote from the domestic water source however must be easily located outside of the building.
- 5. <u>Check Valve</u>: For back flow prevention, an approved double check valve assembly shall be installed on the system riser.
- 6. <u>Sprinkler System Control Valves</u>: There shall be two shut off ball valves located on each side of the double check valve. These valves shall be locked in the open position upon final inspection.
- 7. Pressure Gauge: A UL listed 300psi gauge shall be installed.
- 8. <u>Pressure Relief Valve</u>: An approved poppet type pressure relief valve shall be installed on the riser between the back flow device and the system flow switch. Device shall be set with a design pressure of 160 psi. Note: This valve is not required when sprinkler system is supplied from a gravity fed stored water system.
- 9. <u>Drain Valve</u>: An unthreaded 1/2 inch ball valve shall be installed on the system and positioned such that flow will be to the outside away from the building.
- 10. <u>Flow Switc</u>h: A system flow switch shall be installed. It shall be equipped with two connections; one for a local exterior 6 inch bell and one for alarm system monitoring. All flow switches shall be set for a 30 second delay.
- 11. <u>Signage:</u> All sprinkler system shutoff valves shall have an all weather sign affixed identifying the buildings they serve.
- 12. <u>Alarms:</u> Each sprinkler riser shall have a minimum 6 inch alarm bell affixed to an exterior wall of the structure positioned such that it can be heard by closest neighbor when activated.



#### VI. RESIDENTIAL SPRINKLER SYSTEM DESIGN

- 1. <u>Piping</u>: The following list of approved piping is acceptable to use in residential fire sprinkler systems installations: Type "M" copper, Type "L" copper, steel pipe, and Chlorinated Polyvinyl Chloride (CPVC) plastic. CPVC piping & fittings are to be listed for fire sprinkler system installations. Note: Type "K" copper pipe is unacceptable to use
- 2. <u>Hanging Methods</u>: All piping shall be provided with approved hangers and supported per manufactures requirements. Refer to Standard VII of this section for further information on hanging pipe.
- 3. <u>Sprinklers:</u> Only new residential sprinklers shall be installed unless otherwise indicated in the Code. Sprinklers shall only be installed according to their listing.
- 4. <u>Inspector's Test Valve:</u> Property owner shall install non-threaded one-half inch ball valve at the remote area of the system to serve as the inspector's test valve. This same type of valve shall be located at the riser to serve as a system drain. Any threads on these outlets are to be removed.
- 5. <u>Attics</u>: Finished attic spaces intended for storage shall be sprinklered.
- 6. <u>Garages</u>: Garages shall be sprinklered with residential type sprinklers at their listed spacing and flows.
- 7. <u>Water Heater Closets</u>: All water heater closets regardless of size require fire sprinklers.
- 8. <u>Mechanical Rooms</u>: Intermediate temperature sprinkler heads are required and spaced for ordinary hazard with cage protectors.
- 9. <u>Forced Air Units (FAU)</u>: A single intermediate temperature sprinkler shall be installed over each individual FAU. When there is more than one FAU in a single location, sprinkler heads shall be spaced as per Ordinary Hazard.
- 10. <u>HVAC Diffuser:</u> Heads shall be located a minimum eighteen inches away from any HVAC diffuser grille.
- 11. <u>Heat /Return Air Registers</u>: Sprinklers shall be located no closer than two feet from any register.
- 12. <u>Obstructions</u>: Sprinkler spray patterns shall not be obstructed and all head clearances shall be provided as required by NFPA 13D



### VII. SPRINKLER PIPE INSTALLATION REQUIREMENTS

# 1. Copper Pipe

- a. All materials delivered to the job site shall be protected from the physical elements and damage. Any damaged, gouged, cut, scratched heads, pipe or fittings shall be removed and replaced.
- b. No corrosive or self-cleaning fluxes shall be used. Joints shall be wiped clean of excess flux and solder.
- c. All piping running through studs or masonry shall be protected by elastomeric or plastic sleeves at three foot maximum intervals.
- d. Nails are unacceptable as a means of securing hangers and supports. Piping shall be supported at the following maximum intervals:
  - Within six inches of all sprinkler drops
  - Within eighteen inches of all joints
  - Within four foot intervals on CPVC piping
  - Within six foot intervals on copper tubing
- e. <u>Hangers</u>: Refer to local plumbing codes for acceptable hanger types. Hangers shall be installed every twelve feet and within one foot of any sprinkler.
- f. Copper pipe may be exposed in attics, porches, canopies, garages and open carports.
- g. <u>Spray Foam Insulation</u>: When spray foam insulation is applied around sprinkler heads, a minimum of six inches shall be maintained between the spray foam insulation and all sides of the sprinkler head.
- h. Approved copper pipe must be utilized and protected when application calls for piping running through the sub-roof assembly just below roof decking.
- i. <u>Approved Pipe</u>: Type "M" copper, Type "L" copper.



# 2. CPVC Pipe

- a. CPVC piping is to be installed per manufacturer's listing. All CPVC piping & fittings are to be listed for fire sprinkler system installations.
- b. Installers shall have attended a practical application training class by a CPVC pipe manufacture and have in possession a pocket card verifying proper certification to install this pipe.
- c. Hangers shall be approved for CPVC Pipe and installed every six feet along the length of the pipe and within six inches from sprinkler heads.
- d. <u>Spray Foam Insulation</u>: CPVC pipe must be protected as per manufactures recommendations where it could come in contact with spray foam insulation. Under no circumstances is CPVC pipe allowed to be encased by this product without protection. When spray foam insulation is applied around sprinkler heads, a minimum of six inches shall be maintained between the spray foam insulation and all sides of the sprinkler head.
- e. <u>Incompatible Materials</u>: Materials that have been identified as incompatible with CPVC shall not be allowed to contact the pipe. Examples of such materials are Romex electrical wiring, flexible wire/cable, metallic ducting, and communication lines. Check CPVC manufacture product data sheets for a complete list of incompatible materials.
- f. <u>Test Plugs</u>: For CPVC piping, no sprinkler heads shall be installed in any system until the Fire Official has completed both flow test and rough inspections. At this stage of inspection, test plugs must be installed.



### VIII. INSPECTION REQUIREMENTS

1. <u>Rough Inspection</u>: All system components including piping, connections, sprinkler heads (Test Plugs for CPVC), hangers, valves, gauges, and flow switches are required to be in place and shall be exposed for visible inspection.

The system shall be pressurized with water at a pressure comparable to working pressure for the duration of the inspection. System must pass inspection before being covered.

- 2. <u>Hydrostatic Test</u>: Each system shall be hydrostatically tested at no less than 200 psi for copper and steel systems and at 150 psi for all CPVC systems. System shall hold a desired pressure for a minimum period of two hours.
- 3. <u>Flow/Bucket Test</u>: Flow testing of system is required. Flow shall be measured for a thirty second flow period and shall conform to the manufacturer's listing criteria for the installed sprinkler heads plus an additional 5 GPM for domestic supply from the hydraulically most demanding heads in the system. Contractors shall provide all equipment necessary for conducting test. The system shall meet the required flow.
- 4. <u>Spray Foam Insulation Inspection:</u> A visual inspection after spray foam is installed on CPVC systems is required.
- 5. <u>Final Inspection</u>: At final inspection, fire sprinkler covers/escutcheons shall be installed. Sprinkler head box shall be mounted in plain sight in garage or mechanical room. Included in the box shall be three spare sprinkler heads per type installed in the system and a wrench sized for each type of head.
  - All-weather signs shall be permanently affixed to system or structure next to system and installed at time of inspection. (Main Drain, Inspector's Test, Control Valve, and Warning Sign)
  - System shall be flowed and tested for operability using the Inspectors Test Valve (ITV). Where waterflow detection devices are installed, these devices shall be flow tested and shall result in an audible alarm on premises within 30-45 seconds. If system is monitored by an alarm monitoring system, the proper communication links must be in place at time of inspection and the District must be contacted by the local alarm company within five minutes of the start of the flow test.
- 6. <u>Maintenance Schedule</u>: The sprinkler contractor shall provide the property owner with maintenance information as described in NFPA 13D. Property owner shall maintain the system consistent with these requirement.



# DEVELOPMENT STANDARD #5b COMMERCIAL AUTOMATIC SPRINKLER SYSTEMS

#### NON-RESIDENTIAL AUTOMATIC FIRE SPRINKLER SYSTEM INSTALLATIONS

The purpose of this standard is to provide minimum requirements for fire sprinkler systems in commercial and industrial use buildings, in order to aid in the detection and control of fires and thus provide improved protection against injury, life loss, and property damage.

This standard, in conjunction with the latest CFC adopted edition of NFPA 13 shall apply to the design and installation of, as well as the modification to, all fire sprinkler systems in commercial and industrial use buildings. In the event of an inconsistency or conflict between the provisions set forth in this Standard, the Montecito Fire Protection District Code and NFPA 13, the more restrictive provision shall apply.

#### I. RESPONSIBILITY

All individuals and companies who intend to engage in the installation or alteration of fire sprinkler systems are subject to the requirements of this standard.

<u>Installer</u>: The sprinkler system can be installed by an individual who holds a state of California C-16 (sprinklers) license.

<u>Designer</u>: Plans shall be designed by a C-16 licensed contractor or by a Registered Professional Engineer (Civil, Mechanical, or Fire Protection), licensed by the State of California (Board of Professional Engineers). All copies of the plans shall be stamped and signed by the licensed individual.

# II. PLANS SUBMITTAL GUIDELINES

- 1. The property owner or applicant shall submit one (1) set of plans, data sheets, and hydraulic calculations for the proposed sprinkler system to the Fire District for review and approval at least three weeks prior to installation.
- 2. Plans will be checked and if approved, will be stamped "Approved", signed and dated. The Fire District will retain a set of plans electronically. Once approved, the plans can be picked up by the owner/applicant at District Fire Station #1 located at 595 San Ysidro Road.



- 3. Sprinkler plans shall be subject to review by a Fire District retained consultant at the Fire Code Official's discretion. All costs associated with this review shall be paid for by the property owner.
- 4. Any field changes shall be noted on the drawings. The edited drawings may need to be submitted to the Fire District for additional plan check prior to final Fire District approval.
- 5. A copy of the approved plans shall be maintained on the job site during all phases of system installation.
- 6. Copies of Manufacturer's data for all installed system components shall be provided upon Fire District request prior to final system acceptance. All system components shall be installed following manufacturer's guidelines unless specific relief is granted by the Fire Code Official.
- 7. Listed and Labeled: Only UL listed and labeled devices and materials shall be installed and used in accordance with the listing limitations and manufactures guidelines. New sprinkler heads and components shall be installed in the systems.

#### III. PLANS

To speed up the plan check process and to avoid the possibility of having the plans returned for corrections, please use the following checklist, which identifies the information that is required on the working drawings prior to submittal.

- a. Name of sprinkler contractor, address, phone number, license number
- b. Sprinkler contractor's dated signature and seal (on each sheet)
- c. Cross-sectional drawings for all typical sprinklered areas.
- d. Riser schematic details to include all valves, jointing and support bracing.
- e. Control diagram for flow switch.
- f. Details of all typical hanger and bracing applications for this work.
- g. All applicable support and drainage provisions as described in NFPA 13 shall be met by the Sprinkler Contractor. Auxiliary drains shall be routed to the building exterior.
- h. A list of all abbreviations and symbols shall be provided on the drawings.
- i. Certification required for all welding. All welding to be indicated on shop drawings.
- j. The sprinkler shop drawings shall bear the signature and registration number of a National Institute for Certification in Engineering Technologies (NICET) Level III sprinkler designer. At the discretion of the Fire Chief, the sprinkler designer may submit resume and credentials which demonstrate an equivalent level of expertise.



## IV. SPRINKLER SYSTEM DESIGN/INSTALLATION

- 1. Hydraulics: Maximum flow rate for any underground pipe shall not exceed 16 feet per second.
- 2. All pipe and materials delivered to the job site shall be protected from the elements and physical damage.
- 3. All penetrations of fire separation walls by sprinkler piping shall be sealed with a suitable sealant prior to final inspection.
- 4. All underground pipe shall be bedded on a puddled and tamped 4 inch thick base of yellow sand prior to hydrostatic testing. Backfilling shall consist of an initial 12 inch lift of tamped yellow sand. Subsequent compacted lifts of 12 inches, or a fraction thereof, shall be made with clean backfill.
- 5. The Sprinkler Contractor shall provide all information as deemed necessary by the Fire Chief to establish evidence of compliance with the Manufacturer's guidelines.
- 6. All system valves shall be UL and/or FM listed for fire sprinkler service.
- 7. Any deviations from procedures described within this Standard shall be allowed only with the express written consent of the Fire Chief.

# V. INSPECTION REQUIREMENTS

- 1. The sprinkler system shall be inspected at the following intervals:
  - a. All welded sections shall be field inspected prior to installation. All burrs, slag, and welding residue shall be filed and removed prior to inspection.
  - b. All piping shall be inspected prior to being covered, buried or concealed.
  - c. Hydrostatic testing will be required upon completion of piping installation.
  - d. Final inspection for system acceptance shall be completed prior to granting occupancy clearance. A set of approved shop drawings with all field changes shall be produced for this inspection. All components of this system shall be operational and in compliance with this Section.

All required inspections shall be arranged to allow the Fire District 48 hours advance notice. Any work completed without the required inspections shall be removed and replaced at the discretion of the Fire Code Official.



# **DEVELOPMENT STANDARD #6**

# REQUEST FOR MODIFICATIONS FOR POST DISASTER REBUILDS

The Montecito Fire Protection District recognizes the adverse impacts of disasters within our community. The Fire District is committed to working with property owners in recovering from the impacts of disaster as quickly as possible to ensure a resilient community.

Consistent with established development standards, each proposed rebuild will have a set of conditions pursuant to requirements set forth in the current California Fire Code (CFC) and the adopted Montecito Fire Protection District Code and Development Standards. The Fire District recognizes that when re-building communities following disasters, there may be practical difficulties in meeting requirements relevant to current code standards.

Property owners that are affected by disasters and have demonstrated difficulties making the code upgrade requirements may request a modification to the imposed conditions of the Fire Protection Certificate (FPC). The appeal for modification shall be in the form of a written request and shall contain an acknowledgement of the applicable code standards and include a description of the practical difficulties in attaining the specific requirements imposed. Further, the letter shall include a list of suggested modifications to the project that will assist the Fire District in providing the highest level of fire and life safety for the residents, their properties, and the community as a whole.

Fire District staff will convey which conditions apply specific to an individual project, both in the initial planning phase, and as condition of final approval / certificate of occupancy issuance. Site inspections and conceptual plan reviews by Fire District personnel will be made upon the request of owners or their agents.

Address the document on modification of the Fire Protection Certificate and any questions to the District Fire Marshal.