

Medical Marijuana Establishments

Southern Nevada Chapter of the International Code Council

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Medical Marijuana Establishments Southern NV - ICC

- ▶ Scope of Discussion
 - ▶ Type of Construction
 - ▶ Use/Occupancy Groups
 - ▶ Access Control/Security
 - ▶ Electrical
 - ▶ Ventilation
 - ▶ Other issues to consider in the Medical Marijuana Establishments (MME).
- ▶ Building and Fire Codes do not have Marijuana provisions, however, regulation that should be applied by similar to regulations in similar industries/uses.

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- ▶ Medical Marijuana Facilities:
 - ▶ Types of Construction are unlimited (IA - VB)
 - ▶ Depending on building size and other limitations
 - ▶ Would not preclude design and construction of a completely new building
 - ▶ Given the current market and requirement at the State most have been remodel permits:
 - ▶ Challenges dealing with current infrastructure of the Building
 - ▶ Good to Poor to non-existing construction documents (one dated back to 70's era warehouse).
 - ▶ Most required Occupancy Changes
 - ▶ Most required consideration of higher occupant loads
 - ▶ Second Floor Live Loads
 - ▶ Not enough electrical services to support new business

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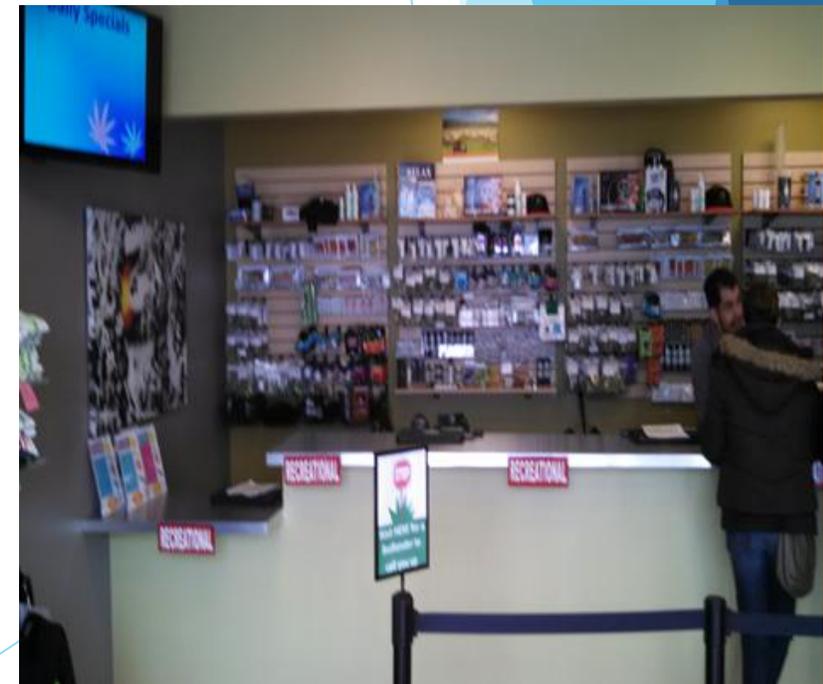
▶ Type of Construction

▶ MME Building Uses:

- ▶ Dispensaries
 - ▶ Cultivation
 - ▶ Drying Rooms
 - ▶ Processing Rooms
 - ▶ Extraction
 - ▶ Commercial Kitchens
 - ▶ Laboratories
 - ▶ Storage
 - ▶ Offices
- ▶ MME Building may have one or more use/occupancy, or all uses in a single building
- ▶ Facilities can be designed using separated or non-separated uses.

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- ▶ Dispensaries: Specific uses/operations:
 - ▶ Sale of Marijuana
 - ▶ Marijuana has several varieties (brands) with different odor/flavor/taste/effects
 - ▶ Sale of Marijuana infused products
 - ▶ Edible products (cookies, brownies, chocolates, drinks)
 - ▶ Topical products (lotions, oils, bath salts, etc...)
 - ▶ Sale of Marijuana Paraphernalia
 - ▶ Accessories, devices or other equipment that is necessary or useful for a person to engage in the medical use of marijuana (NRS 453A.125)
 - ▶ Storage
 - ▶ Offices
 - ▶ May contain medical professional consultations



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- ▶ **Dispensaries:**
 - ▶ **Sale of Products:**
 - ▶ Group M (Mercantile Occupancy Group)
 - ▶ Section 309.1 ...for the display and sale of merchandise and involves stocks of goods... includes by not limited to the following: Drug Stores.
 - ▶ **Offices:**
 - ▶ Incidental use
 - ▶ **Medical Professionals:**
 - ▶ Group B (Business Occupancy Group)
 - ▶ Section 304.1...for office, professional or service transactions... including but not limited to Professional services - Physicians.
 - ▶ Discussion with Phoenix Bldg Dep't/Dispensary and Dr. Office in same building.

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▶ Cultivation

- ▶ Facilities intended to grow plants to maturity
- ▶ Plants are grown in different rooms w/ physical separation
 - ▶ Plants are “tricked” into believing they are seeing different seasons
 - ▶ Light timing and intensity changes based on growth cycle
- ▶ General consensus: F-1 Occupancies
 - ▶ Phoenix, Denver, Las Vegas
- ▶ Denver specifies/allows a OLF of 1:300 in the “growing” rooms (Agriculture buildings)
 - ▶ Manufacturing Areas 1:100
 - ▶ Existing Storage 1:500
- ▶ Wide Range of Complexity/Manual Labor
 - ▶ Sophisticated watering/lighting systems
 - ▶ Manual watering and lighting

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▶ Cultivation:

▶ Typically Carbon Dioxide (CO₂) Enrichment

- ▶ Enhances growth and leads to a faster and higher plant yield
- ▶ The Fire Code has permitting requirements for CO₂
- ▶ Ideal CO₂ enrichment is 1200 ppm to 2000 ppm
 - ▶ 8 hour exposure limit is 5000 ppm
- ▶ Compressed/Liquefied CO₂ is preferred
 - ▶ Large bulk tank remotely located in the building distributed throughout.
 - ▶ Small tanks in each room
- ▶ CO₂ generation from fuel-fired appliance is highly regulated
 - ▶ We have been asking for a specific listed appliance for this application
 - ▶ Carbon Monoxide is a by-product of fuel fired appliance

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- ▶ Cultivation:
 - ▶ The Group U Question?
 - ▶ Can cultivation be in a U occupancy?
 - ▶ Agricultural Buildings/Greenhouses
 - ▶ Strictly, yes, but limited to other uses/applications
 - ▶ Limited in area, and possibly applying unlimited area provisions
 - ▶ CCDB&FP policy requires MME cultivation in F-1 occupancies.
 - ▶ Occupant loads/hazards are most like a F-1 occupancy.

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- ▶ Drying Rooms:
 - ▶ Plants are harvested and material is dried.
 - ▶ Generally considered a portion of the F-1 occupancy.
 - ▶ Low occupancy, but dry plants present a fire hazard.
 - ▶ Humidity is controlled.
- ▶ Processing Rooms:
 - ▶ Staff manually removes the “usable” plant product.
 - ▶ Leafs, stems and buds are separated
 - ▶ Higher occupant loads.
 - ▶ May contain security measures to control inventory.



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- ▶ Extraction:
 - ▶ Typically use either CO₂, Butane, or Alcohol Extraction
 - ▶ Other less hazardous methods are possible, more labor/less effective.
 - ▶ Extraction is used in other industries (De-caffeinated coffee and perfume processing)
 - ▶ Extraction Process removes the oils from the plant to be use in a marijuana product
 - ▶ CO₂ extraction removes the terpenes (flavor and taste)
 - ▶ Preferred for edible products (marijuana test is removed, THC remains)
 - ▶ Butane extraction favored for the smoke-able “hash” products.
 - ▶ Alcohol extraction: marijuana is soaked in alcohol then the liquid is boiled off leaving the oils behind.
 - ▶ Hazardous exhaust hood should be required in these applications

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- ▶ Extraction:
 - ▶ Closed system using potentially hazardous/flammable products
 - ▶ High Pressure systems
 - ▶ Unlisted/Field Listed components
 - ▶ The extraction process recycles the CO₂ or Butane
 - ▶ Typically volume of materials does not require Group H occupancy classifications.



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- ▶ Commercial Kitchens:
 - ▶ MME produce edible products for customers
 - ▶ Group F occupancies include Food Processing Commercial Kitchens
 - ▶ Processing of edible products
 - ▶ Baking and cooking of products
 - ▶ No specific hazards should be present in this use.



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- ▶ Laboratories:
 - ▶ Laboratories are defined in 304.1 as Group B occupancies.
 - ▶ Labs are used both on-site and off-site.
 - ▶ On-site Labs: internal QA and QC or product development.
 - ▶ NRS 453A.368 requires Independent Testing Labs:
 - ▶ Concentration of THC and Cannabinoids.
 - ▶ Organic/Non-organic nature.
 - ▶ Presence of molds and fungus.
 - ▶ Presence of fertilizers and other nutrients.
 - ▶ No specific hazards should be present in this use.



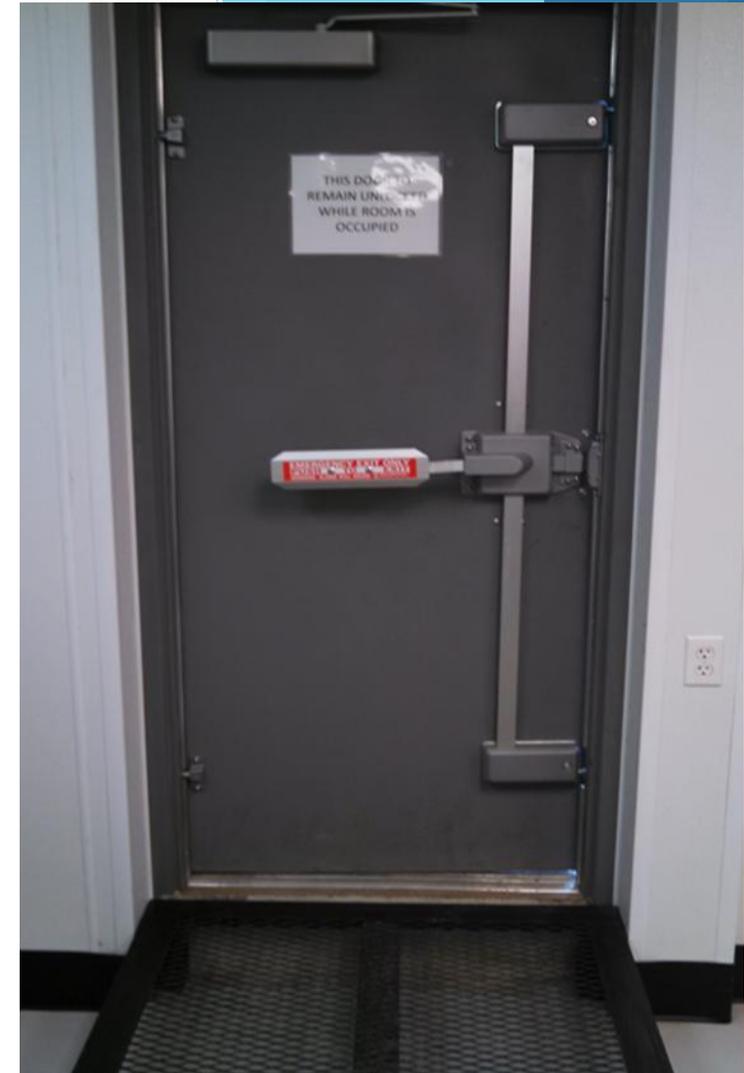
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- ▶ Storage:
 - ▶ Material Storage Rooms
 - ▶ Moderate-hazard Storage
 - ▶ Group S-1 Occupancy Classification
 - ▶ OLF well defined.
- ▶ Offices
 - ▶ All business application include some offices
 - ▶ Part of the occupancy, incidental use; or if necessary, a B-Occupancy classification.
- ▶ No specific hazards should be present in this use.



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- ▶ Access/Security Control:
 - ▶ Building Code addresses egress requirements from all spaces.
 - ▶ Occupant Loads and Egress should be addressed as all other occupancies.
 - ▶ Why is this important?
 - ▶ Marijuana is a commodity with a cash value.
 - ▶ Theft of product is a real risk to the business owners.
 - ▶ Marijuana is still federally illegal, banking service may be difficult to obtain.
 - ▶ Some MMEs may operate as a cash business.
 - ▶ Marijuana and Cash on hand/Security becomes a concern for operators.
 - ▶ Owner may look at non-code compliant solutions to resist theft.
 - ▶ Building complaint solutions at design/plan submittal/inspection process is preferred.



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- ▶ Security/Access Control:
 - ▶ Security Measures in MME to control theft (internal and external)
 - ▶ Low voltage security camera and other devices
 - ▶ Employees need to be registered with the State
 - ▶ Access may limited to only staff registered with the state.
 - ▶ Security is not a Building Code requirement, owner/design should address.

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▶ Electrical Issues:

- ▶ Cultivation “grow” rooms need large amounts of electrical energy
 - ▶ High intensity lights uses for growth/artificial sun light
 - ▶ Grow lamps can operate at 1000 watts each
- ▶ Massive Service additions will be required
 - ▶ Number of service to building (NEC 230.2)
- ▶ These should be “engineered” applications in lieu of contactor submittals
 - ▶ CCDB&FP limits contractor designs to 800 amps (policy)
- ▶ Use of flammable gases (butane)
 - ▶ Wiring methods effected (NEC Article 500)



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- ▶ Electrical Issues:
 - ▶ Grow room and vegetation requires water
 - ▶ Wet locations/GFCI protection for receptacles (NEC 210.8)
 - ▶ IECC limit lighting watt/sf: not reasonable for “grow” rooms
 - ▶ Rest of the building reasonable for IECC compliance
 - ▶ Security Systems/Alarms
 - ▶ Typically low voltage.
 - ▶ Other applications, besides grow rooms, code addresses these very well (M, B, S, occupancies)



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- ▶ Electrical Issues



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- ▶ Mechanical/Ventilation Issues:
 - ▶ Ventilation is address in SNBO amendment package to the IBC:
 - ▶ F occupancies require mechanical ventilation when exterior opening are not provided:
 - ▶ Exterior openings rarely used in most commercial applications.
 - ▶ 15 cfm/minute required by code
 - ▶ Grow facilities not considered at the time amendments prepared.
 - ▶ Operators prefer not have any outside air
 - ▶ Effects the growth cycle indoors
 - ▶ Effects the CO₂ enrichment
 - ▶ Adds potential for bugs, mold, fungus
 - ▶ Denver Officials stated that mechanical ventilation varies by jurisdiction in the Metro area.

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- ▶ Ventilation/Mechanical Issues:
 - ▶ Alternate Process to eliminate requirement for mechanical ventilation requirements.
 - ▶ Watch for CO₂ enrichment, still need system to remove/exhaust CO₂ in areas where enrichment is being used.
 - ▶ Inadvertent/Accidental or leak of CO₂ enrichment in grow rooms.
 - ▶ Tie in CO₂ sensor/alarm into exhaust system.
 - ▶ Evacuate CO₂ when a specific limit is reached.
 - ▶ Warning Signage should be required
 - ▶ OSHA limits:
 - ▶ 8 hour PEL: 5000 ppm
 - ▶ 40,000 ppm immediate danger to life and health
 - ▶ Optimum CO₂ enrichment is 1200 ppm - 2000 ppm for plant growth

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▶ Other Issues to Consider:

▶ Fumigation:

- ▶ Sulfur is common used as a fumigation to control pest, spider mites, and white flies
- ▶ Sulfur burning creates Sulfur Dioxide, inhaled creates sulfuric acid with water in the body.
- ▶ Problem for first responders
- ▶ Sulfur voids the listing of CO₂ sensors

▶ High Rack Growing:

- ▶ Growing of plant material on pallet racking type systems;
- ▶ Water, Electricity mixed on various levels.
- ▶ Loading requirements, attachments.

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- ▶ Other Issues to Consider:
 - ▶ Electrical Issues:
 - ▶ Poor wiring methods
 - ▶ Extension Chords/Power Strips
 - ▶ Mix of Water and Electrical
 - ▶ Light Lens removed - up to 7% increase in light intensity
 - ▶ Voids listing and Manufacturers data
 - ▶ Bulbs could explode: potential for fire; employee injury
 - ▶ Hot Bulbs exposed to staff -burns

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- ▶ Other Issues to Consider:
 - ▶ Building Issues:
 - ▶ Exit Signage turned off/removed
 - ▶ Operators like to eliminate all light from grow rooms.
 - ▶ Egress Issues:
 - ▶ Additional locks/bars/chains added for security
 - ▶ Grow rooms may have less aisle width than intended; aisle may have obstructions
 - ▶ Interior Finishes:
 - ▶ Hanging Plastic/Visquen to create sub-grow rooms
 - ▶ Interior finishes exposed foam insulation added to increase energy efficiency
 - ▶ Grow Tents/Intermodal Boxes (shipping containers)
 - ▶ Need to comply with construction requirements
 - ▶ Sprinkler coverage
 - ▶ Egress

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▶ Questions: