

BOULDER COUNTY REGIONAL FIRE TRAINING CENTERS

OPERATIONS MANUAL November 14, 2011

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NOTICE

The Board of Directors of the BCRFTC is pleased to provide this Manual, which governs use of its Training Facilities. All individuals and entities using the BCRFTC Training Facilities are expected to read, understand and comply with the rules, policies and procedures contained in this Manual. The BCRFTC Training Facilities are provided in "as is, where is" condition without any express or implied representations, warranties or guarantees of any kind whatsoever. All individuals and entities using the BCRFTC Training Facilities are solely responsible for, and assume, any and all risks associated with entering or using any portion of the Training Facilities and/or conducting training/education, participating in fire academies or special events, or engaging in other activities of any nature whatsoever on or in any portion of the Training Facilities.

RECEIPT ACKNOWLEDGEMENT

I, the undersigned, hereby acknowledge and state that I have been provided with a copy of, and have read and understand, the November 14, 2011 Operations Manual ("Manual") for the Boulder County Regional Fire Training Centers ("BCRFTC"). I understand that the Manual, and any subsequent amendments, supersede all prior rules, policies and procedures of the BCRFTC dealing with similar subject matter. I understand that the BCRFTC Board of Directors has the right to change the rules, policies, and procedures of the BCRFTC, including those contained in the Manual, at any time without prior notice in its sole discretion.

Signature:

Date:

Printed Name:

Agency Name:

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CHAPTER 1 – INTRODUCTION

1-1 SCOPE: This Manual establishes the rules, policies and procedures for the use of the BCRFTC Training Facilities. "Training Facilities" means the training facility located at 6055 Reservoir Road, Boulder, Colorado, the training facility located at 111 First Avenue, Longmont, Colorado, and the two mobile fire trailers.

1-2 PURPOSE: This Manual governs all activities conducted at one or more of the Training Facilities. Live fire training evolutions conducted in accordance with this Manual shall be managed by means of a documented fire ground command system. The line of authority shall be made clear to all personnel involved in order that both the expected and unforeseen situations will be managed efficiently with the highest degree of safety possible.

1-3 ANNUAL PROOF OF INSURANCE and LIABILITY RELEASE:

Annually each member agency must place on file with BCRFTC a copy of their workers compensation insurance certificate and the *Notice of Inherently Dangerous Activity – Annual Release (Member Agency)* form included in Appendix A, signed by the Chief or Board President of each member agency utilizing the Training Facilities.

1-4 NON-MEMBER / SPECIAL EVENT LIABILITY RELEASE: Any activity occurring at any Training Facility that would not be covered by the *Notice of Inherently Dangerous Activity – Annual Release (Member Agency)* form shall complete a *Notice of Inherently Dangerous Activity – Release (Non-Member Agency/Special Events)* form included in Appendix A.

1-5 GENERAL: Training evolutions must be planned with great care and supervised closely by experienced instructional personnel. Information herein is designed to promote adequate levels of safety while allowing for flexibility to utilize independent judgment based on the level of training to be accomplished.

1-6 SECURITY: Each fixed Training Facility will be secured within a security fence and locked gate when not in use by authorized agencies. The gate combination will be issued with the agency's scheduling password and it is the exclusive responsibility of the scheduled agency to assure the security of the Training Facility.

CHAPTER 2 – SCHEDULING AND DOCUMENTATION

2-1 SCHEDULING PROCEDURES: An on-line scheduler will be the primary method for reserving or using training facilities. Signing up to use a Training Facility on the scheduler functions as a contract between the participating agency and the BCRFTC.

2-1.1 Agency members will be allowed to view the scheduler at any time.

2-1.2 All agencies must provide the BCRFTC with a copy of their Worker's Compensation or other worker's insurance statement before being allowed to use the Training Facilities.

2-1.3 Once proof of insurance is provided, an agency representative will be issued a user name and password for reserving the Training Facilities, as well as the security gate lock code number. Participating agencies will be allowed to add reservations to the scheduler, but not modify or delete them.

2-1.4 Reservations for Training Facilities will be on a first come, first served basis.

2-1.5 A number of "super-users" will be designated and will have modify or delete rights to the scheduler, in those rare cases when a reservation needs to be changed or deleted. They will be able to assist users in the training and use of the scheduler.

2-2 DOCUMENTATION: Any agency that fails to follow the procedures set forth in this Manual shall be placed under review by the BCRFTC Board of Directors for possible disciplinary action.

2-2.1 Fill out all appropriate forms and file them in the "Completed Reports" boxes. In the Boulder Training Facility, blank forms are filed in a storage room on the East side of the admin building. In the Longmont Training Facility, blank forms are located in the Command Box on the side of the Burn Building.

2-2.2 All reports shall be presented to the BCRFTC Board of Directors for review.

2-2.3 The BCRFTC Board of Directors will review each injury at their next regular monthly meeting and comment in writing within five days of review of the documents.

- 2-2.4 Any disciplinary or financial action shall be reviewed or recommended by the BCRFTC Board of Directors.
- 2-2.5 **FACILITY USE LOG** – Must be completed for any training that occurs at a Training Facility.
- 2-2.6 **INJURY REPORT** – Must be completed for any injury that occurs at a Training Facility.
- 2-2.7 **PRE-BURN CHECKLIST** – Must be completed for all Live Fire training evolutions.

CHAPTER 3 – BURN BUILDINGS

(Also Note Facility Descriptions in Appendices)

3-1 TERMS AND CONDITIONS FOR LIVE FIRE

- 3-1.1 Fires in the Burn Building shall be contained inside or on burn racks or burn barrels sitting on fire bricks, and there shall be sufficient spacing (12 inches) between walls and combustible materials.
- 3-1.2 Fires need not be fully extinguished upon completion of training evolutions, and may be left to burn to ash with minimal visible flame for ease of clean up.
- 3-1.3 Fires shall not exceed pallet limits in any part of the Burn Building. (See Burn Sequence Chart in Appendix B-1). In the Longmont Burn Building, temperatures must be monitored in the cabinet on the South side. Record maximum temperature for each evolution on the Pre-Burn Checklist.
- 3-1.4 The local Communications Center shall be notified of the time and duration of live burns at Training Facility site.
- 3-1.5 There shall be no burning in a Burn Building if the temperature is expected to be below 32 degrees F. within 24 hours.
- 3-1.6 In the Longmont Training Facility, car fires shall be limited to the East portion of the Drill Grounds accessed from Martin Street. All vehicles shall be removed from the Training Facility on completion of burns.
- 3-1.7 In the Boulder Burn Building, each burn room is subject to pallet loading—refer to the Appendices for that information.

3-2 STAFFING FOR LIVE FIRE

- 3-2.1 Member agencies are responsible for the selection, training and actions of their Live Burn Instructor(s). It is strongly recommend that they have completed an NFPA 1403 orientation course or be certified at the Colorado State Live Burn Instructor level.

NOTE: *All agencies are strongly encouraged to follow NFPA 1403 guidelines for Live Fire Training, however ultimately liability associated with live fire training exercises shall lie with the agency actually performing, or ultimately responsible, the live fire training.*

3-3 PREPARATION OF BURN BUILDING

- 3-3.1 All doors, windows, mechanical equipment, and lighting for live fire training evolutions shall be checked and operated, where appropriate, prior to any live fire training evolution to ensure correct operation.
- 3-3.2 In order to secure optimum participant safety from unforeseen hazards, a careful examination of the burn building shall be conducted to determine that the following items are addressed:
 - 1) Floors and stairs shall be free of tools and debris to ensure safety.
 - 2) Safety grills or covers shall be in place.
 - 3) Hatch covers on pitched roofs shall be in place.
 - 4) Debris creating or contributing to unsafe conditions shall be removed.
 - 5) Burning shall be confined to designated areas.
- 3-3.3 All rooms with ash or debris leftover from the previous burn must be cleaned prior to ignition, by removing all ash or debris and placing it in the dumpster.
- 3-3.4 All participants must wear particulate filtering masks (N-95 level or above), during cleanup of burn building.

3-4 PRE-BURN BRIEFING SESSION

- 3-4.1 Prior to conducting live fire training evolutions, a pre-burn briefing shall be conducted for all participants. All evolutions to be conducted shall be discussed and assignments shall be made for all crews participating.
- 3-4.2 Prior to conducting live fire training evolutions, all participants shall have knowledge and familiarity with the layout of the burn building in order to facilitate necessary evacuation of the building.

3-5 LIGHTING AND BURNING MATERIALS

- 3-5.1 All agency personnel must wear full protective gear when igniting or refueling the fire.
- 3-5.2 Under no circumstances shall any flammable or combustible liquids be utilized as ignition source, accelerants or fuel in live fire

- training. The only fuels permitted in a burn building for live fire or smoke generating are CLASS A materials.
- 3-5.3 Fires which block doors, windows, or exit paths are strictly prohibited.
- 3-5.4 Refer to the Appendices for location-specific pallet loading limits.

3-6 CONCLUSION OF TRAINING ACTIVITIES

- 3-6.1 Burn racks and barrels shall be allowed to burn out naturally, but only minimal visible flame shall be left unattended.
- 3-6.2 Scupper holes shall be clear of all trash or debris.
- 3-6.3 Before placing in dumpster, any ash and/or trash must be fully extinguished and cooled; dumpster must be returned to its designated location.
- 3-6.4 All doors, windows and roof hatches shall be secured at the end of each day.
- 3-6.5 All debris, trash or objects that are not designated to be in such locations must be removed from around the burn building.
- 3-6.6 A post-burn walk-through shall be conducted to ensure clean-up activities are completed and any damage that resulted from training must be documented.

CHAPTER 4 – FIRE TRAINING PROPS

(See Boulder Propane Props in Appendices)

4-1 TERMS AND CONDITIONS FOR LIVE FIRE

- 4-1.1 Vehicle and Pressure Vessel fires shall be conducted and contained in specified burn area.
- 4-1.2 Instructors shall ensure that any extinguishment products other than water will be diverted with FOAM shield up and WATER shield down in designated propane burn area.
- 4-1.3 Instructors conducting vehicle or pressure vessel fires must be orientated on BullEx Fire Training Props by a qualified BCRFTC instructor.
- 4-1.4 Instructors will ensure that all participants wear full PPE when using props.
- 4-1.5 Instructors will not use props when the temperature is 32 degrees or below.
- 4-1.6 Instructors will ensure that no exposures (autos, vans, portable appliances) are within 30 feet of burn prop.

- 4-1.7 Prior to conducting vehicle or pressure vessel fires, a pre-burn briefing shall be held for all participants. All evolutions shall be discussed and assignment shall be made for all participating personnel.
- 4-1.8 Instructors will return Training Props to storage area.



BCRFTC

NOTICE OF DANGEROUS ACTIVITY – ANNUAL RELEASE **(Member Agency)**

The Boulder County Regional Fire Training Center ("**BCRFTC**") is a non-profit corporation established for the purpose of maintaining a training facility located at 6055 Reservoir Road, Boulder, Colorado, a training facility located at 111 First Avenue, Longmont, Colorado, and two mobile fire trailers (collectively, the "**Facilities**"), and assisting member agencies in scheduling use of the Facilities.

NOTICE

BCRFTC PROVIDES THE FACILITIES IN "AS IS, WHERE IS" CONDITION WITHOUT ANY REPRESENTATIONS, WARRANTIES OR GUARANTEES OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, CONCERNING THE FACILITIES, INDIVIDUALLY OR COLLECTIVELY, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF FITNESS FOR ANY CONDITION, OPERATION OR PURPOSE, OR THE SAFETY OF THE FACILITIES OR ANY PARTS THEREOF. THE UNDERSIGNED MEMBER AGENCY EXPRESSLY UNDERSTANDS AND AGREES THAT THE FACILITIES ARE INTENDED TO BE USED FOR FIRE AND OTHER EMERGENCY SERVICES TRAINING AND OTHER ACTIVITIES THAT ARE INHERENTLY DANGEROUS AND THAT MAY RESULT IN SEVERE PERMANENT INJURY OR DEATH TO THE MEMBER AGENCY'S PERSONNEL USING THE FACILITIES OR ANY PARTS THEREOF.

ASSUMPTION OF RISK: The undersigned member agency, having read and thoroughly understood the above NOTICE, expressly agrees BCRFTC provides the Facilities in "as is, where is" condition without any express or implied representations, warranties or guarantees of any kind whatsoever, and that the undersigned member agency is solely responsible for, and hereby assumes, any and all risks associated with the member agency and its personnel entering or using any portion of the Facilities and/or conducting training/education, participating in fire academies or special events, or engaging in other activities of any nature whatsoever on or in any portion of the Facilities.

RELEASE OF LIABILITY: In consideration for being permitted to enter and use the Facilities, the undersigned member agency hereby releases, waives, and discharges BCRFTC, and its current and former directors, officers, agents and representatives, from any and all liability, causes of action under any theory of law or equity, claims and demands, damages, costs, expenses and compensation arising from or relating to any injury or damages to person or property incurred by the undersigned member agency, its personnel or any third party as a result of the member agency or its personnel entering or

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using any portion of the Facilities and/or conducting training/education, participating in fire academies or special events, or engaging in other activities of any nature whatsoever on or in any portion of the Facilities.

INDEMNIFICATION: In consideration for being permitted to enter and use the Facilities, the undersigned member agency hereby agrees, to the extent permitted by law, to indemnify, defend and hold harmless BCRFTC, and its current and former directors, officers, agents and representatives (collectively, "***Indemnities***") from and against any loss, liability, damage, claim, cost or expense of any kind or nature whatsoever, which one or more of the Indemnities may incur due to the member agency or its personnel entering or using any portion of the Facilities and/or conducting training/education, participating in fire academies or special events, or engaging in other activities of any nature whatsoever on or in any portion of the Facilities. The Indemnities shall have the sole right to select legal counsel to defend them in connection with any claim, lawsuit or proceeding coming within the scope of this indemnification provision, notwithstanding the undersigned member agency's obligation to pay the fees, costs and expenses incurred by such legal counsel.

NO WAIVER OF IMMUNITY: Nothing in this document is intended, and shall not be construed, as a waiver of the limitations on damages or any of the privileges, immunities, or defenses provided to, or enjoyed by BCRFTC and the undersigned member agency, and their directors, officers, employees, volunteers and representative under common law or pursuant to statute, including but not limited to the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, *et seq.*

ADDITIONAL TERMS: Colorado law governs this document. If any provision in this document is held invalid or unenforceable, all other provisions shall continue in full force and effect. This document is not intended to, and shall not, confer rights on any person or entity other than BCRFTC and the member agency. In any dispute arising from or relating to this document, the prevailing party shall be awarded its reasonable attorneys' fees, costs and expenses, including any attorneys' fees, costs and expenses incurred in collecting upon any judgment, order or award.

MEMBER AGENCY NAME: _____
(Please Print Clearly)

NAME OF AUTHORIZED REPRESENTATIVE: _____
(Please Print Clearly)

AUTHORIZED REPRESENTATIVE'S SIGNATURE:

Signature

Date



BCRFTC

NOTICE OF DANGEROUS ACTIVITY - RELEASE **(Non-Member Agency/Special Events)**

The Boulder County Regional Fire Training Center ("**BCRFTC**") is a non-profit corporation established for the purpose of maintaining a training facility located at 6055 Reservoir Road, Boulder, Colorado, a training facility located at 111 First Avenue, Longmont, Colorado, and two mobile fire trailers(collectively, the "**Facilities**").

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ASSUMPTION OF RISK: The undersigned agency, having read and thoroughly understood the above NOTICE, expressly agrees BCRFTC provides the Facilities in "as is, where is" condition without any express or implied representations, warranties or guarantees of any kind whatsoever, and that the undersigned agency is solely responsible for, and hereby assumes, any and all risks associated with the agency and its personnel entering or using any portion of the Facilities and/or engaging in activities of any nature whatsoever on or in any portion of the Facilities.

RELEASE OF LIABILITY: In consideration for being permitted to enter and use the Facilities, the undersigned agency hereby releases, waives, and discharges BCRFTC, and its current and former directors, officers, agents and representatives, from any and all liability, causes of action under any theory of law or equity, claims and demands, damages, costs, expenses and compensation arising from or relating to any injury or damages to person or property incurred by the undersigned agency, its personnel or any third party as a result of the agency or its personnel entering or using any portion of the Facilities and/or engaging in activities of any nature whatsoever on or in any portion of the Facilities.

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INDEMNIFICATION: In consideration for being permitted to enter and use the Facilities, the undersigned agency hereby agrees, to the extent permitted by law, to indemnify, defend and hold harmless BCRFTC, and its current and former directors, officers, agents and representatives (collectively, "***Indemnities***") from and against any loss, liability, damage, claim, cost or expense of any kind or nature whatsoever, which one or more of the Indemnitees may incur due to the undersigned agency or its personnel entering or using any portion of the Facilities and/or engaging in activities of any nature whatsoever on or in any portion of the Facilities. The Indemnitees shall have the sole right to select legal counsel to defend them in connection with any claim, lawsuit or proceeding coming within the scope of this indemnification provision, notwithstanding the undersigned agency's obligation to pay the fees, costs and expenses incurred by such legal counsel.

NO WAIVER OF IMMUNITY: Nothing in this document is intended, and shall not be construed, as a waiver of the limitations on damages or any of the privileges, immunities, or defenses provided to, or enjoyed by BCRFTC and the undersigned agency, and their directors, officers, employees, volunteers and representative under common law or pursuant to statute, including but not limited to the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, *et seq.*

ADDITIONAL TERMS: Colorado law governs this document. If any provision in this document is held invalid or unenforceable, all other provisions shall continue in full force and effect. This document is not intended to, and shall not, confer rights on any person or entity other than BCRFTC and the member agency. In any dispute arising from or relating to this document, the prevailing party shall be awarded its reasonable attorneys' fees, costs and expenses, including any attorneys' fees, costs and expenses incurred in collecting upon any judgment, order or award.

EVENT: _____

AGENCY NAME: _____
(Please Print Clearly)

NAME OF AUTHORIZED REPRESENTATIVE: _____
(Please Print Clearly)

AUTHORIZED REPRESENTATIVE'S SIGNATURE:

Signature

Date



PLEASE PRINT LEGIBLY!

This log must be completed for any training that occurs at a BCRFTC facility.

Date of Use:	Entry Time:	Exit Time:
Name:	Phone:	
Agency:		

Facilities Used (check all applicable):

<ul style="list-style-type: none"> ○ Boulder Burn Building ○ Boulder Tower ○ Boulder Driving Course ○ Boulder Cascade System ○ Boulder Propane Prop ○ Boulder East Classroom ○ Boulder West Classroom ○ Boulder 1st Floor Conference Room ○ Boulder 2nd Floor Conference Room ○ Boulder Pump Test Pit ○ Boulder Extrication Area 	<ul style="list-style-type: none"> ○ Longmont Burn Building ○ Longmont Tower ○ Longmont Confined Space Prop ○ Longmont Roof Prop ○ Longmont Driving Course ○ Longmont Tanker Props ○ Longmont Rubble Pile ○ Longmont Extrication Area ○ Burn Trailer A ○ Burn Trailer B
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Condition of each Facility upon Arrival (continue on separate sheet if necessary):

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Describe how each Facility was Used (continue on separate sheet if necessary):

Describe any Damage and/or Repairs (continue on separate sheet if necessary):

I hereby verify that prior to our departure the facility met the terms and conditions identified in this document.

Your Signature:

Date:



PLEASE PRINT LEGIBLY!

This report must be completed for any injury that occurs at a BCRFTC facility.

- 1) Within 24 hours, injuries should be reported to workers' compensation carrier.
- 2) Within 48 hours, a BCRFTC Board Member must be notified.
- 3) Within 48 hours, a copy of the Worker's Compensation Form and this Injury Report should be mailed to the host municipal fire department Training Chief with a phone call reporting the injury.

Date of Injury:	Time of Injury:	Location:
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Officer In-Charge Name:	Phone:
--------------------------------	---------------

Officer In-Charge Agency:	Phone:
----------------------------------	---------------

Injured Party Name:	Phone:
----------------------------	---------------

Injured Party Agency:	Phone:
------------------------------	---------------

Description of Injury (continue on separate sheet if necessary):

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Activity at Time of Injury (continue on separate sheet if necessary):	
Was complete protective gear worn? <input type="checkbox"/>Yes <input type="checkbox"/>No	
Was injured party transported? <input type="checkbox"/>Yes <input type="checkbox"/>No Where?	
Was a Chief Officer notified? <input type="checkbox"/>Yes <input type="checkbox"/>No Who?	
Was the BCRFTC Board notified? <input type="checkbox"/>Yes <input type="checkbox"/>No Who?	
Officer In-Charge Signature:	Printed Name:
Injured Party Signature:	Printed Name:



BCRFTC

SAMPLE PRE-BURN CHECKLIST

PERMITS, DOCUMENTS, NOTIFICATIONS, INSURANCE

- Live Burn Instructor Present
- Proof of Current Workers Comp Insurance on File with BCRFTC
- Weather Report Obtained
- Written evidence of prerequisite training obtained for participating students from outside agencies
- All Instructors and Participants Identified and Documents in Accountability Plan

PRE-BURN PLAN / SITE PLAN DRAWING, Showing location of:

- Floor plan detailing all rooms, hallways and exterior openings
- Command Post Location
- Apparatus Positions
- All Hose Lines, Including Backup Lines
- Emergency Escape Routes
- Emergency Evacuation Areas
- Location of Ingress and Egress Routs for Emergency Vehicles
- Operations Area Established and Perimeter Marked

PARKING AREAS DESIGNATED AND MARKED:

- Apparatus Staging
- Ambulances
- Police Vehicles
- Press Vehicles
- Private Vehicles

WATER SUPPLY, Determine on Charts:

- Available Water Supply
- Required Fire Flow
- Required Reserve Flow (50% of fire flow)
- Apparatus Pumps Meet or Exceed Required Fire Flow
- Separate Water Sources Established for Attack and Backup Hose Lines
- Attack line must be attached to pumper with tank, minimum 95 gpm.
- Backup line may be attached directly to hydrant, minimum 95 gpm.

TRAINING STRUCTURE PREPARATION, Training Structure**Components Checked and Operated:**

- Windows Checked and Operated
- Doors Checked and Operated, Opened or Closed, as Needed
- Roof Scuttles or Vents Checked and Operated, Opened or Closed, as needed
- Temperature Monitoring Equipment
- Manual or Automatic Sprinklers
- Standpipes
- Unnecessary Inside and Outside Debris Removed
- Porches and Outside Steps Made Safe
- Hazards From Toxic Weeds, Hives, and Vermin Eliminated
- All Extraordinary Exterior and Interior Hazards Remedied

FIRE “SETS” PREPARED:

- Clean Wood Only, No Manufactured or Treated Materials
- No Flammable or Combustible Liquids
- No Contaminated Materials
- Approved Ignition Sources

PREBURN PROCEDURES, All Participants Briefed:

- Training Structure Walkthrough
- Crew and Instructor Assignments
- Safety Rules

- Training Structure Evacuation Procedure
- Evacuation Signal Demonstration
- EMS Plan
- Communication Frequencies Established:
- Primary Tactical Channel
- Secondary Tactical Channel Pre-established in the Event of Mayday
- Other Channels as Needed
- Radio Checks for Crews Prior To Entry
- All Hose Lines Checked:
- Sufficient Size for Area of Involvement
- Charged and Test Flowed
- Supervised by Qualified Instructors
- Adequate Number of Personnel
- Necessary Tools and Equipment Positioned
- Participants Checked:
- Full Protective Clothing
- Self-Contained Breathing Apparatus
- Adequate SCBA Air Volume
- All Equipment Properly Donned

POSTBURN PROCEDURES

- All Personnel Accounted For
- Remaining Fire Overhauled as Needed
- Training Structure Inspected for Stability and Hazards Where More Training is to Follow
- Training Critique Conducted

RECORDS AND REPORTS PREPARED AS REQUIRED

- Facility Use Log Completed and Left in Designated Location
- Injury Report Completed and Distributed as Required
- Agency Required Documents Completed and Filed

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APPENDIX B - BOULDER FACILITY

The facility is located at 6055 Reservoir Road in Boulder. The site consists of a Burn Building, Tower, Drill Grounds with Props, Apparatus Bay, Cascade System, Turnout Laundry Machines and various Office, Class and Conference rooms.

- All vehicles shall remain on the concrete portions of the Drill Grounds.

The Burn Building is three-story concrete structure with five burn rooms.

- The first floor has three burn rooms, five exterior doors, and a porch/deck.
- The second floor has two burn rooms, two exterior balconies designed for ladder placement and fire attack from porch area, and a hatch in the ceiling going up to the third floor.
- The third floor has no burn rooms, an open roof deck, a roof vent prop, and a hatch in the floor going down to the second floor.
- Refer to diagrams below for minimum water flow requirements and maximum pallet loading for each burn room.
- Maximum burn time per room is 12 hours per day.



APPENDIX – B1 - PALLET LOADING CHART

Maximum Burning: 12 hours per room, per day, followed by a 4 hour cooling period

Burn in Designated Rooms Only

Pallet Loading Chart

Room Number	Initial Fire	All Subsequent Fires
Room 1	2 pallets	2 pallets
Room 2	5 pallets	3 pallets
Room 3	4 pallets	3 pallets
Room 4	2 pallets	2 pallets
Room 5	4 pallets	3 pallets

Allowed Materials

Fuel: Wood pallets only

Stored: In pallet enclosure southeast of burn structure

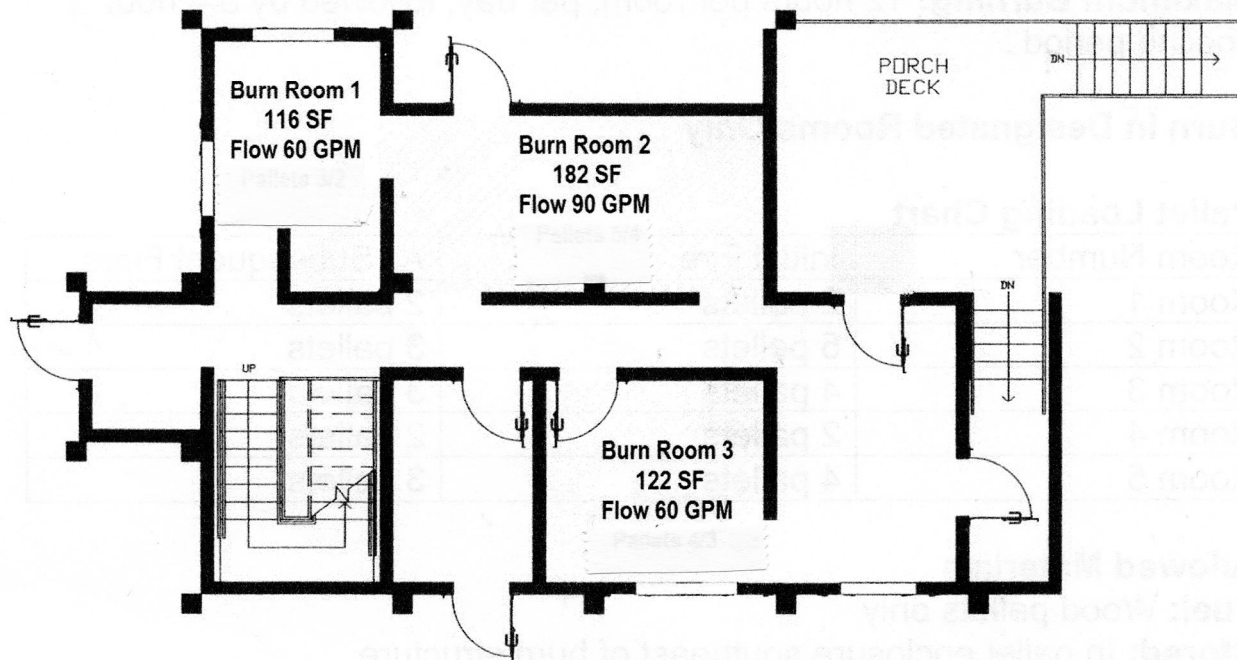
Kindling: Wood from thinner pallets or broken pallets

Ignition: Propane torch

Smoke Material: Hay/Straw

Important: Do not use excessive water, do not completely extinguish fires, allow final evolution to burn out.

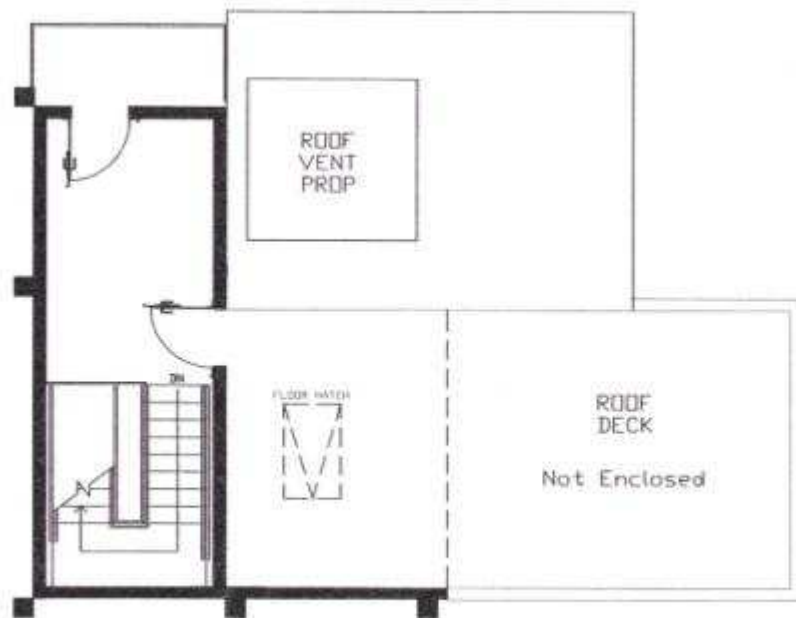
BURN BUILDING – LEVEL 1



BURN BUILDING – LEVEL 2



BURN BUILDING – LEVEL 3



APPENDIX B-2 – PUMP TEST PIT

- Capacity – 28,000 gallons
- Depth – 9 feet
- Draft Tubes Length Intake to Discharge– 10 feet
- Draft Tube Intake Distance from Bottom of Tank – 2 feet
- Draft tube discharges are equipped with an adaptor allowing the connection of a hard suction hose with either 5" or 6" couplings.
- Baffles – 1 – 11'8" from east end of tank, 1 - 14'8" from west end of tank. The east baffle has a 2' X 2' opening 12" from the bottom on the north side. The west baffle has a 2' X 2' opening 12" from the bottom on the south side.
- Pumper discharge hoses can be connected to any of the six manifold inlets and as many as needed for the pumping scenario.
- The inlet manifold discharge side is equipped with a 2-1/2" outlet with a short stream straightener. Any size tip can be connected to the 2-1/2" discharge. The 2-1/2" X 4" reducer can be removed allowing a 4" discharge opening to be used.
- Attaching a 10' hard suction hose to a discharge tube creates the necessary 20' suction length.
- There is no reason to open the three hatches during operations.

NOTE: There is currently an issue with blowback out of the connection to the pump pit used to discharge the stream back into the tank. We know what the problem is and are working on a solution. At the present time the only problem is you might get wet while trying to use a pitot to measure the discharge flow.

APPENDIX B-3 – FIRE HYDRANTS

- East hydrant is live and connected to the city water main.
- West two hydrants are connected to each other and not connected to the city water main.
 - These can be used to simulate varying or low hydrant flow situations.
 - Requires two pumpers.
 - Pumper one should connect to the east (live) hydrant for a water supply.
 - Pumper one should then connect a discharge line into one of the west (dry) hydrants and open that hydrant.
 - Pumper two should connect a supply line to the second west (dry) hydrant.
 - Pumper two should establish whatever discharge scenario they would like.
 - Pumper one should pump into the connected dry hydrant at the beginning drill pressure.
 - Pumper two should begin flowing water from their water tank then switch to hydrant water supply.
 - Pumper one can now create whatever hydrant flow situation desired for the drill. For equipment safety the flow should not be lower than 20 psi.

APPENDIX B-4 - TOWER

Training Tower – The tower is used to training on ground and truck mounted aerial ladders, multi-level fire attack, search and rescue, hose handling techniques, ventilation, forcible entry, rappelling, wall breaching, automatic fire sprinkler and standpipe systems, confined space entry and other skills utilized in multilevel buildings.

General Information

- | | |
|-------------------------|-------------|
| • Total Square Feet | 6,438 Sq Ft |
| • 1 st floor | 1,683 Sq Ft |
| • 2 nd floor | 1,323 Sq Ft |
| • 3 rd floor | 1,286 Sq Ft |
| • 4 th floor | 751 Sq Ft |
| • 5 th floor | 472 Sq Ft |
| • Roof | 923 sq Ft |
- Roof pitch on South above room 302 with ventilation prop 12 / 12
 - Roof pitch on North above room 302 with ventilation prop 6 / 12
 - Each floor is 10 feet above the floor below.
 - Finished 1st floor elevation 5,162.3 feet
 - Building height 53.94 feet



Features:

- Interior and exterior stairways
- Standpipe system with roof manifold
- 1st floor sprinkler system
- Different floor layout on each level
- Replaceable garage door prop
- 2nd floor bailout drill anchors
- Offset manholes on 2 levels
- Attic prop with hallway access hatch
- Forcible entry door prop
- Numerous rappelling anchors on different levels
- 3 replaceable roof ventilation props
- Replaceable wall breach prop

- Stuck elevator prop
- Atrium layout level 4 and 5
- Ability to use theatrical smoke machines on each level
- Numerous balconies, door and windows

Electrical

- Interior stairway lights are all controlled by a switch inside the first floor stairway door at the southwest corner of the building.
- Exterior stairway and roof lights are controlled by 1 switch located outside at the bottom of the stairs on the first floor.
- 1st floor has 1 light switch in each of the 4 rooms
- 2nd floor has 2 light switches, 1 at each entry door to the floor.
- 3rd floor has 2 light switches, 1 at the entry door to the floor from the interior stairway. The other is in the attic space under the pitched roof.
- 4th floor has 3 light switches, 1 at each entry door to the floor and 1 at the entry door to the atrium off the interior stairway.
- 5th floor has 3 light switches, 1 at each entry door to the floor and 1 at the entry door to the atrium walkway off the interior stairway.
- Roof lights are controlled by a switch located at the bottom of the exterior stairs on the 1st floor.

Standpipe

Located within the interior stairway the fire department connection is located on the southwest exterior corner of the tower. The system has 1 – 2-1/2" outlet located in the northwest corner of each intermittent landing between each floors and a 2 – 2-1/2 manifold on the roof.



Standpipe system –
The dry standpipe system provides coverage on all floor of the tower including the roof



Prior to using the standpipe system, ensure both system drain valves are closed and that the automatic fire sprinkler floor valve is closed. The main drain is located near the ceiling of the 1st floor of the interior stairway.



A secondary drain is located in the northwest corner of the 1st floor of the interior stairway under the stairs.



The automatic fire sprinkler floor control valve is located near the ceiling of the 1st floor interior stairway.



Walk the stairway from the roof to the 1st floor to ensure all outlet valves are closed and all 2-1/2" caps are in place.

If part of the drills is to simulate an open valve on an outlet proceed to the next step. Connect 1 or 2 2-1/2" hoses into the fire department connection and charge the line(s) to the appropriate pressure for the drill.

Once the drill is complete it is **IMPORTANT TO DRAIN THE SYSTEM** regardless of the time of year.

- Open the main drain located near the ceiling of the 1st floor of the interior stairway.
- Open the secondary drain located in the northwest corner of the 1st floor of the interior stairway under the stairs.

- Open the automatic fire sprinkler floor control valve is located near the ceiling of the 1st floor interior stairway.

Automatic fire sprinkler system – The 1st floor of the tower is covered with an automatic fire sprinkler system. This system is not connected to a water supply main. This system is for training purposes only and is not a fire protections system.

- Prior to using the automatic fire sprinkler system, ensure both system drain valves are closed and that the automatic fire sprinkler floor valve is open.
- The main drain is located near the ceiling of the 1st floor of the interior stairway.
- A secondary drain is located in the northwest corner of the 1st floor of the interior stairway under the stairs.
- The automatic fire sprinkler floor control valve is located near the ceiling of the 1st floor interior stairway.
- Walk the stairway from the roof to the 1st floor to ensure all outlet valves are closed and all 2-1/2" caps are in place.
- Walk the 1st floor and inspect each sprinkler head to ensure the fusible links are intact.
- If your drill is to flow water from one or more sprinkler heads, remove a good head and replace it with a fused head in the location for the drill
- Connect 1 or 2 2-1/2" hoses lines into the fire department connection and charge the line(s) to the appropriate pressure for the drill.

Once the drill is complete it is **IMPORTANT TO DRAIN THE SYSTEM** regardless of the time of year.

- Open the main drain located near the ceiling of the 1st floor of the interior stairway.
- Open the secondary drain located in the northwest corner of the 1st floor of the interior stairway under the stairs.
- Open the automatic fire sprinkler floor control valve is located near the ceiling of the 1st floor interior stairway.



Garage door prop – The garage door prop is designed to allow forcible entry and other evolutions in a garage area. The rolling exterior garage door is for building security. The panel garage door is the training prop.



← Security door

← Training door

If your drill involves cutting, prying or otherwise damaging the training door, it is your responsibility to replace all damaged parts upon completion of your exercise.

2nd floor bailout prop – The bailout prop is designed to simulate and practice an emergency 'bailout' from the 2nd floor. Ladder anchor points and a belay point are provided.



Anchor Points



Anchor points inside dual doors

Offset manholes – Manholes are provided to allow limited confined space rescue training.



Attic prop with hallway access hatch – used to simulate attic access.



Forcible entry door prop – used to simulate forcible entry through a door.



Numerous rappelling anchors on different levels – Anchors are provided for rope Rappelling from various locations and heights.

- Anchors are designed to hold 5,000 pounds each
- Anchors are welded to the structural steel below the floor surface.
- Floor decking spans the structural steel and is covered with poured in place concrete ~ 6-1/2 inches thick.



3 replaceable roof ventilation props – Ventilation props are designed to provide training opportunities using power and hand tools to remove roofing material allowing fire and produces of combustion to escape. The joist spacing, decking material and roof covering can be modified by the user to meet the training needs.

- Vertical ventilation drills shall be conducted with a minimum of two students and one safety officer.
- Roof ladders must be in place when using this prop.
- At the end of each day's training session new joists (if necessary) and new plywood shall be installed.



Replaceable wall breach prop – The wall breach prop is designed to provide training opportunities using power and hand tools to breach a wall to simulate rescue or other forcible entry drills. Stud spacing, interior and exterior wall coverings can be modified by the user to meet the training needs. When drills are complete it is the user's responsibility to restore the wall replacing all damaged components.



Atrium layout level 4 and 5 – The atrium is designed to allow varied training exercises.

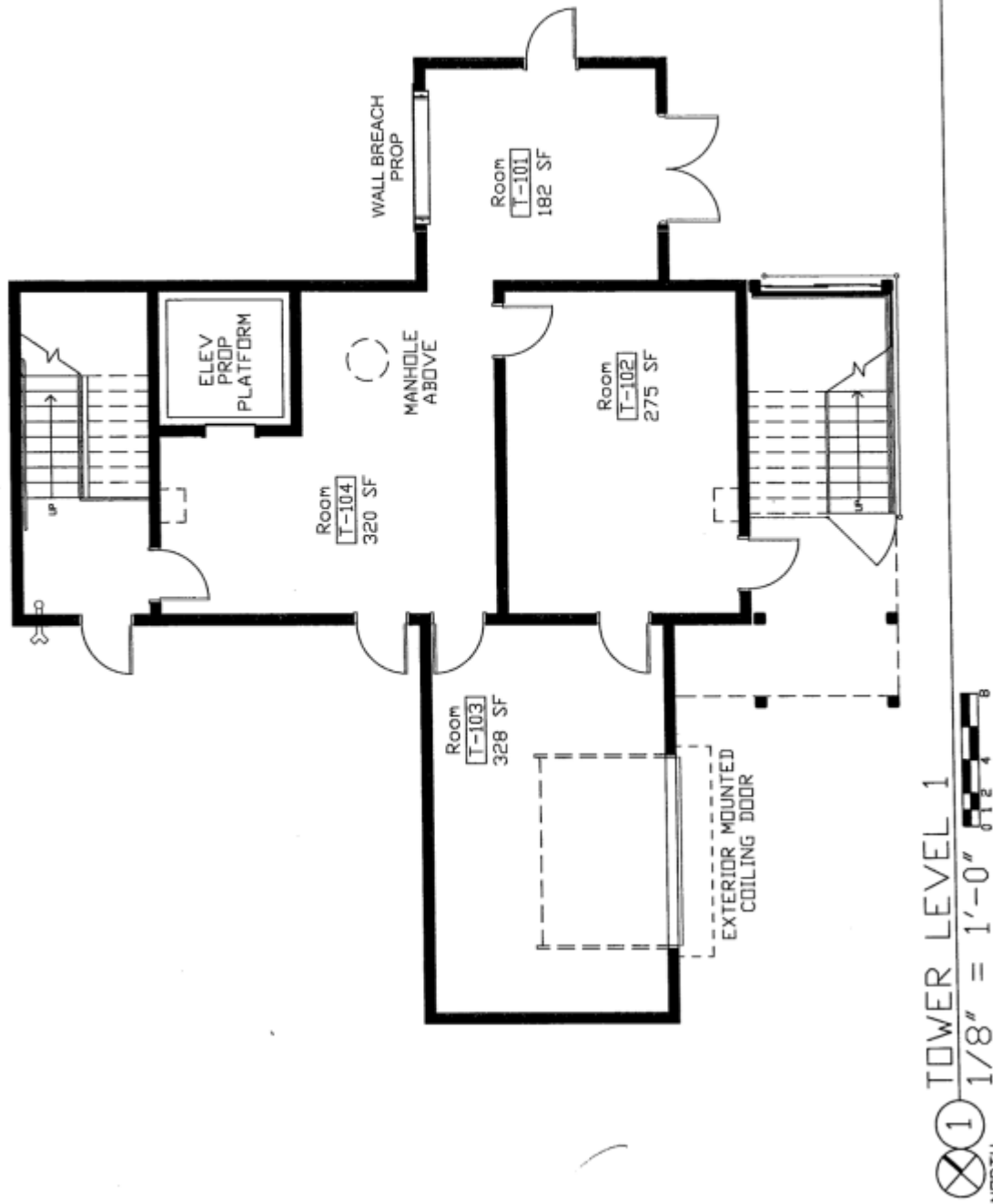
- The 4th floor is wide open and exposed to the 5th floor balcony.
- All of the railing around the 5th floor balcony is removable.
- There are 2 rappelling anchor points on the 5th floor. Use and design of this area are open to the needs and imagination of the trainer.
- Examples of use might include;
 - Building a spongy floor prop
 - Confined space maze
 - Basic rappelling training 10' drop

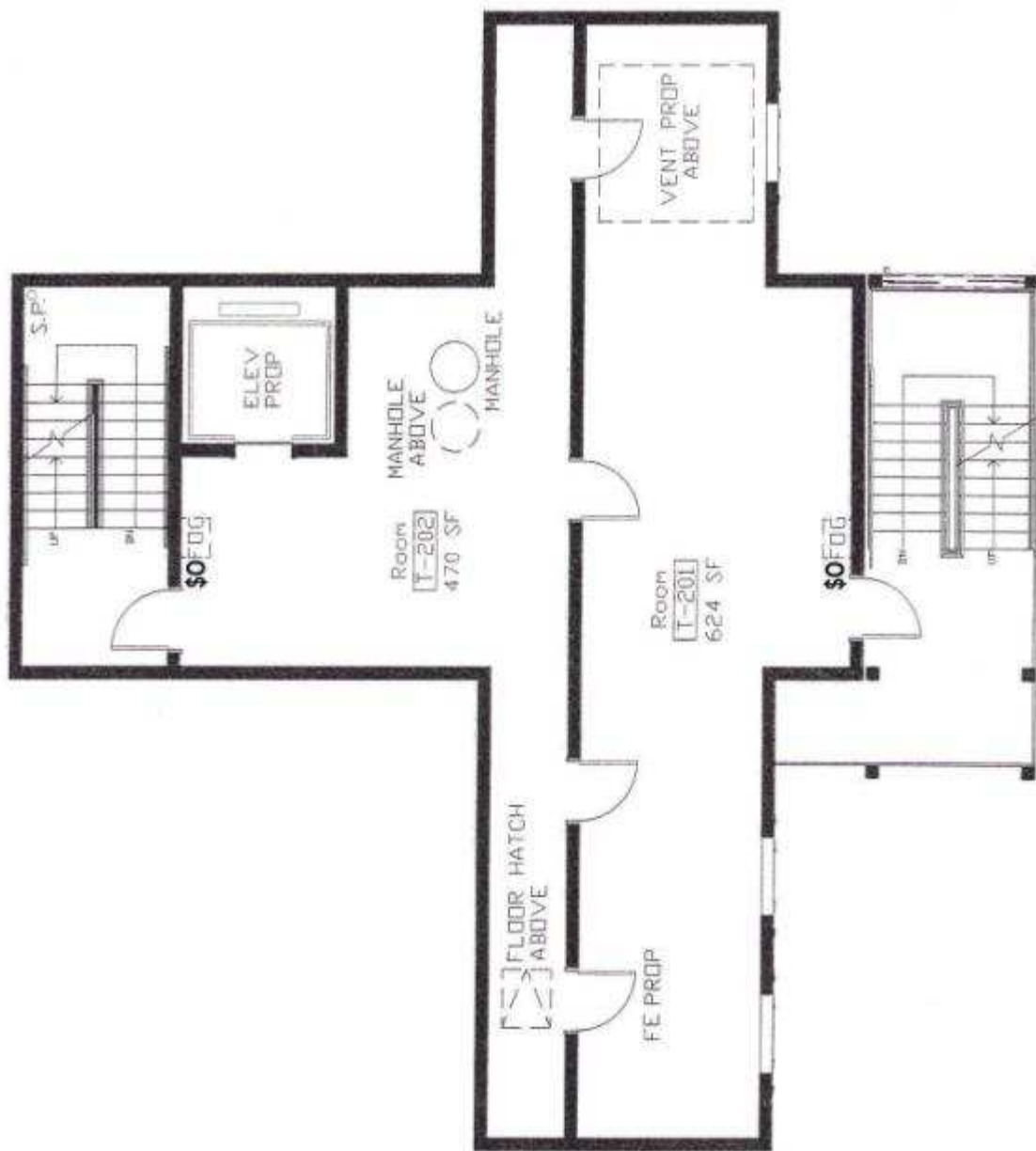


Smoke Machine racks Ability to use theatrical smoke machines on each level – Each floor of the tower has a smoke machine platform and electrical outlet at each entry to the floor from each stairway.



Floor Plans





2 TOWER LEVEL 2

1/8" = 1'-0"





3 TOWER LEVEL 3

1/8" = 1'-0"





4 TOWER LEVEL 4
 1/8" = 1'-0"
 NORTH

APPENDIX B-5 – PROPANE PROPS

Propane Training Area – This area is used to train on emergencies involving propane tanks and for vehicle fire training using a propane fired vehicle fire trainer.

Features:

- ~4,800 square feet
- 1,000 gallon propane supply
- Pressure vessel fire training prop
- Vehicle fire training prop

Runoff containment:

There are two options for runoff from this area.

- **Water:** if the only runoff is water without any contaminants the water can be allowed to run across the pavement and into the storm water detention pond.
 1. Lift and remove or prop open the gate labeled 'WATER'
 2. Close the gate labeled 'FOAM'
- **Foam or contaminated water:** This must be directed into the sanitary sewer.
 1. Lift and remove or prop open the gate labeled 'FOAM'
 2. Close the gate labeled 'WATER'

APPENDIX C - LONGMONT FACILITY

The facility is located at 111 First Avenue in Longmont. The site consists of a Burn Building, Tower, Pavilion and Drill Grounds.



The Burn Building is a two-story residential type block structure with a one car attached garage. The interior of the building is lined with Padgenite fire panels which allow for burning in all areas of the building except the interior stairwell and upstairs hallway.

- The deck over the garage is designed as a staging area during simulation of a basement fire on the first level.
- The roof prop openings have been sealed and are not to be used.
- Two thermal sensors are located in each room and three thermal sensors are located in the stairwell. The monitor and recorder for the sensors are located in the cabinet on the South side of the building.
- The garage is designed to allow a simulated vehicle fire. The vehicle must have all flammables, combustibles and sealed chambers (shock absorbers, drive shafts, fuel tanks) tires and glass removed, and is limited to three pallets inside for fire purposes.

The Training Tower is a four-story block building with an interior stairwell. The Tower is not designed for live fire.

- The tower has four power jam forcible entry doors, two on the East side first floor, one on the second floor stairwell door and one on the fourth floor stairwell door.
- There is a stand pipe system with connection on the B Side of the building. The system has connections on each landing and the roof. The fourth floor has a sprinkler system mock up with three heads. The shut off valve is on the fourth floor landing at ceiling level.
- The tower has an open elevator shaft that runs from the crawl space floor to the roof. There are key open only doors on each floor with safety cargo netting inside.
- The tower crawl space has three confined space pipes exiting underground and a small chamber under the stair well. **THE CONFINED SPACE PROPS SHOULD ONLY BE ENTERED UNDER THE SUPERVISION OF A QUALIFIED CONFINED SPACE INSTRUCTOR.**
 - two pipes are 29 inch inside diameter, and one pipe is 23 inch diameter.
 - These pipes connect to a series of smaller pipes, bends and chambers of various sizes.
 - Access to the crawl space is from the entry doors on the C Side of the building or the inside elevator shaft double doors.
 - All access/escape points must be unlocked prior to entry.
- The tower roof has several capstan roof anchors certified for rope rescue. **THE RAILING AROUND THE TOP OF THE TOWER IS NOT DESIGNED TO SERVE AS AN ANCOR.**
- There is a shelf and electrical outlet on each floor designed for a smoke machine.
- The tower is designed to allow water flow in all areas. Lights in the tower should be turned off and allowed to cool before flowing water that may contact lights.
- The tower is equipped with manhole openings in the center of the first and second floor; and a lift out opening to simulate an open stairwell on the third and fourth floors.
- The roof has hatch openings for the access ladder, over the elevator shaft and center roof.

The Pavilion has a storage area accessible to employees only, two unisex restrooms and a covered outside training room with tables and benches.



- There is a steel white board under the pavilion; instructors need to supply their own markers and magnets.
- To the left of the white board there is a push button timer for the field lighting. These lights take a while to come to full brightness or restart when shut-off hot.
- The lock boxes to the left of the white board contain the keys for the facilities. The combination for the box marked "BCRFTC Member Departments" is the same as the gate lock.

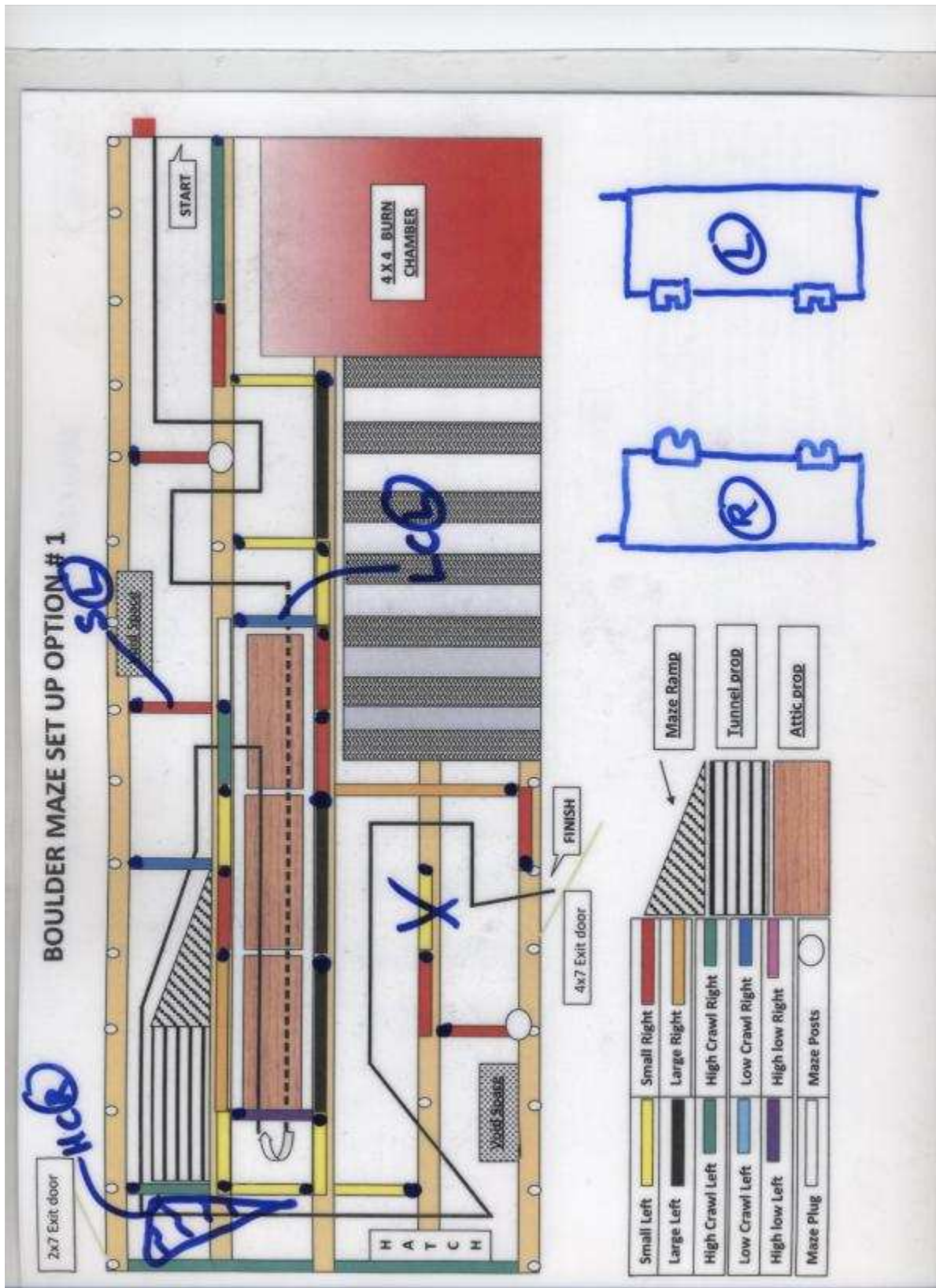
APPENDIX D - BURN TRAILERS

Advantages of the Mobile burn trailers

- Live fire training can be conducted in your district, keeping valuable apparatus and personal in district.
- Numerous training scenarios can be set up, including but not limited to this list:
 - Live fire attacks
 - Basement fire attack
 - Multiple fires at one time
 - Thermal imager training with fires in walls
 - Kitchen Stove fire
 - Maze for searches (no fire)
 - Two trailers can be connected for an enhanced scenario
 - Roof prop for training ventilation techniques

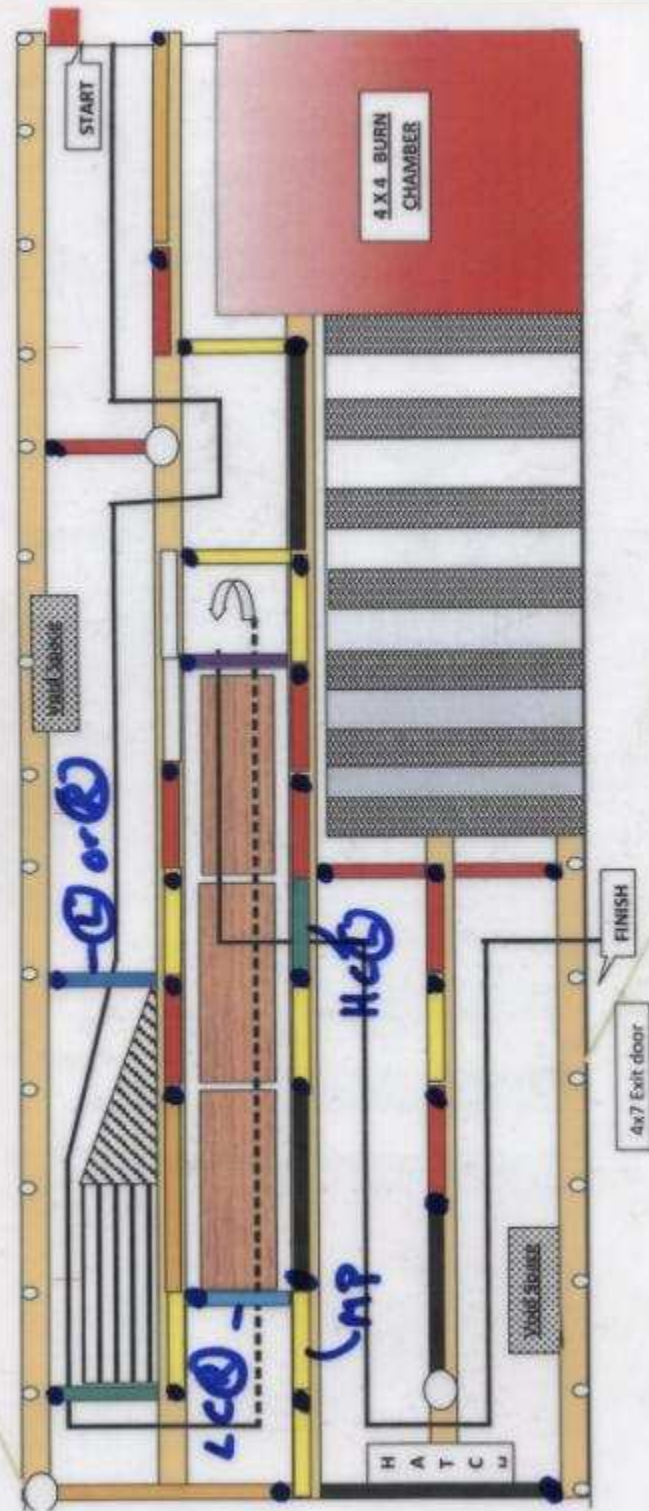
The trailers have built in temperature monitoring, and roof ventilation from the ground for safer operation.





BOULDER MAZE SET UP OPTION # 2

2x7 Exit door



Small Left	Small Right	Maze Plug	Maze Posts
Large Left	Large Right		
High Crawl Left	High Crawl Right		
Low Crawl Left	Low Crawl Right		
High low Left	High low Right		

Maze Ramp
Tunnel prop
Attic prop