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Emergency Operations

Clear Creek Fire Authority and Evergreen Fire Protection District serve the structural fire protection and rescue needs of CCC residents and business owners within their respective jurisdictions in CCC. In addition to fire suppression, Clear Creek Fire Authority and Evergreen Fire Protection District offer emergency first response medical services, initial attack WUI fire response, hazardous materials response, and fire prevention advice for fire safety within their jurisdictions in CCC.

Wildland fire management services are provided by the CCC Sheriff's Office wildland "Marmots Wildland Fire Crew" on all unincorporated lands in the county, and as requested by the CCFA on all private lands within Clear Creek County.

Wildland fire management is provided by USFS and CSFS on the Arapaho/Roosevelt National Forest lands. The USFS is typically not equipped to provide structural protection.

6.1 Clear Creek County Emergency Operations Plan

Originally adopted in 2004, the CCC Emergency Operations Plan (CCC EOP) describes the mechanism and structure by which the county will mobilize resources and conduct activities and defines policies, assumptions, operations, actions, and responsibilities county agencies will follow in the event of a disaster, emergency, or incident. The CCC EOP was amended in 2006 to accommodate the following Wildland Firefighting EOP. This section describes the county's operational plan specifically in the event of a wildfire.

6.1.1 Wildland Firefighting EOP Introduction

Purpose and Scope

The purpose and scope is to provide courses of action, resource mobilization guidelines, and prescribe the responsibilities of local, state, and federal governments in providing for the detection and suppression of wildland fires that occur within CCC.

Planning Assumptions

Wildland firefighting will involve mobilizing, providing, managing, and coordinating personnel, equipment, and supplies in the detection and suppression of wildland fires.

Successful suppression and extinguishment of wildland fires will require organized interagency cooperation at all levels.

Land ownership in the forested areas of CCC includes: county, private, municipal, United States government (USFS), Denver Mountain parks, state agency-owned lands including: Colorado Division of Wildlife, State Land Board, State School Lands, and State Historical Society.

The authority for suppression activities comes from municipal ordinances, such as state statutes governing: Fire Protection Districts, Fire Authorities, Colorado State Forest Service, and the Sheriff; and Federal laws governing the USFS.

Agreements

- “Wildland Fire Protection Agreement” between the County of Clear Creek Colorado, the CCC Sheriff (CCSO) and the CCFA.
- The AOP is a working document compiled each year by the wildfire agencies participating in the Plan, and shall be attached to and part of the Interagency Cooperative Fire Protection Agreement – Clause # 12. The AOP agreement is between the Wildfire Protection Agencies within CCC, Colorado, including: Colorado State Forest Service (CSFS), CCC Sheriff’s Office, CCC Board of County Commissioners, United States Department of Agriculture (USDA).

Policies

- Wildland firefighting operations on all private lands in CCC will be the responsibility of the Clear Creek Fire Authority, excluding lands that are in the Evergreen Fire Protection District. The CCFA shall be responsible to commence initial attack on any wildland fire within its response jurisdiction. The CCFA will be responsible for all wildland fires (command, operations, logistics, planning, finance/administration, etc.) that are expected to be contained within the first 12 hours following initial attack unless/until a delegation of authority is made. Fires that are not transferred to the Sheriff, the state or any federal agency shall remain the responsibility of the CCFA through containment, control and mop-up.
- Wildland firefighting operations on public lands, and private lands outside of the Clear Creek Fire Authority jurisdictions in CCC, will be the responsibility of the CCC Sheriff.
- The Sheriff shall have the responsibility for any and all wildland fire response and suppression obligations that are delegated to the Sheriff.
- The Clear Creek Fire Authority and the CCC Sheriff shall have the responsibility for wildland fire response and suppression as outlined in the AOP except as otherwise provided in the “Wildland Fire Protection Agreement.”
- The Incident Commander on scene will be the most qualified person by National Wildfire Coordinating Group (NWCG) Standards.
- Mutual Aid from outside agencies may be activated by the Incident Commander in consultation with respective agency representatives.

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- Out-of-county resources will be activated by the Incident Commander. The County Commissioners may declare a disaster and request State assistance.
- Local and State Civilian Fire Fighting Forces may be augmented by Federal Agencies.
- All operations will be conducted under the Incident Command System (ICS) and the National Incident Management System (NIMS).
- Support / Mutual Aid Agencies are responsible for the following:
 - Notifying, activating, and mobilizing all personnel and equipment to perform or support assigned functions as designated within the Basic Plan of this document.
 - Coordination of all actions of the support agency with the primary agency in performing assigned missions.
 - Identifying all personnel and resource requirements to perform assigned missions that are within the support agencies' capabilities.

6.1.2 Concept of Operations

General

Wildland firefighting personnel will be needed when a wildland fire has been reported in CCC or a valid request has been received from the Incident Commander at the scene of a wildland fire.

Standard NWCG Incident Command System (ICS) will be utilized.

All emergency operations will be directed by the Incident Commander.

Operations will be handled by standard procedures set forth by the NWCG. In the event that an incident is too great in magnitude or duration for the responsible jurisdiction to adequately handle, outside resources will be requested as needed in accordance with the AOP.

State and Federal agencies will assume primary responsibility on State and Federal owned lands, respectively. These agencies will also provide support and/or leadership in the case of an extended incident within CCC.

Activation Procedures

After the CCC Dispatch Center is notified of a wildland fire the appropriate agencies will be contacted per the CCC Dispatch Center Standard Operating Procedures (SOP's).

Mutual Aid Period

CCC has executed agreements that establish a non-reimbursable initial attack first operational period of time when assistance is provided; between CCC, Clear Creek Fire Authority, Evergreen Fire Protection District, USFS, and CSFS, stated in the AOP.

When agencies assist each other, they have agreed to be responsible for costs for their own personnel and equipment for the initial attack operational period from the time the equipment is dispatched.

Staging Areas

The Incident Commander shall designate a staging area as soon as possible. The Incident Commander will identify to dispatch the location of the staging area, assign a Staging Area Manager and notify dispatch that all resources not given a direct line assignment should report to the staging area.

Resource Order Process

Fire suppression resources from local and mutual aid response agencies include: Clear Creek, Gilpin, Grand, Jefferson, Park, and Summit counties, and will be requested through CCC Dispatch Center (CCDC) by the Incident Commander. Resources from outside the mutual aid agencies will be requested through Ft. Collins Interagency Dispatch Center by the Incident Commander either directly or through the CCDC.

Requests for state and federal fire resources will be made only by those authorized to do so (see list below) either through the CCC Dispatch Center or directly to the Ft. Collins Interagency Dispatch Center.

Out of county local government resources from counties other than Clear Creek, Gilpin, Grand, Jefferson, Park, and Summit counties will be coordinated, ordered and placed by either the Colorado State Forest Service Fire Duty Officer (FDO) and/or the CCC Sheriff's Office. Both CCC and the CSFS will work together to coordinate requests from non-adjacent counties. The CSFS Fire Duty Officer will be notified of all state and federal resource orders.

Authorized Personnel to Order State and Federal Resources

This is the list of persons authorized to order state and federal fire management resources in CCC. This includes but is not limited to: fixed wing aircraft, rotary wing aircraft, hand crews, strike teams, incident management teams, heavy equipment, engines, and personnel.

- CCC Sheriff
- CCC Undersheriff
- CCC Sheriff-Major of Special Services
- CCC Commissioners
- Clear Creek Fire Authority Chief
- CSFS appointed Fire Duty Officer on an active fire being considered for Emergency Fire Fund (EFF) activation.
- USDA Forest Service appointed Incident Commander (only for USDA supervised fires)

Aircraft Request Considerations

The Wildfire Emergency Response Fund (C.R.S. 23-30-310) will reimburse the county for the first load of retardant dropped and the first hour of operation by any aircraft (fixed wing or rotary wing) on private and public land wildland fires.

However, other costs associated with air support will be the responsibility of CCC. These costs may include:

- Cost of a lead plane;
- Cost of air attack aircraft (in-flight supervisor);
- Travel time to Colorado;
- Cost of ground support personnel, vehicles and fuel;
- Cost of lodging, food and miscellaneous expenses for the pilot and crew; and
- Cost for additional loads of retardant.

It is important to remember that under most circumstances wildland fires that require one drop will require several more.

Special Management Considerations

Mechanized equipment such as bulldozers, graders, etc., are not permitted on Federal lands without the expressed approval of the headquarters agency or district office.

The use of aerial retardants is restricted within 100 feet of lakes, rivers and live streams on Federal lands.

Multi-Agency Coordinating System (MACS)

Due to the high degree of interspersed jurisdictional boundaries within CCC, the MACS may be implemented in a single large fire incident or multiple fire incidents where multiple agencies and jurisdictions may be impacted either financially or through resource allocation. The MACS is an information and resource support group intended to facilitate integrated action on wildland fires.

In general the MACS Group provides the means for making decisions affecting dispersal and usage of resources during an emergency diffused across political boundaries or any emergency involving multiple jurisdictions.

The MACS Group may coordinate for an IC on Mode 4 fires, or may coordinate for the delegation of authority to an outside Overhead Team to provide management for suppression activities. The MACS Group may direct the Incident Commander as to fiscal or political restraints in managing wildfire incidents

References

- Clear Creek County Annual Operating Plan
- Clear Creek County Emergency Operations Plan
- Colorado State Statute C.R.S. 30-10-513.5

- Colorado State Statute C.R.S. 30-10-513
- Colorado State Statute C.R.S. 23-30-203

6.2 Emergency Resources

The CCFA is comprised of 60 volunteer firefighters, one full-time paid chief and three part-time paid staff. There are currently two lieutenants, two captains and one assistant chief under the command of the CCFA chief. CCFA maintains seven stations and is constructing an eighth. It has 21 apparatus units.

EFPD is comprised of 33 full-time paid staff, and 12 part-time paid staff. There are currently eight lieutenants, six captains, two assistant chiefs, and one operations chief under the command of the Chief of EFPD. EFPD maintains eight fully equipped stations and 29 apparatus pieces.

Clear Creek EMS (CCEMS) has six full time staff/Paramedics and one full time office administrator, 24 part time Paramedics and five EMT Basics. CCEMS operates five ALS ambulances, one rescue vehicle and one MCI/Special Events trailer. CCEMS maintains two stations (Station 1 and Station 2a) and utilizes one CCFA fire station (Station 4). Two ambulances are housed at Station 2a, two ambulances, the rescue vehicle and the MCI special events trailer are housed at Station 1, and one ambulance is housed at Station 4. On average week days, CCEMS staffs 1 ALS ambulance (24 hours), and one a rescue vehicle (week days) and on-call staffing (week nights). On average weekends, CCEMS staffs two ALS ambulances (24 hours).

The CCSO has developed the Marmot Wildfire Crew to augment the existing wildfire (and other emergency) response capabilities of CCC. The crew consists of 7 full-time members and 18 volunteer members, and they have three apparatus units.

The number and availability of firefighters make CCC stand out among volunteer-dependent communities. With four agencies combining a solid volunteer core with paid staff available 24 hours a day, CCC has a comparably strong response capability. The county needs an increase in the number of overhead positions to support advanced wildland fire operations, especially in the engine boss/crew boss/task force/strike team level of management. Participation in the Jefferson County IMT and on mutual aid incidents will strengthen the department capabilities and provide risk incident management experience.

6.2.1 Training and National Wildfire Coordinating Group Positions

Each of the emergency response agencies has members certified at National Wildfire Coordinating Group levels.

Currently EFPD has one Incident Commander Type 3 (ICT3), two Crew Bosses (CRWB), two Engine Bosses (ENGB), and two Taskforce Leaders (TFLD). Target levels in the plan for NWCG positions are five TFLDs, 20 ENGBs, five CRWBs, five CRWB trainees, and all firefighters trained to the advanced level of firefighter 1 (FFT1).

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Training and maintaining this level of fireline leadership will require an ambitious commitment from the various departments and their firefighters. These standards can be met through a local certification program. There is latitude within the state and federal certification process for the departments to set their own local certification programs as long as personnel only deploy within their respective districts and normal mutual aid areas. It is recommended each agency develop standards that mirror the NWCG certification process by using NWCG courses and locally developed Position Task Books (PTB). PTBs should be developed for Squad Boss (FFT1), Crew Boss/Engine Boss (Single Resource), and Task Force/Strike Team Leader (TFLD). Incident Commander Type 5 (ICT5) PTB should not be modified and officers should be able to complete it without going on a wildland fire assignment.

Each agency also should provide a process for individuals who want to deploy on national incidents. This process could be developed similar to the program Fairmount Fire Department is using to provide positions at the national level. Completion of the required PTB for these positions can be facilitated by participation on prescribed fires but is still subject to the availability of wildfire assignments.

Each agency should sponsor the required courses using its training facilities and hiring instructors. The costs of these courses can be born by outside participants and/or shared by the four local emergency response agencies serving CCC. This process will allow each department to set times and locations that are convenient to their personnel.

Each agency should develop the following interim position/training targets:

- Year 1: Officers/Officer Candidates/Interested Firefighters initiate FFT1/ICT5 PTB; classes: S-131 Firefighter Type 1, S-133 Look Up, Look Down, Look Around; officers complete I-300 Intermediate ICS.
- Year 2: Officers/Officer Candidates/Interested Firefighters complete FFT1/ICT5 PTB; classes: S-290 Intermediate Wildland Fire Behavior, S-230/231 Crew Boss/Engine Boss (Single Resource) (for ENGB); officers complete I-400 Advanced ICS.
- Year 3: Officers/Officer Candidates/Interested Firefighters initiate ENGB PTB; classes: S-215 Fire Operations in the Wildland/Urban Interface.
- Year 4: Officers/Officer Candidates/Interested Firefighters complete ENGB PTB and work towards Engine Strike Team Leader (STEN) and ICT4 as able; classes: S-330 Task Force/Strike Team Leader.

6.2.2 Performance Standards

Target standards for wildland fire response that are outlined in the existing draft of the Evergreen Fire/Rescue Wildland Fire Plan are applicable to all agencies serving CCC. The standards are divided into two categories: wildland fire and WUI fires. These target performance standards are based on daytime turnout response and the threat to values at risk. These benchmarks should be monitored against actual response time over the next few years to determine if they require adjustment or if operational modifications are required in order to meet these objectives.

Wildland Fire

- Size-up and scouting completed within 30 minutes of smoke report;
- Handcrew stage within 30 minutes of a confirmed fire;
- Handcrew on the fire within 1 hour of a confirmed fire;
- Fire behavior forecast transmission within 30 minutes of smoke report;
- Maintain type 4 incident management to termination or relief by a type 3 incident management team;
- Maintain a 20-person handcrew for the duration of an in-county incident; and
- Ability to activate air support within 30 minutes if determined to be necessary

Wildland-Urban Interface Fire

- Size-up and scouting completed within 10 minutes of smoke report;
- Task force stage within 20 minutes of a confirmed fire;
- Fire behavior forecast transmission within 10 minutes of a confirmed fire;
- Maintain type 4 incident management to termination or relief by a county type 3 incident management team;
- Maintain a 20-person task force for the duration of an in-district incident; and
- Ability to request air support within 10 minutes of a confirmed fire if determined to be necessary.

Suppression Requirements

For illustration purposes, Table 14 compares initial attack capabilities for an average engine crew as determined from the “Line Production Rates for Initial Action by Engine Crews” charts (NWCG 2004) with predicted fire spread under 50th percentile climatic conditions as determined from the Corral Creek RAWS data. These are generalized figures provided to illustrate the potential gap between potential fire behavior and available suppression resources and do not account for response time.

Table 14. Wildland Fire Production Rates vs. Fire Spread

Initial Attack Fire Line Production Rates Using 3-Person Engine Crew			
FBFM	Predicted Fireline Production Rates (chains/hr)	Fire Acreage and Perimeter (chains) After First Hour	Predicted Fire Spread (chains/hr) Under Average Conditions
1 – Short grass	24	222 acres/183 chains	72
2 – Grass with Timber/Shrub Overstory	15	47 acres/84 chains	33
4 – Mature Brush	8	16 acres/157 chains	61
5 – Young Brush	12	15 acres/47 chains	19
6 – Intermediate or Dormant Brush	12	39 acres/77 chains	30

Initial Attack Fire Line Production Rates Using 3-Person Engine Crew			
8 – Closed or Short-Needle Timber Litter – Light Fuel Load	15	0.1 acres/5 chains	2
9 – Hardwood or Long-Needle or Timber Litter – Moderate Ground Fuel	12	2 acres/18 chains	7
10 – Mature/Overstory Timber and Understory	12	2 acres/18 chains	7

1 chain = 66 feet

Source for production rates: *Fireline Handbook*, NWCG, 2004.

Source for fire size and rate of spread: BehavePlus Fire Behavior Modeling System

A single-engine company can make good progress in containing a surface fire in timber fuels under average climatic conditions. Three or four engine companies should be able to catch a fire in light brush. Heavy brush and grass fuels that can't be quickly accessed by firefighters during severe climatic conditions will pose a challenge to containment, highlighting the importance of mutual aid and aerial support.

Table 15 is based on the time a crew can prepare a structure for a wildland fire using a Type-1 engine. The accepted standard is 20 minutes for a four-firefighter crew and 30 minutes for a three-firefighter crew.

Table 15. Structure Protection/Triage rates

Structural Protection Rates Per Hour Using Type-1 Engine		
Firefighters	Rates	Total Structures per Hour
3	30 minutes/structure	2
4	20 minutes/structure	3

The aforementioned performance standards included in the plan are designed to address these suppression needs. As with the response targets, these production standards should be trained to and monitored for attainability.

6.3 Emergency Procedures and Evacuation Procedures

In the event that the CCC Sheriff orders a community to evacuate because of threatening wildfire, residents should leave in an orderly manner. The Sheriff would proclaim the preferred evacuation routes and safe sites. However, the need for evacuation can occur without notice when conditions for wildfire are favorable. Homeowners should be prepared to evacuate without formal notice. Human safety is the number one concern in an evacuation.

Residents of the WUI should have a predetermined action plan for the eventuality of a wildfire. This plan should include closing windows and doors while leaving a backdoor unlocked and placing a ladder to the roof for firefighter access, as well as leaving porch lights on so that the home can be seen at night. Families should have meeting locations in place and phone numbers

to call in case family members are separated. A plan to leave quickly with essential items should be included. Some refer to these items as the “Four Ps:” Pets, Papers, Pills (medications), and Photos.

Evacuation procedures vary according to subdivision. CCC and its emergency response agencies should ensure that every resident has the opportunity to become familiar with these procedures. Evacuation plans should outline available evacuation centers and procedures to activate the centers. Large-animal evacuation centers and assistance teams, including the CCSO Animal Control Division, also need to be identified. These procedures should be addressed in public or HOA meetings with information eventually being distributed door-to-door.

Upon returning to a home after a fire, residents should be told to monitor the exterior of the house for smoke for several days. Embers may lodge in small cracks and crevices and smolder for several hours or days before flaming.

6.4 Water Resources

Emergency water availability varies greatly throughout the county and is a critical resource in the event of any wildfire. Georgetown and Idaho Springs are serviced through a municipal water supply with hydrants installed throughout the incorporated districts.

Community surveys assessed each subdivision for availability of an emergency water source. In most rural areas, emergency water is supplied by mobile water tenders and re-supplied by drafting from local streams and ponds, if available. Improving and stabilizing access to these resources is a recommended action and one that will facilitate more efficient water supply for initial as well as extended attack. Permanent plumbing may be installed for emergency access to static water sources such as ponds, lakes and pools. These “dry hydrants” provide easier access and facilitate drafting operations (Figure 26). Regular inspection and maintenance is required.

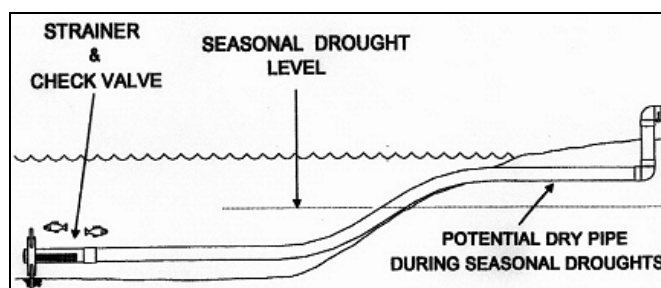


Figure 20. Dry Hydrant Installation

Areas are also identified that lack a natural water source. Cistern installation is recommended in these areas to supplement the lack of an accessible re-supply source (Figure 27). Site selection should have easy and safe access, defensible space, accommodate gravity feed to apparatus, easy re-supply, and strategic placement at the entrance to a subdivision.



Figure 21. A 10,000 gallon cistern awaiting installation in Jefferson County

Potential helicopter dip sites have been located and mapped with corresponding GIS coordinate information. These sites should be carefully surveyed by NWCG qualified personnel for potential obstructions and other hazards. Access to most water resource sites involves negotiations with landowners and/or water rights holders. Detailed water resource information may be found in Appendix D.

Fixed wing air support is often utilized when fires are difficult to access, ground resources are inadequate, or fir behavior prevents direct attack. Fixed wing airtankers typically refuel and re-supply in Broomfield, Colorado at the Rocky Mountain Metropolitan Airport.

6.5 Shelter-In-Place

Shelter-in-place training should be considered for WUI areas where evacuation will be difficult or impossible. These areas include Brook Forest Estates, Beaver Brook Canyon, Hyland Hills, Saddleback Estates, Alice-St. Mary's, South Spring Gulch, Little Bear, York Gulch and Mill Creek WUI areas. Shelter-in-place involves evacuating to an established back-county/community safety zones or structure with significant defensible space and fire resistant construction and maintaining a safe environment while the front of the wildfire passes by. Obviously shelter-in-place should be considered a last resort only after all efforts to evacuate an area safely has been exhausted and entrapment is inevitable and is not recommended by the CCCOEM.

