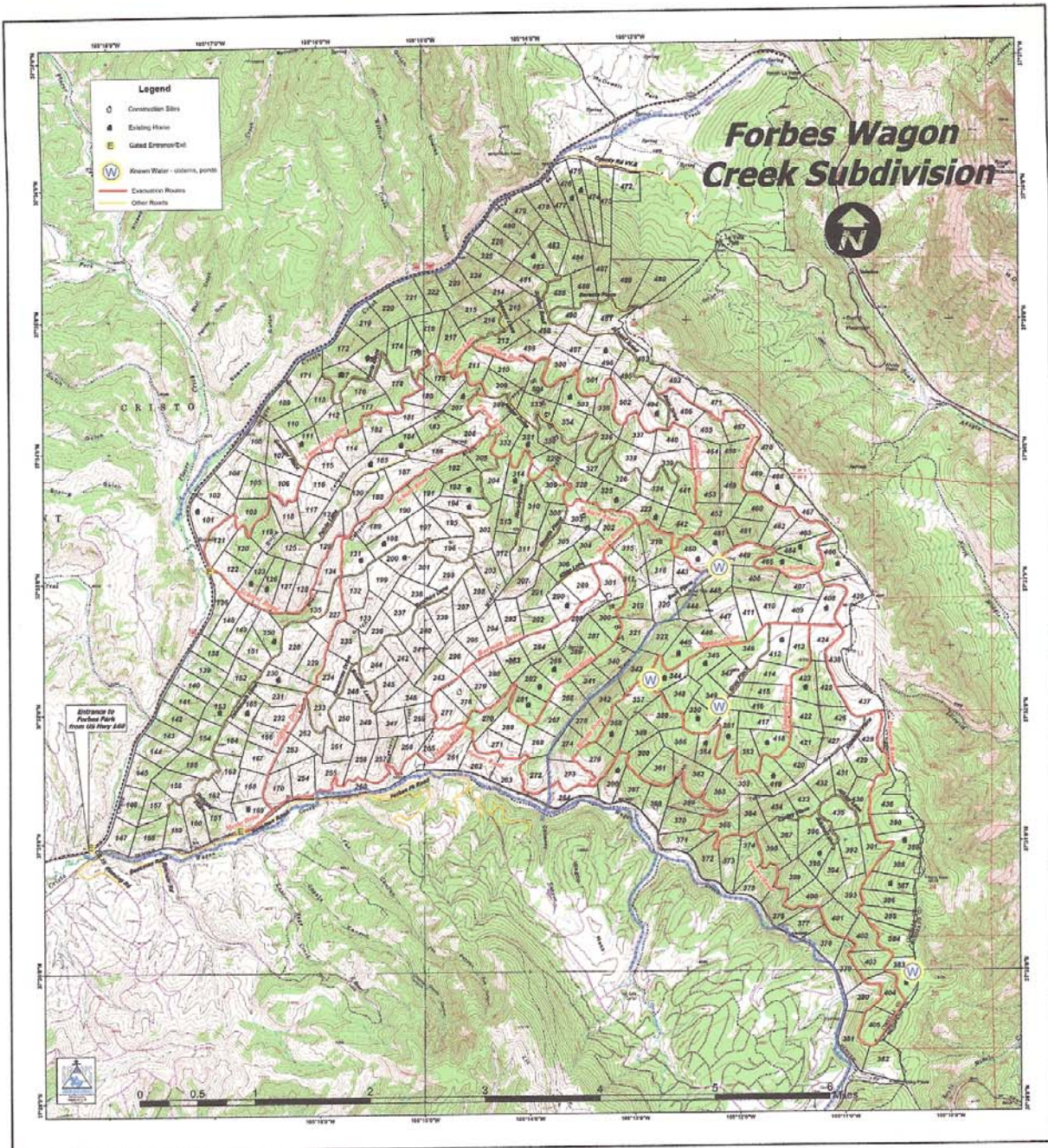


FORBES WAGON CREEK RANCHES

COMMUNITY WILDFIRE PROTECTION PLAN





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INTRODUCTION

A. DESCRIPTION OF FORBES WAGON CREEK RANCHES (FWCR)

FWCR is a rural cooperative residential community development of a type that the State of Colorado terms a “common interest community”. It is a legally incorporated association of property owners who have purchased property within the development. It is not a municipal corporation and is politically situated within Costilla County in south-central Colorado. The nearest towns are the village of Ft. Garland, 19 miles to the west; the village of San Luis (the County Seat), 15 miles south of Ft. Garland; the city of Alamosa (in Alamosa County), 45 miles to the west; and the city of Walsenburg (in Huerfano County), over La Veta Pass and 40 miles to the east.

FWCR encompasses an area of more than 17,000 acres which has been subdivided into 404 parcels of 40+ acres each. FWCR is situated on the western slope of a portion of the Sangre de Cristo Mountains, part of the southern section of the front range of Colorado’s Rocky Mountains.

The general topography of FWCR slopes to the southwest, ranging in elevation from 10,530 ft down to 8,260 ft. FWCR is bordered on the west side by US Hwy 160 and Sangre de Cristo Creek which separates FWCR from Forbes Trinchera Ranch, and on the south side by Wagon Creek which separates FWCR from the development of Forbes Park. To the north and east is Huerfano County and BLM and some private property. All surrounding areas are heavily wooded. Most of the internal drainage in FWCR is south into Wagon Creek, via Missouri Creek, Vega Creek, Mexican Canyon and Toll Canyon creeks.

The climate in FWCR is moderated by its altitude. Winter highs are in the mid-30s and summer highs are generally in the mid-80s; rarely above 90. Annual precipitation in Alamosa averages about 7” per year. Wagon Creek gets somewhat more, but the climate is basically alpine desert and this is reflected in the vegetation in the lower portions being predominantly sage brush. In the higher altitudes this changes to meadows of bunch grass and alpine wildflowers.

Tree varieties include some pinon pine in the lower altitudes; aspen, tall pines, spruces and firs in the middle altitudes, and aspen, limber and bristlecone pines in the higher altitudes. About 55% of Wagon Creek is densely forested, 15% is sagebrush and 30% is meadow.

The wind is generally out of the southwest and can vary from near calm to winter gales of something more than 60 miles per hour.

Water resources are scarce within FWCR. The only creek that generally carries year-around flow is Vega Creek, spring fed, and the summer amount is minimal. Both Sangre de Cristo Creek and Wagon Creek can reach zero flow in the summer.

Animal species in FWCR include: deer, elk, bobcat, mountain lion, possible lynx, black bear, domestic cattle, turkey, blue grouse, golden eagle, various hawks, owls and falcons, and possible Rocky Mt. cutthroat trout in Vega creek.

Of the 404 parcels comprising FWCR, about 65 have had homes constructed upon them. FWCR is essentially a summertime, seasonal, residential community. Many owners bought property for camping, for hunting privileges, or simply as a land investment. Only 6 of the properties have year-around occupancy. Therefore, the community is essentially vacant for most of the year, and only partially occupied during the summer. During the two weeks surrounding July 4, 2006, only about 35 families were in residence and a few of these were camping on their unimproved lots.

B. DELINEATION OF WILDLAND-URBAN INTERFACE

Because of its dispersed, low-density and seasonal human occupation, its predominantly forested environment, and diverse animal species: ALL of Forbes Wagon Creek Ranches constitutes a Wildland-Urban Interface.

The WUI extends beyond Wagon Creek Ranches in all directions: Across US 160 to the west and northwest is part of the 17,000 acre (estimate) Forbes Trinchera Ranch, privately owned, undeveloped, densely wooded, and the site of the 15,000 acre Mato (Malo) Vega Creek wildfire in June 2006. This wildfire was immediately across Hwy 160 from Wagon Creek.

On the east side of Wagon Creek Ranches, from the top of the ridge (the Costilla / Huerfano county line) to Hwy 160 there is over 32 sq. miles (20,500 acres) of densely wooded land sloping steeply eastward. This is mostly privately owned, except for about 2200 acres of public land (BLM & State) in the southern portion. The middle portion is being subdivided and sold into 35acre “ranchettes” similar to Wagon Creek, but the whole area is still predominantly wildland.

On the south side of FWCR, across Wagon Cr. is the 33,000 acre Forbes Park development: about 3300 lots divided into one acre parcels (plus common lands) and also organized as a property owners association (common interest community). Although much more densely developed than FWCR, with about 400 residences, about 60% (estimate) of Forbes Park is still densely wooded and susceptible to wildfire.

Infrastructure:

Most residences rely upon individual solar power and/or generators for electricity and individual household propane tanks for gas appliances. Only about three homes have access to power lines. Less than half the residences have hard line telephone service. The remainder relies on cell phones – mostly old style 3 watt analog bag phones which are becoming obsolete as service companies switch to digital service. The service tower is near Ft. Garland, 19 miles distant. The modern, personal cell phones (0.5 watt digital) are nearly useless due to topographical limitations and lack of service towers. Only those residents with Verizon service have experienced any degree of service. Effective telephone service between residents is therefore severely hampered (see map below).

There is no municipal type water service within FWCR. Less than half the residences have wells and one-third of these have had to go to depths exceeding 350’ to obtain water. The remaining residences, without wells, rely on cisterns to which they have water hauled as needed. Residential cistern tanks generally have a capacity of from 1200 to 1500 gallons. Some homes have multiple tanks.

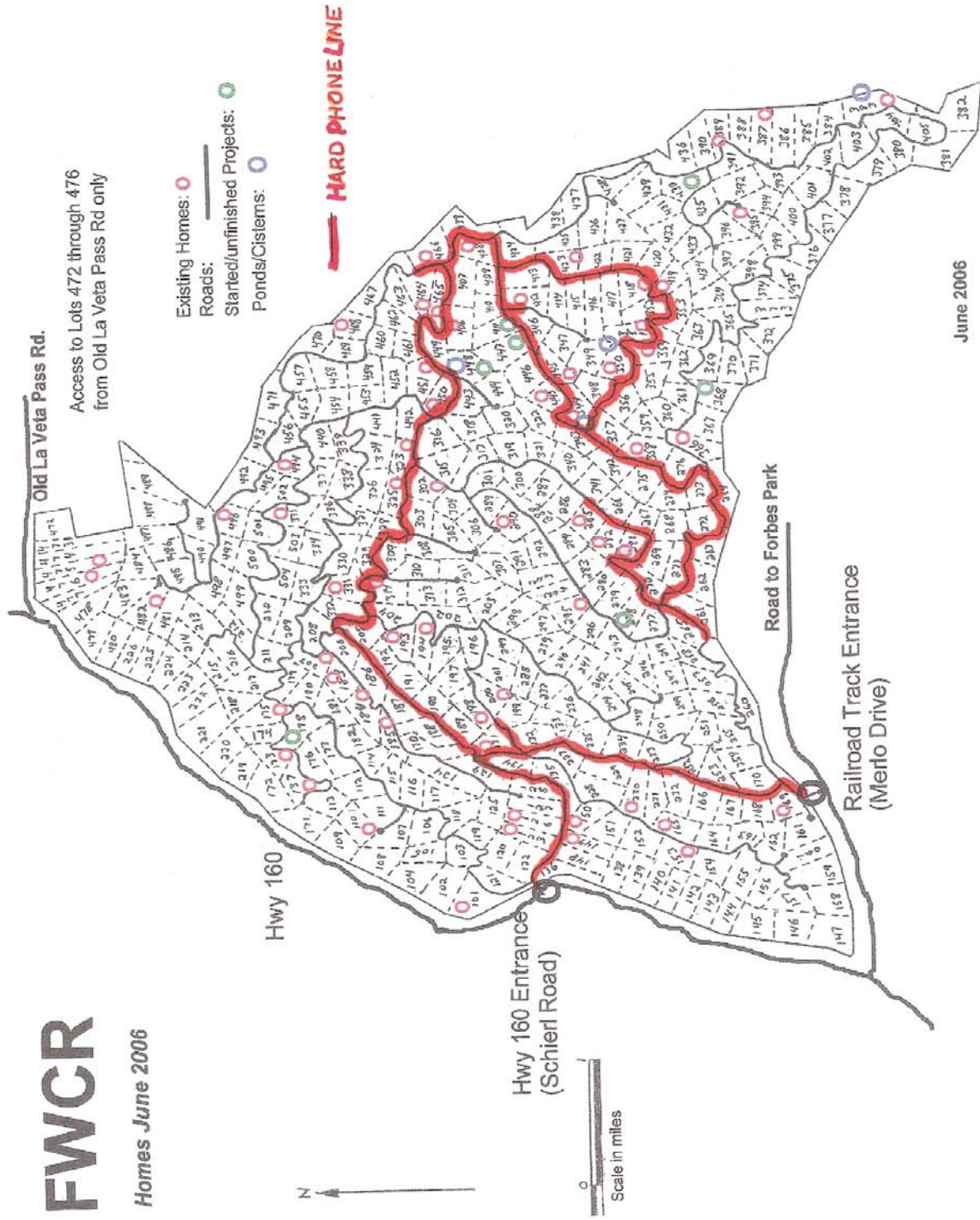
There are only 2 ponds within FWCR which might possibly provide water during a fire event. Neither are very large, nor conveniently located near roadways. There are 2 fire cisterns that have been installed, after 2000 each 1200 gallons in capacity. One of these is located adjacent to Vega Creek (generally flowing year around). The other is on parcel 344 at the intersection of lower Spangle and

Brophy. An old cistern is by parcel 476 at the intersection of Hwy 160 and Old La Veta Pass. During a wildfire emergency water must be brought in by tanker trucks to supply the fire fighting crews.

The 75 miles of roads in FWCR are predominantly dirt roads. Less than 10 miles have been improved with gravel surfacing. The roads are re-graded each spring after they have thawed and dried out. A continuing program is pursued each year to increase the extent of gravel surfacing. Road maintenance and improvement consumes about 44 percent of the Association's annual budget.

With respect to the roads in FWCR, it is important to note that their present condition is not good with respect to providing good ingress and egress during a wildfire emergency. Although surface conditions are generally satisfactory (with some exceptions), many roads are winding, have blind curves, and generally have a trafficable width of only 30 feet. The right-of-way width is 60' throughout the development. Many areas are forested right up to the trafficked area. About 50 percent of the roads within the Ranch are in forested areas.

The narrow winding roads presently make it difficult to accommodate the situation in a fire emergency of residents trying to evacuate and emergency equipment and fire crews simultaneously trying to enter.



C. ELEMENTS OF COMMUNITY WILDFIRE PROTECTION PLAN (CWPP)

The purposes of a CWPP are:

- (1) To analyze the risks of wildfire that threaten a community,
- (2) To evaluate the capability of the community to respond to the threat of wildfire,
- (3) To identify & evaluate the means of reducing the threats of wildfire, and
- (4) To develop a plan for implementing the various measures that have been identified as potentially effective in reducing wildfire threats.

In September, 2005 the Board of Directors of FWCR established a Fire Committee. The Committee filed an application with the Colorado State Forest Service for one of the Western Wildland-Urban Interface Grants (see Sec. 1.€ D) for financial assistance to enable:

- (1) Completing a CWPP with the elements listed above,
- (2) Educating homeowners about wildfire risks and how to reduce those risks around their homes,
- (3) Implementing the measures identified in the CWPP as being most effective in FWCR for:
 - Notifying homeowners of a fire emergency,
 - Improving community response capabilities,
 - Reducing threats to evacuation routes by removing fuel from road easements. Reducing these threats also serve the safety of fire fighters and their equipment trucks.

D. ELEMENTS OF THE WESTERN WILDLIFE-URBAN INTERFACE (WWUI) GRANT PROGRAM

The WWUI Grant Program is a 10 year program of competitive grants funded by Congress to assist western communities to reduce the threat of catastrophic fire by:

- (1) Improving Fire Prevention – through homeowner education programs such as “Firewise” to encourage the reduction of risks to homes and private property. This can be accomplished through direct education programs involving homeowners, newspaper articles and inserts, handout pamphlets or brochures, and similar efforts.
- (2) Reducing Hazardous Wildfire Fuels – by removing or modifying wildfire fuel loads in and near developed areas. This can be accomplished by pruning and thinning of wooded areas to remove “ladder fuels” – the materials which can carry a ground fire up into the trees and create a “crown fire”, by creating fire breaks within woodlands, and defensible spaces around homes, by removal or modification (chipping) of dead wood and slash, and by the use of “prescribed fires” (“controlled burns”) to consume wildfire fuels.
- (3) Restoring Fire-Adapted Ecosystems – this effort focuses on the portions of woodlands beyond homeowners’ defensible spaces and encourages pruning, thinning and controlled burning to restore and rehabilitate overgrown forests and grasslands.
- (4) Promotion of Community Assistance – encouraging the creation of conditions in and around individual structures that will limit the transmission of fire from wildlands to structures. This can be accomplished through training and education of homeowners, technical assistance and advice from local fire departments, homeowner-association cooperative fuel reduction projects, coordination of fuel reduction/disposal efforts, or multi-jurisdictional hazard reduction projects.

E. LOCAL WILDFIRE RESPONSE AGENCIES

There are only two local agencies with the capabilities to respond to wildfires:

- (1) The Costilla County Fire Protection District, which provides county-wide fire protection services. The two principal units are located in the towns of San Luis and Ft. Garland. A smaller unit, personnel only, is located in the town of Garcia. The closest unit is the Ft. Garland unit, 15 miles from Wagon Creek.
- (2) The Colorado State Forest Service, which has its offices in Alamosa, about 40 miles from Wagon Creek.

The wildfire response capabilities of these agencies are discussed in the next section (Sec. 2).

2. WILDFIRE RESPONSE CAPABILITIES

A. FORBES WAGON CREEK RANCHES (FWCR)

The present capabilities of FWCR to respond to a wildfire situation are highly variable – due to the transient and seasonal nature of the community – and very limited. At present only very few residents have had any kind of fire fighting training, and virtually none have any training in fighting wildfires.

Nonetheless, there have been 6 wildfire incidents since 1998 in which spotting and rapid response by FWCR residents has been effective in containing and mitigating wildfires until professional fire fighting crews could arrive on the scene. These fires ranged in extent from single lightning-struck trees, to woods fires of 2 to 4 acres, to a sagebrush fire that burned about 40 acres near the railroad tracks.

It must also be stressed, however, that the community was very fortunate in that in all of these cases, the winds were not brisk and did not accelerate the fires into uncontrollable conflagrations.

There is a high interest in the community for gaining the training in wildfire response, and the knowledge to be able to recognize when to back out of a fire situation and to not attempt to fight a fire beyond their ability to control and that would endanger lives.

FWCR will always, however, have to rely on the Costilla County Fire Protection District (Ft. Garland and San Luis Fire Depts.) and the Colorado State and US Forest Services crews and equipment for professional fire fighting response.

The principal role of Wagon Creek residents with respect to wildfire will be one of early spotting, locating and reporting a fire to the local authorities. When possible, a rapid first response by residents with personal fire tools, water packs and, at present, one pickup truck with 350 gal. water tank, could be instrumental containing a small fire. A fire fighting vehicle will be purchased by FWCR in the future.

The fire cisterns on Wagon Creek will have to be checked annually for water and filled, if necessary.

It is imperative, however, that residents be aware of the personal dangers – including the risk of death – that are inherent in attempting to fight a wildfire. To this end it is important that all residents receive basic education and training concerning wildfire behavior, risks, and response techniques; and that the community develop a wildfire response plan that includes designated trained persons to take charge and direct response efforts until professional fire fighters arrive on the scene.

B. COSTILLA COUNTY FIRE PROTECTION DISTRICT

The CCFPD is comprised of 3 fire fighting units. These are located in the communities of San Luis, Ft. Garland, and Garcia. These units are comprised entirely of volunteer members: 15 in San Luis, 15 in Ft. Garland, and 5 in Garcia. The positions of Chief and Assistant Chief receive salaries, but are not full-time paid positions. These positions alternate each year between San Luis (presently John Serna) and Fort Garland (presently Vern Martinez).

The Costilla County Sheriff (presently Roger Benton) is responsible under Colorado Law for calling out the fire departments when there is a fire. The present policy of the Sheriff with regard to wildfires is to first send a Deputy to confirm that a report is indeed a fire before calling out a fire department to respond.

The Ft. Garland unit is the closest to Wagon Creek Ranches, with a driving distance of 15 miles to the Hwy 160 entrance gate, or 13.5 miles to the Railroad Gate. The response time after being called out by the Sheriff will be 40 to 60 minutes. Additional time will be required to get from an entrance gate to a fire site – which could be as much as another 15 miles and could take up to 40 additional minutes.

San Luis is about 31 miles from Wagon Creek, and Garcia about 50 miles from FWCR.

The following summarizes the personnel and equipment available to the CCFPD:

	<u>Ft. Garland</u>	<u>San Luis</u>	<u>Garcia</u>
Personnel	15	15	5
Pumper Trucks	1	1	0
Brush Trucks	2	2	0
Water Tanker Trucks	1 @ 3000 gal.	1 @ 2500 gal.	0
Drop Tanks & Port. Pumps	2 @ 3000 gal.	2 @ 3000 gal.	0

In the event of a fire in FWCR, the drop tanks and portable pumps would be set up at Vega Creek at Beck Place, and/or at Wagon Creek at Lot #260 or at the junction of Hwy 160 and Forbes Park Road. Helicopters can drop water to make a pond near highway 160 and Pass Creek Road to the north of Wagon Creek Ranch. These locations offer easy access to the creeks as well as sufficient space for maneuvering and turn-around of the water trucks.

In the event that there is not sufficient water in these creeks, then the water trucks can refill in Fort Garland, 15 minutes from our gates.

C. COLORADO STATE FOREST SERVICE

The local Alamosa Colorado State Forest Service would be called in to help the Costilla County Fire Protection District if the Costilla County Sheriff thinks it necessary.

The County and State Forest Service have an AOP agreement which means they can share equipment when necessary. The CSFS owns 2 wildfire fire engines (brush trucks). One is usually in Alamosa and one stationed at the Sand Dunes.

For a large fire, like the Mato Vega Fire, additional crews from east of Wagon Creek, like La Veta, can be called out by the Pueblo coordinator.

3. FWCR WILDFIRE HAZARD RISK ASSESSMENT

The Process of Hazard Risk Analysis involves selecting the area to be evaluated, identifying hazard components related to the risks, ranking the hazard components according to their subjective degree of impact, compiling the related hazards in a usable format, and then developing the measures that can be most effective in mitigating the risks.

The Colorado State Forest Service publication, “Fuel Break Guidelines for Forested Subdivisions & Communities” makes many critical points in relation to a development like Wagon Creek: Wind and slope are important factors in fire propagation – a fire will spread twice as fast on slopes near 30 percent as it will on level ground. Heated air from the fire, even without wind, will travel uphill – preheating fuels ahead of the fire. In Wagon Creek, the normal wind direction follows the topography in an uphill direction, both factors tending to propagate a fire uphill. In addition, the deeply cut drainages of Toll Canyon, Mexican Canyon, Vega Creek, the canyon between Merlo & Borman Drives, Missouri Canyon, Black Canyon (adjacent to Schierl), and Blind Canyon (between Schierl & Lautenberg) all run in this same SW to NE direction and can act to funnel a fire in any of those areas rapidly uphill and through Wagon Creek.

A. RISK FACTORS

The Risk Factors presented here are those which can impact the severity of a wildfire incident. The factors are graded in effect from “none” (0) to “severe” (5).

The following factors are not within the capabilities of the Association to control:

<u>Season</u>	<u>Relative Impact</u>
Winter	1
Spring	2
Summer	3
Fall	3
<u>Weather</u>	
Reduced Winter Snowfall	1
Reduced Spring / Summer Rainfall	2
Lightning	3
<u>Wind</u>	
Calm	0
Mild	1
Strong	3

The following factors can be applied to zones of Wagon Creek to evaluate their relative risk status with respect to the hazards of wildfire.

Human Factors

Residences	1
Home Construction	2
Hunting	1
Camping	2
Public Highway	2
Railroad	2
Holiday Weekend	2

Vegetation

Meadow - Low Grass	1
Meadow - High Grass	2
Sagebrush	3
Forest – Aspen	2
Forest – Limber / Bristlecone Pine	3
Forest - Spruce / Fir	4
Forest – Douglas Fir / Ponderosa / Lodgepole Pine	5

Slope

0 – 5 percent	1
5 – 15 percent	2
12 – 25 percent	3
25 – 35 percent	4
more than 35 percent	5

Escape Routes

Road Width greater than 20'	0
Road Width less than 20'	2

Road Alignment

Straight	0
Mild Curves	1
Sharp / Blind Curves	3

Road Border Conditions

Meadow	1
Sagebrush	2
Forest	3
Ravine	3
Inward Leaning Trees	4

R/W Width to Roadside Vegetation

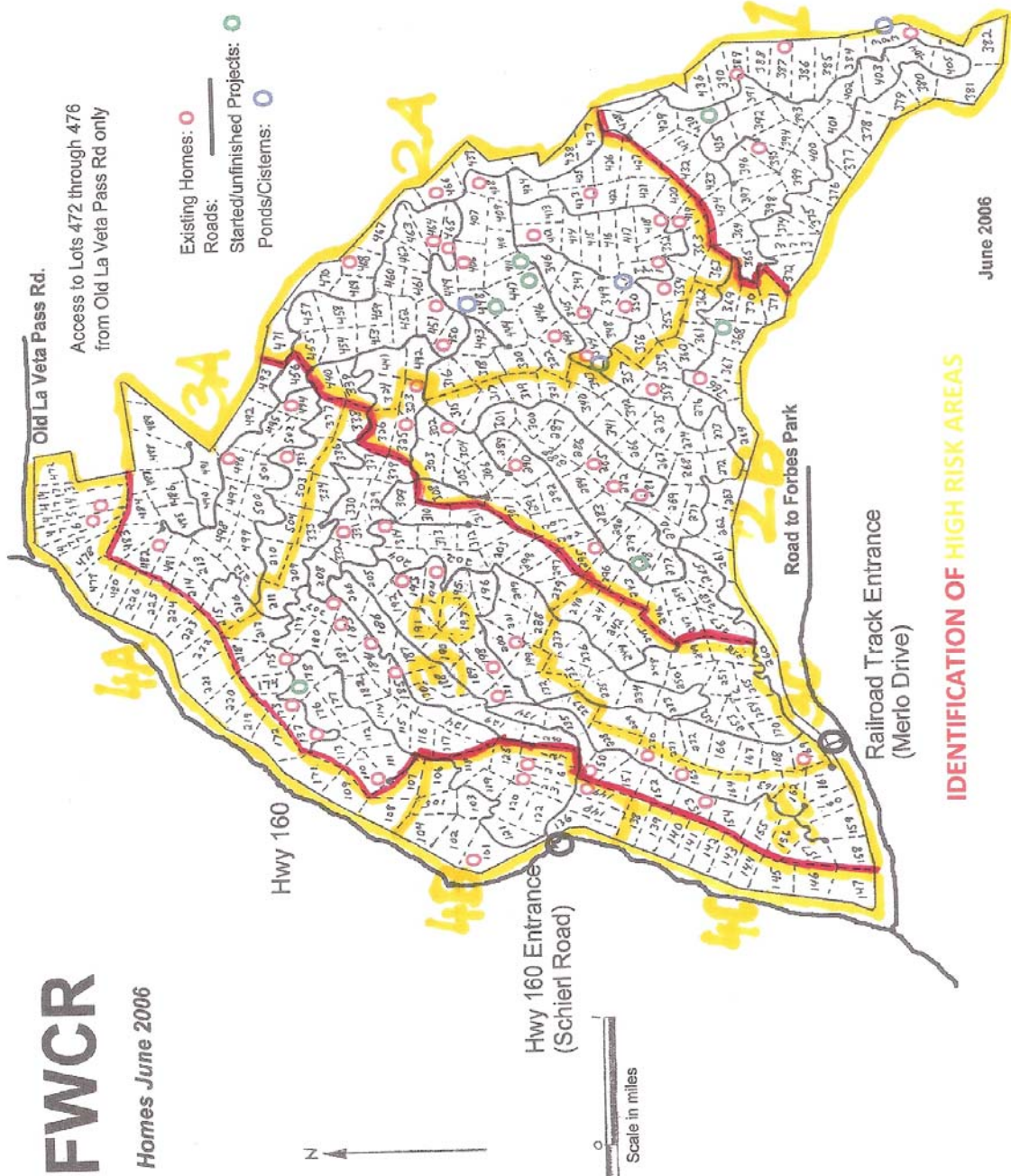
40' to 60'	1
30' to 40'	2
20' to 30'	3
Less Than 20'	4
Less Than 5'	5

Accessible Water Resources

Flowing Stream	0
Pond	1
Cistern	2

In terms of responding to a fire situation, the FWCR homeowners (those in residence at the time) have the greatest capacity for quick response, but the least capacity in terms of training and equipment to fight the fire. The US Forest Service has the greatest capacity in terms of men and equipment, but would be the last agency to become involved (likely not at all until at least 1/3 of Wagon Creek, area wise, had been burned).

<u>Fire Response Capabilities</u>	<u>Rapidity</u>	<u>Capacity</u>
Homeowners	1	4
City / County	2	3
State	3	2
Federal	4	1



B. IDENTIFICATION OF HIGH RISK AREAS

The following map shows Wagon Creek divided into zones, running NE to SW, the division lines generally following the major drainages – which make convenient dividing lines between groups of houses. The zones are then divided into subzones based on distance from the two FWCR exit gates. As a general statement, those residents whose homes are furthest from an exit gates are at the greatest risk in the event of a fire.

The following factors can be applied to rank the relative risks ranked from no risk = 0 to most risk = 4 of the various zones:

- (1) Number of Residences (existing & under construction)
- (2) Distance from Exit Gates
- (3) Road Conditions
- (4) Forestation
- (5) Forest Encroachment vs. Roads
- (6) Slope (varies)
- (7) Presence of the bordering railroad

Zone 1 – Outer Powers beyond Toll Canyon

No. of Existing Residences	4
No. of Residences under Construction	0
Distance from Exit Gates	4
Road Conditions	4
Forestation	4
Forest Encroachment vs. Roads	4
Slope	3
Railroad	<u>2</u>
Total	25

Zone 2A – Upper Schierl, Upper Brophy, Spangle

No. of Existing Residences	18
No. of Residences under Construction	1
Distance from Exit Gates	3
Road Conditions	2
Forestation	3
Forest Encroachment vs. Roads	3
Slope	<u>3</u>
Total	33

Zone 2B – Borman, Merlo, Lower Brophy, Lower Powers

No. of Existing Residences	10
No. of Residences under Construction	0
Distance from Exit Gates	2
Road Conditions	3
Forestation	2
Forest Encroachment vs. Roads	2
Slope	3
Railroad	<u>2</u>
Total	24

Zone 3A – Beretta, Outer Schierl, Collinson

No. of Existing Residences	3
No of Residences under Construction	1
Distance from Exit Gates	4
Road Conditions	2
Forestation	2
Forest Encroachment vs. Roads	2
Slope	<u>3</u>
Total	17

Zone 3B – Middle/Lower Schierl, Flavin, Lautenberg, Meyer, Tahmoush

No. of Existing Residences	17
No of Residences under Construction	1
Distance from Exit Gates	2
Road Conditions	2
Forestation	2
Forest Encroachment vs. Roads	2
Slope	<u>3</u>
Total	29

Zone 3C – Lower Griffith, Floweree

No. of Existing Residences	1
No of Residences under Construction	0
Distance from Exit Gates	1
Road Conditions	2
Forestation	0
Forest Encroachment vs. Roads	0
Slope	2
Railroad	<u>2</u>
Total	8

<u>Zone 4A – Northern US160, La Veta Pass</u>	
No. of Existing Residences	2
No of Residences under Construction	0
Distance from Exit Gates	0
Road Conditions	0
Forestation	4
Forest Encroachment vs. Roads	2
Slope	<u>4</u>
Total	12
<u>Zone 4B – US 160 at Russel, Lower Schierl</u>	
No. of Existing Residences	5
No of Residences under Construction	0
Distance from Exit Gates	0
Road Conditions	0
Forestation	0
Forest Encroachment vs. Roads	0
Slope	<u>3</u>
Total	8
<u>Zone 4C – Southern US 160</u>	
No. of Existing Residences	0
No of Residences under Construction	0
Distance from Exit Gates	0
Road Conditions	0
Forestation	0
Forest Encroachment vs. Roads	0
Slope	3
Railroad	<u>2</u>
Total	5

The Colorado State Forest Service and US Forest Service have collaborated on a map of Costilla County showing the areas of relative risk of forest wildfires. Areas of extreme risk have been identified as “Red Zones”.

With respect to Wagon Creek, the areas in this CWPP identified as Zones 1, 2A, 2B, 3A, and 3B, forested areas in the northern and eastern half, have all been classified by the Forest Services as Red Zones.

This additionally underscores the need for the Wagon Creek residents in these areas to implement the measures recommended in the Firewise program to clear, thin and prune trees around their homes to at least reduce the hazards around their houses. The FWCR Board, in consultation with the Colorado State Forest Service, needs to consider where fire breaks could be most effectively be developed in these areas.

Because these zones also happen to be the furthest from the exit gates and their evacuation routes lead through densely wooded (Red Zone) areas, residents of these zones also need to personally investigate, plan, and be familiar with such alternate choices that they might have in the event that their main evacuation route is blocked by fire.

Areas Adjacent to Wagon Creek:

The portion of the Forbes Trinchera Ranch immediately across US Hwy 160 from FWCR is now, because of the 2006 Mato (Malo) Vega Creek Fire, of little risk for spreading a fire into FWCR. This area was thoroughly burned all along the north side of Hwy 160 and the available wildfire fuel consumed. It is only because of the concerted effort by the crews that fought the fire that kept it contained along Hwy 160 and prevented it from burning the northern portion of FWCR.

The extensive undeveloped and heavily forested land situated in Huerfano County along the eastern boundary of FWCR does constitute a risk for spreading wildfire into FWCR. A wildfire in this area would be difficult to fight due to the very steep and densely wooded terrain (and few roads or trails) and these same factors would carry the fire westward and upslope to the top of the ridge – which is the northeastern boundary of Wagon Creek Ranches. The generally prevailing winds from the southwest and the then downward sloping terrain into Wagon Creek Ranches would tend to slow or stop it at the ridgeline. The roads in Wagon Creek would also provide access for fire fighting and the creation of fire breaks on the Wagon Creek side of the ridges. The most seriously threatened portions of FWCR from a fire to the east from Huerfano County would be Zones 1,2A, 3A and 4A.

The Forbes Park Development, on the south side and across Wagon Cr. from FWCR also poses a significant risk for spreading a wildfire into FWCR – because it lies downwind, is densely wooded, and significantly developed with residences. It poses the greatest threat to FWCR Zones 1, 2B, and 2A. The eastern zone is heavily wooded and the western zones are predominantly sagebrush. In FWCR lower Merlo and Powers Roads provide good access for fire fighting in these areas.

FWCR zones 1, 2B, 3C and 4C are also at risk from a wildfire started along the bordering railroad. One such fire started by railroad activity in 2002 burned about 40 acres of sagebrush and trees between Powers and the Railroad tracks. Zones 4A, 4B and 4C which border along Hwy 160 are also at risk from motorists carelessly discarding cigarettes.

C. EVALUATION OF ESCAPE ROUTES (see FWCR map on page 2)

The principal escape routes leading out of Wagon Creek are:

- (1) Lautenberg, from Greaves to the Hwy 160 (Russell) gate,
- (2) Schierl, from Powers to the Hwy 160 (Russell) gate,
- (3) Brophy, to Lower Powers, to Lower Merlo, then to the RR (Forbes Park Rd) gate,
- (4) Lower Merlo, to the RR (Forbes Park Rd) gate.

The following ranks these routes in terms of their potential normal usage by cabin residents in 2007. It must be remembered, however, that in the event one of these routes is blocked by fire, outgoing and incoming traffic will be forced to an alternate route.

	<u>No. of Users</u>	<u>Road Hazard Problems</u>
(1) Schierl	34 +/-	Trees, Blind Turns (7) Short/Narrow Shelf Road
(2) Lower Merlo	22 – 27	Narrow Shelf Road, Trees, Blind Turns (2)
(3) Brophy	12 – 17	Trees, Blind Turn (1)
(4) Lautenberg	5 - 9	Trees, Blind Turns (2)

The areas where trees encroach alongside these roads should be mitigated by removal of Hazard Trees – those which lean inward towards the road, are precariously situated on the cut berm on the uphill side of the road; and by thinning and pruning dense stands to reduce the fuel load adjacent to the road.

The blind turns should be mitigated by pruning and thinning the trees on the insides of the turns so as to improve visibility through the turns.

The narrow shelf roads are a safety hazard for two way traffic for cars, firefighting trucks, and water supply tanker trucks. Speed restrictions or other safety measure should be instituted where widening or turnouts are not possible.

D. IDENTIFICATION OF RISK REMEDIATION MEASURES

<u>Risk</u>	<u>Remediation Measures</u>
<u>Human Factors</u>	Property owner education
Residences	Firewise construction,
Construction Activities	Firesafe practices - re: smoking, outdoor fires
Chainsaw use	Dry weather safety in placement of hot chainsaws
Hunting, Camping	Firesafe practices - re: outdoor cooking, campfires
<u>Vegetation</u>	
Forests	Pruning, Thinning, Removal of Dead Wood
Meadows, Sagebrush	Mowing
<u>Roads</u>	Widening or providing passing turnouts, Clearing around blind turns, Removing & thinning trees along R/W, Mowing along R/W
<u>Water Resources</u>	Establish access areas along Vega Cr. for placement of drop tanks & temporary dams.
<u>Fire Response</u>	Develop FWCR Fire Response Plan, Property owner education & training, Encourage owners to buy basic fire fighting equipment, Have Assoc. purchase Fire attack truck/trailers

E. EVALUATION OF RISK REMEDIATION MEASURES

1. Human Factors – Property Owner Education.

Because of the isolated nature of Forbes Wagon Creek Ranches, educating property owners about wildfires – their causes, behavior, hazards, remediation and response strategies – lies at the core of any community wildfire protection efforts.

Because FWCR is a “common interest community” with its own internal administrative structure, and because it is predominantly a seasonal community with most human activities occurring during the summer when the threat of wildfires is greatest -- it is necessary for the property owners to understand the hazards for wildfires that exist within the community so that they can avoid unsafe practices and support the efforts of the Board of Directors to spend community funds to mitigate wildfire hazards.

Additionally, it is necessary that property owners exert themselves to mitigate conditions on their individual properties that are conducive to wildfire propagation.

2. Residences & Residential Construction

The US Forest Service has produced several documents and brochures dealing with “Firewise” construction in wildfire prone areas. This information needs to be read and understood by property owners who are preparing to develop their properties and by the members of the FWCR Environmental Control Committee which has oversight and approval authority for all proposed construction activities in Wagon Creek.

Existing ECC residential citing guidelines which are contrary to recommended Firewise construction practices should be revised, particularly the guideline instructing property owners to locate their residences inside the tree line. If fire fighters do not see a cabin because its access is through woods, they will not think it safe to enter a driveway. Driveways need large enough turn around areas for fire trucks.

Hot chain saws can start forest fires in dry conditions if they are laid down on combustible materials. They should be placed on non-flammable surfaces.

Contractors and their workmen also need to be made aware of the precautions needed and types of practices prohibited in fire prone areas and seasons.

3. Camping & Hunting Activities

Hunters and campers, like homeowners, need to be made aware of the hazards of wildfires and the types of activities – particularly open campfires – which are prohibited by the Association’s Covenants and Restrictions because of the danger they pose for throwing off sparks that can start a wildfire.

There is a need to determine what constitutes an “approved spark screen”, as called for in the CC&Rs, for covering open outdoor fires.

4. Forested Areas

Pruning lower branches, removing ladder fuels, thinning, and removal of dead wood is needed throughout all of the wooded areas in Wagon Creek. This is a task which falls to each individual Owner to perform on their own property, except within the 60' wide road R/Ws belonging to the Association.

It is a labor intensive task, involving the generation of a lot of waste material requiring processing (i.e. – chipping) or disposal (burning). It needs to be performed most intensively along roads and around homes in order to create “fuel breaks” and to improve the means for firefighters to enter the woods in the event of a fire.

The Wagon Creek Board will contract with the Colorado State Forest Service to perform a winter burn of slash (cut wood or brush smaller than a 6 inch diameter) in one safe, open location. Organized rows will be marked for piles of slash from the Association's road fire mitigation efforts as well as for individual owners' wood debris from thinning and pruning. The burn will be performed after the first 6 inch snowfall on a calm day by the Forestry staff and Wagon Creek volunteers. The Forest Service will acquire necessary state burn permits and will assume any liability for any related fire damage. This burn is not a 'Controlled Burn' which burns underbrush in a forest. It is limited to slash piles in an open area.

The CC & R's do not allow individual Ranch owners to burn slash. This State sanctioned burn by the CSFS will give all Ranch owners a way to get rid of their slash without endangering the rest of the Ranch with a potential wildfire.

5. Meadows & Sagebrush Areas – Wildfires in meadows or sagebrush areas can also be dangerous. Mowing or “brush hogging” is needed, especially along road R/Ws to create fuel breaks and improve the safety of ingress and egress during a wildfire event.

6. Roads – Pruning, thinning and removal of dead wood, as well as mowing of grass and sage to create fuel breaks along road R/Ws has been identified by the local fire authorities as one of the most effective tasks that can be accomplished in Wagon Creek.

Not only does this reduce the intensity that a fire may have in the immediate vicinity of a road, and thereby improve the safety for traffic, it provides the means of access for fire fighters to enter the woods, personally and with equipment, to fight a fire. It is also especially needed where the roads make sharp turns so as to improve the sight distance through the turns and thereby reduce the chances of collision of traffic going in opposite directions.

An additional task needed, is to widen turns and provide passing turnouts where possible on narrow “shelf” roads – Powers, Merlo, and parts of Schierl, to avoid collisions or jammed traffic in these areas.

5. Water Resources – Because water for wildfire fighting must be hauled to any fire site in Wagon Creek, this situation can be improved by establishing fire cisterns at key areas in the community (such as has been done at the intersection of Brophy and the lower end of Spangle) and areas where creeks can be accessed (as has been done for Vega Creek at Beck Place).

Another area that could be similarly developed for emergency creek access would be the lower end of Vega Creek where it crosses under Powers Rd. An area alongside the creek needs to be cleared and leveled so that a portable “drop tank” could be placed there to be filled by pumping from the creek. The road needs to be widened to provide space for parking a water tanker truck while being filled and allow for other traffic to pass by.

6. Community Fire Response – Developing a Fire Response Plan for FWCR is a critical task to be accomplished. In addition to property owner education & training, this would involve establishing procedures for notifying local fire authorities and other residents, campers and hunters in the event that a fire is discovered. The Fire Response Plan would need to address how residents could be trained and equipped to safely engage in an “early response” to a fire before local fire fighters could arrive to take over. Fire response activities require someone to be “in charge” and maintain an overview of what is transpiring. It also requires one or more people to serve as spotters to keep track of fire and fire fighter locations. It requires communications among the persons involved.

Property Owners should be encouraged to buy basic fire fighting equipment such as Macleod rake/hoes, Pulaski axes, shovels, and appropriate personal protective clothing – from vibran soles on boots and cotton, not polyester, clothing to hard hats and fire suits, as well as bottled water, and to assemble this in a “fire kit” which they can readily access if needed.

The Association should consider the purchase of Fire attack trailers (portable trailer mounted water tank with pump and several hundred feet of hose) and /or a “brush truck” type of small fire fighting truck as well as portable communications equipment (walky-talkies). The relative merits of such equipment need to be evaluated in terms of its ease and effectiveness of use, and its training and maintenance requirements.

7. xxx (place holder for additional text)
8. xxx (place holder for additional text)

4. COMMUNITY WILDFIRE PROTECTION PLAN

A. OBJECTIVES

- (1) To educate the homeowners, campers and other landowners in the community:
 - (a) about the dangers of wildfire in Wagon Creek, especially during the summer season,
 - (b) about Firewise construction, the creation of defensible spaces around homes, and other measures to assist professionals in fighting fires at their home or campsites.
 - (c) in basic wildfire fighting techniques and what to have for a personal wildfire tool kit.
 - (d) about fire evacuation procedures.
- (2) To create a map of Wagon Creek that will be useful to both homeowners and firefighters in the event of a fire emergency, showing:
 - (a) roads – with evacuation routes emphasized,
 - (b) lot lines, lot Nos., and home locations,
 - (c) forested areas,
 - (d) streams, ponds, and other water sources that might be helpful in the event of a fire,
 - (e) topography

In addition to the map, it would be helpful in identifying a fire location for firefighters to have a list of GPS coordinates for all of the lots in FWCR.

- (3) To set up means of communicating to and with homeowners and campers when a fire emergency arises.
 - (a) a Calling Tree to notify homeowners that a fire situation exists and to either summon their help as a first responder or announce a government-ordered evacuation order.
 - (b) an automated calling system, reverse 911, set up in cooperation with the Blanca Phone Company, for notification of homeowners in the event evacuation is required.
 - (c) a 2-way radio or walky-talky system for FWCR “First Responders” to use during initial wildfire response efforts.
 - (d) a sign-in system for campers so that those in FWCR during a fire emergency can be located.
 - (e) fire emergency call boxes at each entrance gate.
 - (f) a check-in site where, in the event of evacuation, homeowners can report that they have evacuated.
 - (g) establishing a procedure for communication with adjacent areas (Forbes Park, Forbes Trinchera Ranch, and Sangre De Cristo Ranches) in the event of a fire or fire sighting.
- (4) To establish a Rapid Response Capability within FWCR because of the time (at least 45 minutes) required for any professional fire fighters to arrive at a fire scene in FWCR.
 - (a) education of a group of volunteer homeowners in basic wildfire techniques so that they can safely and effectively perform as “First Responders” in the event of a fire.
 - (b) educating homeowners generally in the procedures to follow when they see a smoke plume – who to call, how to identify its source or direction.

- (c) establishing a Calling Tree to enable notification of a smoke sighting to other observers – to pin down its location and to initiate 911 calls, calls to the Ft. Garland Fire Department, and calls to FWCR First Responders.
 - (d) establishing water sources within FWCR that can be accessed and used in the event of a fire emergency.
 - (e) establishing one of more fire fighting equipment caches.
 - (f) establishing an FWCR fire truck or fire attack trailers that can be used by First Responders.
- (5) To improve evacuation route safety and facilitate 2-way traffic for evacuees fleeing, and fire equipment entering FWCR during a fire emergency, by:
- (a) doing fire mitigation along the main evacuation routes to make the roads fuel breaks.
 - (b) removing trees blocking line-of-sight around sharp bends on evacuation routes.
- (6) To identify & improve areas of possible safety in the event that evacuation routes are blocked by a fire:
- (a) identifying open areas that would be safer places to congregate than trying to escape through burning woods,
 - (b) periodic mowing of such areas to reduce the intensity of grass fires.
- (7) To establish a long-term plan and strategy for reducing the fuel load in the FWCR forested areas, which are on privately-owned properties and on which the Association does not have any right of “eminent domain” that could be exercised for activities such as forest thinning. Researching areas where slash could be dumped or burned. Coordinating an annual winter slash burn using the Colorado State Forest Service. Finding markets for cut logs and wood chips from thinning.

B. PRIORITIZATION OF COMMUNITY RISK REMEDIATION MEASURES

The following is a list of the activities which Forbes Wagon Creek Ranches needs to focus on in the immediate future in order to begin reducing the risks of wildfire:

1. Offer education to Wagon Creek owners on wildfire danger concerning:
Home site location and Firewise construction practices
Wildfire prevention, detection, reporting, and fighting.
2. Update a topographical map of Forbes Wagon Creek Ranch and surrounding areas annually.
3. Develop a fire emergency communication system.
4. Improve evacuation route conditions for 2-way traffic.
5. Provide training for wildfire first response to Wagon Creek owners.
6. Evaluate the purchase of appropriate fire fighting equipment and communications equipment for FWCR.
7. Coordinate with surrounding neighborhoods on fire issues and response measures.
8. Facilitate effective fire mitigation measures that can be done by individual ranch owners.

C. IMPLEMENTATION PLAN

1. Fire education

- a. Fire Education of Wagon Creek Ranch Owners began in June 2006 with informational material offered at the Annual meeting. This included booklets on Fire Mitigation and Firewise Building of cabins. Similar materials provided by the Colorado State Forest Service and materials written just for Wagon Creek will be offered every year at annual meetings and summer Board meetings.
- b. Written information on evacuation procedures in Wagon Creek, improving the accessibility of owners' cabins to fire fighters, lists of fire mitigation companies, camping registration procedures, and calling tree lists will be developed by the Fire Committee in 2007.
- c. These above materials will be available through the manager's office and through the ECC. The cost of the information is free except for printing.

2. The Forbes Wagon Creek Ranch Map

- a. A typographical map was developed and printed in 2006 by GIS/GPS in Alamosa. It includes labeled evacuation routes, cabin locations, property boundaries and lot numbers, water sources, topography and surrounding areas. Color indicates forested areas. One free copy has been offered to each owner. Additional copies may be purchased from the manager or ordered from the Fire Committee in various sizes. Larger maps were provided to the ECC, the Board members and the Colorado State Forester. A map will also be given to the Fort Garland Volunteer Fire Department and neighboring Forbes Park in 2007. Maps will be updated with new cabin sites each year. Total map cost in 2006 was \$1,286. Future printings will cost less since the printer has the map in his computer file.

3. Emergency Communication

- a. A calling tree with emergency fire numbers for contacting Wagon Creek's manager, the local fire department, Board members and cabins with phones will be updated and distributed each year beginning in 2007. The Fire Committee will get updated phone numbers from the manager, the ECC, or directly from a cabin owner.
- b. Blanca Telephone will be supplied with Ranch cabin phone numbers for the reverse-911 emergency call in 2007. This program is government-funded. The manager will be supplied with information on how to instigate the calling if a fire emergency evacuation is ordered by the County Sheriff.
- c. Camper sign-in boxes will be made in 2007 and placed at each gate during fire season. Campers will be requested to sign in and out so that, in case of fire, firemen will know where campers are. Costs will be about \$200.
- d. A check-in site for an emergency evacuation will be set up in advance so that Ranch owners can let firemen know where they can be located during an evacuation. Accurate fire information for evacuees should also be at the check-in site. In 2007 the Fire Committee will decide if the Fort Garland/Blanca Community Center would be a good location. This location and its phone number would be included in a handout about evacuation procedures.

4. Evacuation Routes

- a. Fire mitigation along the main evacuation routes began in 2006 and will continue in future years starting in spring 2007. The purpose is to clear sight lines on sharp, wooded curves; to make a fuel break along these roads which would make driving safer for those fleeing an encroaching fire and also for the incoming fire fighters; and to make access into the woods by foot or vehicle easier for firefighters or first responders. This mitigation will be done by contract with an insured firm which will also chip, haul or buck up the slash and logs. Costs will be about \$8,000 a year plus any grant money received for mitigation purpose.
- b. Trees will be marked for mitigation by either the state forester or trained assistants before the mitigation crew starts work. This marking will cost about \$400 per year.
- c. Permission will be sought from owners of thick forest bordering evacuation routes to do mitigation at Board expense an additional thirty feet beyond the road easement. This will benefit all Ranch owners since the added mitigation will make a more effective fuel break.
- d. In 2007 Schierl between Flavin and Collinson should have mitigation completed.
- e. In 2008 Merlo at 'Millers Dip' by Schierl and Brophy west of Grey Place should be completed.
- f. In 2009 Spangle should be completed.
- g. In 2010 Upper Powers and upper Collinson should be completed.
- h. In years after this, maintenance of past mitigation will be done where needed plus new mitigation on any other heavily traveled forested areas will be scheduled.
- i. Consideration will be given to having moveable signs made to block off a road which has dangerous fire activity.

5. First Response Training

- a. Training sessions taught by the Colorado State Foresters or other schools will be scheduled each year as one was in 2006. They will stress fire fighter safety, weather/fire behavior, tool and equipment use, correct clothing, and communication. We will try to coordinate the sessions with volunteers from Forbes Park and Sangre De Cristo as well as from Wagon Creek.
- b. In 2007 the Fire Committee will locate the best observation locations in the Ranch for seeing large areas. Cabin owners near those areas will be requested to be especially observant in a dry fire season. When these 'observer cabins' change ownership the new owners will be offered observation and reporting techniques. The Committee will develop an instruction sheet on how to report the location of a fire. As cabin ownership changes, new owners will also be trained.

6. Fire Fighting Equipment Evaluation

- a. Communication equipment to be used by first responders will be evaluated in 2008. Walkie talkies are inexpensive but do not perform well over a long distance. Hand held analog or digital radios need repeaters to broadcast over hills. A complete radio system could cost about \$8,000. The Fire Committee will talk to volunteer firemen in the area

about what they find to be most effective in our forest setting. We will also see if surplus radios might be available from local governmental departments.

- b. Brush trucks, water trailers or trailers will be researched in 2007. Costs of a new brush truck would be about \$50,000. We can see if local fire departments are replacing their old brush trucks. Maybe we could buy a used truck. Wesley Moores, the Northern Saguache fire captain will help us choose good equipment like hoses, clothing, and pumps.
- c. Most grants for fire equipment only go to authorized volunteer fire departments. We can speak to the Costilla County Fire Protection District Board to see if we can coordinate with them. Insurance issues are important.

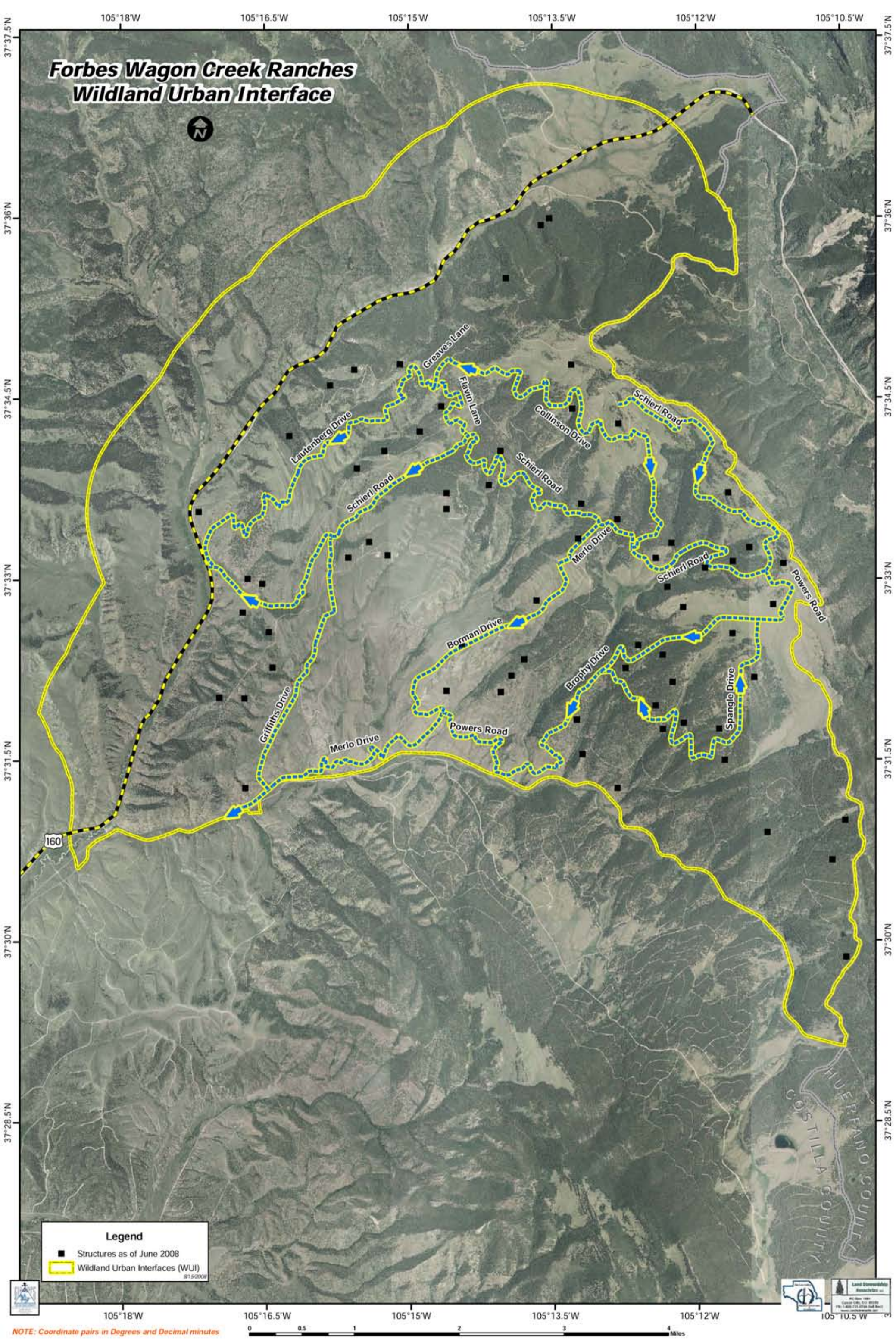
7. Coordinating with neighboring areas

- a. Coordination with neighboring areas has already taken place. In August 2006 an eight hour fire fighting training session was held with volunteers from Wagon Creek, Forbes Park, Sangre De Cristo Ranches and other San Luis Valley localities with common wild fire concerns. The All Hazards Group of Costilla County began meeting in 2006 with representatives from Wagon Creek and the rest of the County.
- b. Forbes Park invited Wagon Creek to watch the January 2007 burn of slash piles supervised by the Colorado State Foresters. Five Wagon Creek owners saw the burn and questioned the forester and Forbes Park volunteers about the burning procedures.
- c. Wagon Creek will seek to coordinate Fire Watch information with Forbes Park so that residents of either community who may happen to spot a wildfire in the other community will know who to call and what kind of location information details to provide. This will include maps and lists of contact persons and phone numbers for each community.

8. Ranch Owner Fire Mitigation

- a. The Wagon Creek Board will contract with the Colorado State Forest Service to supervise a winter slash burn for Wagon Creek. The Forest Service will get all needed state burning permits, assume liability, determine the best date and perform and monitor the burn until the fire is out..
- b. The State Foresters will be consulted in 2007 to help FWCR in the identification of one or more good locations on either Association or volunteered private land for slash piles. The sites would need to have good accessibility for fire trucks in snow as well as for ranch owners or fire mitigation companies hauling slash.
- c. The burn site will be laid out in the summer with marked rows for slash deposits. The hired fire mitigation company will give advice on the row lay out.
- d. The Board could encourage fire mitigation on privately owned parcels by organizing the hauling of slash cut by Ranch owners. The use of a purchased or donated flatbed trailer would make hauling of Ranch owners' slash more efficient.

Forbes Wagon Creek Ranches Wildland Urban Interface



Legend

- Structures as of June 2008
- ▭ Wildland Urban Interfaces (WUI)

8/15/2009

Land Ownership
 8/15/2009
 Contact: (505) 400-4100
 Fax: (505) 400-4100
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NOTE: Coordinate pairs in Degrees and Decimal minutes