Multi-Hazard Mitigation Plan 5.0 Mitigation Strategy

This Section describes the mitigation strategy process and mitigation action plan for Placer County's DMA Plan.

The HMPC reviewed and discussed formulating Mitigation Goals as part of Team Meeting #3 in preparation for identifying the goals for this plan. Each HMPC member was provided with a written explanation of Goals and Objectives, the purpose they serve, and how they are developed and written. Up to this point in the planning process, the HMPC has been involved in talking to agencies and organizations and collecting and recording hazard related data. From these discussions and efforts, the HMPC produced three documents. The first two:

- 1. Hazard Identification, and
- 2. Vulnerability Assessment.

"Painted a picture" of the vulnerability of Placer County to natural hazards. From these documents, the HMPC learned that:

- 1. Wildfire continues to be a significant threat to the community,
- 2. Flooding is and will continue to be a threat to the community, especially given the growth/development projections in the County,
- 3. Earthquakes pose a moderate threat, especially given the new earthquake data in Eastern Placer, and
- 4. Most meteorological and natural biological hazards occur periodically, and sometimes annually (drought, severe snow, severe hail, severe thunderstorms/rain; West Nile Virus), but do not constitute a significant on-going threat, as severe events resulting in excessive damages are infrequent. In addition, the general manpower and budget requirements for responding to these annual occurrences such as snowfall is planned for by individuals and the communities.

The third document, the Capability Assessment, describes the current ability of Placer County to counter these threats through existing policies, regulations, programs, and procedures. The HMPC learned that:

1. The wildfire mitigation programs (defensible space and fuels management) while having many successes are often limited due to lack of resources for public education and enforcement.

- 2. There is a need to continue and expand these programs, because they are never completed vegetation grows back, new people move in, etc.
- 3. In the Dry Creek Watershed, as a result of past flooding events, 95 homes within the 100-year floodplain were recommended for elevating. Of these 95 homes, 25-30 declined the initial grant money for elevation. Elevation of the remaining 25-30 homes should be pursued.
- 4. Measures to reduce flooding impacts associated with past floods, such as regional detention/retention projects and culvert replacement projects, have been implemented in some instances; however, many projects remain on the books and still need to be implemented.
- 5. Flood insurance is available, but only approximately 1,053 policies are in force with 10,452 parcels located within the floodplain.
- 6. There is a County-wide Stormwater Management Program in place.
- 7. This plan offers the opportunity to review the mitigation accomplishments undertaken by Placer County following past disaster events, and to identify work that remains to be accomplished.
- 8. Many progressive state and County ordinances are in place to reduce the risk and/or vulnerability of the County to identified hazards; however, the resources for enforcement of the existing code is limited.
- 9. Certain codes and ordinances should be in place on a countywide basis. Specifically, codes should be reviewed with a particular emphasis on fire safe construction, defensible space requirements, and fire response capabilities in high to very high fire danger areas.
- 10. There is a need to identify public information and education methods to improve effectiveness and subsequent individual action. Communities need to know the hazards in their area and individuals need to know how best to mitigate against these hazards. Current efforts at public education, in particular, have had only marginal success and have not motivated individuals to take action.
- 11. Placer County has a good Emergency Management Program and partnership with other emergency response agencies and offices.
- 12. There is a program in place to upgrade the Sewage Treatment Plants in the County.

GOAL SETTING

This analysis of the Risk Assessment identified areas where improvements could be made, providing the framework for the HMPC to formulate planning goals, so that the improvements would be incorporated into the Mitigation Plan. Each HMPC member was provided an alphabetized list of 14 possible goal statements. Each HMPC member then received three index cards and was asked to write what they felt would be appropriate goals for the plan --- one on each card --- using the possible goal statements as a guide.



The HMPC members were instructed that they could use, combine or revise the statements they were provided or develop new ones on their own. The goal statements were then attached to the meeting-room wall, and grouped into similar topics, combined, rewritten, and agreed upon in HMPC meeting #4.

Some of the statements were determined to be better suited as objectives or actual mitigation projects, and were set aside for later use. Based upon the planning data review, and the process described above, the HMPC developed the final goal statements listed below. The goals and objectives provide the direction for reducing future hazard-related losses within Placer County.

GOAL 1: Prevent Future Hazard Related Losses of Life and Property

Objective 1.1: Provide protection for existing development to the extent possible

- 1.1.1 Provide/improve fire protection
 - 1.1.1.1 Coordinate access roads ROW (maintenance)
- 1.1.2 Improve Community based fire safe planning and execution

- 1.1.2.1 Support the development of new Fire Safe Councils in the County and assist existing Councils in being effective
- 1.1.2.2 Foster the Placer County Fire Safe Alliance, whose membership includes the various Fire Safe Councils in the County, to define, prioritize, fund, and implement essential wildfire mitigation projects
- 1.1.2.3 Sustain partnerships between the County and fire safe organizations, including the Alliance
- 1.1.2 Provide/improve flood protection
 - 1.1.2.1 Lower cost of flood insurance through CRS program 1.1.2.1.1 Lincoln should consider joining CRS
 - 1.1.2.2 Flood control structures
 - 1.1.2.3 Drainage Maintenance Plans
 - 1.1.2.4 Reduce impacts to livestock (relocate)
- 1.1.3 Provide/improve protection for avalanches

Objective 1.2: Provide protection for future development to the extent possible

1.2.1 Review existing process and enforcement for implementation of new standards

Objective 1.3: Provide protection for critical public facilities and services

- 1.3.1 Police, fire, schools, City Hall, power, water, sewage, communications, and other infrastructure (dams, pipelines)

 Note: that not all public safety facilities meet current "essential services" building standards.
- 1.3.2 Protect emergency communications facilities (mountain-top repeaters)

Objective 1.4: Promote interagency coordination

- 1.4.1 Assure coordination between other community plans and goals
- 1.4.2 Assure coordination between participating communities
- 1.4.3 Assure plan coordination with adjoining counties

Objective 1.5: Promote agricultural planning and animal health

- 1.5.1 Protect against invasive species (noxious weeds)
- 1.5.2 Exclude, and eradicate invasive insects, disease and weeds
 - 1.5.2.1 Implement a weed abatement program

Objective 1.6: Provide protection for natural/cultural resources to the extent possible

1.6.2 Protect water, forests, wildlife

GOAL 2: Increase Public Awareness/Action Of Vulnerability To Hazards (Protect People's lives from Hazards)

- Objective 2.1: Inform and educate residents and businesses about the types of hazards they are exposed to, where they occur, and what they can do to mitigate damages and to be better prepared (research and create an effective outreach program, provide educational resources)
- Objective 2.2: Create a multi-hazard Public Outreach Strategy according to CRS guidance (CRS Activity 330, include all hazards discussed in plan, including West Nile Virus coordinate with existing efforts underway)

GOAL 3: Improve Community Emergency Services/Management Capability

- Objective 3.1: Continue to coordinate jurisdictional responsibilities to various hazards through County and Community Disaster/Emergency Response Plans and Exercises
- Objective 3.2: Develop/Improve warning and evacuation procedures and information for residents and businesses
- **Objective 3.3:** Update Business Continuity Plans
- **Objective 3.4:** Maintain the flood warning system
- Objective 3.5: Continue to assess emergency service response times, and work to identify and fix conditions that result in repeated delays where possible.

GOAL 4: Pursue Multi-Objective Opportunities Whenever Possible

IDENTIFICATION OF MITIGATION MEASURES

Following the goal setting meeting, the HMPC undertook a brainstorming session to generate a set of viable alternatives that would support the Identified goals. Each HMPC member was provided with the following list of categories of mitigation measures:

- Prevention,
- Property Protection,
- Structural Projects,

- Natural Resource Protection,
- Emergency Services, and
- Public Information.

The HMPC members were also provided with several lists of alternative multi-hazard mitigation actions for each of the above categories. A facilitated discussion then took place to examine and analyze the alternatives. With an understanding of the alternatives, a brainstorming session was conducted to generate a list of preferred mitigation actions to be recommended. Once the mitigation actions were identified, the HMPC members were provided with several sets of decision-making tools, including, FEMA's recommended STAPLE/E set (Sustainable Disaster Recovery, Smart Growth principles) and "Others" to assist in deciding why one recommended action might be more important, more effective, or more likely to be implemented then another. The lists of mitigation categories, multi-hazard measures, and criteria sets are included as (Appendix B).

With these tools, the HMPC listed all of the hazards posing a threat to the community on individual sheets of flip-chart paper. With the paper pasted to the walls, HMPC then generated their preferred set of mitigation measures per hazard, utilizing the criteria sets to determine the most suitable proposals.

After some discussion, the HMPC decided not to address the issue of prioritizing the recommended actions. The HMPC felt that the actions were too diverse in nature, cost, and feasibility to assign an implementation priority that would only be divisive. Rather, recognizing the DMA regulatory requirement to prioritize by Benefit-Cost and the need for any publicly funded project to be cost-effective, the HMPC decided to pursue implementation according to when and where damages occur, available funding, individual community priority, and priorities identified in the State Mitigation Plan.

THE MITIGATION STRATEGY

Any effective mitigation strategy must encompass the participation of the communities forming the partnership. Within the Placer County, there are five incorporated communities and 47 districts that participated on the HMPC and provided valuable data and insight into this plan. While different in their boundaries, form and function, each recognizes their role to prepare for disaster, respond to natural hazards and undertake mitigation initiatives. A prime example of the critical nature of this partnership is the roles of each community and district in Flood Protection. While either the County can achieve great flood mitigation on their own, the Cities and Districts could compromise the total effectiveness of the work without similar, coordinated efforts within their respective jurisdictions. Only together, through coordinated efforts, will the vulnerability of the Placer community to future floods be effectively reduced. This partnership of participating jurisdictions defines the overall hazard mitigation planning strategy for Placer County.

Similar to collaboration among local communities and agencies for hazard mitigation, the Local Hazard Mitigation Plan Program (LHMP) is a priority program of California OES to meet one of their primary goals: *Promote Hazard Mitigation as an Integrated Policy*. The LHMP provides a mechanism for the state to provide technical assistance, and to track the progress and effectiveness of local government mitigation planning programs. As part of this program, the state established the following criteria for prioritizing local mitigation activities for funding:

- Percent of population at risk
- Frequency and likelihood of hazard
- Repetitive loss areas
- Small/impoverished communities
- Planning resources available
- Types/percent of land areas at risk
- Development pressure rating
- Project urgency and C/B analysis
- Cost effectiveness of measure

The results of the planning process, the Risk Assessment, the Goal Setting, the Identification of Mitigation Measures, and the hard work of the HMPC led to the Action Plan presented below. The process also helped the HMPC clearly comprehend and identify the overall mitigation strategy that will lead to the implementation of the Action Plan.

All of the recommendations set forth fall into four easily identifiable strategies:

- ENFORCE existing rules, regulations, policies and procedures already in existence. Communities can reduce future losses not only by pursuing new programs and projects, but also by more stringent attention to what's already "on the books;"
- EDUCATE the public about hazard information that Placer County has collected and analyzed through this planning process so that the community better understands what can happen where, and what they can do themselves to be better prepared. Also, publicize the "success stories" that are achieved through the HMPC's ongoing efforts,
- IMPLEMENT the Action Plan below, some of which is comprised of recommendations that have previously been recommended through other existing community plans and efforts.
- MOM ardently monitor "Multi-Objective Management" opportunities, so that funding opportunities may be shared and "packaged" and broader constituent support may be garnered.

ACTION PLAN

This Action Plan presents the prioritized recommendations for Placer County to pursue in order to lessen the vulnerability of people, property, infrastructure, and natural and cultural resources to future disaster losses. The Recommended Mitigation Actions are organized by community. Each recommendation also includes a discussion of the benefit-cost to meet the regulatory requirements of DMA.

PLACER COUNTY RECOMMENDED MITIGATION ACTIONS

The Placer County HMPC included representatives from numerous districts --- many of which have never received any damage from a natural hazard, disaster assistance from state or federal programs, or mitigation assistance from FEMA. They chose to participate in the development of this DMA plan nonetheless, in order to preserve and maintain their eligibility for future mitigation assistance should the need and the opportunity arise. Thus, not every District has an individual Action Item recommended, while others have several. Each District, however, now recognizes the overall risk and vulnerability of the County and their role in minimizing future damage and facilitating recovery. In that light, each District will participate in the overall countywide public education recommendation action #15 that follows in the County section. The Districts, as all local governments, reserve their right to revise this element of the plan to reflect new threats and to propose new mitigation activities as the need and the concepts arise.

WILDFIRE MITIGATION ACTIONS

ACTION #1: DEVELOP A COMMUNITY WILDFIRE PREVENTION PLAN (CWFPP) FOR THE WESTERN SLOPE OF PLACER COUNTY

Issue/Background: Fuels/vegetation management is ongoing. The HMPC agreed that ongoing vegetation management is THE most important factor in reducing the wildfire hazard in Placer County.

The Placer County Fire Safe Alliance ("the Alliance"), with its open partnership, including the various fire safe councils and major landowners and managers, is uniquely situated to assist with the coordination for and prioritization of scarce resources.

Because of the difference in needs between the Tahoe Basin and the Western Slope of the County, and because the Tahoe Basin already has a Community Wildfire Protection Plan under development, this Action applies to the development of a CWFPP for the Western Slope only. The projects defined as a result of this effort will result in Fuels Management efforts coordinated among the Alliance stakeholders, as well as the general public, on the Western Slope of the County.

Vegetation management projects will result in ongoing fuels/vegetation reduction and management on public and private lands; implementation and enforcement of defensible space requirements on private land for both existing properties and new development; and development of criteria for on-going maintenance of the fuels management and defensible space program.

The plan will be consistent with the document "Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Communities" at http://www.stateforesters.org/pubs/cwpphandbook.pdf. As appropriate, projects defined in the CWFPP will be included in the update of this Multi-Hazard Mitigation Plan, due in 2009.

Given how closely inter-related the communities are on the Western Slope, defining a CWFPP at the individual Fire Safe Council level is not the most effective methodology. Instead, the Alliance partners plan to develop the CWFPP for the Western Slope in phases. Phase 1, already in process, focuses on the foothills communities which are represented by the following Fire Safe Councils:

- Iowa Hill/Foresthill FSC
- Ponderosa FSC (City of Colfax, Weimar-Applegate-Colfax Area Municipal Advisory Council and Meadow Vista Municipal Advisory Council)
- Greater Auburn (City of Auburn, North Auburn/Placer Consolidated Fire Protection District, Bowman, and Christian Valley)

Subsequent phases will be developed once Phase 1 is completed.

Other Alternatives: Continue to implement programs at the local level, without an overall system of risk assessment and resource prioritization.

Responsible Office: Placer County Fire Safe Alliance partners, including the various Fire Safe Councils, fire agencies, Placer County Office of Emergency Services

Priority (H, M, L): High

Cost Estimate: The plan is being developed as part of existing agency workloads. Funding for public meetings and review copies of the plan may be needed, but the cost will be minimal.

Benefit: Coordinated projects with a broader impact than individual efforts by the County, agencies, groups, businesses, and individual landowners.

Potential Funding: National Fire Plan, Healthy Forest Initiative; WUI Grant; local financing, private foundations, grants from state bond acts, Sierra Conservancy, and Title III funds from the *Secure Rural Schools & Community Self-Determination Act of 2000* (AKA "HR 2389 Timber Tax") payments to Placer County, PILT (Payment in Lieu of Taxes).

Schedule: Phase 1: Steps 1, 2, and 3, as defined in the Handbook, are already completed and Phases 4, 5, and 6 are in process, with a target completion of Fall 2005.

Schedule for other phases will be determined once Phase 1 is complete.

ACTION #2: MAINTENANCE ON SHADED FUEL BREAKS AND DEMONSTRATION FUEL BREAKS.

Issue/Background: Several roadside shaded fuel breaks and demonstration fuel breaks were created from 1998 to 2002 using a grant from Proposition 204 funds and other sources. In order for these fuel breaks to continue to be effective, maintenance must be done on a periodic basis.

The fuel breaks are on primarily private property, and the property owners are expected to perform the maintenance with some cost-share assistance. The fuel break locations, size, and resources protected are listed in the following table:

Location	# Acres	# Homes Protected	Value*
Aeolia Heights demo SFB	20		Educational
Alta demo SFB	20		Educational
Foresthill School demo SFB	25		Educational
Maidu demo SFB	20		Educational
Foresthill Divide Rd. (Todd Valley)	36	1,500	391,500,000
Michigan Bluff	43	14	3,654,000
Boole Road	11	100	26,100,000
Cerro Vista	16	100	26,100,000
Ponderosa Road	21	100	26,100,000
Spring Garden Road	25	100	26,100,000
Yankee Jims Road	55	50	13,050,000
TOTALS	312	1,964	512,604,000

^{*}The value is based on the average home value for the unincorporated County from the Assessor's Roll Values. The number of homes is approximate.

Other Alternatives: Taking no action will result in the continued re-growth of vegetation and the disappearance of the fuel breaks.

Responsible Office: Rich Gresham, Manager, Placer County Resource Conservation District

Priority (H, M, L): Medium

Cost Estimate: Estimated cost is \$500 per Acre for a total of \$156,000.

Benefit: The roadside fuel breaks protect homes valued at approximately \$512,604,000, and also shield evacuation routes and firefighter access. The demonstration fuel breaks educate and encourage homeowners to create and maintain defensible space. The cost of \$156,000 is 0.03 percent of the values protected.

Potential Funding: The roadside fuel breaks are on private property. This project would offer staff to provide follow up recommendations. Costs could be reduced by sharing costs with private property owners.

In general, the cost of maintenance is about \$500 per acre, depending on the method used. The cost share for the project is estimated to be \$78,000, with the property owners contributing an equal amount of their own funds and/or labor. The County Chipper Program will be used to help reduce the overall cost. The costs include funds for staff time and project management.

The responsibility for maintenance of the demonstration fuel breaks varies. The Aeloia Heights fuel break is on public and private lands; Alta's is managed by the Alta Fire Safe Council; the one at Foresthill School is maintained by the school; and the Maidu project is on private property within the Auburn Fuel Break and will be maintained as part of that project (described separately). This project would offer staff to provide follow-up recommendations plus cost-share funds for the private lands portions of the Aeloia Heights and Alta fuel breaks.

Possible source of funding are National Fire Plan, the Healthy Forests Initiative, CalFed grants, and EQIP.

Schedule: Every 3-5 years, if funding is available, starting in the spring of 2005 or 2006.

ACTION #3: ANNUAL DEFENSIBLE SPACE INSPECTIONS PROGRAM IN THE UNINCORPORATED COUNTY

Issue/Background: Defensible space is recognized by CDF as the single most importance action that a homeowner can take to increase the chances that homes and other structures will survive a wildfire. Defensible space also helps to protect the wildlands from a structure fire. Another benefit of defensible space is that it provides firefighters with a safe place to work while defending a home from fire.

When SB 1369 takes effect on January 1, 2005, the minimum defensible space requirement will increase from 30 feet to 100 feet.

Many homeowners are not aware of the requirements of defensible space, especially new residents who move to the County from highly urban areas where it is normal to expect a fire engine, or even multiple engines, to be dedicated to fighting a structure fire. However, during a wildfire, this is not feasible. Homes and other structures must be able to withstand an approaching wildfire with no assistance from firefighters. Also, fire fighters will not defend a home unless they can do so safely.

Regular inspections, based on the requirements of California Law as specified in Public Resources Code 4291, can help ensure that homeowners create and maintain adequate defensible space. The inspection process is also an opportunity to educate and motivate the homeowners to take action to improve their wildfire safety.

While CDF has the legislative mandate to perform these inspections, in reality budgets do not provide for sufficient staffing to do this beyond the occasional inspection requested by a homeowner. Since 1998, PRC 4291 inspections in the Placer County Foothills have been funded

by grants from Prop 204, the Community-Based Wildfire Protection Program through the California Fire Safe Council and BLM, and Title III funds from the *Secure Rural Schools & Community Self-Determination Act of 2000* (AKA "HR 2389 Timber Tax") payments to Placer County.

Future programs need to expand to include the south County, especially the South Placer Fire Protection District and the Loomis Fire Protection District.

Other Alternatives: Taking no action will result in less compliance with defensible space requirements.

Responsible Office: Placer County Fire Safe Alliance partners, including fire agencies

Priority (H, M, L): High

Cost Estimate: Inspections cost approximately \$10.50 for the inspector's time and insurance, mileage, and a manager. Adding administrative overhead brings the cost to about \$11.50. (These are 2001 dollars.) An additional cost is for literature to handout. The most important handout is the Homeowner's Checklist, which can be downloaded at http://www.fire.ca.gov/php/education_checklist.php.

The most recent grant for Defensible Space Inspections was for \$79,746.67 with an in-kind match for literature and other support by CDF for \$13,236.50. These inspections focused on the foothills communities of Foresthill, Iowa Hill, Weimar, Meadow Vista, Applegate, the Colfax area, etc. There are approximately 7,000 homes in this area. Inspections cost approximately \$10.50 for the inspector's time and insurance, mileage, and a manager. Adding administrative overhead brings the cost to about \$11.50. An additional cost is for literature to handout. The most important handout is the Homeowner's Checklist, available at http://www.fire.ca.gov/php/education_checklist.php or from CDF. Color copies of this document cost from \$1.50 to \$2.00 depending on the number of copies.

Benefit: Life Safety; Reduce property Loss. A cost of \$13.00 per home inspected (\$11.50 + \$1.50) is about 0.005 percent of the average Assessor's Roll Value of about \$260,000 per home (which is far below actual replacement value).

Potential Funding: Potential sources of funding include: National Fire Plan, Healthy Forests Initiative, and Title III funds from the *Secure Rural Schools & Community Self-Determination Act of 2000* (AKA "HR 2389 Timber Tax") payments to Placer County.

Schedule: Annually, as funding permits. Since not every property needs to be inspected every year, doing inspections on a rolling basis would allow smaller annual grant amounts to be needed.

ACTION #4: ONGOING COUNTY CHIPPER PROGRAM OPERATION FUNDS

Issue/Background: Since 1998, the Placer County Chipper Program has provided a free service to residents of the County. This helps to lower the costs of creating and maintaining defensible space and also reduces the amount of outdoor burning and the associated air pollution as well as escaped fires.

The County owns four chippers and tow vehicles, purchased from a PG&E settlement and supplemented by a Prop 204 grant. Maintenance is performed by CDF. Therefore the annual cost is for the four crew managers, one for each chipper, and the crews. In order to keep costs down, trustees from the County Jail are used as crews.

Response to the program has been excellent. As of June 2004, an estimated total of 17,486 tons of vegetation had been processed through the Chipper Program since its inception. The number of parcels chipped has steadily increased every year. In the first six months of 2004, which would result in about 2,500 parcels if the run rate remains constant.

Other Alternatives: No Action - If the Chipper Program is not continued, there is a risk of lower compliance with defensible space requirements as well as increased burning.

Responsible Office: Rich Gresham, Manager, Placer County Resource Conservation District; CDF NYP, Placer County

Priority (H, M, L): High

Cost Estimate: The cost of operation is about \$191,000 annually, or an average of \$76 per parcel chipped.

Benefit: Life Safety; Reduce property Loss. A cost of \$76 per parcel is about 0.03 percent of the average Assessor's Roll Value of about \$260,000 per home (which is far below actual replacement value).

Potential Funding: Current funding is through a WUI grant.

Schedule: Ongoing annually.

ACTION #5: ESTABLISH ADDITIONAL FIRE SAFE COUNCILS ON THE WESTERN SLOPE

Issue/Background: As can be seen on the Wildland Fire Risk Map in Section 4.2 of this plan, a bit less than half of the portion of the County west of Auburn is rated at a High risk and the remainder is rated at a Medium risk.

Many residents of this area are not aware of the wildfire hazard. This hazard was illustrated by the 2001 Sierra Fire in the Loomis/Rocklin area, which destroyed six homes, numerous

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outbuildings, and several vehicles. A couple of years ago, a home was lost to a grass fire in Loomis!

Establishing Fire Safe Council(s) in this area of the County is a first step towards educating local residents about the fact that they live in an urban forest and there is a wildfire hazard, and motivating them to take appropriate action to reduce their risk.

Other Alternatives: Taking no action will continue to leave these homes at risk.

Responsible Office: Placer County Fire Safe Alliance partners, including local fire agencies

Priority (H, M, L): High

Cost Estimate: The major cost involved is fire agency manpower, especially on the part of the Prevention Officer/Fire Marshal. There may also be some administrative cost for mailings, etc. However, most of these costs can probably be included in normal operating expenses.

The "Core Group" models used by the Greater Auburn Area Fire Safe Council and the Ponderosa Fire Safe Council in their Partnership Agreements could be replicated to create a local base of involved citizens to work with their local fire agencies.

Benefit: Fire Safe Councils have been demonstrated across the state as being effective in informing and motivating local residents to take action to create and maintain defensible space. It costs almost nothing to start and operate a fire safe council and to create local education programs. Grant funding for larger projects will be worked through the Placer County Fire Safe Alliance partners and the developing Community Wildfire Protection Plan.

Potential Funding: Existing Budgets

Schedule: Start up at least one additional Fire Safe Council in 2005. Sub-chapters could be implemented via homeowner associations, neighborhood watch groups, and other existing community-based organizations.

ACTION #6: ENHANCE ENFORCEMENT OF COUNTY BUILDING CODES TO INCREASE COMPLIANCE WITH SB 1369 DEFENSIBLE SPACE AND OTHER FIRE SAFE REQUIREMENTS IN THE UNINCORPORATED COUNTY

Issue/Background: When SB 1369 takes effect on January 1, 2005, the minimum defensible space distance is increased from 30 feet to 100 feet (or to the property line). Further, for new or replacement construction, SB 1369 requires that the owner shall obtain a certification from the local building official that the dwelling or structure, as proposed to be built, complies with all applicable state and local building standards, as well as upon completion of the construction or rebuilding, the owner shall obtain from the local building official, a copy of the final inspection

report that demonstrates that the dwelling or structure was constructed in compliance with all applicable state and local building standards.

The building inspection process is an excellent time to initiate compliance with SB 1369. For example, if the creation of the minimum 100 feet (or to the property line) defensible space area was required before the building is started to be built, it is a lot more likely to be maintained after construction. This would also be a good time to enforce the PRC 4290 requirements for house and road signage installation.

Specific details of the process would be worked out among the responsible parties listed below.

Other Alternatives: No action continues to leave defensible space creation up to the good will of the homeowner.

Responsible Office: Placer County Building Department, Placer County Fire Safe Alliance partners, including CDF and local Fire Agencies

Priority (H, M, L): Medium

Cost Estimate: There is no cost involved to the responsible parties since the existing building inspection process would be used. (The cost for implementing the certification process required by the legislation is outside the scope of this project since it has to be done anyway.)

Benefit: Life Safety; Reduce property loss - with a zero cost project...

Potential Funding: Existing Budgets

Schedule: Early 2005

ACTION #7: ENSURE THAT ALL HOMES IN THE PLACER COUNTY FOOTHILLS HAVE PRC 4290 COMPLIANT ADDRESS SIGNS

Issue/Background: Many homes in the Placer County Foothills do not have adequate house signage, which makes it difficult for emergency responders to quickly locate addresses requesting assistance.

Homeowners either are unaware that their house signs are not adequate, and/or do not know where to go to purchase PRC 4290 compliant signs, and/or balk at spending what it costs to obtain such a sign.

Other Alternatives: The only other alternative is no action.

Responsible Office: Assistant Chief Loren Snell, CDF Nevada-Yuba-Placer Unit

Priority (H, M, L): High

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Cost Estimate: Existing Homes:

- Cost of single PRC 4290 compliant signs is about \$30 plus \$5 for a stake (from The Sign), with a second sign costing \$20 plus stake. The proposed project would provide cost-share funds. Homeowners would pay \$5 to \$10 per sign, plus stake. Low-income homeowners would pay no more than \$5 for both sign and stake. The cost-share funds would provide the rest of the cost.
- There are approximately 7,000 homes in the Weimar, Applegate, Meadow Vista, Foresthill, and unincorporated county around Colfax. Of these, an estimated 50 percent do not have adequate address signage.
- Total estimated number of homes needing signage in the Placer County Foothills: 3,500.
- Cost for the project: \$122,500 total; \$105,000 is needed in cost-share funds if homeowners provide a \$10 match; \$87,500 needed if homeowners provided a \$5 match. (The grant amount would need to include funds for administration of the grant as well as project management, so the actual grant request would be higher. The homeowner co-pays would provide the required matching funds.)
- Some ways to reach the homeowners: (1) during future PRC 4291 Inspections; (2) use local Boy Scout or similar organizations; (3) booths at fairs; (4) newspaper articles; (5) school newsletters; (6) hand out order blanks at supermarkets and home improvement centers.

New Homes:

County building inspector to require installation of PRC 429 compliant address signs prior to issuing final use permit. These signs are already required by County Code, but enforcement is needed. No additional cost to the County.

Benefit: Homeowners have no easy access to a source for PRC 4290-compliant signage. They have to do research to find a place to buy them. Then they have to be willing to pay \$35 per sign and install it once they receive it. This project would remove all of the above obstacles, and thereby facilitate emergency responders in locating addresses quickly.

The longer the response time, the greater the potential damage:

- Structure fires attacked within 10 minutes of ignition have the greatest possibility of rapid extinguishment, and thus a decrease in potential life and property loss as well as reducing the likelihood that a house fire will spread to the wildlands.
- Vegetation fire ignitions must be attacked quickly or they can rapidly become quite large, depending on the amount and condition of the vegetation, the relative humidity, and wind.

• Without medical intervention, certain death can occur in persons with heart attack, severe bleeding, and respiratory ailments in as little as four to six minutes

Potential Funding: Possible funding sources are National Fire Plan or Title III funds from the *Secure Rural Schools & Community Self-Determination Act of 2000* (AKA "HR 2389 Timber Tax") payments to Placer County.

Schedule: Applications for HR 2389 Title III Funds are due to the Placer County Executive's Office in August of each year.

Applications for National Fire Plan Funds can be submitted to the Clearinghouse at any time; however, Federal funding cycles determine when projects will actually be considered for funding. Usually late Fall is the time for submitting concept papers for consideration in the next year's funding cycle. See http://grants.firesafecouncil.org/resource center.cfm for more details on the California Fire Alliance Grants Clearinghouse and http://www.cafirealliance.org/downloads/resourceguide.pdf for the California Fire Alliance Resource Guide.

ACTION #8: MODIFY COUNTY CODE (UBC) TO REQUIRE CLASS A ROOFING ASSEMBLY ON A COUNTYWIDE BASIS.

Issue/Background: Equally important for effective wildfire mitigation in Placer County, is the type of materials used in the building construction. Currently the UBC Code as adopted by Placer County requires a Class A Roofing Assembly be used in new roof construction or when more than 20 percent of the existing roof is replaced. This is limited to the central and eastern portion of the County. The Code should be modified to be implemented on a countywide basis. As currently written, the code only arbitrarily applies to certain areas with no distinction between fuel loads in these areas. Stricter application of Fire Codes can reduce future risk from fires.

Other Alternatives: Expand the existing boundary for enforcement of Class A Roofing Assembly to the West including all areas of the County that lies East of the line that is created by Freeway 80 at the intersection with the Southern boundary of Placer County to Highway 65 North at the Northern boundary of Placer County.

Responsible Office: Western Placer County Fire Chiefs Association; Placer County Building Department

Priority (H, M, L): Medium

Cost Estimate: Existing budgets and staff time

Benefit: Life Safety; Reduce property losses. More stringent fire codes will mitigate the effects of future fire events.

Potential Funding: None Necessary

Schedule: Initiate within one year

ACTION #9: DEVELOP THE FOLLOWING GIS LAYERS FOR EMERGENCY SERVICES WITHIN PLACER COUNTY: FIRE IGNITIONS LAYER, CRITICAL FACILITIES LAYER, AND FIRE HYDRANTS/WATER SOURCES LAYER

Issue/Background: It is misleading to only consider past large acreage fires when evaluating fire risk, because any ignition can lead to a wildfire with major losses, even if the acreage is small (witness the 2000 Heather Fire, which was only 10 acres but resulted in \$305,000 in damages because a house was lost.)

Over 90 percent of wildfires are human-caused, and therefore suitable for mitigation activities.

Readily accessible information is needed in order to know where to focus efforts to reduce ignitions. CDF identifies over ten causes of fires. While the latitudes & longitudes and causes are available in Excel files for each year, this format is not easy to use.

Mapping ignitions by cause for a 5 or 10 year period would give fast visual access to determine where to focus efforts to reduce ignitions and what type(s) of ignition to target. The base map for this would be the roads, cities, and parcels map for the County. The map could be posted to the County's web site for easy access.

While Placer County has some mapped data on critical facilities, the data is incomplete and was not available for analysis during this project. The County's ability to assess risk at all facilities is important. Critical facility risk and vulnerability assessment can be accomplished manually, but it is extremely time consuming and subject to error. Mapped facilities compared against mapped hazard areas will provide the greatest ability to assess risks and vulnerabilities for mitigation planning.

Placer County should have the ability to assess the status of critical facilities at the time of an incident. This assessment is currently accomplished by taking reports from selected facilities as facilities report in. If an agency or employees at a facility do not report then the data is not available and critical facilities may be missed or may be assumed to be intact. Mapped data would improve this process by allowing the Emergency Operations center to compare a mapped hazard against mapped facilities allowing for a more precise query of affected facilities. Mapped data will significantly improve the direction of damage assessment teams as an example.

Placer County does not currently have a single map with all fire hydrants and water sources. All of the County's fire agencies routinely provide mutual aid into each other's jurisdiction. Mapped fire hydrants and water sources will reduce the time that it takes an engine company to find an adequate water source in the event of a fire. This effort is particularly important in the mountain areas of Placer County, where deep snows bury hydrants every year, causing the affected fire

districts to have to dig them out in selected communities either at the time of an emergency or after a heavy snow.

Other Alternatives: Continue to estimate fire mitigation measures based on memory and unmapped data. Continue to estimate critical facilities risk and vulnerability based on un-mapped data. Continue to use manually mapped fire hydrant data that is seldom shared with agencies who are providing mutual aid to a sister agency.

Responsible Office: Placer County Fire Chiefs Association / Lake Tahoe Regional Fire Chiefs Association

Priority (H, M, L): Medium

Cost Estimate: Fire Ignitions Layer \$ 6,000

Critical Facilities Layer \$12,000 Fire Hydrant/Water Sources Layer \$50,000 TOTAL \$68,000

Benefit: The development of GIS based mapped data will significantly improve the quality of the County's risk and vulnerability assessments. Mapped data will improve planning accuracy, will improve precision in operations and will improve response timeliness. It is not possible to quantify cost savings in terms of dollars. It is clear, however, that precisely mapped data will significantly improve our efficiency in future mitigation planning projects and will afford first responders and support staff with critical operational data that is essential to there response functions.

Potential Funding: TBD

Schedule: Completion by no later than the next update of the Placer County Multi-Hazard Mitigation Plan, due in 2009.

ACTION #10: DEVELOP AND FUND AN ENFORCEABLE WEED ABATEMENT ORDINANCE

Issue/Background: Similar to the defensible space issue, weed abatement is an important factor in both reducing ignitions and the potential for fire to spread. An effective, countywide ordinance would further the County's fuel management objectives and would mitigate the risk of wildfires in the County. To be effective, the weed abatement code will need to have language ensuring accountability as well as a strong enforcement component.

Responsible Office: Fire Departments in conjunction with Placer County's Public Works

Priority (H, M, L): Medium

Cost Estimate: Code Development: Existing budget and staff

Cost Benefit: Life Safety; reduce property losses

Potential Funding: TBD

Schedule: Within one year

ACTION #11: ADD AN EXIT FROM EASTBOUND INTERSTATE 80 ONTO CAPE HORN ROAD FOR USE BY EMERGENCY VEHICLES ONLY

Issue/Background: When Caltrans closed the Magra exit from Eastbound Interstate 80 a side effect was to increase the response time from Colfax to Cape Horn Road.

Emergency responders to the Cape Horn area primarily come from the CDF station in Colfax, Colfax City Fire, and the AMR station in Colfax. The main staging area for firefighting resources on the 2004 Stevens Fire, which threatened Cape Horn, was in Colfax.

With the closure of the Eastbound I-80 Magra Road exit, the minimum response time to Cape Horn from Colfax is 16 minutes via Norton Grade.

Infrastructure resources at risk in the Cape Horn area include: Interstate 80 and its link to nationwide commerce, Union Pacific Railroad, PG&E power lines, PCWA Boardman Canal, Kinder-Morgan high pressure gas transmission line, USFS Wild and Scenic River along the North Fork of the American River, tourism and recreation, and the American River Watershed and its water supply to other areas of California. A wildfire in the Cape Horn area would also threaten the City of Colfax and homes along Norton Grade Road.

The minimum response time could be reduced to <u>under 10 minutes</u> if an emergency exit at Cape Horn was available Response time is critical because:

- Structure fires attacked within 10 minutes of ignition have the greatest chance of rapid extinguishment, and thus a decrease in potential life and property loss as well as reducing the chances that a house fire will spread to the wildlands. Also, without medical intervention, certain death can occur in persons with heart attack, severe bleeding, and respiratory ailments in as little as four to six minutes.
- Similar statistics hold for rapid extinguishment of wildland fires.
- Norton Grade is a narrow road, with tight turns, and oncoming traffic. Additionally, Norton Grade can become congested with traffic if evacuations are called for.

Wildfire History:

- 1975 Sawmill fire in Cape Horn
- 1977 Another fire occurred in the same area as the Sawmill Fire

- 2001 Ponderosa Fire came within less than ½ mile of Cape Horn
- 2004 Stevens Fire burned 934 acres in the American River Canyon bordering Cape Horn; destroyed 2 residences and 2 outbuildings; high winds would have resulted in much higher losses

Other Alternatives: Plan for, build and staff a fire station at or near the Magra exit. This alternative, while suitable, would cost Placer County over \$3,000,000 initially and another \$800,000 yearly for the life of the station.

Responsible Office: California Department of Forestry and Fire Protection Nevada – Yuba – Placer Unit in conjunction with CalTrans

Priority (H, M, L): Medium

Cost Estimate: In 2004 dollars the off ramp from I-80 is estimated to cost \$5M according to the Placer County 2022 Regional Transportation Plan. Many factors could impact the final cost, such as rising construction costs, any necessity of purchasing property for right-of-way, and perhaps having to realign Cape Horn Road.

Benefit: A structure fire in Cape Horn could readily set the entire area ablaze, or a wildfire from the canyon could enter the area, destroying critical infrastructure that supports the entire County as well as interrupting interstate commerce and travel, not to mention the threatening the lives and property of area residents. The faster the response time for emergency responders, the less chance there is of losing these important resources to wildfire.

It is difficult to put a precise value on the various infrastructure and other resources at risk in the Cape Horn area, but looking just at the approximately 200 homes in the area, the values at risk are \$80,000,000 (using a median value of \$400,000 per home). The cost of the exit is a very small percentage of the total resources at risk.

Potential Funding: Potential sources of funding are: Federal Pre-Disaster Mitigation Grants or SHOPP funds

Schedule: The exit is already included in the Placer County 2022 Regional Transportation Plan.

It would be built during or after the planned Caltrans project to add a truck lane to the Eastbound "Three Mile" (AKA "Colfax Narrows") area, which is several years in the future. There is no point in doing it sooner, because it would likely have to be redone after the truck lane project.

Engineering specifications will have to be developed (and approved by Caltrans), and funding acquired.

FLOOD MITIGATION ACTIONS

NOTE: Many of these actions are recommended jointly with the Placer County Flood Control and Water Conservation District

ACTION #12: ELEVATE REMAINING 95 HOMES IN THE DRY CREEK WATERSHED

Issue/Background: Historically, flooding in the Dry Creek watershed has been a major concern. The February 1986 flood caused widespread damage in most of the Dry Creek watershed. Nearly all bridges and culverts were overtopped, with 30 sustaining embankment damages and one crossing washing out; two bridges over Dry Creek were damaged, street cave-ins occurred at a number of locations, and over 125 homes flooded. Of the 145 homes subject to historical flooding within the Watershed, 95 structures remain non-elevated. Of these 95 remaining homes, 25-30 declined initial grant money for elevation as did the three repetitive loss structures. Placer County is not only concerned with existing flooding problems, but with future problems resulting from increased growth and development in the area. According to the 1992 Dry Creek Watershed, Flood Control Plan, substantial flood damages will occur with the 100-year flood under existing conditions. Areas with the most extensive and frequent damages include areas in the location of the 95 homes. The report indicates that some of these areas are susceptible to flooding from storms as frequent as the 10-year storm. Elevating the remaining 95 homes will reduce future flood-related losses.

Other Alternatives: No Action

Responsible Office: Placer County Flood Control and Water Conservation District, in conjunction with its member agencies including the cities of Rocklin, Loomis, and Roseville.

Priority (**H**, **M**, **L**): Medium

Cost Estimate: The cost to elevate is estimated at \$40 per square foot. Homes need to be elevated anywhere from one to six feet. Of the 95 homes where elevating is feasible, it is estimated to cost \$6 million or \$50 to \$60 K per home.

Benefit: Life Safety; Reduction in Property Loss.

Potential Funding: HGMP, PDM, Dry Creek Trust Fund

Schedule: Within three years

ACTION #13: PURSUE REGIONAL DETENTION AND RETENTION PROJECTS WITHIN THE DRY CREEK AND CROSS CANAL WATERSHEDS

Issue/Background: Historically, flooding in the Dry Creek and Cross Canal watersheds has been a major concern. Placer County is not only concerned with existing flooding problems, but

with future problems resulting from increased growth and development in the area. Specifically, this action recommends a plan be developed for regional retention project identification and funding within the Cross Canal watershed. Implementation of specific regional floodplain restoration sites along secret ravine in the Dry Creek Watershed is also recommended. These sites are identified within the August 2003 feasibility study prepared for the Placer County Flood Control and Water Conservation District. Implementation of regional detention and retention projects will reduce future flood-related losses.

Other Alternatives: No Action

Responsible Office: Placer County Flood Control and Water Conservation District, in conjunction with its member agencies.

Priority (H, M, L): High

Cost Estimate: \$20 million +

Benefit: Life Safety; Reduction in Property Loss.

Potential Funding: HGMP, PDM, Dry Creek Trust Fund, Grant (federal, state)

Schedule: Within five years

ACTION #14: IMPLEMENTATION OF IDENTIFIED BRIDGE AND CULVERT REPLACEMENT PROJECTS. THESE PROJECTS INCLUDE:

- 1. LAKE TAHOE AREA CULVERT AND CROSSING RESTORATION AND IMPROVEMENTS \$1,210,000.
- 2. WESTERN PLACER COUNTY CULVERT IMPROVEMENTS (7 LOCATIONS) \$2,140,000.
- 3. CAVITT-STALLMAN ROAD @ MINERS RAVINE BRIDGE IMPROVEMENTS \$300,000.
- 4. AUBURN/BOWMAN AREA DRAINAGE IMPROVEMENTS (26 LOCATIONS) \$1,800,000.
- 5. HORSESHOE BAR ROAD DRAINAGE IMPROVEMENTS \$370,000.
- 6. LEIBINGER LANE @ MINERS RAVINE DRAINAGE IMPROVEMENTS \$450,000.
- 7. PLACER HILLS ROAD @ MEADOW LANE DRAINAGE IMPROVEMENTS \$1,000,000.
- 8. CREEKHAVEN ROAD CULVERT IMPROVEMENTS \$890,000.
- 9. ALL CULVERTS BENEATH WESTERN PACIFIC RAILROAD AT MAJOR CROSS CANAL WATERSHED DRAINAGE CROSSINGS.

10. BRIDGES TO BE REPLACED INCLUDE 16 BRIDGES IDENTIFIED IN JMM 1992 DRY CREEK WATERSHED FLOOD CONTROL PLAN IN TABLE 4-2. HIGH PRIORITY: WATT AVE AT DRY CREEK; COOK RIOLO AVE AT DRY CREEK; BARTON ROAD AT MINERS RAVINE; SALERGA AVE AT DRY CREEK.

11. RECOMMEND PLANNING STUDY OF SPECIFIC BRIDGES AND CULVERTS TO BE REPLACED IN CROSS CANAL WATERSHED.

Issue/Background: Historically, flooding throughout Placer County has been a major concern. Past floods have caused widespread damage to infrastructure located in these flood-prone areas. Various restoration, drainage, and culvert improvement projects have been identified to minimize future impacts associated with specific areas of concern.

Other Alternatives: No Action

Responsible Office: Placer County Department of Public Works in conjunction with Placer County Flood Control and Water Conservation District and its member agencies

Priority (H, M, L): High

Cost Estimate: See above

Benefit: Life Safety; Reduction in Property Loss.

Potential Funding: HGMP, PDM,

Schedule: Within one year

ACTION #15: ELEVATE HIGHWAY 89, LAKE TAHOE AREA, IN TWO PLACES

Issue/Background: Highway 89 in the Lake Tahoe area became an issue during the January 1997 Floods. The 1997 flooding, which may have been greater than a 100-year flood event, may have been compounded by undersized and blocked culverts. According to the HMPC, two publicly-owned areas along Highway 89 continue to experience flooding problems during large storms. During the 1997 storm, Highway 89 was underwater in the Truckee River south of Alpine Meadows Road. During periods of flooding, access to residents and emergency vehicles is cut off or severely limited.

Other Alternatives: Culvert replacement; Improved maintenance

Responsible Office: Caltrans

Priority (H, M, L): Low

225

Cost Estimate: High

Benefit: Life Safety; Reduction in property loss. This also is an emergency management issue as the road becomes impassable due to flooding issues.

Potential Funding: HGMP, PDM

Schedule: Within five years

ACTION #16: UPGRADE OF FLOOD WARNING SYSTEM TO INCLUDE

ADDITIONAL GAGE LOCATIONS AND FLOOD FORECASTING

CAPABILITIES

Issue/Background: The Placer County Flood Control District, in conjunction with OES, has installed an Alert flood warning system in the County. The existing system, including alert gages owned and operated by the City of Roseville and Sacramento County, consists of approximately 28 rain gages and 22 stream gages. Additionally, the district monitors several rain and stream gages in the Truckee River Watershed. These alert gages provide the district with real-time rainfall amounts and stream level data. An upgraded system to include real time flood-warning gages and flood forecasting capabilities for flood-prone areas would increase the warning time for implementation of effective mitigation measures and necessary evacuations.

Other Alternatives: No Action

Responsible Office: Placer County Flood Control District and Placer County Office of

Emergency Services

Priority (H, M, L): Medium

Cost Estimate: \$100,000

Benefit: Life-safety, Reduction in property loss, Improved warning, increased lead time.

Potential Funding: PDM, HGMP, Flood Control District Reserves

Schedule: Within two years

ACTION #17: UPDATE HYDROLOGY AND HYDRAULIC MODELS WITHIN THE CRITICAL DRY CREEK AND CROSS CANAL WATERSHEDS

Issue/Background: Base hydrology models for both the Dry Creek and Cross Canal watersheds are outdated having been performed in 1992 and 1993 respectively. Rapid urbanization within these watersheds has occurred and is projected to continue with significant impacts to creeks

within the watershed due to increasing amounts of impervious surfaces and altered land uses. Updated hydrology and hydraulic models, including base topography for over 90 miles of creeks are proposed for both flood control and land-use planning purposes.

Other Alternatives: Continue to review urbanization projects with outdated models.

Responsible Office: Placer County Flood Control and Water Conservation and its member

agencies

Priority (H, M, L): High

Cost Estimate: \$800,000

Benefit: Improved flood control and land use planning capabilities throughout southwestern

Placer County

Potential Funding: PDM, Flood Control District Reserves

Schedule: Immediate and ongoing

AGRICULTURAL MITIGATION ACTIONS

ACTION #18: DEVELOP A NOXIOUS WEED ORDINANCE

Issue/Background: Noxious weeds are highly invasive with a well-known propensity to establish and disseminate rapidly. Unpalatable to livestock, these weeds will out-compete native vegetation quickly, eventually creating a monoculture that negatively impacts wild areas, rangeland, national forests, hay crops and other assets of economic and natural importance. The objective is to eradicate noxious weeds in the project area, thereby eliminating or significantly reducing further spread in California.

The ordinance would include measures to restrict the types of plants/landscaping allowed in the County and restrict the types of plants that Nurseries are allowed to sell.

Responsible Office: Placer County Agricultural Commission

Priority (H, M, L): Medium

Cost Estimate: Existing budget and staff

Enforcement??

Benefit: Unpalatable to livestock, these weeds will out-compete native vegetation quickly, eventually creating a monoculture that negatively impacts wild areas, rangeland, national forests, hay crops and other assets of economic and natural importance. A comprehensive eradication program will benefit counties and national forests in California.

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Potential Funding: PDM, HMGP

Schedule: Within two years

ACTION #19: CONTINUE AND MAINTAIN NOXIOUS WEED ERADICATION PROGRAM

Issue/Background: Occurrences of noxious weeds along highway shoulders and private lands within the project area were detected and treated in Placer County from 2001 thru 2003. The survey and eradication project targeted Spotted Knapweed, Perennial Peppercress, and Yellow Starthistle. After three seasons of survey and eradication work, the populations along key roads leading to Lake Tahoe have been significantly reduced, and eradication is still deemed possible. A comprehensive eradication project will require the continuation of a thorough program including delimitation, monitoring, treatments, and prevention components.

In general, eradication of noxious weeds in some areas is obtainable, however, it can often become a protracted effort. Therefore, a rapid response is necessary to achieve the eradication objective. In California, history shows us the degree of eradication is proportional to the degree of "Emergency Status" given to the project. Currently this project has funding through 2005. It is recommended this project continued to be supported as an emergency project through 2007????

Responsible Office: Placer County Agricultural Commission

Priority (H, M, L): High

Cost Estimate: \$85,000/year

Benefit: Unpalatable to livestock, these weeds will out-compete native vegetation quickly, eventually creating a monoculture that negatively impacts wild areas, rangeland, national forests, hay crops and other assets of economic and natural importance. A comprehensive eradication program will benefit counties and national forests in California. In the bigger picture, long-term success in California will depend on it.

Potential Funding: PDM, HMGP

Schedule: Within one year

All other hazards identified in the Risk Assessment have no specific mitigation projects related to them. The preferred alternative, due to low risk and/or low vulnerability, is no action. However, each of these hazards, in addition to all others identified, are recommended to be included as part of an annual, seasonal, Public Awareness Program.

ACTION #20: RESEARCH, DEVELOP AND CONDUCT A MULTI-HAZARD, **SEASONAL PUBLIC** AWARENESS/EDUCATION **PROGRAM** THAT **PROVIDES CITIZENS AND BUSINESSES** WITH ACCURATE INFORMATION DESCRIBING THE RISK AND VULNERABILITY TO NATURAL HAZARDS AS WELL AS MEASURES FOR MITIGATING THE EFFECTS OF IDENTIFIED THE POTENTIAL AREAS TO BE HIGHLIGHTED, POSSIBLY IN INDIVIDUAL CAMPAIGNS, INCLUDE:

- WILDLAND FIRES, IGNITIONS, AND DEFENSIBLE SPACE
- FLOOD HAZARDS AND THE NEED FOR FLOOD INSURANCE
- WEST NILE VIRUS EDUCATION/HORSE VACCINATION CAMPAIGN
- "DON'T BRING THAT TO PLACER COUNTY CAMPAIGN" (EXOTIC PESTS AND NOXIOUS WEEDS)
- WINTER STORM TIPS INCLUDING DRIVING, EMERGENCY PREPAREDNESS KITS, AVALANCHE SAFETY
- DROUGHT AND WATER CONSERVATION INFORMATION

Issue/Background: Placer County is subject to several natural hazards, each which poses a different degree of risk and associated vulnerability. Some hazards have a combination of attributes, including a high likelihood of occurrence, a specific location that would likely be impacted, and proven approaches that can reduce the impact, such that the HMPC has recommended specific actions be taken. For other hazards, where either the likelihood of occurrence is very low, or the area of likely impact is not specifically known, or there is very little that can be done to reduce the impacts, that the HMPC has determined that the best approach would simply be public awareness. People should know what the HMPC knows: information describing historical events and losses, the likelihood of future occurrences, the range of possible impacts, appropriate actions they can take to save lives and minimize property damage, and where additional information can be found. Any information provided through this effort should be accurate, specific, timely, and consistent with current and accepted local emergency management procedures as promoted by the California State Office of Emergency Services, the CRS Public Outreach (Activity 330) and the American Red Cross. This public outreach effort should include the following elements:

- Utilize a variety of information outlets including local news media, creating and printing of brochures and leaflets, water bill inserts, websites, and public service announcements. Current brochures and flyers should be put on display in County office buildings, libraries, and other public places. Link to billing e-payments.
- Develop public-private partnerships and incentives to support public education activities, including displaying hazard models at schools, OES, NWS, Home Depot, Lowes, Homebuilder shows, Realtor organizations, etc.

• Investigate teaming opportunities with the Placer County Realtor Associations in preparing the public information program strategy. This would determine the feasibility of developing a real estate agents' brochure or a process whereby real estate agents disclose hazard information to potential property purchasers, for example through the MLS listing services

Continue all public information activities currently implemented. Review effectiveness and revise accordingly

Responsible Office: Placer County Office of Emergency Services; Public Information; Chamber of Commerce

Priority (H, M, L): Medium

Cost Estimate: \$5-20,000, depending upon printing and mailing costs, level of volunteer participation, and scope and frequency of events.

Benefit: Life safety, Reduction in property loss, Relatively low cost, Multi-hazard public outreach program is efficient, relies upon work already accomplished by HMPC and others.

Potential Funding: HMGP, PDM

Schedule: Part of a seasonal multi-hazard public awareness campaign.

FORESTHILL FIRE DEPARTMENT RECOMMENDED MITIGATION ACTIONS

ACTION #1: FORESTHILL BIOMASS PROJECT

Issue/Background: The mission of the Foresthill Fire Safe Council is to protect natural resources, human life and property improvements by mobilizing all citizens to help them make their homes, neighborhoods and the community fire safe. The reduction of excess vegetation a.k.a. fuels in the area is one of our focus statements. Clearing the forests of fuels makes them more healthy and sustainable and fire resistant. Recycling those fuels and turning them into energy makes it cheaper or even profitable to remove these fuels. It also offers an alternative energy source to reduce dependence on fossil fuels and foreign oil. It would stimulate the economy of the local area with jobs to clear and haul fuels, run a plant and market woody byproducts such as soil amendments, particle board, wood chips and many others.

Other Alternatives: No action leaves our forests severely over grown with brush and a fire hazard to the whole community. Continued mastication of fuels, which is very expensive and does not remove the fuels from the forest.

Responsible Office: Foresthill/Iowa hill Fire Safe Council: Chairman Luana R. Dowling

Priority (H, M, L): High

Cost Estimate: Costs will vary depending on the size of the Biomass Plant. A beginning estimate is \$300,000 for a small plant to power a building the size of the High School. The cost to put a plant on the ground, collect, haul and convert the fuels to energy and/or products – and how much money can be made via selling energy to the grid and selling wood by-products is still to be determined.

Cost Benefit: By combining fuels recycling with fuels removal, it becomes economically advantageous to remove fuels, whereas the current method of chipping the fuels and leaving them on the forest floor is very expensive, and less effective because fuels are not removed, merely rearranged, and no use is made of the woody remains after fuels treatment.

Potential Funding: Grants, loans and subsidies available for such projects.

Schedule: 1-3 years

ACTION #2: TODD VALLEY EVACUATION PLAN--FORESTHILL FIRE PROTECTION DISTRICT (FFPD) AND COOPERATIVE AGENCIES.

Issue/Background: Saving lives and property along with rapid containment of wildfires and structure fires are a high priority for the FFPD. The Todd Valley Subdivision is a neighborhood of about 1,100 homes located southeast of Foresthill, CA in rural Placer County. Encompassing some 1,500 acres, and 45 miles of roadways, with only two main exits to Foresthill Rd. The southern boundary of the 25 year old subdivision directly intersects the steep cliffs of the Middle Fork of the American River. Lot sizes are all one acre or more. To the 3,000 people who live there, Todd Valley appears to be an isolated enclave, sheltered by towering oaks and pine trees. Many homes are shielded from neighbor's views by a quarter-century accumulation of dense brush and an impenetrable vegetation understory. The calculations for fire travel from the Middle Fork American River to this subdivision in the middle of summer on the right day is 15 minutes. Having a Cooperative Agencies Evacuation Plan to save the lives of 3,000 people is critical. Having an evacuation plan in place will enable the County Teleminder system to be used effectively.

Other Alternatives: The alternative is to continue to rely on the residents of Todd Valley to evacuate in an orderly manner as flames are climbing the canyon walls.

Responsible Office: Fire Chief Snyder, Foresthill Fire Protection District

Priority (H, M, L): High

Cost Estimate: The cost to evaluate the evacuation route, map and develop information for the plan is estimated at \$5,000.

Cost Benefit: Benefit to the 3,000 residents of Todd Valley is their lives as well as their homes. At the current County median value per home of over \$400,000 per home, the 1,100 homes in Todd Valley are valued at \$440,000,000. Having orderly evacuations will not only save lives, but also assist firefighters in gaining timely access to protect homes.

Potential Funding: Grants, loans and subsidies available for such projects

Schedule: Complete the plan by the beginning of Fire Season 2005

ACTION #3: ASSESS AND ENHANCE FORESTHILL FIRE PROTECTION DISTRICT (FFPD) NEW SUBDIVISION, HAZARD FUELS CLEARING AND MAINTENANCE ORDINANCE. PUT PROGRAMS IN PLACE WITH HOMEOWNERS ASSOCIATIONS IN CC&R'S AND MAINTENANCE CONTRACTS.

Issue/Background: Rapid containment of wildfires and structure fires are a high priority for the FFPD. This project would evaluate appropriate requirements for hazard fuel clearing and maintenance and propose an ordinance for adoption by the Foresthill Fire Protection District Board of Directors. This ordinance will be based on the State Standard on Hazard Fuels Reduction for Suburban and Rural areas and/or on the Urban-Wildland Interface Code.

Other Alternatives: The alternative is to continue to rely solely upon the land developer and subsequent absentee property owners, to provide hazard fuels reduction and maintenance. This has been attempted with other Subdivisions in the Foresthill area, and the results are not acceptable.

Responsible Office: Fire Chief Kurt Snyder, Foresthill Fire Protection District

Priority (H, M, L): High

Cost Estimate: The cost to evaluate requirements and prepare the ordinance would come out of normal operating expenses. The cost to the developers of the Subdivisions approximately \$1,200 per acre initially. Maintenance would be minimal if kept up on a yearly basis. If added to Homeowners Association CC&Rs it would be easier to implement.

Cost Benefit: Homes in the FFPD area are presently valued at a median price of over \$400,000 with many homes selling for a far higher cost. The \$1,200 per acre cost to the developer for hazard fuels reduction represents one-half of one percent of the value of the median home price. Hazard Fuels Reduction and Maintenance is an inexpensive way to improve fire suppression capabilities for a home. It also increases the fire safety of the surrounding homes and wildlands because the faster a structure or wildland fire is contained, the less likelihood there is that it will spread.

Potential Funding: Grants, loans and subsidies available for such projects.

Schedule: Complete assessment and ordinance proposal by the end of calendar year 2005

ACTION #4: TODD VALLEY SHADED FUEL BREAK

Issue/Background: Saving lives and property along with rapid containment of wildfires and structure fires are a high priority for the Foresthill Fire Protection District (FFPD) and Foresthill Fire Safe Council (FFSC). The Todd Valley Subdivision is a neighborhood of about 1,100 homes located southeast of Foresthill, CA in rural Placer County. Encompassing some 1,500 acres, and 45 miles of roadways, with only two main exits to Foresthill Rd. The southern boundary of the 25-year-old subdivision directly intersects the steep cliffs of the Middle Fork of the American River. Lot sizes are all one acre or more. To the 3,000 people who live there, Todd Valley appears to be an isolated enclave, sheltered by towering oaks and pine trees. Many homes are shielded from neighbor's views by a quarter-century accumulation of dense brush and impenetrable vegetation under story. The calculations for fire travel from the Middle Fork American River to this subdivision in the middle of summer on the right day is 15 minutes.

A Shaded Fuel Break at the top of the ridge of the Middle Fork American River Canyon would give firefighters a place to make a stand and allow an area for the fire to slow and drop to the ground where it can be managed. This would also give Sheriffs and Firefighters a better chance to evacuate the area.

Other Alternatives: If you look at the fire history on the Foresthill Divide its not a question of IF but WHEN will we have a devastating wildfire. To do nothing in the Todd Valley area would leave the residents open to a devastating firestorm. The Placer County Chipper Program has been used very successfully in this area, but is still far from making a significant continuous connected Shaded Fuel Break. Continuous public education is also an alternative.

Responsible Office: Luana R. Dowling: FFSC Chairman

Priority (H, M, L): High

Cost Estimate: Approximately \$1,200 per acre. 50/50 match with property owners and a Federal Grant. The Property in the canyon is State Recreation area owned by Bureau of Reclamation (BOR). This recreation area has been the area of several fire starts in the past. It's only a matter of time.

Cost Benefit: Benefit to the 3,000 residents of Todd Valley is their lives as well as their homes. At the current County median value per home of over \$400,000 per home, the 1,100 homes in Todd Valley are valued at \$440,000,000. Having a strategically planned shaded fuel break will not only save lives, but also assist firefighters in gaining timely access to protect homes.

Potential Funding: Grants, loans and subsidies available for such projects.

Schedule: Completed by the end of 2008

NORTH TAHOE FIRE PROTECTION DISTRICT RECOMMENDED MITIGATION ACTIONS

ACTION #1: COMPLETION OF FUELS MANAGEMENT PROJECTS ON VARIOUS PARCELS IN THE NORTH TAHOE FIRE PROTECTION DISTRICT, AS OUTLINED IN THE NORTH TAHOE COMMUNITY FIRE PROTECTION PLAN.

Issue/Background: Wildland fire is a major hazard in the North Tahoe Fire Protection District. Heavy wildfire fuels abut or extend into many North Tahoe communities. Human ignitions are plentiful across the District. The Lake Tahoe Basin Watershed Assessment included a detailed study of wildfire susceptibility and noted that many communities in North Tahoe are at high susceptibility to wildfire.

Other Alternatives: No action continues to leave the communities at risk to wildfire.

Responsible Office: A number of entities own land on which fuels reduction should occur. The North Tahoe Fire Protection District provides assistance to entities where time and funding allows.

The Tahoe Basin Fire Safe Council has assumed the coordination role of assisting private landowners and local jurisdictions with fuels reduction projects. The Council seeks to secure funding for projects and directly administers some fuels reduction projects.

Priority (H, M, L): High

Cost Estimate: The total cost for implementing all proposed fuels reduction projects is \$12,932,570.

Cost Benefit: If a single community was to burn, losing 20 homes, in the North Tahoe Fire Protection District, the combined suppression costs and home replacement costs would be well in excess of \$13 million. There are approximately 15 communities within the district.

Potential Funding: Funding may be available through the Healthy Forest Act or the National Fire Plan. The Lake Tahoe Basin has received direct congressional budget set-asides in the past.

Schedule: Each fuels reduction projects would take one to two years to complete. The entire area could be treated within 10 years. Time would vary depending on the treatment method, environmental compliance necessary, and staff availability to manage the project.

PLACER COUNTY FIRE CHIEF'S ASSOCIATION RECOMMENDED MITIGATION ACTIONS

ACTION #1: COOPERATIVE FIRE SERVICE RESPONSE AGREEMENT FOR THE WESTERN SIDE OF ALL PLACER COUNTY FIRE AGENCIES.

Issue/Background: The Placer County Fire Chief's Association is developing Cooperative Fire Service Response Agreement that will implement auto-aid based on the closest available resources for fire and medical emergencies within western Placer County. This agreement will include a comprehensive operating plan on how this will be implemented.

Other Alternatives: No Action

Responsible Office: Placer County Fire Chiefs Association, executive board.

Priority (H, M, L): High

Cost Estimate: All costs to date are borne through each participating agency.

Cost Benefit: Enhancement of the delivery of emergency services without significant cost increase to citizens, which ensures that the closest available resource(s) responds to an emergency, thus reducing response time and improving coverage. This agreement also helps to offset potential delays due to multiple fire dispatch centers in the County.

Without medical intervention, certain death can occur in persons with heart attack, severe bleeding, and respiratory ailments in as little as four to six minutes. Structure fires attacked within 10 minutes of ignition have the greatest chance of rapid extinguishment, and thus a decrease in potential life and property loss as well as reducing the chances that a house fire will spread to the wildlands or vice-versa.

It is impossible to quantify the resources protected by this agreement as they are essentially all of the resident and traveling population, all homes and businesses, and all wildlands.

Potential Funding: Unknown

Schedule: The agreement is in the process of being finalized with a target for completion of January 2005. Additional plans will be developed as needed to fully execute the agreement.

ACTION #2: ANNUAL MULTI-AGENCY WILDLAND FIRE DRILL.

Issue/Background: The Placer County Fire Chiefs Association and Training Officers Association have developed an annual training exercise that provides training and education at all levels. This is a one-day event that simulates a large wildland incident requiring a sizeable number of resources. Average participation in such an exercise has been around 135 personnel

from all different agencies. Some include: the planning and development stages of the exercise utilize the "team" concept of various Incident Command System (ICS) positions that individuals may complete required training for; engine company personnel conduct "hands on" performance based training to enhance wildland fire skills; overhead ICS positions interface with political dignitaries of jurisdictions as to what occurs and the needs during such an event.

Other Alternatives: Not having these annual drills means that when a large incident occurs, the response to and management of the incident may be less than ideal.

Responsible Office: Placer County Fire Chiefs Association and Training Officers Association

Priority (H, M, L): High

Cost Estimate: The cost for such an exercise has been running about \$3000.00 annually.

Cost Benefit: Excellent realistic training for all personnel at all levels, and the cooperative effort and training among various fire agencies and local government on a regional basis, leads to a more effective response to real incidents without a significant cost factor. The value of this drill was illustrated on the 2004 Stevens Fire near Colfax where over a thousand personnel and several hundred engines from multiple fire agencies worked together in partnership.

Potential Funding: The first year was funded by the Auburn Fire Department. A grant from the Bureau of Land Management was utilized for the 2004 event and a request has been made to fund the 2005 event.

Schedule: Successfully conducted in 2003 and 2004, the objective is to do this annually, assuming funding is available.

ACTION #3: ACQUISITION AND IMPLEMENTATION OF AN ADDITIONAL COMMAND FREQUENCY FOR FIRE DISPATCH ON THE WESTERN SLOPE.

Issue/Background: Except for the cities of Roseville, Lincoln, and Rocklin, Placer County fire agencies are dispatched either by the County PSAP (the fire districts), or by the CDF dispatch center in Grass Valley. Valuable time can be lost when an incident requires responses from resources controlled by both dispatch centers. Also, the current dispatch frequency can be overwhelmed when there are multiple simultaneous incidents in progress because of the number of resources needing to make communication with the dispatch center. The new command frequency will be dedicated to use by all responding resources and both dispatch centers as an additional frequency during emergency incidents. This in turn will free-up valuable and critical dispatch time on primary frequencies for additional incidents.

Other Alternatives: No action would potentially result in crucial radio traffic not being able to get through due to the overloading of the current command channel.

Responsible Office: Placer County Fire Chiefs Association

Priority (H, M, L): High

Cost Estimate: The frequency has been acquired. Some cost for testing is pending.

Cost Benefit: Life safety; protection of property

Potential Funding: The pending cost for testing will come from the operational budgets of the County PSAP, CDF, and participating fire agencies.

Schedule: While the frequency has been acquired, implementation was postponed until after the 2004 fire season. The project is targeted for completion by no later than Spring 2005.

PLACER COUNTY OFFICE OF EDUCATION RECOMMENDED MITIGATION ACTIONS

ACTION #1: PURCHASE NOAA WEATHER RADIOS FOR ALL DISTRICT SITES.

Issue/Background: Real-time monitoring of weather events by school district administration would provide an opportunity to assess the potential danger/hazards to local school sites and to react appropriately. Evacuating hundreds of students from a site involves massive transportation planning. Early warning through the NOAA radios would give school districts a slight jump on evaluating any imminent danger and would allow for a more organized plan of action if the situation warrants.

Other Alternatives: Standard AM/FM radiobroadcasts and/or television broadcasts

Responsible Office: Individual district Superintendents or their appointed representative

Priority (H, M, L): High

Cost Estimate: Twenty districts; two per district @ \$45.00 each for a total of \$1,800 plus \$200 for batteries

Cost Benefit: Potential savings in property damage and/or loss of life due to early warning and response to an event

Potential Funding: General Fund or as otherwise identified

Schedule: Fiscal Year 05-06, subject to funding availability

ACTION #2: INSTALL E-POP ALERT NOTIFICATION AT ALL PLACER COUNTY OFFICE OF EDUCATION SITES AND ALL SCHOOL/DISTRICT SITES.

Issue/Background: E-POP allows for authorized users to send an alert message in the event of an emergency that would override computer programs currently in use. This provides an additional method of notifying staff of an emergency.

Other Alternatives: Phone trees, loud speakers, intercoms, etc.

Responsible Office: Each site administrator

Priority (H, M, L): Medium

Cost Estimate: The fee for 150 users is \$7.50 each. Software maintenance is 22 percent

Cost Benefit: Provides an additional method of notifying staff in the event of an emergency. Inexpensive way to reach a large group of people.

Potential Funding: None identified

Schedule: 2005

ACTION #3: IMPROVE COMMUNITY EMERGENCY MANAGEMENT

CAPABILITY: COMMUNICATION SYSTEMS FOR INCIDENT COMMAND TEAM; CRISIS RESPONSE BOXES AND

MATERIALS; PORTABLE COMMAND CENTER.

Issue/Background: The Placer County Office of Education staff has been coordinating statewide crisis response planning and implementation for districts through the California Department of Education. These efforts would be directed to all Placer County agencies and businesses.

Other Alternatives: No Action

Responsible Office: The Placer County Office of Education, Prevention Services Department

Priority (H, M, L): High

Cost Estimate: \$50/response box, including contents

Cost Benefit: A well-prepared and implemented crisis response plan that was similar in

management (ICS), policies and procedures would mitigate the loss of life and property.

Potential Funding: None identified

Schedule: 2005

PLACER COUNTY WATER AGENCY RECOMMENDED MITIGATION ACTIONS

ACTION #1: MAINTAIN AND ENHANCE CANAL SYSTEMS BY CONVERTING EARTHEN CANALS TO GUNITE-LINED CANALS IN CRITICAL AREAS.

Issue/Background: Wildfires present significant hazards to Placer County. CDF and most rural Fire Departments depend on canal systems operated by either public or private entities to be a source of water for firefighting.

Other Alternatives: No action

Responsible Office: Placer County Water Agency, PG&E, and other canal operators

Priority (**H**, **M**, **L**): High

Cost Estimate: \$500,000 to \$600,000 per year

Cost Benefit: Improves reliability of canal systems for Life Safety, reduction in property loss

and public water supply.

Potential Funding: HGMP, PDM, FEMA, PG&E, PCWA, others

Schedule: Immediate and ongoing

ACTION #2: REPLACE WOODEN FLUME STRUCTURES WITH STEEL STRUCTURES.

Issue/Background: Historically flumes allow a gravity flow canal system to cross canyons; valleys and other low spots without going into them so that pumping stations are not necessary. The support structures for flumes are made of wood and therefore vulnerable to fires.

Other Alternatives: No action; substitute concrete materials for structural steel.

Responsible Office: Placer County Water Agency

Priority (H, M, L): High

Cost Estimate: Estimate from \$50,000 to \$150,000 per flume.

Cost Benefit: By replacing wood with steel, the flume supports would not be vulnerable to fires, allowing water to be available to support life safety and for property protection and water consumption.

Potential Funding: HGMP, PDM, FEMA, PCWA.

Schedule: Ongoing

ACTION #3: DE-SILT RESERVOIRS.

Issue/Background: Reservoirs are untreated water storage areas and are used to regulate the flow of water in canals for treated water production, agriculture use and as a water source in fire suppression.

Other Alternatives: No action

Responsible Office: Placer County Water Agency and private property owners.

Priority (H, M, L): Medium

Cost Estimate: Estimate from \$200,000 to \$ 4.6 million depending on size and amount of silt in reservoir.

Cost Benefit: Silt and other debris is continually accumulating into canals and deposited into reservoirs. As silt levels increases over the years, it decreases storage capacity in the reservoir. Periodic de-silting improves the life safety and operational value of the reservoirs.

Potential Funding: HGMP, PDM, PCWA.

Schedule: Ongoing

PLACER HILLS FIRE PROTECTION RECOMMENDED MITIGATION ACTIONS

ACTION #1: ASSESS AND ENHANCE PLACER HILLS FIRE PROTECTION DISTRICT (PHFPD) ONSITE WATER REQUIREMENTS FOR MINOR LOT SPLITS.

Issue/Background: Rapid containment of wildfires and structure fires are a high priority for the PHFPD. At present, minor lot splits (four or fewer parcels), do not have sufficient requirements for onsite storage of water for fire fighting. This project would evaluate appropriate requirements and propose an ordinance for adoption by the Placer Hills Fire Protection District Board of Directors. This ordinance will be based on the *NFPA 1142 Standard on Water Supplies for Suburban and Rural Fire Fighting* and/or on the *Urban-Wildland Interface Code 200*0.

Other Alternatives: The alternative is to continue to rely solely upon the availability of the PHFPD water tender, and mutual aid water tenders from other local government entities.

Responsible Office: Fire Chief Ian Gow, Placer Hills Fire Protection District

Priority (H, M, L): High

Cost Estimate: The cost to evaluate requirements and prepare the ordinance would come out of normal operating expenses. The cost to the developers of a minor lot splits would be approximately \$2,000 per storage tank. In some cases, multiple homes could share a tank.

Cost Benefit: Homes in the PHFPD area are presently valued at a median price of over \$400,000 with many homes selling for a far higher cost. The \$2,000 cost to the developer for onsite water storage represents one-half of one percent of the value of the median home price. On-site water storage is an inexpensive way to improve fire suppression capabilities for a home. It also increases the fire safety of the surrounding homes and wildlands because the faster a structure fire is contained, the less likelihood there is that it will spread. The water would also be used to protect homes from encroaching wildfire.

Potential Funding: Unknown

Schedule: Complete assessment and ordinance proposal by the end of calendar year 2005.

ACTION #2: ANNUAL DEFENSIBLE SPACE INSPECTIONS PROGRAM FOR THE PLACER HILLS FIRE PROTECTION DISTRICT (PHFPD)

Issue/Background: Defensible space around structures is the most important factor in the ability of a home or other building to survive an encroaching wildfire. Regular inspections,

based on the requirements of California Law as specified in Public Resources Code 4291, can help ensure that homeowners create and maintain adequate defensible space. The inspection process is also an opportunity to educate and motivate the homeowners to take action to improve their wildfire safety.

Other Alternatives: One alternative is to continue to rely on CDF to fund and perform these inspections. However, unless outside grant funding is acquired, CDF does not have the budget to carry out this function. And for the times that CDF does have grant funding, having a program in the PHFPD will mean that those scarce funds can be used for other areas of the county which do not have their own programs.

Another alternative is using unpaid volunteers to do the inspections. However, in order to complete the inspections in a timely manner that allows residents adequate time to comply with defensible space requirements prior to the start of fire season each year would either need a large cadre of inspectors and place an onus, and cost, on the fire district to manage them, or necessitate a huge individual time commitment that is inappropriate to expect from volunteers.

Responsible Office: Fire Chief Ian Gow, Placer Hills Fire Protection District

Priority (H, M, L): High

Cost Estimate: \$10,000 per year will fund 750 home inspections. There are approximately 3,600 homes in the fire district. Inspections would cycle through the fire district, so that every home would be inspected approximately every five years.

Cost Benefit: The homes in the PHFPD have a median value of over \$400,000, and many homes have a much higher valuation. Therefore each group of 750 inspections would protect \$300,000,000 in values at risk for a cost of \$10,000, or 0.003 percent of the resource value protected.

Potential Funding: Title III funds from the *Secure Rural Schools & Community Self-Determination Act of 2000* (AKA "HR 2389 Timber Tax") payments to Placer County; Grant funding from various programs under the National Fire Plan

Schedule: Annually in the spring, starting in the spring of 2005.

SIERRA JOINT COMMUNITY COLLEGE DISTRICT RECOMMENDED MITIGATION ACTIONS

ACTION #1: SIERRA COLLEGE -- FIRE PREVENTION IN 100+ ACRES NATURE AREA

Issue/Background: In September, 2002, a wild fire in Loomis and Granite Bay, two communities adjacent to Sierra College in the City of Rocklin, threatened two schools, a fire station and many homes. It destroyed six structures including three homes. One hundred homes were evacuated (Source: FEMA region IX). If the wind had changed direction towards Sierra College, the fire would have surely burned the 100+ acres wooded area behind the college and endangered 57 structures.

As far as we know, there has been no concerned effort in the last sixty years to manage the fire hazard of the wooded areas. Fuel management is nonexistent. Overgrown underbrush and fallen trees are commonplace in the area. The objective of the project is to: (1) Establish an on-going program for fire prevention, (2) Reduce and manage fuel, (3) Create defensible space, and (4) Create fire breaks.

Other Alternatives: (1) No Action: This option is not viable because the fire hazard continues to exist. The nature area in question is literally within yards to college buildings where students and employees actively conduct business on a daily basis. Fire and smoke (poison oaks) could easily overrun the 20,000+ population within shouting distance.

Responsible Office: Sierra College Risk Management Office (916-781-7185), City of Rocklin Fire Department.

Priority (H, M, L): High

Cost Estimate: TBD

Cost Benefit: Life safety; over 20,000 students and employees are going to school and working in this location. In addition, reduction in property loss; based on March 2004 AAA report to Sierra College insurer, ASCIP, the total (building and content) appraised value of the Sierra College properties at this location is \$111,606,713. The buildings have 534,971 square feet.

Potential Funding: Unknown at the time of preparing this project proposal but most likely will come from Sierra College general fund and sunk personnel costs.

Schedule: Immediate within fiscal year 2004-2005 and ongoing.

ACTION #2: SIERRA COLLEGE -- IMPROVED EMERGENCY RESPONSE CAPABILITIES THROUGH AN UP-TO-DATE CRISIS RESPONSE PLAN AND MULTI-JURISDICTIONAL TRAINING DRILLS

Issue/Background: Sierra Community College District emergency procedure is designed to provide for rapid emergency response at District facilities by using the same Standardized Emergency Management System (SEMS) legally recognized and used by local, state and federal governments.

The District has established a Crisis Response Plan to help facilitate effective coordination of aid requests, resources and the flow of information among all agencies and jurisdictions within the region. The Crisis Response Plan is designed for use during the planning, response and recovery phases of an emergency or disaster that affects the District's operations, facilities, personnel, students, contractors, vendors or visitors. It has been prepared in compliance with State Disaster Planning requirements, City and County Emergency Management Plans, and SEMS, which incorporates the use of Incident Command System (ICS), the Master Mutual Aid Agreement, existing mutual aid systems, the Placer County operational area concept, and multi-agency coordination.

The objectives of the Crisis Response Plan are:

- A. To provide for effective action in the case of disaster so as to minimize injuries and loss of life among students, staff and the public.
- B. To provide for the maximum utilization of staff and facilities in emergency situations.
- C. To provide for the well being of students, staff, visitors and children in child care programs.
- D. To protect school property.
- E. This plan is a living document, subject to twice yearly revisions and goes through periodic, planned, preferably multi-jurisdictional training exercises to ensure accuracy, currency and relevancy.

2004-2005 activities include:

- Implement photo ID system for all employees
- Visit Placer County OES
- Complete voice and data communications connection to Child Care facility
- Participate in MCI (Multi-Casualty Incident) drills
- Update emergency contact information
- Create consistent "Alpha direction" instructions
- Exercise Incident Command System (ICS) at Roseville Gateway campus
- Perform annual check on building kits

Create MSDS on CD

- Train second and third tier on the Incident Command (IC) Team
- Train employees at large

Other Alternatives: None considered.

Responsible Office: Sierra College Human Resources Department (916-781-0470) and Risk Management Office (916-781-7185). State and Placer County OES, City of Rocklin Fire Department, Police Department, County Sheriff Office, local and regional hospitals, and other public and private medical and emergency response organizations.

Priority (H, M, L): High

Cost Estimate: \$30,000 for various activities above, plus sunk personnel cost.

Cost Benefit: Life safety; over 20,000 students and employees are going to school and working in this location. In addition, reduction in property loss; based on March 2004 AAA report to Sierra College insurer, ASCIP, the total (building and content) appraised value of the Sierra College properties at this location is \$111,606,713. The buildings have 534,971 square feet.

Potential Funding: Unknown at the time of preparing this project proposal. We plan to work with Sierra College insurer, ASCIP (Alliance of Schools for Cooperative Insurance Programs), who has pledged grant money within limits, and California Conservation Corp (CCC) to work out the details.

Schedule: Immediate within fiscal year 2004-2005 and on-going.

SQUAW VALLEY PUBLIC SERVICE DISTRICT RECOMMENDED MITIGATION ACTIONS

ACTION #1: INCREASED STAFFING OF FIRE PERSONNEL TO PROVIDE GREATER COMMUNITY SERVICE.

Issue/Background: The Squaw Valley Public Service District Board Of Directors will vote to consider an increase in the level of protection and service to the community. The increase from three to four firefighters per shift in manpower will allow a faster response. The additional person per shift will allow greater coverage and flexibility. It would allow firefighters to enter a burning building without waiting for backup from a volunteer or another fire station (four are required to enter a burning building). This could be the difference between life and death. Additionally, if more than one fire (or medical aid call) is received the second truck could respond. This increase in staffing could be the difference between a small fire or a catastrophic wildlands fire.

Other Alternatives: No action

Responsible Office: Chief Peter Bansen

Priority (H, M, L): High

Cost Estimate: \$180,000/year

Cost Benefit: This is the least expensive way to provide this increased level of reliable service. The cost to add one person per shift greatly increases fire protection and medical aid responses.

Potential Funding: TBD

Schedule: Within two years

ACTION #2: DEVELOP A COMMUNITY-WIDE EMERGENCY NOTIFICATION SYSTEM CAPABLE OF PROVIDING INFORMATION TO BOTH RESIDENTS AND VISITORS BY UTILIZING PERMANENT, ROADSIDE CHANGEABLE MESSAGE BOARDS AND A LOW-POWER RADIO TRANSMITTER.

Issue/Background: Squaw Valley has a number of potential hazards that can impact both residents and visitors. Natural hazards include an avalanche hazard area affecting a significant number of homes and a mudslide that affects a smaller number. Both residences and businesses have been affected by flooding. The Granite Chief wilderness area to the west of the Valley poses the threat of wildland fire. During periods of heavy snow, the Valley can be essentially paralyzed until side roads are plowed. Human-caused hazards include frequent periods of very

heavy traffic during winter months and occasional, but equally paralyzing traffic during the summer.

The population of Squaw Valley can increase more than ten-fold over the course of several hours on a Saturday morning. Presently, there is no way of effectively alerting residents and visitors of a hazard and the actions to be taken in response.

A community-wide emergency notification system could be implemented with relative ease and cost-efficiency in a compact area like Squaw Valley. Permanent, changeable message boards located along Squaw Valley Road at the west and east ends of the Valley could be used to alert residents and visitors of a hazard and refer them to the frequency for a low-power FM transmitter that would transmit more detailed information and recommended courses of action.

Other Alternatives:

- 1. No action
- 2. Emergency siren/air horn
- 3. Teleminder (already in place at the county level)

Other alternatives have been considered and/or tried at one time or another. The emergency siren/air horn was in place until the mid-1980s, but was ineffective at providing information – residents might know that there was an emergency, but not what to do; visitors were simply bewildered. The Teleminder system is in place, but notifies only residents in their homes and only the population for which a valid telephone number is available.

Responsible Office: Peter A. Bansen, Fire Chief

Priority (H, M, L): High

Cost Estimate: Approximately \$70,000.

Cost Benefit: This is a highly effective way of reaching a large number of people at a very low 'per capita' cost. Once installed, the changeable message boards should be very low maintenance and will cost very little to program and operate. The low-power radio transmitter should be even less costly to install and operate. The two components are both necessary – without the radio transmitter the message boards can provide only minimal information; without the message boards, no one will know to turn their radio to the low power transmitter.

Potential Funding: Potentially funded by a grant or combination of grants.

Schedule: One year or less, depending on permitting and product availability.

CITY OF AUBURN RECOMMENDED MITIGATION ACTIONS

ACTION #1: COMPLETION OF THE PRIVATE LANDS PORTION (WITHIN THE CITY OF AUBURN) OF A MULTI-JURISDICTION SHADED FUEL BREAK ON PUBLIC/PRIVATE LANDS ALONG THE INTERFACE OF THE AMERICAN RIVER CANYON AND THE CITY OF AUBURN.

Issue/Background: The City of Auburn, with high-density residential development, is bounded on the east and south by the Auburn State Recreation Area (ARSA) in the American River Canyon. The fire hazard in the ARSA and nearby private lands is rated as Very High by CDF. The ASRA property is owned by BOR, with BLM owning adjoining portions, and is leased to California State Parks & Recreation. CDF is responsible for wildfire suppression in the ASRA and on adjoining private lands.

A shaded fuel break along the Canyon Rim has been designed as part of the multi-jurisdictional "Comprehensive Fire Management Plan for the Auburn State Recreation Area" (a.k.a. "the Canyonlands Plan"). The fuel break crosses public lands as well as private lands within the City of Auburn. The public lands portion of the fuel break is nearing completion, funded by BOR with CDF crews doing the work.

A shaded fuel break in this area will help to reduce the potential of wildfire, and to lessen the damages of any fires that do occur. It will lessen the chance of fire spreading from the private lands to the public lands and vice-versa, thus increasing community protection as well as public lands protection. The outreach included in the project will inform residents in the fuel break area about the importance of creating and maintaining defensible space, leading to behavioral changes to further improve community safety in the region.

Fuel break work on the private lands started in 2003 and is being performed using the prescription specified in the Auburn City Fire Department's "American River Canyon Shaded Fuel Break Project Implementation Program June 2002," which was developed in concert with the Canyonlands Plan. The private lands comprise approximately 120 parcels, or 80-100 total acres.

The ongoing maintenance of the private lands portion of the fuel break is covered in a separate Recommended Mitigation Action Form.

Other Alternatives: Historically, relying on private landowners to fund and perform vegetation reduction has resulted in an intense build up of vegetation, rather than a decrease. And even when some of the homeowners in the fuel break area do perform fuel reduction, they generally do not complete the work in compliance with the fuel break prescription.

Responsible Office: City of Auburn Fire, cooperatively with CDF, FP & BOR

Priority (H, M, L): High

Cost Estimate: The overall estimate for the project, not including maintenance, is approximately \$320,000.

Cost Benefit: The value of the Auburn properties, according to the Assessor's Roll values, is \$1.1 billion. \$320,000 for the project is 0.028 percent of the values protected in the City. The value of the natural resources in the ASRA, including water quality, are impossible to estimate.

Potential Funding: In 2003, an \$80,000 grant was received from Bureau of Land Management National Fire Plan funds for the City of Auburn to perform groundwork on private parcels. This is a 50/50 matching grant with the individual homeowners. Other avenues of funding will need to be identified for the completion of this project. Possible sources are another National Fire Plan grant or Title III funds from the *Secure Rural Schools & Community Self-Determination Act of 2000* (AKA "HR 2389 Timber Tax") payments to Placer County. The Placer County Chipper Program helps to reduce costs.

Schedule: Work on the project began 2003. The target completion date for the currently funded portion is Spring of 2005. The completion of the remainder is pending the acquisition of funds.

ACTION #2: RESIDENTIAL HOME INSPECTIONS FOR COMPLIANCE OF FIRE SAFE STANDARDS; DEFENSIBLE SPACE.

Issue/Background: The City of Auburn fire department personnel identify one area of residential homes; approximately 30-40, each year and perform on site inspection with the property owner for defensible space and other means to prevent loss due to wildfire. The state of California LE-38 inspection form is used to identify needed actions. The program is based on educating citizens and on going worked performed by the homeowner to make the residence fire safe. These inspections occur in the Very High Fire Severity Hazard Zones and Wildland Urban Interface Zones within the City of Auburn.

Other Alternatives: Do not conduct interaction type programs or inspections and rely on the homeowners to take action with no prompting.

Responsible Office: City of Auburn Fire

Priority (H, M, L): High

Cost Estimate: Currently, all costs are borne through the fire department budget. At an estimated one hour per home inspection at a burdened rate of \$100 per hour for an engine company to do the inspection, the cost is \$100 per home, for a total of \$4000 per year.

Cost Benefit: The project reduces potential losses from wildfire. Using an average value of a home in the City of Auburn, based on the Assessor's Roll Values, of \$194,551, the value of 30-40 homes is \$5.8 million to \$7.5 million. The cost of \$4000 for inspections represents only approximately .06 percent of the values protected.

Potential Funding: Grant funding would allow a greater number of homes to be inspected each year. Possible sources are National Fire Plan funds or Title III funds from the *Secure Rural Schools & Community Self-Determination Act of 2000* (AKA "HR 2389 Timber Tax") payments to Placer County.

Schedule: The project started in 2003 and continues annually, with different target areas each year.

ACTION #3: PUBLIC EDUCATION OF THE RESULTS OF WILDFIRE IN A COMMUNITY AND WHAT CAN BE DONE BY CITIZENS IN DEVELOPING SAFEGUARDS.

Issue/Background: The Greater Auburn Area Fire Safe Council (GAAFSC) is developing a program that will provide education to the citizens of the community about wildfire devastation and how a homeowner needs to take responsibility in creating a fire safe area around the home. The focus of this issue the GAAFSC is intending to capture is that wildfire and prevention is everyone's responsibility, not just the fire department or governmental agencies.

Other Alternatives:

Responsible Office: Greater Auburn Area Fire Safe Council with City of Auburn Fire

Priority (H, M, L): High

Cost Estimate: \$2,000 annually

Cost Benefit: Educating the citizens of the community in the understanding of the importance in reducing the potential of fire damage due to wildfire and motivating them to take action will reduce the possibility of wildfire and lessen the damages of those fires that do occur. A very small investment in education can result in the protection of a large value of resources.

Potential Funding: A grant fund was obtained from Placer County in the amount of \$2000 to begin this project. Additional funding will be needed if this is to be a recurring event.

Schedule: August 2004 through June 2005 for the currently funded program.

ACTION #4: MAINTENANCE OF THE PRIVATE LANDS PORTION OF THE SHADED FUEL BREAK ALONG THE RIM OF THE AMERICAN RIVER CANYON AND THE AUBURN STATE RECREATION AREA (ASRA).

Issue/Background: The completion of the private lands portion (within the City of Auburn) of a multi-jurisdiction shaded fuel break on public/private lands along the interface of the American

River Canyon and the City of Auburn, described in its own Recommended Mitigation Action Form, is only useful as long as the vegetation is continually cut back.

Other Alternatives: To let the vegetation in the fuel break area to regrow, which will eliminate the fuel break in 5-10 years.

Responsible Office: City of Auburn Fire and landowners in the fuel break area

Priority (H, M, L): High

Cost Estimate: Assuming the continued availability of the Placer County Chipper Program, the cost to the City of Auburn would be an estimated \$5000 annually, and the cost to the homeowners would be approximately \$500 per acre or less.

Cost Benefit: Without maintenance, the \$1.1 billion in resources protected by the fuel break would again be exposed to a higher risk of wildfire damage and loss.

Potential Funding: Placer County Chipper Program and Homeowners

Schedule: The agencies which maintain the public lands portion of the fuel break anticipate performing maintenance activities about every three years. The private lands portion would follow the schedule set by these agencies.

ACTION #5: GIS BASED MAPPING OF PERTINENT INFORMATION THAT CAN BE USED BY ALL AGENCIES IN THE DEVELOPMENT OF PRE-PLANNING AND DURING EMERGENCY INCIDENTS.

Issue/Background: The City of Auburn is in the process of creating a GIS based mapping system that provides information of various infrastructure as well as systems and areas that are of benefit in pre-planning for emergencies or mitigation such emergencies. Some of these include: water system, sewer system, storm water system, Fire Hazard zones, Fire evacuation areas, Fire response areas, fire hydrant locations and flow information, Police response zones, street names and addresses, Zoning information, and property ownership.

Other Alternatives: Rely on older City maps created by hand with outdated information.

Responsible Office: City of Auburn, Public Works Department, GIS Technician

Priority (H, M, L): High

Cost Estimate: It is estimated that an additional \$15,000 is needed to finish this project to a point where maintenance will be the only requirement to keep the information up to date.

Cost Benefit: It is difficult to put an exact cost benefit from such a project. Identification of critical infrastructure and use in pre-planning for emergencies would be the greatest benefit. A

GIS system is most cost effective in maintenance and updating since it will only require data entry to an already established system. Such a system could also interface with other regional agencies and provide easy access for critical information sharing.

Potential Funding: Some funding has come from the City of Auburn sewer mitigation funds and the rest has been provided from the General Fund of the City. No grant funding has been available for this project to date.

Schedule: In process. Estimated two to three years out for completion and full implementation.

ACTION #6: IMPLEMENTATION OF STORM WATER TREATMENT PLAN.

Issue/Background: The City of Auburn Public Works Department adopted an ordinance imposing limitations and procedures regarding storm water treatment and incidents affecting storm water run-off facilities. This was a mandated program by the Federal EPA. The plan was assembled and approved according to EPA recommendations.

Other Alternatives: Do not impose additional safety measures in such areas. Failure to comply with Federal mandate.

Responsible Office: City of Auburn, Public Works Director

Priority (H, M, L): High

Cost Estimate: Undergoing analysis of projected costs to implement all phases of the program. It is estimated that approximately \$100,000.00 each year is required to fully implement the plan for successful results.

Cost Benefit: Reduction of natural and environmental hazards to waterways and areas within the City and surrounding regional waterways.

Potential Funding: Grant funding can provide a valuable source of funding for this program

Schedule: Plan completed, implementation phase in progress.

ACTION #7: ELECTRIC STREET DIVERSION PROJECT

Issue/Background: The City of Auburn Public Works Department is in process of developing and implementing a project to assist with the diversion of storm water run-off to alternate locations. This diversion project consists of infrastructure in place to reduce run-off to the historical section of Auburn causing potential flood related damages.

Other Alternatives: Do not conduct project. Continue damage repair when occurs.

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Responsible Office: City of Auburn, Public Works Director

Priority (H, M, L): High

Cost Estimate: This project is estimated at approximately \$200,000

Cost Benefit: Reduction of flood related damage to historical buildings in Auburn. It is estimated that this project can eliminate up to \$500,000 worth of damage from a storm system with significant rainfall.

Potential Funding: There is no funding dedicated for this project, all funding will come from general funding and generated sources. Grant funding can provide a valuable source of funding for this program.

Schedule: Identification of project only at this time. Awaiting funding source.

ACTION #8: OLD TOWN AUBURN STORM DRAIN SYSTEM

Issue/Background: The storm drain system under the Historic section of Old Town Auburn is comprised of a number of tunnels and channels directing run-off water to a local waterway. Most all this system is directly under historic buildings of the town. Several sections of the system are original and dating back to as many as 100 years. Significant rainfall can cause temporary flooding and cause erosion to this older drainage system. The system itself needs to be evaluated for future repair/replacement, or other in an effort to eliminate potential flooding which can result in the loss of historical buildings.

Other Alternatives: Do not evaluate system.

Responsible Office: City of Auburn, Public Works Director

Priority (H, M, L): High

Cost Estimate: It is estimated that \$30,000 to \$40,000 is required to conduct a full assessment and develop a plan that would identify required mitigation measures. It would be anticipated this assessment and plan development would provide mitigation/preparation in the event of a 100-year flood event.

Cost Benefit: Reduction of flood related damage to historical buildings in Auburn. It is estimated that this project can eliminate up to \$500,000 worth of damage from a storm system with significant rainfall.

Potential Funding: No funding is available for such a project.

Schedule: It is undetermined at this time the cost benefit. It would be anticipated that such an assessment would identified such benefit.

ACTION #9: IDENTIFY THE UNREINFORCED MASONRY BUILDINGS IN COMPLIANCE WITH CALIFORNIA STATE LAW AND THE UCBC.

Issue/Background: With numerous unreinforced masonry buildings within City limits, many of them historic and in highly visited parts of town, the potential public safety hazard is high.

Other Alternatives: Spend considerable staff time identifying structures, notifying property owners, developing and adopting an ordinance.

Responsible Office: City of Auburn, Building Department

Priority (H, M, L): High

Cost Estimate: It is estimated that \$15,000 to \$25,000 would be required to conduct a full assessment and develop a plan to identify mitigation measures.

Cost Benefit: The project reduces potential loss of life from unreinforced masonry building failure and reduction of the seismic event related damages to historic buildings in Auburn.

Potential Funding: Unknown

Schedule: Identification of project only at this time. Awaiting funding source.

CITY OF COLFAX RECOMMENDED MITIGATION ACTIONS

ACTION #1: CITY OF COLFAX—CONTINUE ANNUAL WEED ABATEMENT ORDINANCE ENFORCEMENT

Issue/Background: The City of Colfax is classified as a "Very High Fire Hazard Severity Zone" Local Responsibility Area (LRA) by CDF in compliance with the Bates Bill (California Government Code sections 51175-51188). The city is surrounded by State Responsibility Area (SRA) rated as high fire hazard. Wildfire is a constant threat to the city.

There are several vacant parcels, and some developed properties, which have excessive growth of grass and other potential ladder fuels each year. If left untreated these fuels increase the fire hazard within the city limits.

Further, one large parcel near the Interstate 80 exit is used by CDF as a staging area during fire season and this lot needs to be available for use.

Note that the City is in the process of revising its grading ordinance to further delineate what is vegetation removal and what is grading. The intent is to facilitate vegetation removal without a lengthy permit process.

Other Alternatives: Continue to rely on property owners to take action without prompting, which has not worked historically

Responsible Office: Bob Perrault, City Manager

Priority (H, M, L): High

Cost Estimate: Inspect all parcels in the City to determine which ones need treatment—\$4,000. To reduce costs, some of this could be done by the Volunteer Fire Department. Reinspect—\$2,000. To reduce costs, some of this could be done by the Volunteer Fire Department.

For those parcels which do not comply, the City must perform the work at \$500 to \$1,000 per parcel. Technically, this cost is recovered by tax liens on the property but in reality the City has to carry the cost for some time, and the likelihood of recovery is low.

Cost Benefit: Using the average value of \$125,000 for a home in Colfax, based on the Assessor's Roll Values, saving just one from a vegetation fire is a small cost compared to the value protected.

Potential Funding: This process was formerly conducted by the City's Nuisance Abatement Officer, but this position is no longer staffed. Also, the former Nuisance Abatement fund has been depleted and unless other funding is acquired, the General Fund must pay for this effort.

Schedule: Annually in the Spring before fire season is declared, assuming funding is available.

ACTION #2: CITY OF COLFAX—OBTAIN FUNDING FOR A RESIDENTIAL FIRE PROTECTION PROGRAM

Issue/Background: Numerous of the homes in the City of Colfax were built long before modern residential fire protection methods were available—some as long ago as the Gold Rush era. Consequently, many do not even have such basic fire prevention aids as smoke alarms. Not only are these tools crucial to the survival of the residents in case of fire, they also provide an early warning that can reduce the response time of firefighters, thus lowering the possibility that a fire could spread to other homes.

Other Alternatives: Continue to rely on residents to take action on their own.

Responsible Office: Bob Perrault, City Manager

Priority (H, M, L): High

Cost Estimate: Evaluate the need: \$100 per home for about 250 homes—\$25,000. Assuming 50 percent of the homes require smoke alarms, another \$25,000 would be needed for implementation.

Cost Benefit: The average Assessor Roll value for homes in Colfax is \$128,500, and the value of human lives is priceless. A smoke alarm costs about \$25.

Potential Funding: Funding would come from a grant, which would include funds for administration and project management.

Possible funding sources are: USFA/FEMA Assistance to Firefighters Grant Program (AFGP) Fire Prevention & Safety Grants; grants from the U.S. Department of Housing and Urban Development; donations from local businesses and community organizations

Schedule: Completion prior to the next update of this plan, due in 2009.

ACTION #3: CITY OF COLFAX—EVALUATE THE NEED AND FEASIBILITY OF IMPROVING FIRE PREVENTION FOR THE HISTORIC BUSINESS DISTRICT

Issue/Background: Much of the historic downtown of Colfax was built over a century ago. While most of the individual buildings do not qualify for classification as historic, due to past interior remodeling, etc., the aggregate of the Historic District is essential to the character and even the survival of the City. These buildings do not have interior sprinklers or even smoke alarms or emergency lighting. Some buildings share attic space, which could easily spread a fire from one business to another, as happened in historic Nevada City, CA a couple of years ago. This project will evaluate the historic downtown business buildings to see what fire prevention measures are advisable, what are feasible to accomplish, and identify sources of funding assistance.

Other Alternatives: No action.

Responsible Office: Bob Perrault, City Manager, with the partnership of the Colfax Area

Chamber of Commerce

Priority (H, M, L): High

Cost Estimate: TBD

Cost Benefit: While the Assessor Roll book puts a value of \$24.6 million of all 119 businesses in Colfax (which includes businesses outside of the Historic District), the buildings in the Historic Downtown are actually irreplaceable. If any of these buildings is lost to fire, the character of the Historic District would be lessened or even lost. This would negatively impact the ability of the City to survive since the Historic District is one of its major attractions for tourists and visitors and their dollars.

Potential Funding: TBD

Schedule: Complete assessment and plan, and identify sources of funding, by no later than the next update of this plan, due in 2009.

CITY OF LINCOLN RECOMMENDED MITIGATION ACTIONS

ACTION ITEM #1: FLOOD WARNING SYSTEM

Issue/Background Statement: Purchase and install necessary software, rainfall and stream gages, training and tools to monitor precipitation and creek flood flows. Transmit preset warning parameters to City EMS systems. Add additional guages.

Other Alternatives Considered (including No Action): No Action. City would continue to respond to emergencies and flood warning based on citizen notifications.

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): High

Cost Estimate/Potential Source of Funding: City has programmed \$30,000 for funding period from 2004 to 2009.

Cost Benefit: Early warning of flood conditions could assist in prioritizing emergency response, and prevent damage, and reduce risk of injury to citizens with flood fighting.

Schedule: Software Acquisition began in 2004. Schedule of current programming would continue through 2009.

ACTION ITEM #2: STATE ROUTE 65: AUBURN RAVINE BRIDGE - RECONSTRUCT BRIDGE

Issue/Background Statement: The present bridge structure crossing SR65 is antiquated and does not pass the 100-year storm event. In fact flooding of the roadway has occurred in storm events smaller then the 10-year. This is a major entryway to the City, and road closures at this location represent a serious risk to health, safety, and emergency services Replacement of the bridge structure will involve adding capacity and raising roadway elevations to meet current design standards.

Other Alternatives Considered (including No Action): No Action.

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): H

Cost Estimate/Potential Source of Funding: Although this is a State highway project, the City's participation is estimated at \$5,500,000.

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Cost Benefit: The main benefit would be for the safety and welfare of the citizens of the City of Lincoln. State Route 65 south of Lincoln is one of three entry and exit points to the downtown area of the City. All three entry and exit points are projected to flood in the 100-year event, which results in isolation of the downtown areas. Auburn Ravine also bisects the historical areas of the City from the newly developing South Lincoln Master Plan area. Roadway closures at this location would prevent emergency services from being able to provide service across this waterway.

Schedule: 2006 to 2008

ACTION ITEM #3: STATE ROUTE 193: AUBURN RAVINE BRIDGE - ADDITIONAL 110' SPAN

Issue/Background Statement: The existing State Route 193 Bridge at Auburn Ravine does not meet City requirements for freeboard in the 100-year design storm event. A new bridge span of 110 feet located in the overbank areas would provide additional conveyance capacity, but roadway elevations at SR-193 would also need to be raised.

Other Alternatives Considered (including No Action): No Action

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): H

Cost Estimate/Potential Source of Funding: Of the estimated \$5,500,000 for the project, \$500,000 is anticipated to be budgeted in 2006; \$250,000 in 2007 and \$2,500,000 in 2008. Much of the roadway elevating at the existing structure was performed by a previous CalTrans project.

Cost Benefit: This project is necessary for health and safety issues relating to emergency service accessibility during a major flood event. This is also one of three major access points to the historical downtown Lincoln area.

Schedule: 2006, 2007, 2008

ACTION ITEM #4: REGIONAL VOLUMETRIC MITIGATION BASIN - PHASE 2

Issue/Background Statement: As a result of litigation the City of Lincoln is required to mitigate the increased volume of runoff created by the development of housing, commercial industrial and infrastructure due to local and regional growth. This volumetric mitigation storage facility will mitigate downstream flooding by retaining flows within Ingram Slough for later release when stream levels subside. Construction of the volumetric storage facility serves as mitigation for the South Lincoln Master Plan Developments.

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Other Alternatives Considered (including No Action): Compliance is required per a settlement agreement reached between the Twelve Bridges Development, the City of Lincoln, and Sutter County.

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): H

Cost Estimate/Potential Source of Funding: \$1,500,000: Combination of City and Development Fees

Cost Benefit: Reduces the potential for development impact at known flooding areas downstream of the City at Sutter County and the Cross Canal areas.

Schedule: Design 2004, Construct 2005

ACTION ITEM #5: REGIONAL VOLUMETRIC MITIGATION BASIN – PHASE 3

Issue/Background Statement: As a result of litigation the City of Lincoln is required to mitigate the increased volume of runoff created by the development of housing, commercial industrial and infrastructure due to local and regional growth. This volumetric mitigation storage facility will mitigate downstream flooding by retaining flows within Ingram Slough for later release when stream levels subside. Construction of the volumetric storage facility serves as mitigation for the South Lincoln Master Plan Developments.

Other Alternatives Considered (including No Action): Compliance is required per a settlement agreement reached between the Twelve Bridges Development, the City of Lincoln, and Sutter County.

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): H

Cost Estimate/Potential Source of Funding: \$2,720,543: Combination of City and Development Fees

Cost Benefit: Reduces the potential for development impact at known flooding areas downstream of the City at Sutter County and the Cross Canal areas.

Schedule: Design 2005, 2006, Construct 2007

ACTION ITEM #6: NORTH LINCOLN REGIONAL VOLUMETRIC MITIGATION IMPROVEMENTS - PHASE 1

Issue/Background Statement: Newly developing areas of the Markham Ravine and Coon Creek watersheds, which are a part of the current general plan, and which have not previously been studied for potential peak flow and volumetric impacts will require the development of mitigation facilities.

Other Alternatives Considered (including No Action): Require project by project mitigation or No Action which would result in downstream impacts

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): H

Cost Estimate/Potential Source of Funding: \$4,000,000: Combination of City and Development Fees

Cost Benefit: Reduces the potential for development impact at known flooding areas downstream of the City at Sutter County and the Cross Canal areas.

Schedule: Design 2005, 2006, Construct 2007

ACTION ITEM #7: NORTH LINCOLN REGIONAL DETENTION BASIN IMPROVEMENTS - PHASE 1

Issue/Background Statement: Newly developing areas of the Markham Ravine and Coon Creek watersheds, which are a part of the current general plan, and which have not previously been studied for potential peak flow and volumetric impacts will require the development of mitigation facilities.

Other Alternatives Considered (including No Action): Require project by project mitigation or No Action which would result in downstream impacts

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): H

Cost Estimate/Potential Source of Funding: \$1,000,000: Combination of City and Development Fees

Cost Benefit: Reduces the risk of development impacts to peak flow rates at downstream properties

Schedule: Design 2005, 2006.

ACTION ITEM #8: GLADDING PARKWAY, STATE ROUTE 65, MCCOURTNEY ROAD - STREAM RESTORATION AND CULVERT IMPROVEMENT

Issue/Background Statement: Project improvements include new culverts at Gladding Road at Markham Ravine, raised roadway elevations at the north/south stretch of Gladding Road and local storm drainage improvements for the streets.

Other Alternatives Considered (including No Action): Required by adapted master plan

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): H

Cost Estimate/Potential Source of Funding: \$1,840,000: Combination of City and Development Fees

Cost Benefit: This project is necessary for health and safety issues relating to emergency service accessibility during a major flood event.

Schedule: Design 2004, 2005 Construction 2006

ACTION ITEM #9: "O" STREET DRAINAGE IMPROVEMENTS

Issue/Background Statement: Modifications to the south tributary of Markham Ravine channel as it meanders through the City will be necessary to reduce flooding potential in the adjacent subdivisions. We are recommending that the invert be lowered to provide additional capacity to reduce flood elevations by zero to three feet.

Other Alternatives Considered (including No Action): No Action.

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): H

Cost Estimate/Potential Source of Funding: \$485,000: Combination of City and Development Fees

Cost Benefit: An analysis of the existing storm drainage systems in the area shows that there is a potential of structural flooding and roadway flooding in a 100-year event.

Schedule: Design 2004 & 2005, Build 2005 & 2006

ACTION ITEM #10: 7TH STREET DRAINAGE IMPROVEMENTS

Issue/Background Statement: Significant surface flooding is known to occur in the area. An additional Storm drainage trunk pipeline is planned for 7th Street to extend storm drain service along this corridor and to relieve other existing systems which ultimately pick up this drainage area. The proposed system would bring the storm drainage protection to City Standards.

Other Alternatives Considered (including No Action): No Action

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): H

Cost Estimate/Potential Source of Funding: \$915,000: Combination of City and Development Fees

Cost Benefit: Many of the roadways along this corridor flood during normal rainfall events, and access to the High school and residences is restricted. Several residents have complained that they fear the flood waters and have witnessed encroachment of floodwater in their yards, which may encroach into their structures in larger storms.

Schedule: Design 2005, Construct 2006 or 2007 as funds available

ACTION ITEM #11: AUBURN RAVINE AT STATE ROUTE 193 BRIDGE

Issue/Background Statement: Significant sediment and debris accumulate at the "chevron" style piers and abutments. Full bridge capacity needs to be restored for flood protection

Other Alternatives Considered (including No Action): No action

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): H

Cost Estimate/Potential Source of Funding: \$90,000: Re-occuring item is programmed \$10,000 in permits and \$35,000 in work every 4 years. Currently programmed through 2009

Cost Benefit: Improvements would reduce flood frequency upstream of SR-193 and increase flood protection back to the intended installation of the bridge structure

Schedule: 2004-2009

ACTION ITEM #12: AUBURN RAVINE AT STATE ROUTE 65 BRIDGE

Issue/Background Statement: Significant sediment and debris accumulate at the invert and abutments of the bridge. Full bridge capacity needs to be restored for flood protection. The accumulation of sediment in the location also results in a significant sediment accumulation issue upstream.

Other Alternatives Considered (including No Action): No Action

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): H

Cost Estimate/Potential Source of Funding: \$90,000: Re-occuring item is programmed \$10,000 in permits and \$35,000 in work every 4 years. Currently programmed through 2009

Cost Benefit: Improvements would reduce flood frequency upstream of SR-65 and increase flood protection back to the intended installation of the bridge structure

Schedule: 2004-2009

ACTION ITEM #13: AUBURN RAVINE AT JOINER PARKWAY AND UNION PACIFIC RAILROAD BRIDGES

Issue/Background Statement: Significant sediment and debris accumulate at the invert and abutments of the bridge. Full bridge capacity needs to be restored for flood protection. The accumulation of sediment in the location also results in a significant sediment accumulation issue upstream.

Other Alternatives Considered (including No Action): No Action

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): H

Cost Estimate/Potential Source of Funding: \$102,300 - A single stabilization effort is programmed for the 2005 dry season

Cost Benefit: Improvements would reduce flood frequency between SR-65 and Joiner Parkway and increase flood protection back to the intended installation of the bridge structures

Schedule: 2005

ACTION ITEM #14: INGRAM SLOUGH - ORCHARD CREEK RETURN CHANNEL

Issue/Background Statement: This project is located east of the Lincoln Crossings Development at the Nader Property. The Construction of the channel provides a gravity release for the new channels constructed through the Lincoln Crossings development and reduces floodplain elevations, and floodplain inundation areas.

Other Alternatives Considered (including No Action): No Action would result in a large shallow overspill area with limited development potential.

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): M

Cost Estimate/Potential Source of Funding: \$1,568,946: Combination of City and Development Fees

Cost Benefit: The construction of the channel would bring 100-year flood elevations within Ingram Slough at the Lincoln Crossing development to City Standard Freeboard requirements, however, the interim operation would not be expected to cause any structural damages.

Schedule: 2005

ACTION ITEM #15: MARKHAM RAVINE - UPDATED FEMA ANALYSIS AND MAPPING

Issue/Background Statement: Detailed mapping and analysis will be performed for the Markham Ravine watershed. Evaluation and updating of existing FEMA mapping will be accomplished.

Other Alternatives Considered (including No Action): Required by master plan

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): M

Cost Estimate/Potential Source of Funding: \$180,000 Development Fees

Cost Benefit: Precise definition of 100 years flood allows for construction to be set at required criteria. Verification of base flood data will help to determine if any flood protection deficiencies exist in this system.

Schedule: Completion 2005/2006

ACTION ITEM #16: MARKHAM RAVINE DRAINAGE IMPROVEMENTS - UNION PACIFIC RAILROAD & STATE ROUTE 65 CROSSINGS

Issue/Background Statement: Modification of the existing UPRR and SR-65 crossings at Markham Ravine will be necessary to provide 100-year protection at these structures.

Other Alternatives Considered (including No Action): No action.

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): M

Cost Estimate/Potential Source of Funding: \$402,000 Development Funds

Cost Benefit: Briefly Explain why this is cost effective: The main benefit would be to for the safety and welfare of the citizens of the City of Lincoln. State Route 65 north of Lincoln, is one of three entry and exit points to the downtown area of the City. All three are projected to flood in the 100-year event, which results in isolation of the downtown areas.

Schedule: 2006 Design and construct

ACTION ITEM #17: AUBURN RAVINE STREAM RESTORATION PROJECTS (ANALYSIS AND REPAIRS)

Issue/Background Statement: Auburn Ravine is one of the three major watercourses in the City. The previously defined streambed may have been altered by improper encroachment into the floodplain, which changed sediment loading conditions, or acts of nature, resulting in changes to the flow regimes. This task will analyze and recommend specific areas of improvement.

Other Alternatives Considered (including No Action): Leaving stream unrepaired results in erosion potential, and the potential of additional deposition dowstream of the City, which reduces conveyance capacity.

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): L

Cost Estimate/Potential Source of Funding: \$400,000: Combination of City and Development Fees

Cost Benefit: Creek restoration improvements to include restoring the channel's cross section for maximum flow, efficient transportation of sediment, and restoration of the ecosystem.

Schedule: 2005 - 2007

ACTION ITEM #18: MARKHAM RAVINE STREAMBED RESTORATION PROJECTS (ANALYSIS ONLY)

Issue/Background Statement: The existing streambed of Markham Ravine must be evaluated to determine what is necessary to restore the creek section to optimum capacity for flow of water and sediment transport.

Other Alternatives Considered (including No Action): This stream is extremely sensitive to the large amounts of attenuation currently present. Changes in the sedment loading of this system could reduce the storage capacity of the system and result in significant increases to peak flow rates and flooding potential.

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): L

Cost Estimate/Potential Source of Funding: \$90,000: Combination of City and Development Fees

Cost Benefit: Determinination can be made of deficiences

Schedule: 2005 (analysis only)

ACTION ITEM #19: COON CREEK STREAMBED RESTORATION PROJECTS (ANALYSIS ONLY)

Issue/Background Statement: The existing streambed of Coon Creek must be evaluated to determine what is necessary to restore the creek section to optimum capacity for flow of water and sediment transport.

Other Alternatives Considered (including No Action): Identification of potential problems can lead to solutions.

Responsible Office/Person: John E. Pedri, P.E. Director of Public Works/City Engineer

Priority (H, M, L): L

Cost Estimate/Potential Source of Funding: \$90,000: Combination of City and Development Fees

Cost Benefit: Determinination of deficiences can lead to solutions

Schedule: 2006 (analysis only)

TOWN OF LOOMIS RECOMMENDED MITIGATION ACTIONS

ACTION #1: RAISE FLOOD-PRONE HOUSES ALONG LOOMIS CREEKS.

Issue/Background: The Town has kept structure flooding data since 1984. Within the Town limits, there have been 16 homes and 4 buildings flooded in the 1986 flood and 10 homes flooded in the 1995 flood. All homes flooded in 1995 were flooded in 1986.

There are four significant creeks that flow north to south through Loomis; they are Antelope Creek, Sucker Ravine, Loomis Tributary and Secret Ravine. Antelope Creek is 9,000 feet long and runs along the west portion of the Town. The creek is a natural channel throughout Loomis. The creek crossed three important street systems (King Road, Sierra College Boulevard and Del Mar Road). There are three structures identified that are affected by flooding on Antelope Creek. Sucker Ravine is in the central portion of Loomis and is roughly 8,500 feet long. Flow in this system changes in character from the north to the south. The north area flow is gathered by surface runoff near the railroad tracks and enters into pipe systems in the industrial area of Swetzer Road. The flow then runs within pipes and concrete channels within the Sunrise-Loomix Subdivision and enters a naturally lined channel north of King Road. Once the flow crosses King Road, the remaining channel to the south Town limit is natural. The creek also crosses Saunders Avenue, Sierra College Boulevard, Bankhead Road, and Taylor Road (within Rocklin). One structure is identified as being effected by flooding on Sucker Ravine. The Loomis tributary is 10,000 feet long and collects flow from the central portion of Loomis. The flow runs through several piped systems within subdivisions to the north and south of Horseshoe Bar Road. The other segments are natural channel. No flooding of structures have been identified on this tributary. Secret Ravine runs parallel with Highway 80 and is 6,000 feet in length. The creek is a natural channel with two major street crossings at Horseshoe Bar Road and Brace Road. Most of the flooding occurs on this creek system due to the building of structures along the banks. Sixteen structures have been identified as flood prone within Secret Ravine.

Under the Town's updated General Plan, no new structures are allowed to be built within the 100 year floodplain. Existing structures can only be raised or extended to a second story. All information is taken from the FEMA FIRMs. Proposed projects adjacent to the 100-year floodplain must submit to the Town a drainage study report evaluating the drainage and verifying the location of the 100-year floodplain. Larger projects may be required to submit to FEMA, a Letter of Map Revision (LOMR) to update or amend the 100-year floodplain should it be affected by the project.

Other Alternatives: Relocate the structures out of the 100-year floodplain; purchase the property, remove structure and designate it as open space. Purchase the structure/land within the 100-year floodplain, designate it as open space/detention and leave the remaining land for property owner to develop. Compensate property owner for removing structure and acquire a no-build easement of property within 100-year floodplain. No Action.

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Responsible Office: Brian Fragiao, Director of Public Works/Town Engineer, Town of Loomis

Priority (H, M, L): High

Cost Estimate: In 2004 dollars, there is roughly \$2.5 million dollars of structures within the flood prone areas. The cost of land was not factored into the calculation. Depending on the alternative that is used, the cost of construction and incidentals would need to be estimated at current dollar values.

Cost Benefit: With the cost of property and construction and material costs going up, the Town would alleviate much of the cost and flooding concerns by being proactive before future flooding occurs. Providing open space upstream of many of the effected properties may provide additional detention and relieve flooding downstream. As future development occurs in Placer County, in the Town and in Rocklin, the Town of Loomis will need to look for areas to detain floodwaters. This mitigation action works towards flood control in the Town.

Potential Funding: FEMA, Town of Loomis, Affected Property Owner

Schedule: TBD, depending on funding

CITY OF ROCKLIN RECOMMENDED MITIGATION ACTIONS

ACTION #1: GIS BASED MAPPING OF PERTINENT INFORMATION THAT CAN BE USED BY ALL DEPARTMENTS AND AGENCIES IN THE DEVELOPMENT OF PRE-PLANNING AND DURING EMERGENCY INCIDENTS.

Issue/Background: The City of Rocklin is in the process of creating a GIS based mapping system that provides information of various infrastructure as well as systems and areas that are of benefit in pre-planning for emergencies or mitigation of such emergencies. Some of these include: water system, sewer system, storm water system, Fire Hazard zones, Emergency Evacuation Routes, Fire Response Zones, fire hydrant locations and flow information, Police Beats and Response Zones, street names and addresses, Zoning information, and property ownership.

Other Alternatives: Continue to use existing technology and hard copy information

Responsible Office: City of Rocklin, Information Technology, GIS Technician

Priority (H, M, L): High

Cost Estimate: It is estimated that an additional \$100,000 is needed. The funds will be used to add to City General Fund dollars to expedite the completion of this project. On-going maintenance costs will be covered by the City of Rocklin.

Cost Benefit: The City of Rocklin has been gathering infrastructure and pre-emergency related data for many years. A fully-funded GIS project would allow this information to migrate into a GIS system sooner. It is difficult to put an exact cost benefit from such a project. Identification of critical infrastructure and use in pre-planning for emergencies would be the greatest benefit. A GIS system is most cost effective in maintenance and updating since it will only require data entry to an already established system. Such a system could also interface with other regional agencies and provide easy access for critical information sharing.

Potential Funding: Some funding has come from the City of Rocklin General Fund. No grant funding has been available for this project to date.

Schedule: In process. Estimated two to three years out for completion and full implementation.

ACTION #2: IMPLEMENTATION OF STORMWATER TREATMENT PLAN.

Issue/Background: The City of Rocklin Public Works Department adopted an ordinance imposing limitations and procedures regarding storm water treatment and incidents affecting

storm water run-off facilities. This was a mandated program by the Federal EPA. The plan was assembled and approved according to EPA recommendations.

Other Alternatives: Do not impose additional safety measures in such areas. Failure to comply with Federal mandate.

Responsible Office: City of Rocklin, Public Works Director

Priority (H, M, L): High

Cost Estimate: Under going analysis of projected costs to implement all phases of the program. It is estimated that approximately \$100,000 each year is required to fully implement the plan for successful results.

Cost Benefit: Reduction of natural and environmental hazards to waterways and areas within the City and surrounding regional waterways.

Potential Funding: Grant funding can provide a valuable source of funding for this program

Schedule: Plan completed, implementation phase in progress.

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Multi-Hazard Mitigation Plan 6.0 Plan Adoption

44 CFR 201.6(c)(5): "{The local hazard mitigation plan shall include} documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council)."

The Placer County Board of Supervisors, the City and Town Councils, and various Board of Directors for participating Districts will adopt the Multi-Hazard Mitigation Plan by passing a resolution. The resolution creates the ongoing Mitigation Coordinating Committee comprised of the HMPC and Public Input Advisory Committee as described further in Section 7.0, Plan Implementation and Maintenance. The executed copy of the adopted resolution for each participating jurisdiction is included in Appendix C. The adoption of this resolution completes Step 9 of the Plan Development Process: Formal Plan Adoption.

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Multi-Hazard Mitigation Plan 7.0 Plan Implementation and Maintenance

44 CFR 201.6(c)(4): "{The plan maintenance process shall include a} section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle."

IMPLEMENTATION

Step 10 of the Plan Development Process: Implementation and Maintenance of the Plan is critical to the overall success of Hazard Mitigation Planning. Upon adoption, the plan faces the truest test of its worth: implementation. Implementation implies two concepts: action and priority. These are closely related.

While this plan puts forth many worthwhile and high priority recommendations, the decision about which action to undertake first will be the first task facing the HMPC. Fortunately, there are two factors that help make that decision. First, there are high priority items and second, funding is always an issue. Thus, pursuing low or no-cost high-priority recommendations will have the greatest likelihood of success.

Another important implementation mechanism that is highly effective and low-cost, is to incorporate the Hazard Mitigation Plan recommendations and their underlying principles of this into other community plans and mechanisms, such as comprehensive planning, capital improvement budgeting, economic development goals and incentives, or regional plans such as those put forth by the State Department of Transportation. **Mitigation is most successful when it is incorporated within the day-to-day functions and priorities of government and development**. This integration is accomplished by constant, pervasive and energetic efforts to network, identify and highlight the multi-objective, win-win benefits to each program, the community, and the constituents. This effort is achieved through the routine actions of monitoring agendas, attending meetings, sending memos, and promoting safe, sustainable communities.

Simultaneous to these efforts, it is important to maintain a constant monitoring of funding opportunities that can be leveraged to implement some of the more costly recommended actions. This will include creating and maintaining a bank of ideas on how any required local match or participation requirement can be met. When funding does become available, the HMPC will be in a position to capitalize on the opportunity. Funding opportunities to be monitored include special pre- and post-disaster funds, special district budgeted funds, state or federal earmarked funds, and grant programs including those that can serve or support multi-objective applications.

Priority: The HMPC decidedly chose <u>not</u> to prioritize our recommended actions – for two reasons. First, the HMPC did not want to have to rank apples and oranges between communities. Each community has their own recommended actions in their own section and will have to

determine how to identify their own match requirements and priorities. The priority assigned for each recommendation is an indication of how the project ranks in priority within the community making the recommendation. Second, the CA-OES state Hazard Mitigation Plan states their own criteria for funding local projects, so the HMPC ranking holds little weight compared to the state's. The DMA regulations state that Benefit-Cost is the #1 method by which projects should be prioritized. In the state ranking, the B/C criteria are one of 10, and while they do not state what their overall priority is, B/C is listed last.

With adoption of this plan, the HMPC should be converted into the permanent advisory body referred to as the Mitigation Coordinating Committee. This Committee, led by the Placer County OEM, agrees to:

- Act as a forum for hazard mitigation issues,
- Disseminate hazard mitigation ideas and activities to all participants,
- Pursue the implementation of high priority, low/no-cost recommended actions,
- Keep the concept of Mitigation in the forefront of community decision-making by identifying plan recommendations when other community goals, plans and activities overlap, influence, or directly affect increased community vulnerability to disasters,
- Maintain a vigilant monitoring of multi-objective cost-share opportunities to assist the community in implementing the recommended actions for which no current funding or support exists,
- Monitor and assist in implementation and periodic Plan updates,
- Report on Plan progress and recommended changes to the County Board of Supervisors, and
- Inform and solicit input from the public.

The Committee will not have any powers over County staff; it will be purely an advisory body. Its primary duty is to see the Plan successfully carried out and to report to the County Board of Supervisors and the public on the status of Plan implementation and mitigation opportunities in Placer County. Other duties include reviewing and promoting mitigation proposals, hearing stakeholder concerns about hazard mitigation, passing concerns on to appropriate entities, and posting relevant information on the County website.

Additional mitigation strategies could include consistent and ongoing enforcement for existing rules and regulations, and vigilant review of countywide programs for coordination and multi-objective opportunities.

MAINTENANCE

Plan maintenance implies an ongoing effort to monitor and evaluate the Plan implementation, and to update the plan as progress, roadblocks or changing circumstances are recognized.

This monitoring and updating will take place through a semi-annual review by OEM, an annual review through the Mitigation Coordinating Committee, and a 5-year written update to be submitted to the state and FEMA Region IX, unless disaster or other circumstances (e.g., changing regulations) lead to a different time frame. CRS requires an annual re-certification report.

When the Committee reconvenes for the review they will coordinate with all stakeholders participating in the planning process – or that have joined the Committee since inception of the planning process – to update and revise the plan. Public notice will be posted and public participation will be invited, at a minimum, through available web postings and press releases to the local media outlets, primarily newspapers and AM radio stations.

Evaluation of progress can be achieved by monitoring changes in vulnerabilities identified in the Plan. Changes in vulnerability can be identified by noting:

- Lessened vulnerability as a result of implementing recommended actions,
- Increased vulnerability as a result of failed or ineffective mitigation actions, and/or
- Increased vulnerability as a result of new development (and/or annexation).

Updating of the plan will be by written changes and submissions, as the Committee deems appropriate and necessary, and as approved by the County Board of Supervisors.

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