COMPREHENSIVE RECOVERY FUNDING IMPLEMENTATION STRATEGY - 2018

County of Lake
California

Funded through State of California Department of Housing and Community Development (HCD)
from the Community Development Block Grant (CDBG) Program

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BACKGROUND

Lake County has had nine emergency declarations in the past six years with three in 2017 and two this year – so far. After these disasters move to the recovery stage, additional funding is frequently available from several federal and state agencies, including Community Development Block Grant (CDBG) funds from the State Department of Housing and Community Development (HCD). The 2012-CDBG-8395 grant funding provided resources for this study to develop a strategy for implementing fire recovery funding opportunities and to implement applications for projects related to the 2015-CDBG-DR allocation.

As part of that overall effort, three applications have been completed for CDBG funding of which one, the Anderson Springs Sewer Project, is under construction. One application was rejected, Lower Lake Water Works Improvements, and will be resubmitted, and one application is currently in the process of submission for the Summit Area Water System Improvements and Hill 9 & 10 and Branding Iron Water System Improvements.

The research and analysis of data along with input from the community, County Departments, and fire recovery participants lead to the development of a "Comprehensive CDBG Fire Recovery Funding Implementation Strategy." The scope of the study was expanded to better coincide with the County's recently updated 2018 Local Hazard Mitigation Plan. That expansion includes a look at other potential disasters facing the County and other potential funding mechanisms to fund projects that will greatly increase the resiliency of County infrastructure to address the increasing occurrences of disaster and emergencies related to climate change impacts. Eight community and stakeholders' meetings were held to gather information and projects needed to address the issues of infrastructure resiliency and funding.

This Strategy focuses on how to organize an effort to improve resiliency of infrastructure, a more comprehensive approach to setting priorities, and the identification of additional funding sources and mechanisms to accomplish a stronger infrastructure.

Other major federal and state funding sources need to be included in any comprehensive strategy to improve the resiliency of public infrastructure. In addition, there are several key documents that the County and both Cities must have in place to competitively access these state and federal funding programs.

Based on the guidance in Presidential Policy Directive 21 (*Critical Infrastructure Security and Resilience*), critical infrastructure resilience is the ability to **prepare** for and **adapt** to changing conditions and **withstand** and **recover** rapidly from disruptions.

The Significance of Critical Infrastructure

- Critical infrastructure refers to the assets, systems, and networks, whether physical or cyber, so vital to the Nation that their incapacitation or destruction would have a

debilitating effect on national security, the economy, public health or safety, and our way of life.

- 16 critical infrastructure sectors dispersed across the U.S. create a vast, interconnected ecosystem that sustains our way of life and the economic importance of the Nation.
- These interdependent systems and networks rely on lifeline functions, including communications, energy, transportation, and water.

GOALS AND ISSUES

Goals

These goals are:

- Promoting Resilient Rebuilding through Innovative Ideas and a Thorough Understanding of Current and Future Risk
- Ensuring a Regionally Coordinated, Resilient Approach to Infrastructure Investment
- Restoring and Strengthening Homes and Providing Families with Safe, Affordable Housing Options
- Supporting Small Businesses and Revitalizing Local Economies
- Addressing Insurance Challenges, Understanding, and Affordability
- Building State and Local Capacity to Plan for and Implement Long-Term Recovery and Rebuilding
- Improving Data Sharing Between Federal, State, and Local Officials

Critical infrastructure faces current and future risks:

- Terrorism
- Extreme weather, natural hazards, and the risks of climate change
- Cyber attacks
- Pandemics
- Accidents and/or technical failures

Case for Investing in Resilience

- **It's Good Business** --Disruptions can be costly, not only in the short term but also in the long term, so there is an incentive to prevent and minimize disruptions
- **Pay Now or Pay Later** --Some risks (e.g. risks associated with climate change) are expected to get worse, so it is prudent to think about resilience now while we have the chance to prevent disruptions
- **Save Money** --Investing in resilience may only require minimal up-front cost if resilience is considered when infrastructure is being designed
- **Incentives Exist** --There is an opportunity for the private sector to partner with the public sector to achieve mutual benefits
- **It's About More Than Security** --Smart investments can serve dual purposes

Issues

1. Impacts are a function of current and future climate variability, location, asset design life, function, and condition.

2. Extreme events can cause direct physical impacts on assets as well as indirect impacts including loss of service.

3. Current infrastructure design is based on historical data and climate variability or increased frequency of extreme events may mean that infrastructure is no longer optimally designed for even short-term purposes. Most existing infrastructure assets were designed based on historical climate data, such as average rainfall and runoff in an area, or historic flood events. However, incidents of extreme weather events influenced by climate change in recent years mean that historic weather data may no longer be relevant for the engineering design of long-term infrastructure performance.

4. For new infrastructure assets, both the location of the asset and the level of service should take climate change into consideration – even if there is uncertainty in climate projections.

5. Careful balance must be made between developing designs that reflect maximum climate resilience but with substantially higher costs, and other options.

6. The trade-off between adopting new technologies or more traditional, "tried-and-true" approaches is a decision that each special district or local government must consider carefully based on local capacity.

7. Appropriate selection of construction materials is vital for climate-resilient infrastructure.

Elements of Resiliency

The National Infrastructure Advisory Council (2009) determined that resilience can be characterized by four key features:

- ☐ **Robustness**: the ability to maintain critical operations and functions in the face of crisis. This includes the building itself, the design of the infrastructure (office buildings, power generation, distribution structures, bridges, dams, levees), or in system redundancy and substitution (transportation, power grid, communications networks).
- ☐ **Resourcefulness**: the ability to skillfully prepare for, respond to and manage a crisis or disruption as it unfolds. This includes identifying courses of action and business continuity planning; training; supply chain management; prioritizing actions to control and mitigate damage; and effectively communicating decisions.

- ☐ **Rapid recovery**: the ability to return to and/or reconstitute normal operations as quickly and efficiently as possible after a disruption. Components of rapid recovery include carefully drafted contingency plans, competent emergency operations, and the means to get the right people and resources to the right places.
- ☐ **Redundancy** is proposed as another key feature, which mean that there are back-up resources to support the originals in case of failure that should also be considered when planning for resilience.

ALTERNATIVE APPROACHES

Strategic Approach

This Strategy establishes guidelines for the investment of the Federal funds made available for recovery and sets the region on the path to being built back stronger with several outcomes in mind:

- Aligning this funding with local rebuilding visions.
- Cutting red tape and getting assistance to families, businesses, and communities efficiently and effectively, with maximum accountability.
- Coordinating the efforts of the Federal, State, and local governments and ensuring a region-wide approach to rebuilding.
- Ensuring the region is rebuilt in a way that makes it more resilient – that is, better able to withstand new emergencies and other risks posed in the future.

Strategies

- Promoting Resilient Rebuilding, Based on Current and Future Risk, Through Innovative Ideas by:
  - Giving governments and residents the best available data and information on current and future risks to facilitate good decision making for recovery and planning.
  - Prioritizing the engagement of vulnerable populations on issues of risk and resilience.

- Ensuring a Regionally Coordinated, Resilient Approach to Infrastructure Investment by:
  - Helping communities work together to be better prepared at a lower cost for the risks associated with weather extremes, such as drought and excessive fuel load build up.
  - Making the electrical grid smarter and more flexible and protecting the liquid fuel supply chain to better prepare them for future emergencies and other threats.
  - Helping to develop a resilient power strategy for telephone and internet communication systems and equipment, so the ability to communicate when it's most necessary is less vulnerable to disaster.
  - Providing a forum to coordinate and discuss large-scale, regional infrastructure projects and map the connections and interdependencies between them, saving money and getting better results for all levels of government.

- Establishing guidelines to ensure those projects are situated and built to withstand the impacts of existing risks and future climate change, in the region, and across the country.
- Assisting organizations to optimize recovery infrastructure funding and leverage non-federal resources to help build critical infrastructure assets that are resilient to current and future risks.

- Providing Families Safe, Affordable Housing Options and Protecting Homeowners by:
  - Helping disaster victims to be able to stay in their homes by allowing homeowners to quickly make emergency repairs.
  - Making housing units – both individual and multi-family – more sustainable and resilient through smart recovery steps including elevating above flood risk levels, improved wildfire protection, and increased energy efficiency.

- Supporting Small Businesses and Revitalizing Local Economies by:
  - Creating specialized skills training programs to support rebuilding including training opportunities for low income individuals and other vulnerable populations.
  - Developing a one-stop shop online for everything related to small businesses and recovery.
  - Improving the process for accessing critical disaster recovery loans and other resources; and increasing SBA's unsecured disaster loan limits and expediting the disbursement of small dollar loans.

- Addressing Insurance Challenges, Understanding, and Accessibility by:
  - Working on the affordability challenges posed the National Flood Insurance Program (NFIP) and fire insurance providers so that responsible homeowners aren't priced out of their homes and rebuilt homes will have adequate insurance against fire and flooding.
  - Encouraging homeowners and other policy-holders to take steps to mitigate future risks, which will not only protect against the next emergency but also make their flood fire insurance premiums more affordable.
  - Streamlining payouts to homeowners and other policy-holders in the wake of a disaster.

- Building Local Governments' Capacity to Plan for Long-Term Rebuilding and Prepare for Future Disasters by:
  - Supporting multi-jurisdictional planning efforts to create and implement locally-created and federally funded strategies for rebuilding and strengthening their communities against future extreme weather.
  - Funding Local Disaster Recovery Manager position in the county and taking additional steps to prepare for future disasters.

Approaches to Climate Change Adaptation Options

Strategic Approach	Adaptation Option	
	Rehabilitate Existing Structures to Higher Standards or Strength	Build New Climate-Resilient Structures
Accommodate and Maintain	Extend, strengthen, repair or rehabilitate over time. Adjust operation and maintenance practices	Design and build to allow for future upgrades, extensions or regular repairs
Harden and Protect	Rehabilitate and reinforce. Add supportive or protective features Incorporate redundancy	Use more resilient materials, construction methods, or design standards. Design for greater capacity or service
Relocate	Relocate sensitive facilities or resources from direct risk	Site in area with no, or lower, risk from climate impacts
Accept or Abandon	Keep as is, accepting diminished level of service or performance	Construct based on historic climate conditions, accepting possibly diminished level of service or performance

Comprehensive Analysis:

Use comprehensive, forward-looking, and science-based analysis when selecting, prioritizing, implementing, and maintaining infrastructure investments. When making investment decisions, the Local Government should consider a broad range of information and best available data including projected future risks from climate change and other sources, anticipated impacts, and costs and benefits of alternative investment strategies (e.g., gray and green infrastructure options). Project design and selection processes will, to the extent allowable and appropriate, include an assessment of the following criteria:

- Public health and safety impacts (e.g., injury, illness, loss of life, impacts to hospitals and healthcare facilities, and psychological impacts).
- Direct and indirect economic impacts (e.g., the financial and opportunity cost of losing infrastructure functions and services following a disaster).
- Social impacts (e.g., community, regional, and governance impacts).
- Environmental impacts (e.g., sustainability considerations, impacts to natural and restored ecosystems, externalities, and environmental justice issues).
- Cascading impacts and interdependencies within and across communities and infrastructure sectors.
- Changes to climate and development patterns that could affect the project or surrounding communities.
- Inherent risk and uncertainty (in the analyses performed and due to future conditions).
- Monetization of the impacts – both the costs and the benefits – of alternative investment strategies.

The assessments should, wherever possible, include both quantitative and qualitative measures. These assessments must also be timely, to not delay the recovery of the region.

Approach to Infrastructure Investment

Transparent and Inclusive Decision Processes:

Select projects using transparent, consistent, and inclusive processes. Apply a multi-criteria decision analysis – including a cost-benefit analysis – or other structured evaluation in Federal infrastructure funding selection and administration processes. Wherever practical and feasible, provide information broadly with clear, non-technical explanations of issues and proposed solutions. Share decision criteria, evaluation processes, and findings with all project stakeholders and interested parties to ensure transparency and inclusion. Include measures that will advance the engagement of vulnerable and overburdened populations.

Regional Resilience:

Work collaboratively with partners across all levels of governance (i.e., Federal, State, regional, local, Tribal, special district) and the private sector to promote a regional and cross-jurisdictional approach to resilience in which neighboring communities and states come together to: identify interdependencies among and across geography and infrastructure systems; compound individual investments towards shared goals; foster leadership; build capacity; and share information and best practices on infrastructure resilience.

Long-Term Efficacy and Fiscal Sustainability:

For all infrastructure programs, agencies should require a plan to monitor and evaluate the efficacy and sustainability of the implemented project, taking particular account of changing environmental conditions or changing development patterns using risk management tools as well as changing funding sources. Periodic evaluation of effectiveness and fiscal sustainability is essential to ensure that the Federal, State, and local agencies involved in funding infrastructure projects continue to be able to provide funding as needed, as well as to reflect any future changes in the Federal role in funding. In addition, periodic evaluation also allows improvements to existing infrastructure based on new, enhanced scientific understanding of risk or the development of more resilient technological solutions. Fiscal sustainability is important, for example, to ensure that funding both for operations (when required) and for maintaining the asset to a state of good repair is programmed and available to the entity operating the asset.

Environmentally Sustainable and Innovative Solutions:

Ensure that infrastructure investments align with the commitment expressed in the Climate Action Plan and achieve operational resilience while also supporting local, State and Federal goals to promote innovation, sustainability, reduced environmental and public health impacts, and opportunities to leverage natural systems.

Targeted Financial Incentives:

Implement meaningful financial incentives and/or funding requirements to promote the incorporation of resilience and risk mitigation into infrastructure projects. Consistent with the Climate Action Plan, this should include removing barriers to using Federal funding programs to support climate-resilient investments and encouraging and supporting the integration of climate-related risks into project design through agency grants, technical assistance, and other programs.

Adherence to Resilience Performance Standards:

Collaborate with State, local, Tribal, and Special District governments, as well as private stakeholders, to facilitate the development of resilience performance standards for infrastructure and use these performance standards when selecting infrastructure investments. Performance standards might include criteria for how strong of an event the systems should be able to withstand and how long different types of customers (e.g., hospitals, transit systems, gas stations) can be without power or other essential infrastructure.

The strategy proposed within this document is only one part of a larger effort being pursued by local governments to address the development of resiliency in our communities and in our public infrastructure. Some of the strategies may not be acceptable or possible given the budget restraints of our local jurisdictions, but should be discussed by the jurisdictions that are responsible to the communities. Without continued, open discussion, our communities are destined to be mostly reactive to future emergencies, which are coming more frequently and with greater intensity.

FUNDING SOURCES

In order to be more comprehensive in developing a strategy, other potential funding sources were investigated. Some of these sources are targeted to low- and moderate-income households much like the CDBG program, while others provide more flexibility in targeting critical needs without regard to income limits. Funding programs are always changing and any effort to facilitate a project must investigate funding opportunities that are available at the time the project is being developed. Some of the key funding resources are described in the following sections.

Probably the most difficult part of accessing and implementing the use of the funding programs outlined below is the lack of funding and staff capacity at the local level to pursue the funding and then manage and oversee the utilization of these grant or loan programs. The bureaucracies associated with these outside funding sources are often time consuming and difficult to deal with. The other difficulty with many of these funds are the local match requirements. Yet, they are there, and can be useful for the overall recovery of Lake County.

California Department of Housing and Community Development (HCD)

Community Development Block Grant Program - Disaster Recovery (CDBG-DR)

HUD provides flexible grants to help cities, counties, and States recover from Presidentially declared disasters, especially in low-income areas, subject to availability of supplemental appropriations. In response to Presidentially declared disasters, Congress may appropriate additional funding for the Community Development Block Grant (CDBG) Program as Disaster Recovery grants to rebuild the affected areas and provide crucial seed money to start the recovery process. Since CDBG Disaster Recovery (CDBG-DR) assistance may fund a broad range of recovery activities, HUD funding may be able to help communities and neighborhoods that otherwise might not recover due to limited resources.

Other Disaster Funding (Special NOFAs)

Special funding opportunities for disaster recovery -

- October Wildfires – DR-4344
  - Round 1 State CalHome NOFA – April 11, 2018
- December Wildfires – DR-4355
- Drought:
  - State CDBG - Drought Laterals NOFA — See Notices of Funding Availability (NOFA)
- Butte and Valley Wildfires:
  - State CDBG - CDBG Notices of Funding Availability (NOFA)
  - State CalHome - 2016 CalHome Disaster Assistance NOFA for the 2015 Butte and Valley Wildfires (PDF)

Community Development Block Program (CDBG)

CDBG Partners with rural cities and counties to improve the lives of their low- and moderate-income residents through the creation and expansion of community and economic development opportunities in support of livable communities.

HUD Objective
The primary federal objective of the CDBG program is the development of viable urban communities by providing decent housing and a suitable living environment and through expanding economic opportunities, principally, for persons of low- and moderate-income. "Persons of low and moderate income" are defined as families, households, and individuals whose incomes do not exceed 80 percent of the county median income, adjusted for family or household size.

Assistance Type
Grants, federally funded, through the State Housing Community Development Department directly to the county or cities.

Eligible Applicants
Counties with fewer than 200,000 residents in unincorporated areas and cities with fewer than 50,000 residents that do not participate in the U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant (CDBG) entitlement program.

Application Procedure
Each year, the CDBG program releases one combined Notice of Funding Availability (NOFA) encompassing all CDBG-eligible activities, including Community Development, Economic Development, and the Native American and Colonia Set-Asides. The next NOFA is scheduled for October, 2018.

CDBG Programs
Community Development Allocation (CD -- formerly the General Allocation) Activities:

- Community Development
- Native American
- Colonia
- Planning and Technical Assistance

Economic Development Allocation (ED) Activities:

- Over-the-Counter (OTC)
- Enterprise Fund
    - Business Assistance
    - Microenterprise Assistance
    - Planning and Technical Assistance

Drought-Related Lateral Program

- Lateral pipes and connectors
- Connection fees

- Abandonment of dry wells

US Department of Agriculture (USDA) Rural Development

Rural Community Development Initiative Grants

Program Objective
RCDI grants are awarded to help non-profit housing and community development organizations, low-income rural communities and federally recognized tribes support housing, community facilities and community and economic development projects in rural areas.

Eligible Applicants
- Public bodies
- Non-profit organizations
- Qualified Private (for-profit) Organizations

Use of Funds
To improve housing, community facilities, and community and economic development projects in rural areas. RCDI grants may be used for, but are not limited to:
- Training sub-grantees to conduct:
  1. Home-ownership education
  2. Minority business entrepreneur education
- Providing technical assistance to sub-grantees on
  1. Strategic plan development
  2. Accessing alternative funding sources
  3. Board training
  4. Developing successful child care facilities
  5. Creating training tools, such as videos, workbooks, and reference guides
  6. Effective fundraising techniques

Grant Amount
- Minimum grant award is $50,000; maximum grant award is $250,000
- Grant funds are limited and are awarded through a competitive process

Matching Funds
- Matching fund requirement equal to amount of grant
- In-kind contributions cannot be used as matching funds
- Partnerships with other federal, state, local, private and nonprofit entities are encouraged

Program Governance
Code of Federal Regulation; 2 CFR 200 and Guidelines announced in NOFA, published in the Federal Register.

Community Facilities Direct Loan & Grant Program

Program Objective
This program provides affordable funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area, and does not include private, commercial or business undertakings.

Eligible Applicants
Eligible borrowers include:

- Public bodies
- Community-based non-profit corporations
- Federally-recognized Tribes

Rural Requirements
Rural areas including cities, villages, townships and towns including Federally Recognized Tribal Lands with no more than 20,000 residents according to the latest U.S. Census Data are eligible for this program.

Use of Funds
Funds can be used to purchase, construct, and / or improve essential community facilities, purchase equipment and pay related project expenses.

Examples of essential community facilities include:

- Health care facilities such as hospitals, medical clinics, dental clinics, nursing homes or assisted living facilities
- Public facilities such as town halls, courthouses, airport hangars or street improvements
- Community support services such as child care centers, community centers, fairgrounds or transitional housing
- Public safety services such as fire departments, police stations, prisons, police vehicles, fire trucks, public works vehicles or equipment
- Educational services such as museums, libraries or private schools
- Utility services such as telemedicine or distance learning equipment
- Local food systems such as community gardens, food pantries, community kitchens, food banks, food hubs or greenhouses

For a complete list see Code of Federal Regulations 7 CFR, Part 1942.17(d) for loans; 7 CFR, Part 3570.62 for grants.

Funding Types

- Low interest direct loans
- Grants
- A combination of the two above, as well as our loan guarantee program. These may be combined with commercial financing to finance one project if all eligibility and feasibility requirements are met.

Program Priorities

- Priority point system based on population, median household income
    - Small communities with a population of 5,500 or less
    - Low-income communities having a median household income below 80% of the state nonmetropolitan median household income.

Terms and Conditions

Funding is provided through a competitive process.

Direct Loan:

- Loan repayment terms may not be longer than the useful life of the facility, state statutes, the applicant's authority, or a maximum of 40 years, whichever is less
- Interest rates are set by Rural Development, contact us for details and current rates
- Once the loan is approved, the interest rate is fixed for the entire term of the loan, and is determined by the median household income of the service area and population of the community
- There are no pre-payment penalties
- Contact us for details and current interest rates applicable for your project

Grant Approval:

1. Applicant must be eligible for grant assistance, which is provided on a graduated scale with smaller communities with the lowest median household income being eligible for projects with a higher proportion of grant funds. Grant assistance is limited to the following percentages of eligible project costs: Maximum of 75 percent when the proposed project is:
    - Located in a rural community having a population of 5,000 or fewer; and
    - The median household income of the proposed service area is below the higher of the poverty line or 60 percent of the State nonmetropolitan median household income.
2. Maximum of 55 percent when the proposed project is:
    - Located in a rural community having a population of 12,000 or fewer; and
    - The median household income of the proposed service area is below the higher of the poverty line or 70 percent of the State nonmetropolitan median household income.
3. Maximum of 35 percent when the proposed project is:
    - Located in a rural community having a population of 20,000 or fewer; and
    - The median household income of the proposed service area is below the higher of the poverty line or 80 percent of the State nonmetropolitan median household income.
4. Maximum of 15 percent when the proposed project is:
    - Located in a rural community having a population of 20,000 or fewer; and
    - The median household income of the proposed service area is below the higher of the poverty line or 90 percent of the State nonmetropolitan median household income. The proposed project must meet both percentage criteria. Grants are further limited.
    - Grant funds must be available

Other Requirements

- Applicants must have legal authority to borrow money, obtain security, repay loans, construct, operate, and maintain the proposed facilities
- Applicants must be unable to finance the project from their own resources and/or through commercial credit at reasonable rates and terms
- Facilities must serve rural area where they are/will be located
- Project must demonstrate substantial community support
- Environmental review must be completed/acceptable

Contact

- Contact the Davis USDA office to discuss specific projects
- Applications for this program are accepted year round
- Program resources are available online (includes forms needed, guidance, certifications)
- Request a Data Universal Number System (DUNS) number if the organization doesn't already have one.
- Register the organization with the System for Award Management (SAM) if you aren't already registered.

Program Governance

- Direct Loans: 7 CFR Part 1942, Subpart A
- Grants: 7 CFR Part 3570, Subpart A

Community Facilities Guaranteed Loan Program

Program Objective
This program provides loan guarantees to eligible private lenders to help build essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area, and does not include private, commercial or business undertakings.

Eligible Applicants
Private lenders may apply for a loan guarantee on loans made to an eligible borrower that is unable to obtain the needed commercial credit on reasonable terms without the guarantee. Eligible borrowers:

- Public bodies
- Community-based non-profit corporations
- Federally-recognized Tribes

Rural Requirements
Rural areas including cities, villages, townships and towns including Federally Recognized Tribal Lands with no more than 20,000 residents according to the latest U.S. Census Data are eligible for this program.

Use of Funds
Funds can be used to purchase, construct, and / or improve essential community facilities, purchase equipment and pay related project expenses.
Examples of essential community facilities include:

- Health care facilities such as hospitals, medical clinics, dental clinics, nursing homes or assisted living facilities
- Public facilities such as town halls, courthouses, airport hangers or street improvements
- Community support services such as child care centers, community centers, fairgrounds or transitional housing
- Public safety services such as fire departments, police stations, prisons, police vehicles, fire trucks, public works vehicles or equipment
- Educational services such as museums, libraries or private schools
- Utility services such as telemedicine or distance learning equipment
- Local food systems such as community gardens, food pantries, community kitchens, food banks, food hubs or greenhouses

For a complete list see Code of Federal Regulations 7 CFR 3575.24.

Funding Terms

- Maximum guarantee = 90% of the eligible loan
- One-time guarantee fee = 1% of principal loan amount times the % of guarantee

- Repayment term: useful life of the facility, state statute or 40 years, whichever is less and is negotiated between the lender/borrower, subject to USDA approval
- Interest rates: fixed or variable as negotiated between the lender/borrower, subject to USDA approval
- Loan note guarantee issued upon project completion/when conditions are met
- Combination of guaranteed loans, direct loans, grants and commercial financing may be used to finance one project if all eligibility and feasibility requirements are met
- Balloon payments and renewable notes are prohibited

Additional Requirements

- Applicants must have legal authority to borrow money, obtain security, repay loans, construct, operate, and maintain the proposed facilities
- Applicants must be unable to finance the project from their own resources and/or through commercial credit at reasonable rates and terms
- Tax exempt financing is not eligible for this program
- Lender responsible for determining credit quality and economic feasibility of proposed loan; adequacy of equity, cash flow, security, history and management capabilities
- Facilities must serve rural area where they are /will be located
- Project must demonstrate substantial community support
- Environmental review must be completed/acceptable

Loan Servicing

The private lender that makes the loan will service the loan.

Program Access

- Lenders: contact the Santa Rosa USDA office for details on how to become an approved lender
- Borrowers: ask your private lender if they participate in USDA Loan Guarantee Programs
- Applications for this program are accepted year round
- Program resources are available online (includes forms needed, guidance, certifications)

Program Governance

Code of Federal Regulation, 3575 Subpart A.

Community Facilities Relending Program

Program Objective
The USDA makes loans to eligible lenders (re-lenders) which will in turn re-loan those funds to applicants for essential community facilities. Our Community Facilities programs provide loans for essential community infrastructure, so that people who live and work in rural areas can enjoy the same basic quality of life and services as those in urban and metropolitan areas.

Eligible Applicants
A re-lender must demonstrate that:

1. It has an existing loan portfolio where at least 30 percent of its loans are made in rural, high- or persistent-poverty areas
2. It can provide documentation that it can obtain an irrevocable letter of credit from a financial institution covering principal and interest payments for the first five years of the loan.

The re-lender must also demonstrate that it meets one of the following:

1. That it is regulated and supervised by a Federal or State banking authority and is not on any watch list, or
2. That it has an Aeris Financial Strength and Performance Rating of 1 or 2 within the last 2 years, or
3. That it has obtained an Aeris Financial Strength and Performance Rating of 1 or 2 prior to any funds being advanced, or
4. Be proven to be a financially sound institution as determined by our risk assessment.

Eligible applicants include public bodies, community-based nonprofit corporations, and Federally recognized Tribes.

Rural Requirements
Re-lenders may be located anywhere in the United States. The applicant's facility must be located in rural areas such as cities, villages, townships, and towns, including those on Federally recognized Tribal Lands, with no more than 20,000 residents.

Use of Funds
The re-lender uses funds from USDA to re-lend to applicants These are low interest loans. Applicants may use the funds from the re-lender to purchase, construct, and/or improve essential community facilities, purchase equipment, and pay related project expenses. Examples include but are not limited to:

- Health care facilities such as hospitals, medical clinics, dental clinics, nursing homes, or assisted-living facilities
- Public facilities such as town halls or courthouses
- Street improvements
- Community support services such as child care centers, community centers, fairgrounds, or transitional housing

- Public safety services such as fire departments, police stations, prisons, police vehicles, fire trucks, public works vehicles or equipment; and educational services such as museums, libraries, colleges, and public or private schools.

Funding Priorities
We will score and rank re-lender applications based upon experience and the amount of the re-lender's existing portfolio for projects in persistent- or high-poverty areas.

What are the loan terms?
Loans are made to re-lenders and will have fixed interest rates and may be for up to 40 years. The terms of the loan by the re-lender to the applicant are negotiated between the two parties.

These loans are targeted to high- or persistent-poverty areas. Re-lenders must demonstrate that they have experience making loans in these economically distressed rural areas. This expertise enables the re-lenders to provide technical assistance and financial expertise to help applicants access capital that may not have been available to them before. The low-interest, long-term, fixed-rate loans also make access to capital much more affordable.

Other Requirements
Re-lenders must demonstrate that they have the financial strength to carry out the loan requirements. They are required to provide us with an irrevocable letter of credit equal to the first five years of payments to USDA.

Applicants must demonstrate that they have significant ties to the local community. They must use loan funds for eligible essential community facilities as outlined in our regulations. Examples include healthcare centers, town halls, courthouses, street improvements, child care centers, public safety services, and educational facilities.

Program Governance
Code of Federal Regulation - 7 CFR 1942 Subpart-A.

Community Facilities Technical Assistance and Training Grant

Program Objective
The Agency will make grants to public bodies and private nonprofit corporations to provide associations Technical Assistance and/or training with respect to essential community facilities programs. The Technical Assistance and/or training will assist communities, Indian Tribes, and Nonprofit Corporations to identify and plan for community facility needs that exist in their area. Once those needs have been identified, the Grantee can assist in identifying public and private resources to finance those identified community facility needs.

Eligible Applicants
- Public bodies
- Non-profit organizations
- Federally Recognized Tribes

Rural Eligibility
Rural areas including cities, villages, townships, towns and Federally Recognized Tribal Lands outside the boundaries of a city of 20,000 or more.

Use of Funds
- Assist communities in identifying and planning for community facility needs;
- Identify resources to finance community facility needs from public and private sources;
- Prepare reports and surveys necessary to request financial assistance to develop community facilities;
- Prepare applications for Agency financial assistance;
- Improve the management, including financial management, related to the operation of community facilities; or
- Assist with other areas of need identified by the Secretary.
- Maximum grant award is $150,000, grant funds are limited and are awarded through a competitive process

Match Requirements
- Matching funds are not required but preference is giving to applications with cash matching funds.
- In-kind contributions cannot be used as matching funds
- Partnerships with other federal, state, local, private and nonprofit entities are encouraged

Program Governance
7 CFR 3570 Subpart F; Code of Federal Regulation; 2 CFR 200 and Guidelines announced in NOFA, published in the Federal Register.

Emergency Community Water Assistance Grants

Purpose

This program helps eligible communities prepare, or recover from, an emergency that threatens the availability of safe, reliable drinking water.

Eligibility

- Most state and local governmental entities
- Nonprofit organizations
- Federally recognized tribes

Emergency

- Drought or flood
- Earthquake
- Tornado or hurricane
- Disease outbreak
- Chemical spill, leak or seepage
- Other disasters

NOTE: A federal disaster declaration is not required.

Rural Eligibility

- Rural areas and towns with populations of 10,000 or less -- check eligible addresses
- Tribal lands in rural areas

The area to be served must also have a median household income less-than the state's median household income for non-metropolitan areas. Contact your local RD office for details.

Use of Funds

- Water transmission line grants up to $150,000 to construct waterline extensions, repair breaks or leaks in existing water distribution lines, and address related maintenance necessary to replenish the water supply
- Water source grants up to $500,000 are to construct a water source, intake or treatment facility

Match

- Partnerships with other federal, state, local, private and nonprofit entities are encouraged

Governance

- Code of Federal Regulation, 7 CFR 1778
- Section 306A of the Consolidated Farm and Rural Development Act

Strategic Economic and Community Development

Strategic Economic and Community Development is a Farm Bill provision that allows USDA to give priority for projects that support the implementation of regional economic development plans through the following four USDA Rural Development programs:

- Community Facilities Loans, Grants and Loan Guarantees
- Water and Waste Disposal Program Loans, Grants and Loan Guarantees
- Business & Industry Program Loan Guarantees
- Rural Business Development Grants

Purpose

Projects that promote regional economic development can capitalize upon the unique strengths of specific rural areas. USDA Rural Development helps finance these projects by helping applicants overcome multi-jurisdictional challenges and by helping leverage federal, state, local or private funding. Regionally focused projects help USDA resources have a larger impact, enabling greater wealth creation and quality of life improvements.

Application Process

- Detailed instructions on what qualifies as a multi-jurisdictional plan, scoring criteria and award process | SECD Instructions
- Application Form (Form RD 1980-88)

Eligibility

To be eligible for SECD, a project must:

- Be eligible for the underlying program
- Be carried out solely in a rural area
- Support a multi-jurisdictional strategic economic community development plan

Consideration for regional development priority will be based on:
(1) How well the project supports a multi-jurisdictional plan, and
(2) How well the plan addresses collaboration and investments from other federal and philanthropic agencies.

Water & Waste Disposal Loan & Grant Program

Purpose
This program provides funding for clean and reliable drinking water systems, sanitary sewage disposal, sanitary solid waste disposal, and storm water drainage to households and businesses in eligible rural areas.

Eligibility
This program assists qualified applicants who are not otherwise able to obtain commercial credit on reasonable terms. Eligible applicants include:

- Most state and local governmental entities
- Private nonprofits
- Federally-recognized tribes

Rural Eligibility
Areas that may be served include:

- Rural areas and towns with populations of 10,000 or less -- check eligible addresses
- Tribal lands in rural areas

Funding Parameters

- Long-term, low-interest loans
- If funds are available, a grant may be combined with a loan if necessary to keep user costs reasonable.

Use of Funds
Funds may be used to finance the acquisition, construction or improvement of:

- Drinking water sourcing, treatment, storage and distribution
- Sewer collection, transmission, treatment and disposal
- Solid waste collection, disposal and closure
- Storm water collection, transmission and disposal

In some cases, funding may also be available for related activities such as:

- Legal and engineering fees
- Land acquisition, water and land rights, permits and equipment
- Start-up operations and maintenance
- Interest incurred during construction
- Purchase of facilities to improve service or prevent loss of service
- Other costs determined to be necessary for completion of the project
- See 7 CFR Part 1780.7 and 1780.9 for a complete list

Loan Term and Rate

- Up to 40-year payback period, based on the useful life of the facilities financed
- Fixed interest rates, based on the need for the project and the median household income of the area to be served

Other Requirements

- Borrowers must have the legal authority to construct, operate and maintain the proposed services or facilities.
- All facilities receiving federal financing must be used for a public purpose.
- Partnerships with other federal, state, local, private and nonprofit entities that offer financial assistance are encouraged.
- Projects must be financially sustainable.

Application Process

- Applications are accepted year-round and may be filed electronically using **RD Apply**. The RD Apply Customer Help Guide is provided to help applicants get started and work through the application process
- Applications are also accepted through the Davis office.

Program Governance

- Basic Program – 7 CFR, Part 1780
- Loan Servicing – 7 CFR, Part 1782
- Section 306 of the Consolidated Farm and Rural Development Act

Water & Waste Disposal Loan *Guarantees*

Purpose
This program helps private lenders provide affordable financing to qualified borrowers to improve access to clean, reliable water and waste disposal systems for households and businesses in rural areas.

Eligibility
Private lenders may apply for a loan guarantee on loans they make to eligible borrowers who are otherwise unable to obtain commercial credit on reasonable terms.
Eligible borrowers include:

- Most state and local governmental entities
- Nonprofit organizations
- Federally-recognized tribes

Rural Eligibility
Areas that may be served include:

- Rural areas and towns with populations of 10,000 or less -- check eligible addresses
- Tribal lands in rural areas

Use of Funds
Construct or improve facilities for:

- Drinking water
- Sanitary sewers
- Solid waste disposal
- Storm water disposal facilities

Depending on the circumstances, some funds may also be used for:

- Legal and engineering fees
- Land acquisition and equipment
- Start-up operations and maintenance
- Capitalized interest
- Other costs determined to be necessary for completion of the project

Loan Terms

- The maximum guarantee is typically 90 percent of the loan amount.
- Interest rates may be fixed or variable as negotiated between the lender and the borrower, subject to USDA approval.
- Up to 40-year payback period, based on the useful life of the facilities financed.
- Balloon payments are prohibited.

Other Requirements

- The borrower must have the legal authority needed to construct, operate and maintain the proposed facilities and the services they provide.
- All facilities financed with the aid of a loan guarantee must be used for public purposes.

Loan Servicing

Loans guaranteed through this program are serviced through the private lender that makes the loan, just as they would be without a guarantee

- Lenders: Contact a representative in your local RD office for details on how to become an approved lender.
- Borrowers: Ask your private lender if it participates in USDA loan guarantee programs.

Program Governance

- Code of Federal Regulations, 7 CFR, Part 1779
- 5 USC 301, 7 USC 1989 and 16 USC 1005

Water & Waste Disposal Predevelopment Planning Grants

Purpose
This program assists low-income communities with initial planning and development of applications for Water and Waste Disposal direct loan/grant and loan guarantee programs.

Eligibility
- Most state and local governmental entities
- Nonprofit organizations
- Federally recognized tribes

Rural Eligibility
- Rural areas and towns with populations of 10,000 or less. Check eligible addresses
- Federally recognized tribal lands

NOTE: The area must also have a median household income below the poverty line or less than 80 percent of the statewide non-metropolitan median household income

Use of Funds
- Grants may be used to pay part of the costs of developing a complete application for USDA Rural Development Water & Waste Disposal direct loan/grant and loan guarantee programs.

Grant Terms
- Grants may not be used to pay for work already completed.
- For projects eligible under several programs, the amount of the pre-development or SEARCH grant will be subtracted from the total grant eligibility as determined in underwriting for the water or waste disposal project.
- These grants do not have to be paid back if the application for the USDA direct loan or loan/grant combination is not successful.
- Grants are based on demonstrated need and subject to the availability of funds.
- Partnerships with other federal, state and local entities are encouraged, and grants are awarded only when the applicant cannot afford to borrow the needed funds.

Grant Amount
Maximum of $30,000 or 75 percent of the predevelopment planning costs.

Match Requirement
Yes, at least 25 percent of the project cost must come from the applicant or third-party sources. In-kind contributions do not count toward this minimum.

Program Governance
- Code of Federal Regulations, 7 CFR 1780
- Agricultural Act of 2014

Water & Waste Disposal Revolving Loan Funds

Purpose
This program helps qualified nonprofits create revolving loan funds that can provide financing to extend and improve water and waste disposal systems in rural areas.

Eligibility
Nonprofits that have:

- Legal authority to operate a revolving loan fund.
- Financial, technical and managerial capacity to comply with relevant state/federal laws and regulations.

Use of Funds
To create a revolving loan fund for eligible utility districts operated by:

- State and local governmental entities
- Nonprofits
- Pre-development costs for water and wastewater treatment projects.
- Short-term small capital improvement projects that are not part of the regular operations and maintenance.

Laon Terms

- Maximum loan per borrower is $100,000.
- Maximum term is 10 years
- The interest rate is determined by utility district borrower and nonprofit that manages the revolving loan fund.

Rural Eligibility

- Rural areas and towns with populations of 10,000 or less. Check eligible addresses.
- Tribal lands in rural areas

Match Requirements
Partnerships with other federal, state and local entities are encouraged; however, in some circumstances a grant may be offered for 100 percent of the revolving loan fund start-up capital if funds are available.

Program Governance

- Code of Federal Regulations, 7 CFR Part 1783
- Section 306 of the Consolidated Farm and Rural Development Act and section 6002 of the Agricultural Act of 2014

Water & Waste Disposal Technical Assistance & Training Grants

Purpose
This program helps qualified, private nonprofits provide technical assistance and training to identify and evaluate solutions to water and waste problems; helps applicants prepare applications for water and waste disposal loans/grants; and helps associations improve the operation and maintenance of water and waste facilities in eligible rural areas.

Eligibility
- Nonprofits that have the proven ability, background, experience and capacity to provide technical assistance or training on a national, regional or state basis.

Rural Areas
- Rural areas and towns with populations of 10,000 or less -- check eligible addresses
- Tribal lands in rural areas

Use of Funds
- To identify and evaluate solutions to water problems related to source, storage, treatment, distribution, collection, treatment and disposal.
- To provide technical assistance and training to improve management, operations and maintenance of water and waste disposal systems.
- To prepare water and waste disposal loan and grant applications.

Grant Terms
- The project period for these grants is one year starting Oct. 1 and ending Sept. 30.
- Applicant contributions must be used before USDA grant funds.
- This is a reimbursement grant.
- Grants are subject to the availability of funds.

Access
- Download the FY 2018 Technical Assistance & Training Grant Application Guide.
- Single-state applications are accepted annually through the Davis office from **October 1 - December 31**. Multi-state or national applications are accepted through the RD national office.
- Program resources are available online (forms, guidance, certifications, etc.).

Program Governance
- Code of Federal Regulations 7 CFR 1775
- Section 306(a)(14)(A) of the Consolidated Farm and Rural Development Act 7 U.S.C. 1921 et seq.

Circuit Rider Program - Technical Assistance for Rural Water Systems

Purpose
This program provides technical assistance to rural water systems that are experiencing day-to-day operational, financial or managerial issues. Rural water system officials may request assistance from the Rural Utilities Service, or Rural Utilities Service staff may request assistance on behalf of the system.

Eligibility
- Rural Utilities Service has consultants contracted with the National Rural Water Association who are experienced in managing issues that may arise in the day-to-day operations of rural water systems.
- A list of current Circuit Riders is available online.

Types of Assistance
- Day-to-day operational issues
- Financial issues
- Management issues
- Energy audits

Program Governance
- A contract between the Rural Utilities Service and the National Rural Water Association.
- The Agricultural Act of 2014.

Federal Emergency Management (FEMA)

Currently, FEMA administers three programs that provide funding for eligible mitigation planning and projects that reduces disaster losses and protect life and property from future disaster damages.

The three programs are the Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance (FMA) Program, and the Pre-Disaster Mitigation (PDM) Program.

- HMGP assists in implementing long-term hazard mitigation planning and projects following a Presidential major disaster declaration
- PDM provides funds for hazard mitigation planning and projects on an annual basis
- FMA provides funds for planning and projects to reduce or eliminate risk of flood damage to buildings that are insured under the National Flood Insurance Program (NFIP) on an annual basis

HMGP funding is generally 15% of the total amount of Federal assistance provided to a State, Territory, or federally-recognized tribe following a major disaster declaration. PDM and FMA funding depends on the amount congress appropriates each year for those programs.

Individual homeowners and business owners may not apply directly to FEMA. Eligible local governments may apply on their behalf.

Hazard Mitigation Grant Program

This section contains information about our Hazard Mitigation Grant Program (HMGP). The purpose of this page is to connect individuals and state, local, and tribal government representatives with the resources they need to implement hazard mitigation measures in their communities.

FEMA's vision is to serve as a catalyst that drives increased understanding and proactive action to help people in communities reduce their losses from natural hazards. To support this vision, FEMA funds three Hazard Mitigation Assistance (HMA) grant programs. Hazard mitigation measures are any sustainable action taken to reduce or eliminate long-term risk to people and property from future disasters. The HMGP supports cost-effective post-disaster projects and is the longest running mitigation program among FEMA's three grant programs. Studies have shown that every $1 spent equals $4 of future damages mitigated.

Hazard Mitigation is any action taken to reduce or eliminate long term risk to people and property from natural disasters. Hazard Mitigation planning is a process used by State, tribal, and local governments to identify risks and vulnerabilities associated with natural disasters and develop mitigation strategies to reduce or eliminate long term risks. Examples of Hazard Mitigation projects funded by FEMA's Hazard Mitigation Assistance grant programs may include, but are not limited to buy-outs, elevations and safe rooms. Further information on mitigation actions may be found in Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (2013).

The Hazard Mitigation Grant Program Guide for State/Local Governments

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A Presidential Major Disaster Declaration provides for the availability of HMGP funds at the request of a state's Governor in eligible communities within a state, tribe, or territory.

The amount of HMGP funding available to the applicant is based on the estimated total federal assistance, subject to the sliding scale formula outlined in Title 44 of the Code of Federal Regulations (CFR) Section 206.432(b).

Pre-Disaster Mitigation Grant Program

The PDM Program, authorized by Section 203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, is designed to assist States, U.S. Territories, Federally-recognized tribes, and local communities in implementing a sustained pre-disaster natural hazard mitigation program. The goal is to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on Federal funding in future disasters. This program awards planning and project grants and provides opportunities for raising public awareness about reducing future losses before disaster strikes. Mitigation planning is a key process used to break the cycle of disaster damage, reconstruction, and repeated damage. PDM grants are funded annually by Congressional appropriations and are awarded on a nationally competitive basis.

FEMA requires state, territorial, tribal, and local governments to develop and adopt hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance, including funding for PDM mitigation projects. For more information on the mitigation plan requirement, visit the Hazard Mitigation Plan Requirement web page or refer to the current HMA Guidance for detailed information on the PDM Program.

Project subapplications submitted for consideration for PDM funding must be consistent with the goals and objectives identified in the current, FEMA-approved State or Tribal (Standard or Enhanced) hazard mitigation plan along with the local or tribal hazard mitigation plan for the jurisdiction in which the activity is located.

Planning subapplications submitted for consideration for PDM funding must result in a mitigation plan adopted by the jurisdiction(s) and approved by FEMA. PDM funds mitigation

planning to help States, U.S. Territories, Federally-recognized tribes and local governments engage in a planning process that meets the requirements outlined in 44 CFR Part 201 Mitigation Planning. For more information on FEMA's mitigation planning program, laws, regulation, policies, resources, and training, visit FEMA's Hazard Mitigation Planning Resources web page.

Flood Mitigation Assistance Grant Program

The FMA program is authorized by Section 1366 of the National Flood Insurance Act of 1968, as amended with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP). FMA provides funding to States, Territories, federally-recognized tribes and local communities for projects and planning that reduces or eliminates long-term risk of flood damage to structures insured under the NFIP. FMA funding is also available for management costs. Funding is appropriated by Congress annually.

FEMA requires state, tribal, and local governments to develop and adopt hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance, including funding for HMA mitigation projects. For more information on mitigation plan requirement or refer to the current HMA.

Please refer to the current HMA guidance for detail information on the Flood Mitigation Assistance Program.

California State Water Resource Control Board (SWRCB), Division of Financial Assistance

Financial Assistance Funding - Grants and Loans

The Division of Financial Assistance (DFA) administers the implementation of the State Water Resources Control Board's (State Water Board) financial assistance programs, that include loan and grant funding for construction of municipal sewage and water recycling facilities, remediation for underground storage tank releases, watershed protection projects, nonpoint source pollution control projects, etc. DFA also administers the Operator Certification Program.

State Revolving Loan Fund

The Clean Water State Revolving Fund (CWSRF) program offers low cost financing for a wide variety of water quality projects. The program has significant financial assets and is capable of financing projects from <$1 million to >$100 million.

Transformative Climate Communities Community-led transformation for a sustainable California

The Transformative Climate Communities (TCC) Program funds development and infrastructure projects that achieve major environmental, health, and economic benefits in California's most disadvantaged communities. TCC is one of many California Climate Investments programs. For more information about these investments, visit: www.caclimateinvestments.ca.gov

California Climate Investments is a statewide initiative that puts billions of Cap-and-Trade dollars to work reducing greenhouse gas emissions, strengthening the economy and improving public health and the environment—particularly in disadvantaged communities.

The Cap-and-Trade program also creates a financial incentive for industries to invest in clean technologies and develop innovative ways to reduce pollution.

California Climate Investments projects include affordable housing, renewable energy, public transportation, zero-emission vehicles, environmental restoration, more sustainable agriculture, recycling and much more. At least 35 percent of these investments are made in disadvantaged and low-income communities.

US Economic Development Administration (EDA)

EDA and Disaster Recovery

Overview

EDA has a long history of supporting disaster recovery and resiliency efforts, usually after the more immediate problems have been addressed. EDA's role in disaster recovery is to facilitate the delivery of Federal economic development assistance to support long-term community economic recovery planning and project implementation, redevelopment and resiliency.

EDA is positioned to assist regional disaster recovery efforts in partnership with its extensive network of Economic Development Districts (EDDs), University Centers, institutions of higher education and other partners in designated impact areas. EDA has published the FY18 Disaster Supplemental Notice of Funding Opportunity (NOFO) making $587 million available to eligible grantees in communities where a Presidential declaration of a major disaster was issued under the Stafford Act as a result of Hurricanes Harvey, Irma and Maria, wildfires and other natural disasters in 2017. The Lake County Economic Development Corporation is pursuing these funds for direct services to businesses and recovery services.

Economic Recovery Support Function

Executed in March 2011, Presidential Policy Directive (PPD)-8: National Preparedness directs all federal government departments and agencies to collaboratively design and implement "a systematic effort to keep the nation safe from harm and resilient when struck by hazards, such as natural disasters, acts of terrorism and pandemics."

Under the direction of PPD-8, the Federal Emergency Management Agency (FEMA) established the National Disaster Recovery Framework (NDRF) to facilitate coordinated interagency capacities across all disaster-related mission areas: Prevention, Protection, Mitigation, Response, and Recovery.

The NDRF established six Recovery Support Functions (RSF) to facilitate interagency and intergovernmental "problem solving, improve access to resources, and foster coordination among State and Federal agencies, nongovernmental partners and stakeholders." Each RSF is led by a Coordinating Agency, with direct assistance from primary and support agencies to execute the RSF mission. The 6 RSFs include:

- Community Planning and Capacity Building (PDF)
- Economic (PDF)
- Health and Social Services (PDF)
- Housing (PDF)
- Infrastructure Systems (PDF)
- Natural and Cultural Resources (PDF)

EDA-Supported Disaster Recovery Tools

EDA partnered with the International Economic Development Council (IEDC) to produce a suite of economic recovery informational tools, which can be found at RestoreYourEconomy.org. Examples include:

- Leadership in Times of Crisis toolkit for resources and information, as well as links to recovery information.
- A webinar recording on prioritizing economic recovery after a major disaster features efforts after the Joplin tornado and Jefferson Parish's recovery from Katrina.
- A webinar recording on securing capital for recovery and redevelopment is available for listening on RestoreYourEconomy.org.
- A webinar recording on building organizational capacity in rural areas features economic recovery efforts in communities impacted by Hurricane Katrina, the BP oil spill, and an EF-3 tornado.

EDA Disaster Resilience Reports

- Economic Resiliency Review for Colorado Following the Sept. 2013 Floods (PDF)
- Economic Resilience Strategy Report for Oklahoma Following the May 2013 Tornadoes (PDF)

Industry Sector-Specific Considerations

- Biotechnology, Pharmaceuticals, and Life Sciences (PDF)
- Advanced Manufacturing (PDF)
- Health Care (PDF)
- Financial Services (PDF)
- Leisure, Hospitality, and Retail Services (PDF)
- Information Technology (PDF)
- Transportation, Logistics, and Distribution (PDF)

Economic Data Tools and Resources

- U.S. Cluster Mapping Data Tools (PDF)
- EDA Stats America: Data and analysis tools to support regional competitiveness in a knowledge-based economy (PDF)
- Recovery Lessons Learned and Information Sharing: FEMA's national online network for the exchange of ideas surrounding the Disaster Recovery Community (PDF)
- Regional Resilience Report: National Association of Development Organizations (NADO), April 2012 (PDF)

EDA Programs

Public Works
Empowers distressed communities to revitalize, expand, and upgrade their physical infrastructure to attract new industry, encourage business expansion, diversify local economies, and generate or retain long-term, private sector jobs and investment.
Printable Public Works Program (PDF)

Economic Adjustment
Assists state and local interests in designing and implementing strategies to adjust or bring about change to an economy. The program focuses on areas that have experienced or are under threat of serious structural damage to the underlying economic base. Under Economic Adjustment, EDA administers its Revolving Loan Fund (RLF) Program, which supplies small businesses and entrepreneurs with the gap financing needed to start or expand their business.
Printable Economic Adjustment Program (PDF)

Planning
Supports local organizations (Economic Development Districts, Tribes, and other eligible areas) with short and long-term planning efforts. The Comprehensive Economic Development Strategy (CEDS) Content Guidelines, provides suggestions, tools, and resources for developing comprehensive economic development strategies.
Printable Planning Program (PDF)

Regional Innovation Strategies
Supports innovation and entrepreneurship capacity-building activities by creating and expanding cluster-focused proof-of-concept and commercialization programs and early-stage seed capital funds through the i6 Challenge and the Seed Fund Support (SFS) Grant competition, respectively.

Trade Adjustment Assistance for Firms
A national network of 11 Trade Adjustment Assistance Centers to help strengthen the competitiveness of American companies that have lost domestic sales and employment because of increased imports of similar goods and services.
Printable Trade Adjustment Assistance for Firms Program (PDF)

University Centers
A partnership of the federal government and academia that makes the varied and vast resources of universities available to the economic development community.
Printable University Centers Program (PDF)

Report: Making Connections, Evaluation Project to Assess Best Practices in EDA's University Center Program (PDF)

Research and National Technical Assistance

Supports research of leading edge, world class economic development practices and information dissemination efforts.
Printable Research and National Technical Assistance Program (PDF)

Local Technical Assistance

Helps fill the knowledge and information gaps that may prevent leaders in the public and nonprofit sectors in distressed areas from making optimal decisions on local economic development issues.
Printable Local Technical Assistance Program (PDF)

CalFire/FireWise Community Grants

Purpose

Through the California Climate Investments Fire Prevention Grant Program, CalFire aims to reduce the risk of wildland fires to habitable structures and communities, while maximizing carbon sequestration in healthy wildland habitat and minimizing the uncontrolled release of emissions emitted by wildfires. Local governments and non-profits are eligible to apply annually for these grant funds. (http://calfire.ca.gov/fire_prevention/firepreventiongrants)

An example of this grant program is the Cobb Area Community-Based Fuel Reduction Project in the amount of $216,000 with a local match of $64,000. The project includes fire safe community education, establishing six fire wise neighborhoods, improved neighbor radio communications, and funding for clearing excessive fuel loads from private properties.

Local Funding

General Plan Maintenance Fee

In 2002, the Legislature changed state law to allow development fees to include "costs reasonably necessary to prepare and revise the plans and policies that a local agency is required to adopt before it can make any necessary findings and determinations" (Gov. Code § 66014). This change makes it clear that an update of the general plan and related planning documents may be a recoverable expense.

With such a fee in place, local government will have funds available to provide matching funds required from programs such as FEMA's Hazard Mitigation Planning Grants, for updating critical elements like the Safety Element to provide a comprehensive and sustainable means to achieve resilient communities and infrastructure.

Improvement and Assessment Districts

Much of the local match required in grant programs could be provided by improvement or assessment districts. The creation of these districts requires a vote the property owners or the voters of the area of the district. The State statutes within the Government Code provide the details on how district must be created.

Development Impact Fees

New development and construction could pay its fair share of costs through the enactment of development impact fees.

General and Special Funds

While limited in availability, the general fund and special funds could be tapped for essential projects. Annual budgets could fund the CIP to provide a means of accumulating funds for the local match.

Loans and Other Forms of Debt

Several forms of local debt could provide the local matching funds for projects. Depending on the form of the debt, a local vote may be required.

PROJECTS

Projects by Priority

High

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Multi-Hazard Actions - Update Area Plans	Integration of LHMP into General Plan Safety Element along with inventory of critical facilities, update to ALUCP, evaluation planning, improved communications, and public education to develop resiliency to future hazards, disasters and climate change effects.	LHMP 2018 Action 01. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan, Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness, Action 3. Critical Facility Inventory & GIS Mapping Updates	$ 200,000
Wildfire - Fire Safe Communities	Need to develop a long term firesafe communities plan throughout Lake County.	LHMP 2018 Action 01. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan, Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Wildfire -	Development of fire-wise standards and replanting plans for reforestation in the Valley Fire Burn area.	LHMP 2018 Action 01. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan, Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	
Wildfire -	Clearing of wildfire fuel (i.e. grasses, brush, etc.) in at-risk areas.	LHMP 2018 Action 01. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan, Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	
Multi-Hazard Actions -	In order to protect the integrity of the water distribution system, industry standard leak noise correlation techniques will be applied to pinpoint leakage problem areas with a high degree of accuracy. This first phase will include leak identification with specialized equipment, documentation and mapping, and prioritization and benefit analysis of the most vulnerable locations within the infrastructure. Following this discovery phase, fortification of the most vulnerable areas, to include junction point	LHMP 2018 Action 04. Water Distribution System Reliability	$ 2,032,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
	such as fire hydrants and individual service connections will be conducted. Hidden Valley Lake area only.		
Wildfire - Lower Lake Water District Connection	Need to connect Lower Lake to Konocti and Highlands H2O for fire suppression, sustainability, first step toward larger improvements.	LHMP 2018 Action 04. Water Distribution System Reliability	$ 1,000,000
Multi-Hazard Actions -	The Water System Storage Reliability project is a critical and crucial effort for HVLCSD. By simultaneously mitigating the multiple hazards mentioned above, HVLCSD remains focused on ensuring the safety of the community's drinking water. This project replaces five redwood tanks with four modern steel tanks. Steel will significantly reduce the potential damages to tanks due to wildfire. Steel tanks holding water will also provide firefighters with sufficient fire flows, and potentially reduce the extent of a wildfire.	LHMP 2018 Action 05. Water System Storage Reliability,	$ 4,936,000
Multi-Hazard Actions	The Backup Power Reliability project would place appropriately sized power generators at four water delivery pump stations. In order for water to be made available for households and firefighters, electricity required to pump up to water tanks would no longer be a weak spot in the water distribution system. This project would also necessarily include the switchgear needed to transition from grid-tied to generator power, as well as assuring proper access into pump locations. Four generators in these key locations will have a positive effect on the entire community. This integral step in providing water storage to the community as well as fire flows to the firefighting community help to mitigate risks from the aforementioned hazards.	LHMP 2018 Action 06. Backup Power Reliability	$ 2,712,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Wildfire -	Water system infrastructure improvements enabling adequate residential water supplies to meet required home fire sprinkler systems as well as a sufficient number of functional fire hydrants.	LHMP 2018 Action 07. Water Supply Redundancy; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	
Wildfire - Sewer System for Anderson Springs	Anderson Springs, where only 19 of 200+ homes remain after the devastation of the Valley Fire, cannot rebuild without funding for acquisition and installation of a sewer system. Approximately 115 of the homes destroyed were built too close to the creek, per today's standards, and cannot be rebuilt as they were, using septic systems. The plan is to build a system that connects the community to the Middletown Wastewater Treatment Plant. The new Anderson Springs wastewater collection system is a key part of the recovery for Valley Fire survivors.	LHMP 2018 Action 07. Water Supply Redundancy; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	$ 7,300,000
Wildfire - Replacement of Aging, Inadequate Infrastructure and Consolidation of Water Systems in the Cobb Mountain Area	Consolidation of the 8-10 systems to create improved economies of scale to better serve the customers by infrastructure improvements to interconnect systems, add storage for fire suppression, and enlarge distribution lines to meet current State fire codes for residential fire sprinkler systems.	LHMP 2018 Action 07. Water Supply Redundancy; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	$ 4,793,000
Multi-Hazard Actions	Install portable generators at the key sewer lift stations so they can continue to operate in an event and avoid catastrophic contamination.	LHMP 2018 Action 08. Install Permanent Generators at Major	$ 3,900,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
		Sewer Lift Stations and Treatment Facilities	
Wildfire - Roads Repair in the Valley Fire Burn area	Approximately 120 miles of County Road were impacted by fire suppression and post-fire cleanup efforts that now require extensive reconstruction due to the damage caused by the excess truck traffic.	LHMP 2018 Action 09. Disaster Debris Management Plan; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	$ 10,000,000
Wildfire - Removal of Remaining Hazardous Debris in the Valley Fire Burn area	Need to complete hazardous debris removal at commercial sites, particularly Hobergs Resort.	LHMP 2018 Action 09. Disaster Debris Management Plan; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	$ 1,200,000
Wildfire - Removal of Hazardous Trees on Private Property in the Valley Fire Burn area	Removal of downed trees on private property, which not only pose severe safety hazards to survivors engaged in rebuilding efforts, but also serve as extreme discouragement to rebuilding and re-entry in fire-devastated communities. Assuming 2000 properties, 5 trees per property, and an estimated $1000/tree – the total estimated cost for a private property tree removal project is $10 million.	LHMP 2018 Action 09. Disaster Debris Management Plan; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	$ 10,000,000
Wildfire - Anderson Springs Second Access Road	Creation of secondary access roads in rural, remote, heavily wooded areas.	LHMP 2018 Action 10. Anderson Springs Secondary Access; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	$ 2,000,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Multi-Hazard Actions	Develop a community resiliency plan either as part of the General Plan or a stand-alone plan to protect/enhance resources in response to short and long-term events.	LHMP 2018 Action 11. Resiliency Plan	$ 75,000
Multi-Hazard Actions	An Airport Land Use Compatibility Plan is required to ensure compatibility of land uses near the airport, and to protect the current and future airports from hazards. The current plan needs to be updated.	LHMP 2018 Action 12. Airport Land Use Compatibility Plan (ALUCP)	$ 75,000
Multi-Hazard Actions	The County should establish a comprehensive county-wide evacuation plan in case of hazards that impact the entire county, or isolate portions or the entire county	LHMP 2018 Action 13. County-Wide Evacuation Plan	$ 75,000
Multi-Hazard Actions	Current Telecommunications Ordinance is outdated and may not serve the community interest when it comes to safety, location, or the requirements of public safety and first responders or emergency use.	LHMP 2018 Action 14. Telecommunications Ordinance Revisions; Action	$ 20,000
Multi-Hazard Actions	Establish a microwave link between the Lake County and Mendocino County Central Dispatch Centers, utilizing existing infrastructure, and enhancing communications capabilities.	LHMP 2018 Action 17. Lake-Mendocino Central Dispatch Link	$ 50,000
Aquatic Biological Hazards: cyanobacterial bloom	Monitor the lake for early signs of cyanobacteria blooms and for concentrations of cyanotoxins. Make the public aware of unhealthy conditions in the lake.	LHMP 2018 Action 19. Cyanobacterial Monitoring	$ 50,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Aquatic Biological Hazards: quagga mussel	Dreisennid mussels are non-native, deleterious species that can adversely affect the carrying capacity of lakes and damage motors and raw water systems. Once established, they are nearly impossible to eradicate. Establish a prevention program consisting of public education, boat screening, inspection and when needed, disinfection. Costs are annual operation costs.	LHMP 2018 Action 20. Dreissennid Mussel Prevention	$ 350,000
Climate Change	California communities need to respond to climate change both through policies that promote adaptation and resilience and by significantly reducing greenhouse gas (GHG) emissions. Develop a climate action plan either as part of the General Plan or a stand-alone plan to protect/enhance resources in response to short and long term events.	LHMP 2018 Action 21. Climate Action Plan	$ 75,000
Flood: 1%/0.2% Annual Chance	The Flood Control Reliability project will mitigate flooding risk in the areas adjacent to the flood control station. Since Hidden Valley Lake is very densely populated when compared to the rest of Lake County, this mitigation effort is relevant and impactful for community sustainability when considering future development. Replace the existing discharge gate valve with a Tide-Flex valve that better regulates flows and restricts flow back through the detention basin. The “duck bill” design of the Tide-Flex valve opens with positive pressure and closes to prevent backflow. This implementation has proven successful in innumerable applications since 1984. A temporary diversion structure will be constructed to help facilitate the replacement as well as allow for fortifications of the existing concrete structure.	LHMP 2018 Action 22. Flood Control Reliability	$ 634,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Flood: 1%/0.2% Annual Chance	Continued maintenance of existing levees and drainage culverts; investigate the feasibility of raising the levee elevations to improve the level of flood protection to the 100-year event. Continue to implement the stormwater ordinance, grading ordinance, and floodplain management ordinance. Project is awarded and proceeding.	LHMP 2018 Action 23. Flood Protection Projects	$ 1,000,000
Dam Failure	Climate change impacts the functionality of infrastructure, such as dams. The County needs a study to address/forecast how dam inundation zones will change with the impacts of climate change.	LHMP 2018 Action 27. Dam Inundation Zone Study	$ 75,000
Landslide and Debris Flows	Through a combination of slope reduction, placement of rock armoring, and revegetation, stabilize the erosive soils so that rain events won't cause slide debris from impacting the county road. Project will require acquisition of right of way, removal of existing trees and brush, roadway excavation, installation of rock slope protection and erosion control measures.	LHMP 2018 Action 33. New Long Valley Road Hillside Stabilization	$ 3,000,000
Landslide and Debris Flows	Stabilize a large landslide	LHMP 2018 Action 34. Ettawa Springs Slide	$ 5,000,000
Landslide and Debris Flows	Stabilize a large landslide	LHMP 2018 Action 35. Anderson Springs Slide;	$ 25,000,000
Wildfire	Establish prioritized list of action plans for subsequent funding and implementation and application for DHS or other funding to implement fuel load reduction, emergency service access improvements, property owner stewardship education and advocacy, community participation to implement CWPP in areas served by the Lakeport Fire Protection District. Costs are only initial study/application submittal phase.	LHMP 2018 Action 39. Wildlands Fire Prevention Project	$ 12,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Wildfire	Repair 9000 feet of access/ fire-break road and create 8050 feet of new fire-break road.	LHMP 2018 Action 40. Develop and Protect Existing Infrastructure Used to Fight Wildfire/ Fire-Break and Access Roads	$ 300,000
Multi-Hazard Actions -	Install a solar powered repeater station on Seigler Mountain, which will serve the greater Cobb area and extend radio communications into the Clearlake and Lower Lake areas.	LHMP 2018 Action 41. Additional Repeater/ Seigler Mountain Repeater	$ 45,000
Wildfire	Purchase several portable fire pumping stations, personal protective equipment, and create an emergency shelter in place structure.	LHMP 2018 Action 42. Additional Emergency Response Team/ The Mountain of Attention Fire Brigade	$ 75,000
Wildfire	Replace all wooden tanks with steel tanks. Would include seismic and engineering design as required for specific tanks and locations.	LHMP 2018 Action 43. Replace Redwood Storage Tanks with Steel Tanks	$ 1,000,000
Wildfire	Fuel Breaks around especially vulnerable communities.	LHMP 2018 Action 45. Anderson Springs Fuel Break	$ 100,000
Wildfire	Control burns, salvage logging, and re forestation at Boggs Mountain State Forest.	LHMP 2018 Action 46. Boggs Mountain State Forest	$ 100,000
Wildfire	Create a shaded fuel break on each side of Bottle Rock County Road (100 feet below the road and 50 feet above the road).	LHMP 2018 Action 47. The Bottle Rock Fuel Reduction Project	$ 100,000
Wildfire	Maintain a fuel break to the West of the City of Lakeport. Also see Action 39.	LHMP 2018 Action 49. Cow Mountain Fuel Break	$ 100,000
Wildfire	Create a fuel break around the City of Clearlake (Chapman area). The fuel break will go from the county dump to Cache Creek. The goal of this project is to open the fuel break from 50 to 100 feet where possible.	LHMP 2018 Action 50. The Davis Project	$ 100,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Wildfire	Maintain a fuel break around the HVL subdivision, as well as completing fuel reduction for the "common" areas of undeveloped land.	LHMP 2018 Action 52. Hidden Valley Fuel Break	$ 100,000
Wildfire	Formulate projected plan and scheduled treatment of fuel.	LHMP 2018 Action 53. Montesol Ranch Fire Road to Oat Hill Mine Road and Dead Horse Flat Fire Road	$ 100,000
Wildfire	Create a fuel break that wraps around the Riveria communities. Phase I was started in Spring of 2014 and is ongoing.	LHMP 2018 Action 54. The Mount Konocti Interface Project	$ 100,000
Wildfire	Create fuel break to protect the Shenandoah communities from future wildfires.	LHMP 2018 Action 55. Shenandoah Fuel Break	$ 100,000
Wildfire	Prepare Community Wildfire Protection Plans as part of the Area Plan Updates. Estimated incremental increase in Area Plan preparation costs is $10,000 per plan with 8 areas.	LHMP 2018 Action 57. CWPP Projects	$ 80,000
Wildfire	Create fuel break to protect the Carter Lane and Harbin Springs Ridge communities from future wildfires.	LHMP 2018: Action 48. Carter Lane Fire Road/Harbin Springs Ridge Fuel Break	$ 100,000
Wildfire	Create and maintain a Safe Refuge Area to enable residents a safe place to gather should their egress become compromised.	LHMP 2018: Action 56. The Spring Valley Community Safe Refuge Area Project	$ 100,000
Multi-Hazard Actions -	Complete the "Full Circle Effluent Pipeline" concept by connecting the Lakeport WWTP and the Kelseyville WWTP with the Southeast Geysers Effluent Pipeline along the southern edge of Clear Lake to provide redundancy for wastewater disposal and reuse of treated effluent.	LACOSAN Full Circle Effluent Pipeline Project Description - 2007	$ 30,000,000

Moderate

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Multi-Hazard Actions -	The project consists of placing enclosures over the 3 existing wells, chlorination equipment and the purposed generators, as well as a new well and water treatment facility located near the base of the Hidden Valley Lake dam, along with a new pipeline and booster pump station to convey the water from the water treatment plant to the main storage tanks in the distribution system.	LHMP 2018 Action 07. Water Supply Redundancy	$ 3,642,000
Multi-Hazard Actions	Develop a Disaster Debris Management Plan to aid in the advance planning for debris management and diversion during and after a disaster. The plan may identify topics such as tasks to be undertaken, team and management roles, government agency coordination, pre-disaster assessment, temporary storage sites, waste diversion opportunities, permanent disposal sites, waste hauling considerations, hazardous wastes, funding and mutual aid, and public outreach.	LHMP 2018 Action 09. Disaster Debris Management Plan	$ 50,000
Wildfire - Landfill Equipment Replacement	Replace local government equipment due to higher use from fire debris coming to landfill from Lake and Mendocino County fires.	LHMP 2018 Action 09. Disaster Debris Management Plan; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	
Multi-Hazard Actions	Establish process and mechanism to identify and evacuate elderly and disabled populations during an emergency event to facilitate evacuation by emergency personnel.	LHMP 2018 Action 15. Elderly and Disabled Special Population Identification and Evacuation Planning	$ 75,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Multi-Hazard Actions	Communities have expressed a desire for audible warning systems, in addition to the telenotification system(s) currently in use by the County and Cities. Land-line telephone systems reflect a decline in the number of active lines, and cell phone coverage within the County remains poor. Identify locations, systems and activation protocols for audible warning systems throughout the County. Estimate to need 20 locations at $25,000 per location.	LHMP 2018 Action 16. Audible Warning Systems	$ 500,000
Agricultural Hazards	Ensure that these locations have current hazardous material work business plans with Environmental Health and the local fire departments. Annual inspection(s) at the sales' locations for proper storage of pesticides.	LHMP 2018 Action 18. Identify and Mitigate Agricultural Hazards	$ 50,000
Flood: 1%/0.2% Annual Chance	Acquisition of 1675 acres and some residences to allow opening of the flood protection levees and consequent restoration of Clear Lake wetlands.	LHMP 2018 Action 25. Middle Creek Flood Damage Reduction and Ecosystem Restoration Project	$ 32,000,000
Earthquake	Analyze the feasibility of a mandatory versus voluntary seismic retrofit program for un-reinforced masonry buildings and pursue funding to seismically retrofit County-owned pre-earthquake designed structures.	LHMP 2018 Action 29. Feasibility Study for Seismic Retrofit of Unreinforced Masonry Buildings	$ 100,000
Hazardous Materials Transport	Convert an existing facility at the Eastlake Landfill into a storage and handling area for hazardous materials. It would create fire-rated walls and doors, drums and secondary containment, a negative pressure ventilation system, monitoring gas alarms, and a fire suppression system.	LHMP 2018 Action 30. Hazardous Materials Storage Area	$ 150,000
Hazardous Materials	Identify Brownfields in Lake County and establish mitigation strategies for the sites.	LHMP 2018 Action 31. Brownfield identification and mitigation strategy	$ 75,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Hazardous Materials	Set up on-going services to handle annual mine inspection and SMARA reporting requirements. Estimated costs are an annual operating cost.	LHMP 2018 Action 32. Mining Inspection services	$ 25,000
Landslide and Debris Flows	Engage a consultant or create a new engineering position to inspect grading to ensure it meets current standards. Cost estimate is for an annual on-going service.	LHMP 2018 Action 36. Grading Inspection Services	$ 10,000
Landslide and Debris Flows	Develop a new grading ordinance that reflects current standards.	LHMP 2018 Action 37. Grading Ordinance Revisions	$ 10,000
Volcano	The area surrounding Austin Park in Clearlake, including the Burns Valley Elementary School need a mitigation system to prevent gas release or to extract and treat the gas to minimize the health and safety hazard.	LHMP 2018 Action 38. City of Clearlake - Geothermal / Hydrothermal Gas Abatement	$ 2,000,000
Wildfire	Purchase equipment to assist in disposal of larger diameter trees and branches.	LHMP 2018 Action 44. Countywide Air Curtain Burners	$ 2,000,000
Wildfire - Businesses Assistance/ Loans	Low interest loans to small businesses impacted by the fires to retain and create jobs, could also include Broadband business. Low/mod benefit is employees hired. Recommend County sub grant to LCEDC with subrecipient agreement to operate program, reduces admin tasks for County.	ED Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	$ 600,000

Low

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Flood: 1%/0.2% Annual Chance	Removal of accumulated gravel would lower the riffle to -2' Rumsey to allow some increased discharge capacity. Any other modification of the channel would require coordination with Yolo County and reversal or modification of a standing court decree.	LHMP 2018 Action 24. Cache Creek Discharge Enhancement	$ 2,000,000
Flood: 1%/0.2% Annual Chance	Placement of stream gauges in waterways subject to increased discharge as a consequence of watershed land use changes. Estimated cost of $30,000 per gauge.	LHMP 2018 Action 26. Additional Stream Gauges for Flood Prediction	$ 120,000
Drought and Water Shortage	Two alternative groundwater management plans were developed for the Lake County basins of medium concern. If ultimately the alternate plans are not accepted, a regional plan would provide planned and coordinated monitoring, operation, and administration of area groundwater basins with the goal of long-term groundwater resource sustainability.	LHMP 2018 Action 28. Groundwater Management Plan	$ 100,000
Severe Weather: Heavy Rains, Snow, and Storms Severe Weather: High Winds Subsidence Flood: Localized/Stormwater Levee Failure	NO PROJECTS WERE IDENTIFIED FOR THESE CATEGORIES	ACCORDING TO THE 2018 LHMP	

Projects by Agency/Area of Responsibility

County

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Department of Social Services			
Multi-Hazard Actions	Establish process and mechanism to identify and evacuate elderly and disabled populations during an emergency event to facilitate evacuation by emergency personnel.	LHMP 2018 Action 15. Elderly and Disabled Special Population Identification and Evacuation Planning	$ 75,000
Office of Emergency Services			
Multi-Hazard Actions	Establish a microwave link between the Lake County and Mendocino County Central Dispatch Centers, utilizing existing infrastructure, and enhancing communications capabilities.	LHMP 2018 Action 17. Lake-Mendocino Central Dispatch Link	$ 50,000
Multi-Hazard Actions	Communities have expressed a desire for audible warning systems, in addition to the telenotification system(s) currently in use by the County and Cities. Land-line telephone systems reflect a decline in the number of active lines, and cell phone coverage within the County remains poor. Identify locations, systems and activation protocols for audible warning systems throughout the County. Estimate to need 20 locations at $25,000 per location.	LHMP 2018 Action 16. Audible Warning Systems	$ 500,000
Wildfire	Purchase equipment to assist in disposal of larger diameter trees and branches.	LHMP 2018 Action 44. Countywide Air Curtain Burners	$ 2,000,000
Water Resources Department			
Aquatic Biological Hazards: cyanobacterial bloom	Monitor the lake for early signs of cyanobacteria blooms and for concentrations of cyanotoxins. Make the public aware of unhealthy conditions in the lake.	LHMP 2018 Action 19. Cyanobacterial Monitoring	$ 50,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Aquatic Biological Hazards: quagga mussel	Dreisennid mussels are non-native, deleterious species that can adversely affect the carrying capacity of lakes and damage motors and raw water systems. Once established, they are nearly impossible to eradicate. Establish a prevention program consisting of public education, boat screening, inspection and when needed, disinfection. Costs are annual operation costs.	LHMP 2018 Action 20. Dreissennid Mussel Prevention	$ 350,000
Flood: 1%/0.2% Annual Chance	The Flood Control Reliability project will mitigate flooding risk in the areas adjacent to the flood control station. Since Hidden Valley Lake is very densely populated when compared to the rest of Lake County, this mitigation effort is relevant and impactful for community sustainability when considering future development. Replace the existing discharge gate valve with a Tide-Flex valve that better regulates flows and restricts flow back through the detention basin. The “duck bill” design of the Tide-Flex valve opens with positive pressure and closes to prevent backflow. This implementation has proven successful in innumerable applications since 1984. A temporary diversion structure will be constructed to help facilitate the replacement as well as allow for fortifications of the existing concrete structure.	LHMP 2018 Action 22. Flood Control Reliability	$ 634,000
Flood: 1%/0.2% Annual Chance	Continued maintenance of existing levees and drainage culverts; investigate the feasibility of raising the levee elevations to improve the level of flood protection to the 100-year event. Continue to implement the stormwater ordinance, grading ordinance, and floodplain management ordinance. Project is awarded and proceeding.	LHMP 2018 Action 23. Flood Protection Projects	$ 1,000,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Flood: 1%/0.2% Annual Chance	Acquisition of 1675 acres and some residences to allow opening of the flood protection levees and consequent restoration of Clear Lake wetlands.	LHMP 2018 Action 25. Middle Creek Flood Damage Reduction and Ecosystem Restoration Project	$ 32,000,000
Flood: 1%/0.2% Annual Chance	Removal of accumulated gravel would lower the riffle to -2' Rumsey to allow some increased discharge capacity. Any other modification of the channel would require coordination with Yolo County and reversal or modification of a standing court decree.	LHMP 2018 Action 24. Cache Creek Discharge Enhancement	$ 2,000,000
Flood: 1%/0.2% Annual Chance	Placement of stream gauges in waterways subject to increased discharge as a consequence of watershed land use changes. Estimated cost of $30,000 per gauge.	LHMP 2018 Action 26. Additional Stream Gauges for Flood Prediction	$ 120,000
Drought and Water Shortage	Two alternative groundwater management plans were developed for the Lake County basins of medium concern. If ultimately the alternate plans are not accepted, a regional plan would provide planned and coordinated monitoring, operation, and administration of area groundwater basins with the goal of long-term groundwater resource sustainability.	LHMP 2018 Action 28. Groundwater Management Plan	$ 100,000
Public Services Department			
Multi-Hazard Actions	Develop a Disaster Debris Management Plan to aid in the advance planning for debris management and diversion during and after a disaster. The plan may identify topics such as tasks to be undertaken, team and management roles, government agency coordination, pre-disaster assessment, temporary storage sites, waste diversion opportunities, permanent disposal sites, waste hauling considerations, hazardous wastes, funding and mutual aid, and public outreach.	LHMP 2018 Action 09. Disaster Debris Management Plan	$ 50,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Wildfire - Landfill Equipment Replacement	Replace local government equipment due to higher use from fire debris coming to landfill from Lake and Mendocino County fires.	LHMP 2018 Action 09. Disaster Debris Management Plan; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	
Hazardous Materials Transport	Convert an existing facility at the Eastlake Landfill into a storage and handling area for hazardous materials. It would create fire-rated walls and doors, drums and secondary containment, a negative pressure ventilation system, monitoring gas alarms, and a fire suppression system.	LHMP 2018 Action 30. Hazardous Materials Storage Area	$ 150,000
Community Development Department			
Wildfire - Fire Safe Communities	Need to develop a long term firesafe communities plan throughout Lake County.	LHMP 2018 Action 01. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan, Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	
Wildfire -	Development of fire-wise standards and replanting plans for reforestation in the Valley Fire Burn area.	LHMP 2018 Action 01. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan, Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness; Lake County Valley	

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
		Fire Long Term Recovery Priorities AMENDED 06/07/16	
Climate Change	California communities need to respond to climate change both through policies that promote adaptation and resilience and by significantly reducing greenhouse gas (GHG) emissions. Develop a climate action plan either as part of the General Plan or a stand-alone plan to protect/enhance resources in response to short and long-term events.	LHMP 2018 Action 21. Climate Action Plan	$ 75,000
Dam Failure	Climate change impacts the functionality of infrastructure, such as dams. The County needs a study to address/forecast how dam inundation zones will change with the impacts of climate change.	LHMP 2018 Action 27. Dam Inundation Zone Study	$ 75,000
Wildfire	Prepare Community Wildfire Protection Plans as part of the Area Plan Updates. Estimated incremental increase in Area Plan preparation costs is $10,000 per plan with 8 areas.	LHMP 2018 Action 57. CWPP Projects	$ 80,000
Earthquake	Analyze the feasibility of a mandatory versus voluntary seismic retrofit program for un-reinforced masonry buildings and pursue funding to seismically retrofit County-owned pre-earthquake designed structures.	LHMP 2018 Action 29. Feasibility Study for Seismic Retrofit of Unreinforced Masonry Buildings	$ 100,000
Hazardous Materials	Identify Brownfields in Lake County and establish mitigation strategies for the sites.	LHMP 2018 Action 31. Brownfield identification and mitigation strategy	$ 75,000
Hazardous Materials	Set up on-going services to handle annual mine inspection and SMARA reporting requirements. Estimated costs are an annual operating cost.	LHMP 2018 Action 32. Mining Inspection services	$ 25,000
Landslide and Debris Flows	Engage a consultant or create a new engineering position to inspect grading to ensure it meets current standards. Cost estimate is for an annual on-going service.	LHMP 2018 Action 36. Grading Inspection Services	$ 10,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Landslide and Debris Flows	Develop a new grading ordinance that reflects current standards.	LHMP 2018 Action 37. Grading Ordinance Revisions	$ 10,000
Multi-Hazard Actions - Update Area Plans	Integration of LHMP into General Plan Safety Element along with inventory of critical facilities, update to ALUCP, evaluation planning, improved communications, and public education to develop resiliency to future hazards, disasters and climate change effects.	LHMP 2018 Action 01. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan, Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness, Action 3. Critical Facility Inventory & GIS Mapping Updates	$ 200,000
Multi-Hazard Actions	Develop a community resiliency plan either as part of the General Plan or a stand-alone plan to protect/enhance resources in response to short and long-term events.	LHMP 2018 Action 11. Resiliency Plan	$ 75,000
Multi-Hazard Actions	An Airport Land Use Compatibility Plan is required to ensure compatibility of land uses near the airport, and to protect the current and future airports from hazards. The current plan needs to be updated.	LHMP 2018 Action 12. Airport Land Use Compatibility Plan (ALUCP)	$ 75,000
Multi-Hazard Actions	The County should establish a comprehensive county-wide evacuation plan in case of hazards that impact the entire county, or isolate portions or the entire county	LHMP 2018 Action 13. County-Wide Evacuation Plan	$ 75,000
Multi-Hazard Actions	Current Telecommunications Ordinance is outdated and may not serve the community interest when it comes to safety, location, or the requirements of public safety and first responders or emergency use.	LHMP 2018 Action 14. Telecommunications Ordinance Revisions; Action	$ 20,000
Wildfire	Repair 9000 feet of access/ fire-break road and create 8050 feet of new fire-break road.	LHMP 2018 Action 40. Develop and Protect Existing Infrastructure Used to Fight	$ 300,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
		Wildfire/ Fire-Break and Access Roads	
Multi-Hazard Actions -	Install a solar powered repeater station on Seigler Mountain, which will serve the greater Cobb area and extend radio communications into the Clearlake and Lower Lake areas.	LHMP 2018 Action 41. Additional Repeater/ Seigler Mountain Repeater	$ 45,000
Public Works Department			
Wildfire - Roads Repair in the Valley Fire Burn area	Approximately 120 miles of County Road were impacted by fire suppression and post-fire cleanup efforts that now require extensive reconstruction due to the damage caused by the excess truck traffic.	LHMP 2018 Action 09. Disaster Debris Management Plan; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	$ 10,000,000
Wildfire - Removal of Remaining Hazardous Debris in the Valley Fire Burn area	Need to complete hazardous debris removal at commercial sites, particularly Hobergs Resort.	LHMP 2018 Action 09. Disaster Debris Management Plan; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	$ 1,200,000
Wildfire - Removal of Hazardous Trees on Private Property in the Valley Fire Burn area	Removal of downed trees on private property, which not only pose severe safety hazards to survivors engaged in rebuilding efforts, but also serve as extreme discouragement to rebuilding and re-entry in fire-devastated communities. Assuming 2000 properties, 5 trees per property, and an estimated $1000/tree – the total estimated cost for a private property tree removal project is $10 million.	LHMP 2018 Action 09. Disaster Debris Management Plan; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	$ 10,000,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Wildfire - Anderson Springs Second Access Road	Creation of secondary access roads in rural, remote, heavily wooded areas.	LHMP 2018 Action 10. Anderson Springs Secondary Access; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	$ 2,000,000
Landslide and Debris Flows	Through a combination of slope reduction, placement of rock armoring, and revegetation, stabilize the erosive soils so that rain events won't cause slide debris from impacting the county road. Project will require acquisition of right of way, removal of existing trees and brush, roadway excavation, installation of rock slope protection and erosion control measures.	LHMP 2018 Action 33. New Long Valley Road Hillside Stabilization	$ 3,000,000
Landslide and Debris Flows	Stabilize a large landslide	LHMP 2018 Action 34. Ettawa Springs Slide	$ 5,000,000
Landslide and Debris Flows	Stabilize a large landslide	LHMP 2018 Action 35. Anderson Springs Slide;	$ 25,000,000
Agriculture Department			
Agricultural Hazards	Ensure that these locations have current hazardous material work business plans with Environmental Health and the local fire departments. Annual inspection(s) at the sales locations for proper storage of pesticides.	LHMP 2018 Action 18. Identify and Mitigate Agricultural Hazards	$ 50,000
Wildfire -	Clearing of wildfire fuel (i.e. grasses, brush, etc.) in at-risk areas.	LHMP 2018 Action 01. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan, Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness; Lake County Valley	

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
		Fire Long Term Recovery Priorities AMENDED 06/07/16	

City

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Clearlake			
Volcano	The area surrounding Austin Park in Clearlake, including the Burns Valley Elementary School need a mitigation system to prevent gas release or to extract and treat the gas to minimize the health and safety hazard.	LHMP 2018 Action 38. City of Clearlake - Geothermal / Hydrothermal Gas Abatement	$ 2,000,000
Lakeport	NO PROJECTS IDENTIFIED IN THE 2018 LHMP		

Special Districts

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Special Districts			
Multi-Hazard Actions -	In order to protect the integrity of the water distribution system, industry standard leak noise correlation techniques will be applied to pinpoint leakage problem areas with a high degree of accuracy. This first phase will include leak identification with specialized equipment, documentation and mapping, and prioritization and benefit analysis of the most vulnerable locations within the infrastructure. Following this discovery phase, fortification of the most vulnerable areas, to include junction point such as fire hydrants and individual service connections will be conducted. Hidden Valley Lake area only.	LHMP 2018 Action 04. Water Distribution System Reliability	$ 2,032,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Wildfire - Lower Lake Water District Connection	Need to connect Lower Lake to Konocti and Highlands H2O for fire suppression, sustainability, first step toward larger improvements.	LHMP 2018 Action 04. Water Distribution System Reliability	$ 1,000,000
Multi-Hazard Actions -	The Water System Storage Reliability project is a critical and crucial effort for HVLCSD. By simultaneously mitigating the multiple hazards mentioned above, HVLCSD remains focused on ensuring the safety of the community's drinking water. This project replaces five redwood tanks with four modern steel tanks. Steel will significantly reduce the potential damages to tanks due to wildfire. Steel tanks holding water will also provide firefighters with sufficient fire flows, and potentially reduce the extent of a wildfire.	LHMP 2018 Action 05. Water System Storage Reliability,	$ 4,936,000
Multi-Hazard Actions	The Backup Power Reliability project would place appropriately sized power generators at four water delivery pump stations. In order for water to be made available for households and firefighters, electricity required to pump up to water tanks would no longer be a weak spot in the water distribution system. This project would also necessarily include the switchgear needed to transition from grid-tied to generator power, as well as assuring proper access into pump locations. Four generators in these key locations will have a positive effect on the entire community. This integral step in providing water storage to the community as well as fire flows to the firefighting community help to mitigate risks from the aforementioned hazards.	LHMP 2018 Action 06. Backup Power Reliability	$ 2,712,000
Wildfire -	Water system infrastructure improvements enabling adequate residential water supplies to meet required home	LHMP 2018 Action 07. Water Supply Redundancy; Lake County	

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
	fire sprinkler systems as well as a sufficient number of functional fire hydrants.	Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	
Wildfire - Sewer System for Anderson Springs	Anderson Springs, where only 19 of 200+ homes remain after the devastation of the Valley Fire, cannot rebuild without funding for acquisition and installation of a sewer system. Approximately 115 of the homes destroyed were built too close to the creek, per today's standards, and cannot be rebuilt as they were, using septic systems. The plan is to build a system that connects the community to the Middletown Wastewater Treatment Plant. The new Anderson Springs wastewater collection system is a key part of the recovery for Valley Fire survivors.	LHMP 2018 Action 07. Water Supply Redundancy; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	$ 7,300,000
Wildfire - Replacement of Aging, Inadequate Infrastructure and Consolidation of Water Systems in the Cobb Mountain Area	Consolidation of the 8-10 systems to create improved economies of scale to better serve the customers by infrastructure improvements to interconnect systems, add storage for fire suppression, and enlarge distribution lines to meet current State fire codes for residential fire sprinkler systems.	LHMP 2018 Action 07. Water Supply Redundancy; Lake County Valley Fire Long Term Recovery Priorities AMENDED 06/07/16	$ 4,793,000
Multi-Hazard Actions	Install portable generators at the key sewer lift stations so they can continue to operate in an event and avoid catastrophic contamination.	LHMP 2018 Action 08. Install Permanent Generators at Major Sewer Lift Stations and Treatment Facilities	$ 3,900,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
Multi-Hazard Actions -	Complete the "Full Circle Effluent Pipeline" concept by connecting the Lakeport WWTP and the Kelseyville WWTP with the Southeast Geysers Effluent Pipeline along the southern edge of Clear Lake to provide redundancy for wastewater disposal and reuse of treated effluent.	LACOSAN Full Circle Effluent Pipeline Project Description - 2007	$ 30,000,000
Wildfire	Replace all wooden tanks with steel tanks. Would include seismic and engineering design as required for specific tanks and locations.	LHMP 2018 Action 43. Replace Redwood Storage Tanks with Steel Tanks	$ 1,000,000
Multi-Hazard Actions -	The project consists of placing enclosures over the 3 existing wells, chlorination equipment and the purposed generators, as well as a new well and water treatment facility located near the base of the Hidden Valley Lake dam, along with a new pipeline and booster pump station to convey the water from the water treatment plant to the main storage tanks in the distribution system.	LHMP 2018 Action 07. Water Supply Redundancy	$ 3,642,000
Fire Protection Districts			
Wildfire	Create a fuel break that wraps around the Riveria communities. Phase I was started in Spring of 2014 and is ongoing.	LHMP 2018 Action 54. The Mount Konocti Interface Project	$ 100,000
Wildfire	Create a fuel break around the City of Clearlake (Chapman area). The fuel break will go from the county landfill to Cache Creek. The goal of this project is to open the fuel break from 50 to 100 feet where possible.	LHMP 2018 Action 50. The Davis Project	$ 100,000
Wildfire	Establish prioritized list of action plans for subsequent funding and implementation and application for DHS or other funding to implement fuel load reduction, emergency service access improvements, property owner stewardship education and advocacy, community participation to implement CWPP in areas served by the Lakeport Fire	LHMP 2018 Action 39. Wildlands Fire Prevention Project	$ 12,000

CATEGORY	PROJECT	REFERENCE	COST ESTIMATE
	Protection District. Costs are only initial study/application submittal phase.		
Wildfire	Maintain a fuel break to the West of the City of Lakeport. Also see Action 39.	LHMP 2018 Action 49. Cow Mountain Fuel Break	$ 100,000
Wildfire	Create and maintain a Safe Refuge Area to enable residents a safe place to gather should their egress become compromised.	LHMP 2018: Action 56. The Spring Valley Community Safe Refuge Area Project	$ 100,000
Wildfire	Create a shaded fuel break on each side of Bottle Rock County Road (100 feet below the road and 50 feet above the road).	LHMP 2018 Action 47. The Bottle Rock Fuel Reduction Project	$ 100,000
Wildfire	Fuel Breaks around especially vulnerable communities.	LHMP 2018 Action 45. Anderson Springs Fuel Break	$ 100,000
Wildfire	Maintain a fuel break around the HVL subdivision, as well as completing fuel reduction for the “common” areas of undeveloped land.	LHMP 2018 Action 52. Hidden Valley Fuel Break	$ 100,000
Wildfire	Formulate projected plan and scheduled treatment of fuel.	LHMP 2018 Action 53. Montesol Ranch Fire Road to Oat Hill Mine Road and Dead Horse Flat Fire Road	$ 100,000
Wildfire	Create fuel break to protect the Shenandoah communities from future wildfires.	LHMP 2018 Action 55. Shenandoah Fuel Break	$ 100,000
Wildfire	Create fuel break to protect the Carter Lane and Harbin Springs Ridge communities from future wildfires.	LHMP 2018: Action 48. Carter Lane Fire Road/Harbin Springs Ridge Fuel Break	$ 100,000

RECOMMENDATIONS/CONCLUSIONS

Recommendations

This report offers the following recommendations:

Improve infrastructure planning processes:

Integrate resilience in government and industry decision-making by adopting the principles for resilience in infrastructure planning. A consistent approach by all stakeholders will ensure resilience becomes a mainstream component of strategic planning and investment in infrastructure, improving the effectiveness of these investments in providing essential services to businesses and communities.

The Water Utilities OES Group should continue to work on identifying the needs and means to improve the resiliency of community water systems.

Improve incentives:

Prioritize policy changes and funding arrangements that ensure disaster resilience has been considered and incorporated where appropriate into infrastructure planning.

All levels of government should update project appraisal frameworks to include criteria to demonstrate that resilience has been considered. These criteria will improve the robustness of infrastructure selection and generate greater long-term benefits for the community. Industry will be motivated to consider resilience too, despite the higher costs often associated with doing so. Where appropriate, governments should also consider funding mechanisms that recognize resilience benefits to the broader community.

Improve capacity:

Government and industry should work to strengthen the technical capacity of practitioners to identify, analyze and evaluate the costs and benefits of resilience options.

Technical capacity must be significantly improved to embed resilience in the infrastructure decision-making process. Sophisticated and data-intensive analysis is required to model natural disaster risks in local areas and quantify the benefits of resilient infrastructure using CBA. This suggests a need for long-term investment in resilience education at the tertiary level and revisions to existing tools and guidelines for practitioners.

Importantly, the capacity to evaluate disaster risk and resilience relies heavily on the availability of and access to relevant data and research.

Planning:

Unfortunately, in some cases, the three local jurisdictions have not been able to sustain an effort to keep the necessary planning documents up to date to allow ready access to state and federal funds when an emergency happens. While the funding opportunities exist, although often time consuming and difficult to access and implement, we have not built a foundation to match the need to effectively plan for resilience in our communities and their essential infrastructure.

Most of these key documents are not intertied in any sustainable effort to improve the resiliency of public infrastructure. The key documents are the General Plans of all three jurisdictions including the key mandatory elements of safety and land use; the Hazard Mitigation Plan, which currently only address the County responsibilities; and supporting documents like Community Fire Protection Plans, Emergency Operations Plans, and Capital Improvement Plans. Plans are difficult and time consuming and often take away from the day to day operations of local jurisdictions, especially under tight budget constraints, yet we need to do the work if we want to start building resilient communities.

No plan will eliminate the destruction of wildfires or floods or slides. However, as we rebuild and recover, we can take the opportunity to plan for the future and hopefully mitigate the amount of destruction in the future. And perhaps now, with the extreme fires of 2018 throughout the State, changes in wildland management by the State and Federal governments may occur that will reduce the fire loads in the future.

A consistent, sustainable, workable effort is needed to achieve comprehensive plans that will provide for the needs of the communities in times of emergencies and build more resilient communities. Funding, and a lack of time and priority has been the main barrier to such a sustainable planning effort. Mechanisms exist that will provide the necessary level of funding for a sustainable planning effort. They include a General Plan Maintenance Fee, Impact Fees, Hazardous Mitigation Planning Grants, CDBG Planning and Technical Assistance (PTA) Grants, and USDA Rural Community Development Initiative Grants, and CalFire grants.

The County and both Cities should participate jointly on a Multi-Hazard, Multi-Jurisdictional Mitigation Plan funding by FEMA. The short comings of the recently adopted 2018 revision to the County's Hazard Mitigation Plan need to be addressed along with folding in both Cities, School Districts, Independent Special Districts, and Non-Governmental Organizations (NGO). The Hazard Mitigation Plan can be more inclusive, for example, the Callayomi County Water District of Middletown was devastated by the Valley Fire but no projects for that District made the list.

The General Plans of all three jurisdictions should be updated to address the coordination of the Hazard Mitigation Plan with the Safety Elements of those General Plans. The could be funded by FEMA HMGP as it is already an action item in the 2018 LHMP.

Disadvantaged Communities and areas of Low and Moderate-Income Households need special attention in any planning process to assure areas with limited resources are strengthened and become more resilient, especially in the areas of housing and economic development. Priority should be given to the Area Plans with larger percentages of low and moderate-income households in updates that should include Community Wildfire Protection Plans integration. With an emphasis on hazard mitigation efforts through CWPP, the FEMA HMGP is a likely funding resource along with the Planning Grants from both USDA/RD and CDBG.

Developing a comprehensive Capital Improvement Plan (CIP) with sustainable, realistic funding streams will provide a path to resiliency. The CIP should be integrated into the annual budgeting process of all public agencies that provide infrastructure.

Evaluation:

The statutory requirement for Annual Reporting (Pub. Resources Code § 21081.6 and 7; CEQA Guidelines §15097(g) and Government Code section 65400(b)) should be integrated with Mitigation Monitoring and Implementation. This could provide a means to assure progress, currency in strategies, and evaluation of priorities on a timely basis as new issues arise, new urgencies occur, and political attitudes evolve.

The annual budgeting of each jurisdiction should contain review of the CIP and evaluation of its progress, currency, priorities and political support.

Conclusion

These recommendations will help to embed resilience in the decision-making process for new infrastructure. In turn, this will improve the cost-effectiveness of infrastructure spending and, more importantly, mitigate the devastating and costly impacts of disasters on businesses and communities.

Making a decision on appropriate engineering approaches requires a multi-step process to integrate numerous considerations of design, technology, and cost requirements. A jurisdiction must first carry out a risk assessment concerning the following factors to determine likely hazards and consequent impacts:

- **Physical damage to supply systems** – Change-related impacts threaten the integrity and productivity of water sources, conveyance networks, storage reservoirs, and treatment facilities. It is vital to identify vulnerable points in existing water systems and find appropriate solutions to lessen the risk of compromised water availability, reflected as either water quality or quantity.
- **Changes in demand** – While physical damage to infrastructure systems will limit access to and availability of some infrastructure for communities, changes in human behavior following a natural disaster or other disruption in service can also limit supply. The stress imposed by catastrophic events can promote hoarding water and other resources as people try to cope with crisis. Understanding the potential for such patterns in behavior can help

service providers anticipate and manage not only supply, but demand aspects on infrastructure provision as well.

- **Maintenance requirements** – Climate change resilience of infrastructure systems should also include assuring the provision of commodities and systems required to maintain the infrastructure.
- **Related infrastructure damage** – Physical damage to power supplies that powers infrastructure facilities can bring service delivery to a halt. This is an important consideration to address when physical damage to infrastructure appears minimal.
- **Safety** – Risk assessment should also consider aspects of health and safety to not only end users of the infrastructure, but also to the people responsible for the service provision during natural disasters or other crises.

Once the risks have been identified, utility operators or other stakeholders can determine acceptable levels of risk. Some potential impacts or consequences may seem insurmountable if they were to occur, while others will be viewed by communities as more tolerable or manageable. Final decision-making on the appropriate level of construction or rehabilitation will be driven by those risks that the community has identified as unacceptable.

A multi-criteria analysis may be used to determine the most acceptable adaptation option. Not all options will have the same degree of acceptance by local stakeholders and the community because of cultural, economic or environmental side effects, as well as behavior change requirements. The array of specific criteria that are used in such an evaluation is dependent upon stakeholder values and needs and will therefore vary from one community to another.

Considerations may include:

- Local site conditions that affect technical feasibility;
- Compatibility with anticipated climate change projections;
- Ease of construction;
- Maintenance requirements;
- Timeframe for implementation or for the life of the infrastructure asset;
- Cost;
- Anticipated number of beneficiaries;
- Perceived or realized benefits in health and safety.

Once a climate change adaptation strategy has been selected, climate change risks can continue to be assessed through a monitoring and evaluation system. Embedding climate change risks into the existing framework for monitoring infrastructure performance is a preferred approach, rather than developing a stand-alone climate change risk monitoring and evaluation framework. The purpose of monitoring and evaluation will enable providers to:

- Adjust the risk assessment and infrastructure management approach to new or changing climate risk projections;
- Identify unanticipated climate change impacts;
- Support development of effective risk treatments;

- Detect changes in external factors such as social behaviors, service demand, or power provision in the face of catastrophe; and
- Contribute to improvements in risk understanding and share lessons learned with other communities and service providers.

Monitoring and evaluation should be based on robust, and simple to measure, quantitative and qualitative indicators. Careful consideration should be given to the cost efficiency and ease of measurement for the proposed measures. Information can be collected and analyzed through both participatory and external evaluation. Ongoing communication and consultation activities can support monitoring and evaluation to help ensure that climate risks are correctly identified, that stakeholders understand consequent risks, and that risk mitigation is tailored to each situation accordingly.

EXHIBITS

Definitions

CBA	Cost-benefit analysis
Climate	An expression of the composite weather conditions (such as temperature, precipitation, or wind), including both statistical averages and the occurrence of extreme events, over a given period of time. The World Meteorological Organization recommends a 30-year period to adequately describe the climate of a given area.
Climate Change	A statistically significant variation in climate data or patterns over a given period of time, due to either natural climate variability or as a result of human activity.
Climate Change Adaptation	Measures taken in response to actual or projected climate change in order to eliminate, minimize, or manage related impacts on people, infrastructure, and the environment.
Climate Change Impacts	The resulting influence of climate change effects on the structural form or function of an infrastructure system.
Climate Change Variability	**T**he short-term fluctuation in weather conditions, usually over a period of a year or a few decades.
Climate Driver	**T**he manifestation of a change in climatic conditions through one or more weather variables, such as a change in precipitation or sea level rise, to create an impact.
Disaster risk reduction	The practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters. This would include initiatives to reduce exposure to hazards and the vulnerability of people and property, judiciously manage land and the environment, and improve preparedness for adverse events (United Nations, 2009).
Exposure	**T**he extent to which a system comes into contact with a hazard or threat.
Foundational data	Base layers of locational information used for assessing natural disaster risks, as well as a range of other broader purposes. This encompasses exposure data (assets at risk, population and community demographics), as well as fundamental geographic data (geological, topographic and weather information).

Hazard data	Hazard-specific information on the risks of different disaster types, providing contextual data about the history of events and the risk profile for Lake County locations.
Hazard Mitigation	An effort using non-structural measures to reduce loss of life and property by lessening the impact of a major storm.
Impact data	Data on the potential and actual impacts associated with natural disasters, including information on historical costs and damage, and the current and predicted future value at risk.
Mitigation	Measures taken before a disaster aimed at decreasing or eliminating its impact on society and the environment.
Natural disasters	A natural disaster is a naturally occurring rapid onset event that causes a serious disruption to a community or region.
Resilience	The ability of a system, community or society exposed to hazards to anticipate, resist, absorb, adjust to and recover from the effects of a hazard in a timely and efficient manner. This would include initiatives to preserve and restore essential structures and functions (United Nations, 2009).
Risk	**T**he combined function of the likelihood that a hazard will occur and the resulting consequences.
Risk Assessment and Risk Management	Risk assessment is evaluating and prioritizing known risks and their effects; risk management is making a decision and setting policy based on that knowledge.
Sensitivity	**T**he degree to which a built, natural or human system is directly or indirectly affected by or responsive to changes in climate conditions or related impacts.
Threats	Extreme climate or weather event that creates impact or causes damage, such as flooding, wind, or drought.
Vulnerability	The degree to which a system is susceptible to or unable to cope with adverse effects of climate change, including climate variability and extremes. It is often defined as a combined function of exposure and sensitivity to the effects of climate change, minus the adaptive capacity of a system.

Vulnerable Populations	Groups of people especially at risk to impacts of a major storm due to their location or because they are overburdened and lack resources or have less access to services

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