
VOLCANO LONG RANGE PLAN, AUGUST, 2015

Prepared by the
LONG RANGE PLANNING COMMITTEE

VOLCANO COMMUNITY ASSOCIATION

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Our vision and purpose, adapted from Volcano Vision 20/20 vision statement:

We envision a community aesthetically and spiritually in harmony with the rare and beautiful native forest which surrounds us.

We understand the profound cultural and natural significance of the `āina, and also its fragility, and consider it an imperative to protect it.

We believe such a sensibility will foster a place of rural quality where young and old can live in dignity and mutual respect, each with the freedom to pursue individual goals while mindful of the common good.

And it is our great hope that through such responsible stewardship -- by preserving the life of the land in righteousness -- we will be able to pass to future generations of the people of Hawai'i and the world all that we are privileged to share today.

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EXECUTIVE SUMMARY

The Volcano Long Range Plan (VLRP) is a vision and the process for the community development of Volcano. The plan is tiered to the 2008 Puna Community Development Plan (PCDP). This 2015 VLRP revision, prepared by a committee of the Volcano Community Association, is the culmination of a community planning process that began in 1985, intensified during the 1990's, and revived after County Council approval of the PCDP. This 2015 draft plan is responsive to considerable and thoughtful comment resulting from community-wide meetings in January and February, 2015.

Volcano is the settled area from Volcano Golf and Country Club Estates subdivision to the west and Kahauale`a Road to the east. It lies between 3,000 and 4,000 foot elevation, above the area cleared by Hawaiian occupation and sugar planters. The Volcano community is one of the very few communities in the Hawaiian Islands located in a mostly intact native forest and woodland, with abundant native birds. Volcano is situated between protected natural areas, including Hawai`i Volcanoes National Park, a designated World Heritage Site by the United Nations, and adjacent to the Kamehameha Schools-Keauhou Ranch Forest restoration area, as well as two State Natural Area Reserves and the State ʻŌlaʻa Forest Preserve.

Volcano is the gateway community to Hawai`i Volcanoes National Park, providing a rural, forested setting for entrance to the national park and needed services for park visitors. Volcano is therefore a settled transitional area that serves as a corridor between neighboring protected forests and areas of human settlement, through which native plants and animals can move. Such an area provides a segment of a logical gradient of land use changes between the wilderness that are the cores of the national park and natural area reserves and the more intensely used lands further away, where farms and pastures, urban areas, and industrial areas prevail.

There are well over 100 historic structures in Volcano Village, the first settled area of Volcano. Although a few abandoned structures have deteriorated, many are proudly maintained by residents who have preserved their historic fabric and landscaping. Currently, the commercial district of Volcano is tastefully delimited on a portion of the Old Volcano Road parallel to but not visible from the Highway 11 corridor. Many of these commercial activities are housed in historic structures and blend into the surrounding historic neighborhood.

The two major planning challenges addressed by the VLRP are:

- Managing growth while protecting the native forest and wildlife, maintaining native forest cover and bird habitat in the face of inevitable build-out, insensitive forest clearing, non-adaptive building and landscape design, and further subdivision of lots.

- Preserving and perpetuating the unique architectural and other historic features of the commercial area.

This plan would establish a **Forest Protection Overlay District** that would maintain the forest canopy while still ensuring a high quality rural living environment for property owners, residents, and visitors. Further, the plan would designate a **Volcano Village Design District** in the central part of the Village, where most of the commercial and historic buildings are located. The desired result would assure preservation of historic structures and neighborhoods and also expand economic opportunities.

Other planning challenges addressed arise from community demographics, small population size, distance from population centers, and currently undeveloped infrastructure such as schools, recreational opportunities, commercial services, medical support, and assisted living facilities.

The VLRP articulates goals, objectives, and recommended actions in such matters as environmental quality and natural resource conservation, historic preservation and education, agriculture and economic development, social and health care services, public safety, sanitation, recreation and public transportation. The appendices of the VLRP are action statements that set forth specific steps, time lines, responsible parties, and projected budgets to implement these 32 recommended actions. The highest priority action items are as follows:

1. Establish by ordinance a **Volcano Village Design District**
2. Establish a **Forest Protection Overlay District** for Volcano that would protect natural forest cover
3. Revise **commercial zone boundaries** to promote economic growth
4. Complete work begun in 2015 toward a full service **Waste Management Facility**
5. Provide for **healthcare services** for Volcano
6. Continue **recording, protecting, and educating people about historic properties**
7. Prepare a **manual for residential and commercial development**
8. Promote granting of **small property conservation easements** in residential subdivisions
9. Support **road connectivity** among upper Puna subdivisions
10. Update a **Master Plan for Cooper Center**
11. Continue to support **training and equipment purchases** for Volcano Community Emergency Response Team (CERT) and FIREWISE Community
12. Collaborate with State and County to **redesign main thoroughfares for shared bicycle, vehicle and pedestrian use**
13. Designate **Highway 11** between Mountain View and Volcano as a **National Scenic Byway**
14. Collaborate with W. H. Shipman Estate to establish a **secondary Volcano commercial center** east of the Village core
15. Designate **hiking and biking trails** linking the Volcano community with the National Park

INTRODUCTION

Sensitive to the natural and historic content of this unique place, the Volcano Long Range Plan (VLRP) is a vision and the process for the community development of Volcano. This plan also acknowledges the history of community input, making it a collaborative and inclusive approach that will continue as the plan is shaped and implemented in the coming years.

The Volcano Long Range Plan is an action plan, tiered to the Puna Community Development Plan (PCDP) September, 2008. The PCDP is a conceptual document that provides a framework for action at the community level, and is presented in three general categories:

- MĀLAMA I KA `ĀINA (Care of the Land)
- MANAGING GROWTH
- TRANSPORTATION

Echoing the organizational framework of the PCDP, the VLRP addresses the three categories and offers responses to growth and development that consider the particulars of Volcano's setting. **Appendix I** lists actions needed to implement the plan. **Appendix II** is a series of Action Statements of one or two pages describing these actions and how they will be undertaken. **Appendix III** is a brief summary of the development of the VLRP.

The VLRP promotes action in the areas of environmental quality and resource conservation, historic preservation and education, land use, agriculture and economic development, commercial growth, medical/health care and social services, public health, safety and sanitation, improvements in infrastructure, recreation, public transportation, roadway management, and pedestrian and bicycle travel.

You will see throughout this plan the intention to live harmoniously within the native forest and to preserve the quality of the historic Village center. This includes guidelines for how the community can navigate new residential and commercial development while protecting the fragile natural environment and preserving historic development.

Two special designations by County ordinance will promote the dual vision to protect natural and cultural environments. The two districts are a **Volcano Village Design District** and a **Forest Protection Overlay District**. The Volcano Village Design District would affect future development of commercial properties, and is proposed to be along the entire mauka and Makai segment of Old Volcano Road in Volcano Village. The Forest Protection Overlay District would include all of the Volcano planning area. Such designations would encourage property

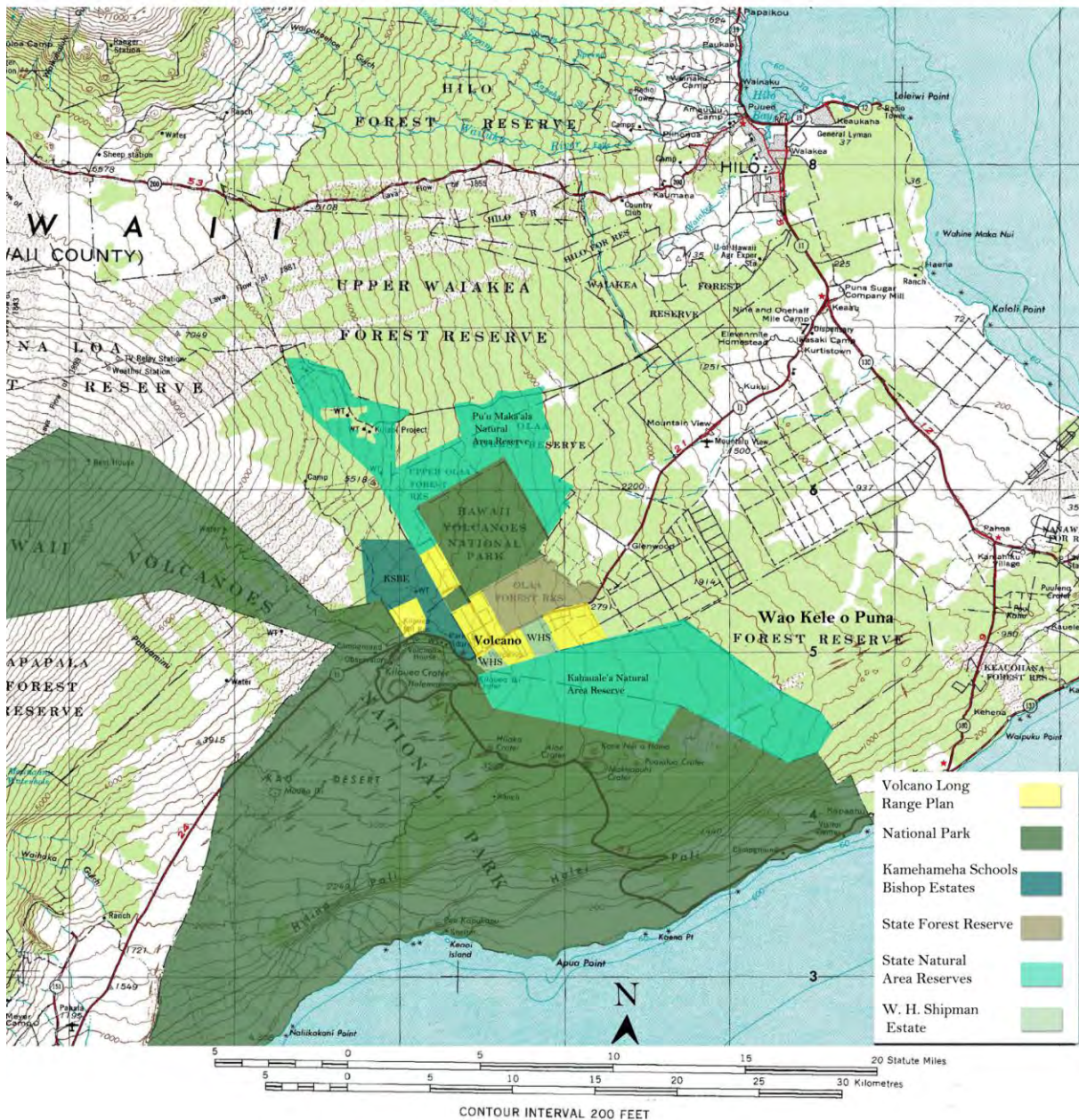
owners, residents, visitors, and developers to live in harmony under the largely intact native forest canopy and among our many historic buildings.

People would be encouraged to:

- Avoid clearing native trees from their properties whenever possible
- Carry out landscaping using native species or non-invasive ornamental plants
- Minimize outdoor lighting and direct it downward
- Design buildings and signs to blend with the historic rural nature of the Village
- Promote compatible recreational, educational, and commercial growth in their communities

Designation of a **Volcano Village Design District** in the historic center would prescribe development standards for this critical area in order to preserve the unique and mostly intact rural character of this portion of the Village. The geographic boundary would be drawn and permitted uses within the area would be listed. A local **Design Review Committee** comprised of local residents would provide review and advice for the County Planning Director. The County Planning Department would administer the ordinance.

Figure 1 VOLCANO VILLAGE & VICINITY



SETTING

BOUNDARIES

Volcano is defined as the settled area from Volcano Golf and Country Club Estates (VGCCE) subdivision, at the western end, to Kahauale`a Road, at the eastern end, an expanse of approximately 7.5 miles (Figs. 1 and 2). The approximately one mile segment along Old Volcano Road from where it intersects Highway 11, mauka of the Village just before the Hawai`i Volcanoes National Park boundary, and makai to where Old Volcano Road ends near the Highway 11 mile marker 26, is the core of Volcano Village. Here is where the primary commercial and many historic components of the community are located.

Although this smaller area is a major focus of the Long Range Plan, the residential, agricultural, and forested properties beyond the Village core comprise 99% of the greater Volcano community, and are where most of the residents live. These areas of the greater Volcano community are integral to all of the functions of the central area and are considered to be equally important and worthy of inclusion within the scope of this long range plan.

A significant element of the plan is a proposal to designate a Design District for the commercial and historic core of Volcano Village. Equally significant is a proposal for including all of the Volcano community under an “umbrella” of native trees, to be known as a Forest Protection Overlay District.

The greater Volcano community includes: the VGCCE subdivision, the Volcano Farm Lots on Wright and Ama`uma`u Roads, Volcano Village, Cymbidium Acres, Mauna Loa Estates, `Ōhi`a Estates, Royal Hawaiian Estates, Hawaiian Orchid Island Estates, and the most mauka portion of Fern Forest Estates subdivision. All neighborhoods in Volcano are located in the Puna District except for Volcano Golf and Country Club Estates, which is located within the Ka`ū District.

Volcano Golf and Country Club, Mauna Loa, `Ōhi`a, Royal Hawaiian, Hawaiian Orchid Island Estates and upper Fern Forest Estates are all developing subdivisions, following the speculative land sales period of the 1950's and 1960's. These neighborhoods are where land manipulation and population growth are occurring most rapidly. This is expected to continue. The VGCCE is separated from the remainder of Volcano by Kamehameha School lands leased for cattle ranching and a native bird sanctuary and propagation facility. The other neighborhoods are located south of the Highway 11 corridor, separated from the historic and commercial core of Volcano Village.

NATURAL ENVIRONMENT

Volcano is one of the very few communities left in the Hawaiian Islands located in native forest or woodland. The greater Volcano community lies between 3,000 and 4,000 foot elevation on the slopes of Kīlauea and Mauna Loa volcanoes, well above the forest zones at lower elevations cleared by either Native Hawaiians or sugar planters. The youngest lava flows underlying the area are 200 to over 600 years old mixed with ash soil built up from several explosive eruptions of Kīlauea. These volcanic layers and soils support dense native ōhi`a/hāpu`u or uluhe rain forest growth in the windward neighborhoods of Volcano and dry `ōhi`a woodland of scattered trees and native shrubs in the leeward Volcano Golf and Country Club Estates.

There has been greater disturbance in the first settled neighborhood, Volcano Village, with many areas cleared in the early twentieth century for agriculture or logged for wood fuel, charcoal, and railway ties. However, with the cessation of these activities, native forest trees have re-established in many of these disturbed areas. Except for cleared areas around residences, most of the sparsely settled neighborhoods in windward areas of Volcano created in the 1950's and 1960's (Cymbidium Acres, Mauna Loa Estates, `Ōhi`a Estates, Royal Hawaiian Estates, Hawaiian Orchid Island Estates, and the mauka portion of Fern Forest subdivision) lie within a nearly continuous intact rain forest canopy. Most of these forests are old growth but some areas have vigorous second growth forest. The Volcano Farm Lots, established in the 1950's to promote agriculture, consist of 30 acre cleared or partly forested lots.

Volcano is also one of the few communities in the Hawaiian Islands with abundant native birds. Even though escaped ornamental plants and other introduced plant species have invaded many areas and displaced the native understory in many parts of Volcano, the long-lived canopy trees provide habitat for native forest birds. Also, cool upland temperatures help to suppress mosquitoes carrying diseases that have decimated Hawaiian native bird species at lower elevations. Volcano residents are frequently treated to the sights of `Apapane sipping nectar from the flowers of `ōhi`a trees and `Ōma`o (Hawaiian Thrush) eating fruits of the forest canopy trees, including `ōlapa, kōlea, and kāwa`u. Other native birds, including `Amakihi, `Io, and Nēnē, are also occasionally seen.

The Volcano community is situated among several protected natural areas (Fig. 2). To the west are rain forests, dry `ōhi`a woodlands, and pioneer vegetation on the young lava flows in Hawai`i Volcanoes National Park, recognized as an International Biosphere Reserve and a World Heritage Site. Toward the south is the protected rain forest of Kahauale`a Natural Area Reserve (16,700 acres). Toward the north are the protected rain forests of Pu`u Maka`ala Natural Area Reserve (12,000 acres), the National Park's `Ōla`a Forest (10,500 acres), and the managed State `Ōla`a Forest Reserve (9,100 acres). The Volcano community thus lies within a natural corridor of dispersal for plants and animals among all these protected areas. Protection of native forest in Volcano helps increase the size and sustainability of this multi-agency nature preserve that

surrounds the community. Protecting the rain forest in Volcano may be especially important to the adjacent, thin band of rain forest in the National Park on the windward side of Kīlauea Caldera.

With young lava flows, shallow soils, and many landscapes untouched by clearing and bulldozers, another and sometimes overlooked feature of geological and biological importance are lava tubes and caves deserving of protection and preservation. Some lots have cave openings and segments of the accessible 40 mile Kazamura Cave, described as the world's longest lava tube cave. The humid, dark zones of many caves support an endemic, cave-adapted suite of native arthropods.

LIVING WITH OUR PROTECTED FOREST NEIGHBORS

The Volcano community and vicinity provide an unusual example of high quality of living in a nearly natural environment. Recent settlement history, a native Hawaiian forest canopy that remains mostly intact, and a settlement ethic embraced by many residents provides an environment that is envied by many who live in urban environments. Volcano Village and the associated residential subdivisions are bordered on three sides by a sizeable pristine core area where natural resources and ecosystems are protected from exploitation and serve to demonstrate a living environment that is not significantly affected by human activity. All the undeveloped parts of the Hawai'i Volcanoes National Park are in this category. Adjacent to this unsettled natural area are places areas where the human imprint is substantial, or even dominant, yet not destructive. Such areas are transitional, and serve to provide a gradual shift in the landscape from wilderness to urban, commercial, or industrial.

The VLRP proposes designation by County Ordinance of a **Forest Protection Overlay District** that would be a place where people live and work, and where the human presence may be dominant but not destructive. In Volcano this would consist of all the land area between the National Park and Natural Area Reserves (NAR) and the `Ōla`a Forest Reserve, where the imprint of humans is minimal. This would be in contrast with the suburban and industrial areas beyond Volcano, such as Kea`au, Kurtistown, or Hilo.

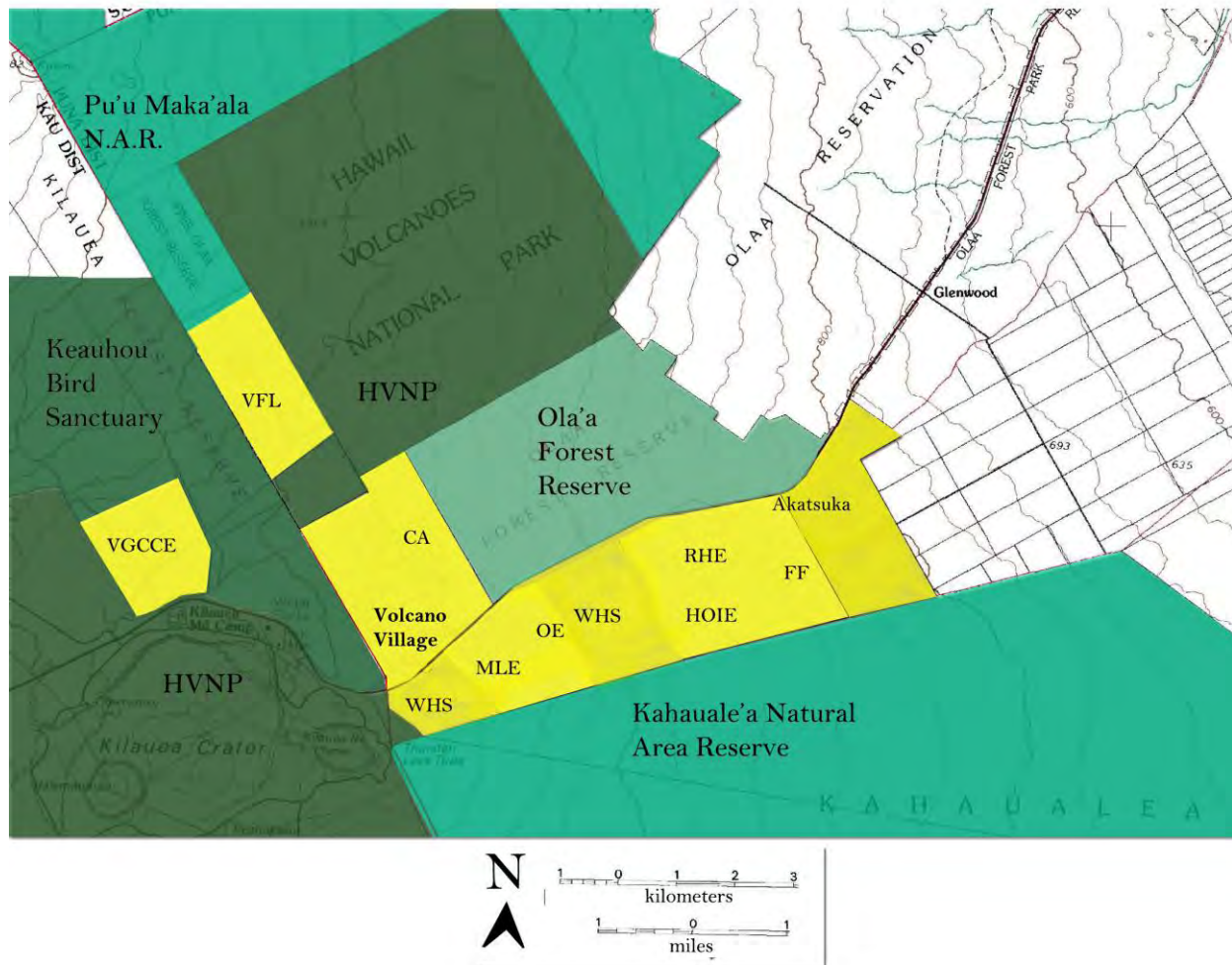
Volcano's transitional character provides a splendid canopy of the native `ōhi`a forest in many areas, and the people living here mostly favor retention of native forest, while at the same time living in it and enjoying its qualities. This is quite different from a community that would clear away all vegetation to provide space for dwellings or businesses, and then landscape with non-native ornamental species, though many of which are not invasive.

Residents who live in such an area would agree to live more gently on the land than we might if we lived in a suburban neighborhood or in a city. Residents would:

1. Ensure conservation of the native forest landscape and the diversity of associated plants and animals that it supports.
2. Strive for environmentally sound economic growth.
3. Welcome to the community learning sites for scientific research and sustainability of the natural and social environment.

Figure 2

Volcano Long Range Planning Area



CULTURAL/ HISTORICAL RESOURCES

The VLRP proposes an ordinance by County Council to create a **Volcano Village Design District** that would ensure protection of the unique architectural and historic features of the Village core. The purpose of this designation is to enhance and protect the specific features of the area and, indirectly, the quality of the Volcano Village core. Architectural design, appearance, size of structures, color and texture of exterior, density of building layout, setbacks, screening types of use, noise, lighting and all other features that will affect the ultimate appearance of development within the District are included in this designation.

The Volcano community is located in upper elevation ecosystems named by Native Hawaiians as Wao Akua or Wao Ma`ukele. These were considered to be wilderness, visited only by those who were directed there by a chief to collect feathers, adze stones, and logs for canoes. Understandably, no remains of Hawaiian settlement have been found to date in Volcano. The earliest non-Hawaiian settlers in Volcano, in the late 19th and early 20th centuries, were mostly members of the kama`āina (native born or longtime resident) business and professional community of Hawai`i who built homes for summer or holiday use. Other island residents, notably Japanese families, were employed as their caretakers and as workers at the W. H. Shipman dairy, Volcano House, and other businesses in the area, and then later established themselves as farmers. The remains of numerous ovens or kilns, used for burning `ōhi`a logs to make charcoal for heating or cooking have been found in Volcano Village, dating back to the early non-Hawaiian occupation of Volcano. The first published report of a residence in Volcano dates from the early 1890's. There are also remains of an historic narrow gauge railway in Volcano and records of two historic trails to the summit of Kīlauea Caldera.

A resident professional architect conducted an inventory of historic buildings (over 50 years old) in 1993. He found over 100 structures built prior to 1942, with almost all in Volcano Village and at least one in Mauna Loa Estates (Fig. 3). Many more structures would qualify today in 2015. Most are elevated, post and pier, single wall structures, although one 1890's log house remains. The largest historic structure is the 1939 YMCA Camp now housing the Kilauea Lodge and Restaurant. Although a few abandoned structures have deteriorated, many are proudly maintained by residents who have preserved their historic fabric and even landscaping. Tours of historic homes sponsored by the Volcano Community Foundation are enthusiastically attended and develop long waiting lists. A portion of Hale `Ōhi`a Road, an approximately one-quarter mile long road in the core of Volcano Village, has been designated as a Hawai`i State Residential Historic District.

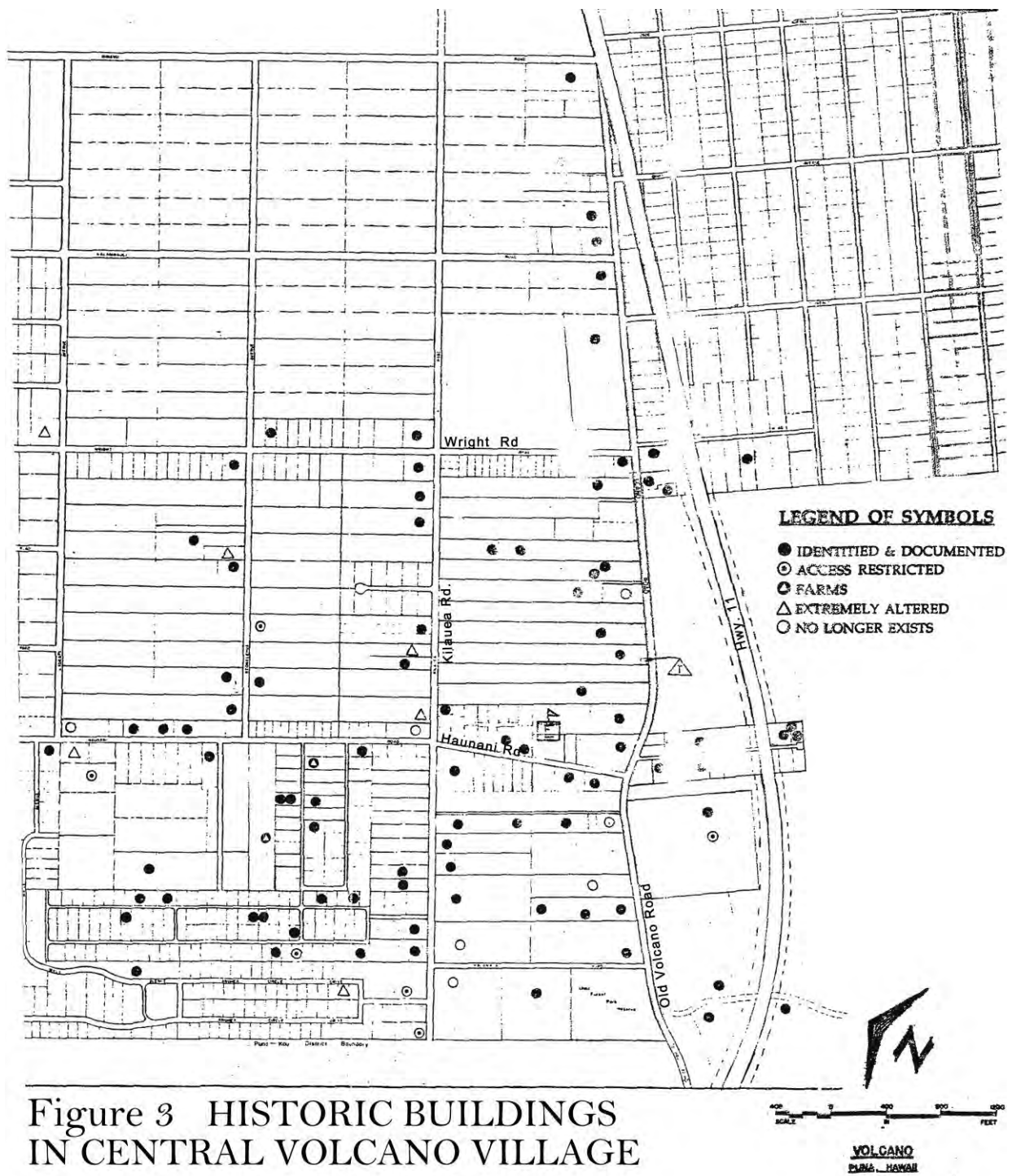


Figure 3 HISTORIC BUILDINGS
IN CENTRAL VOLCANO VILLAGE

GATEWAY COMMUNITY TO THE NATIONAL PARK

Volcano provides a scenic rural Gateway Community to Hawai'i Volcanoes National Park, while also providing needed services to park visitors. Approximately one mile from the Park's Kīlauea Visitor Center, Volcano Village is the nearest community to the main entrance of the National Park. Volcano residential areas are located along six miles of Highway 11, the approach to the National Park from Hilo. Few residences are visible from this roadway because of a forested buffer along the State Highway and undeveloped lots. Commercial services are provided on Old Volcano Road, also not visible from the highway approach to the Park. As a result, Park visitors approaching from Hilo become immersed in native forest as they pass through the Volcano community on the way to the Park entrance. This contrasts sharply with gateway communities on the approaches to some of the large national parks in the US mainland, where visitors are subjected to strips of tourist-oriented businesses lining the road corridor up to the park entrance. Further, the Highway 11 approach to Hawai'i Volcanoes National Park in the Ka'ū District passes through a pastoral and native woodland environment for many miles, allowing adjacent communities to provide uncluttered, non-commercial gateways to the Park.

This highway, with such a landscape gradient, presents an unusually long and gradual transition, over many miles of travel toward distant urban areas. One goes from an entirely natural wilderness through pastoral and agricultural landscapes merging into rural, then suburban, and eventually high density urban, commercial, and industrial environments. Such travel corridors are rare in Hawai'i, where tourism is such an important component of economic life. Indeed, such a corridor is rare anywhere in the modern USA.

PLANNING CHALLENGES

The main planning challenges are:

- Managing growth, in a context of increasing population and expansion of residential and commercial development, while protecting the native forest and native species' environment
- Maintaining a tranquil rural environment
- Preserving historic neighborhoods and structures

Current zoning and the trajectory of development if left unchanged could modify the tranquil rural landscape, forest environment, and native bird life.

Volcano has the largest concentration of small parcels in the Puna District. The approximately 5,000 parcels that are available for residential development (even though many are zoned as agriculture) under current zoning rules could become 8,700 parcels. In addition, a unique zoning rule in Hawai'i, known as "Ohana Dwelling Unit Permit", would allow an extra dwelling on a parcel, which could enable an even greater number of dwellings to be built. Considering the speculative nature of land development in the Volcano area, as well as in other parts of rural Hawai'i, within a generation or two it would be possible to see development of a very high density urban landscape.

If Volcano developed to its currently zoned potential, most of the tree canopy that now spreads across much of the community will be lost. Deforestation will stimulate the spread of invasive plants and animals, destroy native bird habitat, sever native species and ecosystems of the National Park from other natural areas surrounding Volcano community, and increase the potential for flooding. Lot clearing and grading will also compromise lava tube caves and their unique ecosystems. Even before that degree of development is reached the quality of life in Volcano will be seriously diminished.

An increasing population in Volcano will demand greater commercial services. Commercial services, other than cottage industries, are currently concentrated along the north side of Old Volcano Road between the Post Office and Wright Road with some commercial services located outside this area. Some of this area has been zoned commercial. Greater commercial development within the area and outside the current commercial zone can be expected and needs to be managed. In addition, a number of historic buildings in Volcano are located in or near this zone, and a State Historic Residential Neighborhood is located across from the

commercial district. The historic, rural character of the Volcano Village core commercial area could easily be modified by incompatible development and inappropriate design. If commercial growth is not handled properly, the quality of the community, along with the native forest, so valued by Volcano residents, would be changed. Currently there are no use and design guidelines for this area, other than land use zone designations of Agriculture, Village Commercial, and Single Family Residential. There are no Design Guidelines that would limit developments that do not conform to the historic building and landscape style of the traditional Volcano Village.

Protecting and preserving historic resources in Volcano is hindered by an incomplete inventory and documentation of the community's historic resources and by low public awareness of the presence and significance of historic resources. Many residents are not aware, for example, of the charcoal kilns scattered throughout the community that reflect a widespread activity in Volcano in the early 20th century. There is probably greater awareness of historic buildings in the older parts of the Volcano community. However, the value of these structures is not always recognized by current owners who may unwittingly make renovations or additions that compromise the historical integrity of these resources. A major task then for protection and preservation of historic resources is to update and complete a comprehensive inventory of historic archeological features and historic buildings and to provide education outreach to community, State, and Federal preservation organizations. Opportunities for education can include exploring architectural design and participating in design review and implementing a design district for the community. Maintaining a system of survey and inventory of these historic and cultural resources can also serve to document and educate the community.

Proper planning is required for activities that could compromise the quality of these historic resources. To date only one small Hawai'i State Residential Historic District has been established in Volcano Village to provide awareness of the significance of these resources. There are a number of other commercial and residential historic resources within Volcano that could benefit from preservation measures at either the County or the State level. Community education is also needed regarding the process of nominating historic properties. Education can show how historic districts, special design and use districts and national register nomination status can lead to the preservation of the historic heritage of the Volcano community for future generations.

Other planning challenges arise from the demographics of the community, small population size, distance from population centers, and Volcano's currently undeveloped infrastructure such as schools, recreation opportunities, and commercial services. No medical or assisted living facilities for an aging population are available in the community. The rural character of Volcano's mostly private streets and roads will diminish with increasing use, along with making roads less safe for pedestrians and cyclists. The nearest permanently staffed police stations are in Na'alehu, 37 miles away or Pahoa, 31 miles away. Recreational facilities and programs are limited and do not address the needs of all ages.

A PLAN FOR ACTION

The goal of the Volcano Long Range Plan is to *live in harmony with the environment and with each other, to be good stewards of the land and of our community, to strive for a sustainable way of living, and to provide for the benefit of future generations.* –Volcano 20/20 vision statement.

The VLRP is a plan of action arising from the Puna Community Development Plan. The PCDP is a conceptual document that provides a framework for action at the community level and is presented in three general categories:

- **MĀLAMA I KA `ĀINA (Care of the Land)**
- **MANAGING GROWTH**
- **TRANSPORTATION**

The Plan is organized by and promotes actions in accordance with these themes regarding historic preservation and education, environmental quality and natural resource conservation, agriculture and economic development, recreation, public safety, sanitation, social and healthcare services, and public transportation.

Goals, objectives, and recommended actions are outlined for each planning topic. **Goals** are broad, desired future conditions; **Objectives** are specific outcomes to be achieved to realize these goals; and **Recommended Actions** are specific activities initiated by the community to achieve these goals and objectives.

Most of the recommended 48 **Action Items** in the Plan (PART 1, 2, and 3) can be implemented through community organization and effort. Some action items will need legislative support from the County Council. Every effort is made to avoid coercive action or to create tension among neighbors, community oversight teams, or County Government. Residents can be informed through education, persuasion, good will, and good examples of harmonious living in this environment.

The **15 Prioritized Action Items** listed in Appendix 1 are the most pressing to implement, pending further review and update. It is likely some of the remaining **Non-Prioritized Action Items** will be revised and/or combined with others.

PART ONE MĀLAMA I KA `ĀINA

A. HISTORIC/CULTURAL RESOURCES (Puna CDP 2.1, 5.1)

Goals:

1. Cultural and historical features and sites are protected from destruction by development.
2. Historic structures and cultural sites significant to Volcano's history and cultural traditions are preserved.
3. Design character and natural setting of the older neighborhoods representative of Volcano's historic development are perpetuated.
4. Tourism remains compatible with historical and natural resources and not intrusive to the community.

Objectives:

1. Educate the public about features and structures of historical and cultural significance in Volcano, including archeological remains (e.g. charcoal kilns), homes and homesteads, trails, vegetation, building interiors, photographs, letters, books, significant people, etc., and about the cultural significance of the native forest.
2. Work with innkeepers and other hospitality workers to promote the natural, historic, and landscape values of Volcano.
3. Coordinate education and preservation efforts of the Volcano Community Association, Volcano Community Foundation, and the Volcano Art Center.

Actions:

1. Establish by ordinance a Volcano Village Special Design District for the purpose of preserving the unique and mostly intact historic and rural character of the Village core, that central part of Volcano where most commerce happens, where many of the original settlement occurred, and where most residents visit regularly as they engage in their routine activities.
2. Establish, by community consensus, a Design Review Committee tasked with recognizing the desires and concerns of all public and private interests who would review architectural and design concepts for the designated zone, and make recommendations to the Planning Director. This committee might include, for example, an architect

licensed to practice in Hawaiʻi, a land use planner, and some persons who are knowledgeable about local history and plant and animal ecology.

3. Review, similarly, applications for construction, grading, grubbing, and other potential land uses that would alter the landscape or land surface, and recommend their approval, further review, or denial to the Planning Director.
4. Develop mechanisms to protect historic dwellings within this Design District from development pressures such as increased tax assessments, requests for permit variances, and applications for zone changes.
5. Work with community members and owners of historic properties to identify interest in a Multiple Property State Register nomination. Inclusion in a Multiple Property Nomination would be determined by a structure's contribution to a broad historical theme that is significant to the larger history of the State of Hawaiʻi. Qualifying historic structures in Volcano can be listed within a "discontinuous district" (qualifying structures not all located within a discreet area). The purpose would be to ensure the protection of individual properties seeking national register level protection, while providing flexibility for growth and development by property owners who choose not to list. Alternatively, historic property owners who agree could choose to create a contiguous historic district, either residential or commercial, or to expand the present State Residential Historic District that lies along a portion of Hale ʻŌhiʻa Road.
6. Expand, update, and republish Volcano's historic building inventory to include features and sites of cultural and historical importance.
7. Continue to collect and appropriately archive oral histories of both present and former longtime residents of Volcano.
8. Sponsor community seminars to train interested groups in preservation initiatives. This could include, but not be limited to: recording oral histories, inventorying historically significant features and sites for the creation of historic information databases, caring for artifacts, and understanding different strategies for preservation of historic buildings and cultural resources. (Examples of such organizations/programs include Historic Hawaiʻi Foundation's Circuit Rider program, National Trust for Historic Preservation outreach programs, and UH Manoa's Center for Oral History workshops.)
9. Establish a non-profit Volcano Historical Society to serve as the primary institution for the collection and display of historical artifacts and information and for the creation of a museum.

10. Explore designation of the Highway 11 corridor from Volcano to Mountain View as a National Scenic Byway.
11. Identify and record historic trail and rail routes through consultation with National Park Service and other organizations whose mission is to fund the preservation of transportation corridors.

B. NATURAL RESOURCES/NATURAL BEAUTY/ENVIRONMENTAL QUALITY

(Puna CDP 2.1, 2.2, 5.1)

Goals:

1. The natural resources and natural beauty of Volcano are protected from undue exploitation, encroachment, and damage.
2. Native forest and woodland ecosystems are permanently protected and green spaces and wildlife corridors are preserved in future developments.
3. The connections between intact forests in Hawai'i Volcanoes National Park and other protected native forests surrounding Volcano community are protected and restored.

Objectives:

1. Reduce forest clearing associated with residential and commercial development.
2. Identify cave ecosystems and protect them from clearing activities and disposal of wastewater.
3. Educate property owners, residents, heavy equipment operators, business owners, and professionals in construction and real estate about alternative nondestructive development and building design practices.
4. Maintain and improve environmental quality of the Volcano area by minimizing unnatural lighting, sounds, and visual pollution. Encourage the enforcement of current County sign, lighting, and noise ordinances and consider amendments to County ordinance to reduce lighting impacts and noise.
5. Control invasive species that threaten forest habitat and residents. Support efforts of community volunteers to control invasive coqui frogs and other disruptive alien plant and animal species.
6. Increase the County's role in helping to sustain native forest, primarily through tax incentives, new regulations, and zoning changes.
7. Recognize the greater Volcano area as a community striving for sustainability within the context of its place between the undisturbed forests and urban lands further away.

Actions:

1. Work with community partners such as Volcano Art Center, the National Park Service, Volcano School of Arts and Sciences, Kamehameha Schools, and Cooper Center Council to provide models of forest restoration and to educate residents about native species and ecosystems, and the threats they face from invasive species.
2. Reproduce and distribute brochures such as *Building in the Forest* and *Controlling Noxious Weeds*.
3. Sponsor workshops on recycling, composting, invasive plant control, native plant propagation, forest restoration, energy conservation, and solar energy.
4. Develop detailed, illustrated information for the Volcano Community Association website about energy efficient and low-impact building design for Volcano's forested sites, alternative septic systems that do not require large clearings, native species identification, cave ecosystems, weed control, native plant propagation, forest restoration, clearing for fire protection in Volcano's environments, all of which would also be included in a new manual, *Building in the Forest*.
5. Collaborate with County Planning Department to establish a Forest Protection Overlay District for Volcano to reduce the number of developable lots and forest clearing (adopted in the PCDP, 2.2.3 and 5.1.1) including these measures:
 - a. Ensure the County tax code reduces property taxes on lands put into conservation easements and provides for equal tax assessments for agriculturally zoned parcels, whether they are cleared for farming or forested (as adopted in the PCDP, 2.3 and 5.1.1)
 - b. Amend the grading and grubbing ordinance to reduce forest clearing (as adopted in the PCDP, 5.1.2)
 - c. Simplify the process for consolidation of lots
6. Establish a working group to promote compliance with and, if necessary, amendment of the current County sign, lighting, and noise ordinances.
7. Work with the National Park Service and Federal Aviation Administration in developing an Air Tour Management Plan for Hawai'i Volcanoes National Park to reduce aviation noise in the National Park and Volcano community.
8. Work with Hawai'i Volcanoes National Park in developing their General Management Plan to assure compatible development in the National Park.

PART TWO MANAGING GROWTH

A. ECONOMIC INTERESTS (Puna CDP 3.1, 3.2)

Goals:

1. Economic opportunities can expand for Volcano residents with small-scale business activities, consistent with the rural, forested environment characteristic of the Volcano community and surrounding areas.
2. Commercial development will be centralized in two separate zones and designed to be consistent with the historic and natural values of Volcano.
3. Lands for agriculture and opportunities for diversified agriculture will be preserved.

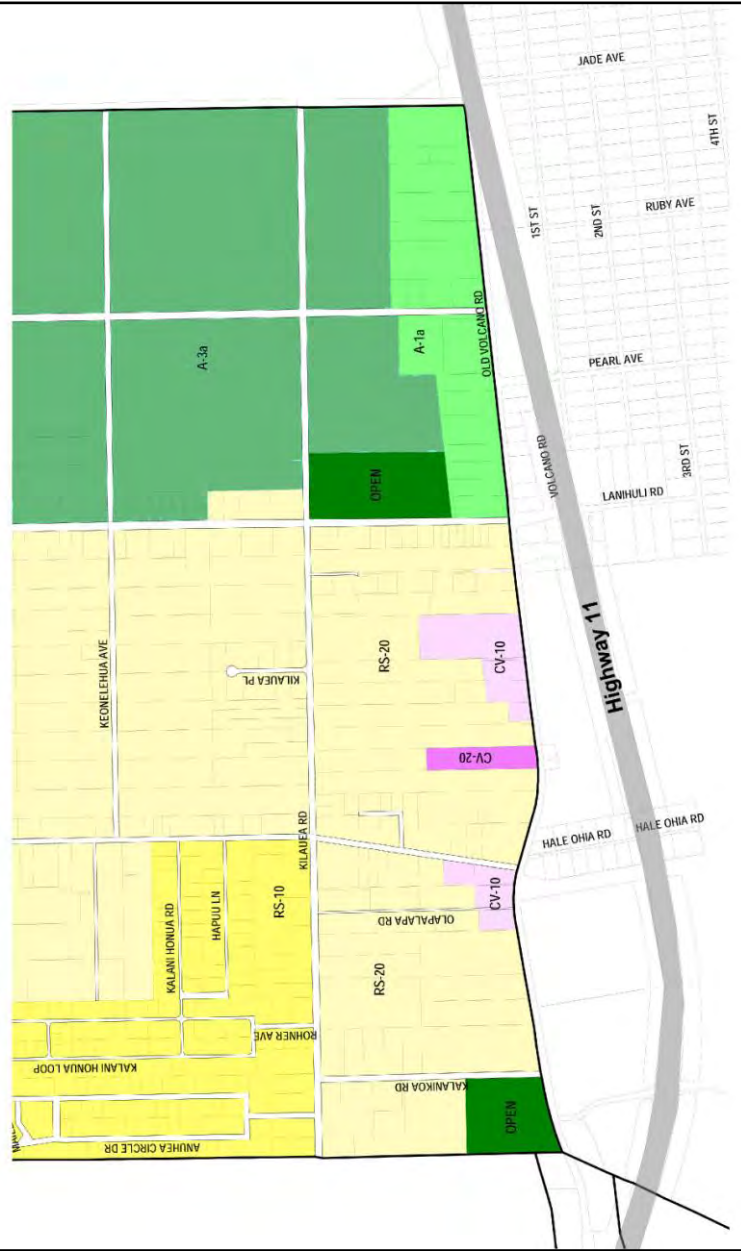
Objectives:

1. Reconsider land use zoning within the primary village commercial (CV) area.
2. Provide the opportunity to expand local services while avoiding commercial sprawl that would degrade scenic, historic, and natural values of Volcano.
3. Develop use and design guidelines for the Village core area to be consistent with the rural, historic, and forested environment of the commercial area and surrounding areas.
4. Encourage growth and viability of the local Farmers' Market.

Actions:

1. Designate a commercial zone within the Volcano Village Design District. Revise commercial zone boundaries and commercial density.
2. Collaborate with W.H. Shipman Estate, Ltd. in design and function for a secondary village center proposed to be located on Shipman land approximately 1½ miles east of the Village core. Ensure such a center will not be visible from the Highway 11 corridor. Consider services such as waste management, postal mail delivery, auto repair, retail sales, etc.
3. Describe two categories of Village Commercial zones and prepare a list of permitted uses for both.
4. Include expansion and modernization of the local Farmers' Market in the long term development of the Cooper Center.

Figure 5
POTENTIAL EXPANSION AREA OF COMMERCIAL ZONE



B. RECREATION (Puna CDP 3.5)

Goals:

1. Recreational needs of people of all ages and all neighborhoods in the Volcano area are provided for and readily accessible.

Objectives:

1. Coordinate the efforts of various residents and groups in Volcano with existing public and private providers of recreational activities.
2. Develop and enhance recreational activities at Cooper Center.
3. Support individuals, parents, teachers, coaches, and counselors in working with all people in the community.

Actions:

1. Work with the County Parks and Recreation Department to develop recreational programs that complement existing classes and activities.
2. Develop greater cooperation with Hawai'i Volcanoes National Park, Kīlauea Military Camp, Volcano School of Arts and Sciences, and Volcano Art Center to provide for greater access to their facilities, and encourage them to expand their recreational offerings for residents.
3. Include the service of recreational needs in planning multi-use transportation for Volcano.
4. Work with County, State, and Federal government agencies and private landowners to establish and manage a system of hiking and biking trails within Volcano and between the community and the National Park.
5. Support the maintenance and management of areas within State owned and managed forest reserves, for recreational hunting purposes.
6. Encourage more discussion, further study, and consensus building regarding the Cooper Center Master Plan in terms of recreational opportunities.

C. PUBLIC SAFETY, SANITATION, AND SOCIAL SERVICES (Puna CDP 3.3 and 3.4)

Goals:

1. Volcano is a community in which people feel safe.
2. Volcano has a broad range of solid waste disposal, recycling, and reuse services available.
3. Members of the community are aware of and support services that are available for public safety, disaster preparedness, waste management, and social and health services.

Objectives:

1. Increase accessibility and enhance response time of police, fire, paramedic, and service vehicles by implementing a program of selectively cutting back vegetation on private roads.
2. Support the Volcano Volunteer Fire Department in procurement of an array of engines that would be suitable for navigating Volcano roads and lanes.
3. Develop locally available, full service recycling, redemption, and reuse services.
4. Develop a permanent campus for the Volcano School of Arts and Sciences that blends into the community.
5. Develop a long term strategy for gradually and affordably replacing cesspools as the preferred method for disposal for wastewater with suitable containment or composting wastewater systems. Prevent contaminating the downhill aquifer with human waste.

Actions:

1. Support the training and equipment needs of the Volcano Community Emergency Response Team (CERT) to respond to all types of disasters.
2. Encourage all Volcano neighborhoods to form Neighborhood Watch Programs with a goal of one Watch Captain for every 10 house sites.

3. Support community policing efforts and encourage 24 hour coverage at a Volcano police substation.
4. Support efforts to complete the relocation of the VSAS campus and be fully engaged in the planning process so that the new campus blends into the community.
5. Work with County Council and Public Works Department to complete construction of a full service waste management facility for the Volcano community.

D. MEDICAL/ASSISTED LIVING (Puna CDP 3.3)

Goals:

1. Volcano residents have improved access to emergency and primary health care and preventive public health programs.
2. Create a financially accessible assisted living facility to enable Volcano's senior population to live with dignity and independence.

Objectives:

1. Support home care and personal care services, including custodial caregiver programs, to community residents, either through resources available in the Volcano area or through information about and referral to other agencies for assistance.
2. Attract a family-practice physician and/or advanced nurse practitioner/mid-wife to serve residents of the Volcano area.
3. Educate local residents about the local services available.
4. Improve transportation to Hilo for those seeking medical care and unable to drive themselves.

Actions:

1. Educate the community through health lectures and classes, a monthly article in the community newsletter, and the distribution of literature.
2. Update data gathered by the Volcano Health Collaborative in a survey of Volcano Residents to determine current health care needs and determine those to be met in Volcano.

PART THREE TRANSPORTATION (Puna CDP 4.1-4.5)

Goals:

1. Automobile use is decreased and walking and bicycling increased, while providing accessibility for the disabled.
2. Reliable public transportation from Volcano to distant places is expanded.

Objectives:

1. Provide safe walking and bicycling routes to schools, the Village core, Cooper Center, development areas, and bus stops.
2. Establish a system of multi-use trails, closed to motorized use, that would connect Volcano neighborhoods with other communities, and provide access to the National Park.
3. Increase the number of job opportunities in the Volcano community to reduce commuting.
4. Promote enhanced public transit opportunities to reduce the number of car trips between Volcano and other communities.

Actions:

1. Encourage Hawai'i State and County to redesign main thoroughfares in Volcano for shared use by bicyclists, motor vehicles, and pedestrians. These include Old Volcano Road, and other road segments such as the lower portions of Wright and Haunani Roads.
2. Sponsor public education encouraging bicycle and pedestrian use.
3. Incorporate pedestrian and bicycle access to and within the proposed Village Design District for the commercial area.
4. Rehabilitate the road shoulder along Old Volcano Road to enhance safety of pedestrians and cyclists.
5. Explore with Hawai'i Volcanoes National Park and private landowners adjacent to the National Park the possibilities of developing trails between the National Park and the community.

6. Support the restoration and improvement of the 14 mile Old Volcano Trail from Kea`au to Volcano community.
7. Collaborate with the County Department of Mass Transit (CDMT) to expand Hele-On bus service, hub and spoke service, and to establish permanent park-and-ride facilities. Ensure there are scheduled routes to and from the Hilo International Airport and to commercial centers in Hilo, Kea`au, and Pāhala.
8. Collaborate with County Officials and CDMT to encourage public transit use with resumption of free or lower fares for students, seniors, and bicycles.
9. Support jitney/taxi service within the Volcano community and between Volcano and other communities.
10. Support connectivity between `Ōhi`a Estates and Royal Hawaiian Estates, in collaboration with W. H. Shipman, Ltd.

Conclusion

Volcano is no ordinary place. The Volcano environment is fragile and unstable. All who live here accept that we endure at the pleasure of two of the world's most active volcanoes, Kīlauea and Mauna Loa, the latter also being the world's most massive volcanic structure.

Explosive eruptions at Kīlauea volcano have occurred numerous times, as known from ash deposits and charcoal remains throughout the area. An eruption in 1790 killed a group of subjects of King Keōuwa Kuahu`ula, who were overcome by the rush of ash and gas as they were moving from Kīlauea toward the lowlands in Ka`ū, some six miles from the source. Most of Volcano's main subdivisions are built upon the massive `Aila`au lava flow, which emanated from Kīlauea for about 60 years in the fifteenth century. Residents are frequently jolted by earthquakes. Constant emissions from the Kīlauea Volcano summit and rift zones occasionally, due to Kona winds, reverse and engulf the community with gasses that are considered unsafe in normal places.

Settlement in the Volcano area began about a century after the 1790 eruption, mostly by non-Hawaiians. Settlement continues, along with development of infrastructure and commerce, though it is generally known that similar eruptions, lava flows, earthquakes, fires, destructive storms, and other natural hazards are inevitable. Our human memory strangely minimizes threats of nature.

Nevertheless, we set forth in this plan a vision of sustainable living in the unique setting of the Volcano community and Village Core where historic, commercial, and residential structures are in close proximity. And, we recognize the opportunity to blend our human imprint in the greater Volcano area with a mostly intact natural forest, nestled among officially protected lands. We welcome our responsibility to be good stewards of the magnificent natural environment we are so lucky to be part of. We cannot control the volcanoes but we can control our imprint on the land and our community.

APPENDIX I IMPLEMENTATION

The **Proposed Actions** indicated in the previous section are listed here. The most urgent items are listed in order of priority.

Action Statements for each item consist of:

- relative priority
- a brief description of the project action
- the process required for project implementation
- an estimated time required for completion
- a proposed schedule
- implementing persons and/or groups
- the proposed source of funds if they are required
- the current status of the action, progress to date
- a statement explaining the consequence if the action is not implemented

PROPOSED ACTIONS (PRIORITIZED)

1. Establish by ordinance a **Volcano Village Design District**.
2. Establish a **Forest Protection Overlay District** for Volcano that would protect natural forest cover.
3. Revise **commercial zone boundaries** to promote economic growth.
4. Collaborate with Hawai'i County Department of Environmental Management to construct a full service **Waste Management Facility**.
5. Provide **Health Care Services** in Volcano.
6. Continue **recording, protecting, and educating people about historic properties**.
7. Prepare a **manual for residential and commercial development**.
8. Promote granting of **small property conservation easements** in residential subdivisions.

9. Support **road connectivity** among Puna subdivisions.
10. Update a **Master Plan for Cooper Center**.
11. Continue **support training and equipment purchases** for Volcano Community Emergency Response Team (CERT) and FIREWISE Community.
12. Collaborate with State and County to **redesign main thoroughfares for shared bicycle, vehicle, and pedestrian use**.
13. **Designate Highway 11** between Mountain View and Volcano as a **National Scenic Byway**.
14. Collaborate with W. H. Shipman Estate to **establish a secondary village commercial center** east of the Village core.
15. Designate **hiking and biking trails** linking the Volcano community with the National Park.

PROPOSED ACTIONS (NOT PRIORITIZED)

- Identify and record historic trail and rail routes in Volcano
- Educate residents about native plants and animals, forest restoration, and threats to native ecosystems
- Sponsor workshops to educate residents about recycling, composting, energy conservation, renewable energy, wastewater management, and generally about low-impact use of the settled environment
- Continue to publish the *BUILDING IN THE FOREST* brochure
- Establish a working group to develop enforceable amendments to the County ordinances for sign, outdoor lighting, and noise
- Collaborate with the National Park Service and the Federal Aviation Administration to reduce aviation noise
- Establish a cooperative arrangement among the National Park, Kilauea Military Camp, Volcano School of Arts and Sciences, Volcano Art Center, Cooper Center Council, and

other community entities to enable access, development, and expansion of recreational and educational opportunities

- Prepare a management plan for access and improved communication for recreational hunting in adjacent forest reserves
- Establish a Police Substation in Volcano with 24-hour coverage
- Encourage all Volcano neighborhoods to form Neighborhood Watch (NHW) programs with a goal of one Watch Captain for every 10 house sites
- Support relocation of the VSAS campus
- Improve information about local health care services through classes, newsletters, etc.
- Sponsor public education to encourage bicycle and pedestrian use
- Support restoration and improvement of the 14-mile Old Volcano Trail from Kea'au to Volcano
- Collaborate with County Mass Transit Authority (CMTA) to establish a permanent transit hub in Volcano, and to establish fixed stopping points with shelters
- Collaborate with CMTA to establish public bus service to the Hilo International Airport, and to provide bus service to commercial centers in Hilo, Kea`au, Pāhoa, and elsewhere
- Collaborate with CMTA to develop transit service to main routes from interior residential areas

APPENDIX II ACTION STATEMENTS

ESTABLISH BY ORDINANCE A VOLCANO VILLAGE DESIGN DISTRICT

Priority: 1

Description of the Project:

A Volcano Village Design District designation would establish a discreet section of the commercial and residential zone along Old Volcano Road to enable special recognition of the area's blend of historic and commercial development. Building design here is unique, and the evolution of residential and commercial activity is evident and considered worthy of preservation, particularly the continuing use of the area for both residential and commercial purposes. Permitted uses that are established in County zone guidelines are generally compatible with the area, though some revisions are needed.

The intent is to identify the area proposed for designation, and to ensure that the historic structures within the area are identified and inventoried, and that future development will comply with the new zone restrictions.

Project Implementation:

1. Secure funds from County CIP budget, for consultation with a professional community planner to ensure compliance with State, County, and District land use and community plans to align the Volcano plan with those of other communities, and to facilitate efficient review by County Planning Department staff.
2. Prepare Design Guidelines that will guide yet not suppress economic growth. Proper land use zone designations would be delineated on a map of Volcano Village and zone limitations specified.
3. Present Design Guidelines for approval by County Council.

4. Establish a Design Review Committee to assist compliance with design and zone criteria, permitting laws, and adherence to the purposes of the Design District. The committee would include residents who are familiar with design, land use zoning, local history, and local plant and animal ecology.
5. Ensure permit applications are reviewed by the Design Review Committee. Applications for construction, grading, grubbing, and other potential land uses that would alter the landscape, surface, or historic structures will undergo review by the Committee, who will recommend to the Planning Director approval, further review, or denial of applications that are not considered in compliance.

Estimated Time to Completion: One year for completion of a proposal to enlist assistance of County Planning Department. Two to three years for Design Guidelines and establishment of a Design Review Committee. Review of permit applications will be a perennial activity.

Schedule: Begun 2013 Ongoing

Implementing Persons or Groups:

VCA Planning Committee

Design Guideline Committee

Source of Funds: County CIP

Estimated Cost: Est. \$25,000 for planning consultant

Progress to Date:

- Village Design Guidelines focus group assembled with monthly meetings
- A preliminary draft proposal prepared for County Planning

Consequences if Not Implemented:

- The unique nature and ambience of Volcano Village could be lost

ESTABLISH A FOREST PROTECTION OVERLAY DISTRICT FOR VOLCANO

Priority: 2

Description of the Project:

Establish a **Forest Protection Overlay District** that would recognize the unique circumstances of a community that is situated in a largely intact native forest setting and is surrounded on three sides by substantial areas of native forest that are formally protected from exploitation by the State of Hawai'i and by the National Park Service. Residents in this area, like those of no other community of Hawai'i, have an opportunity to declare their support for a land stewardship ethic that will protect natural forest cover and enable the native forest plants and animals to thrive while living within their shared environment.

A special Overlay District will encourage people to embrace common practices, such as doing minimal clearing of their properties and maintaining as much tree canopy as possible, designing energy efficient dwellings, landscaping with non-invasive plants, controlling invasive species on their properties, directing outdoor lighting downward, minimizing noise-producing activities as much as possible, and practicing other low-impact activities.

Such a model of rural living is encouraged for communities that neighbor a World Heritage Site like Hawai'i Volcanoes National Park. Such a designation recognizes the international importance of the Park's natural and cultural resources and the value of the Park as a marker against which to measure long term environmental change. A World Heritage Site promotes integration of the neighboring communities into the recognition and management of the general area.

Project Implementation:

1. Secure services of a professional planning consultant to provide advice about integrating resource protection and community development.
2. Conduct a biological survey, with particular reference to the makai margin of the community, to estimate existing native forest canopy cover.
3. Publicize the progress toward implementation and resulting development with literature, monuments, media programs, etc. that emphasize the value of such a model to enhanced community values.

Estimated Time to Completion: 10 years

Schedule: Begin 2015 Complete 2025

Implementing Persons or Groups:

Forest Protection Focus Group, a subcommittee of the VCA VLRP Planning Team

County of Hawai`i Planning Department

Source of Funds:

US National Park Service

County of Hawai`i

VCA

Estimated Costs: \$50K

Progress to Date:

- VLRP Planning Team Focus Group is preparing a proposal that would articulate a primary vision for forest protection, which will be presented to planning professionals for further action.

Consequences if Not Implemented:

- Lack of a special Overlay District could lead to indiscriminate changes in our unique forest cover
- Lack of education about a special Overlay District would prevent residents from understanding the value of low impact activities in the forest

REVISE COMMERCIAL ZONE BOUNDARIES

Priority: 3

Description of the Project:

To promote responsible economic growth in Volcano, commercial zone boundaries and existing commercial development will be revised and reorganized in accordance with the Volcano Long Range Plan, including the Volcano Village Design District Guidelines.

Commercial development in Volcano, though haphazard, has resulted in development that is mostly compatible with the historic, rural, and forested environment. It is possible this action will be implemented concurrently with that of a proposed Village Design District.

Project Implementation:

1. Form a steering committee to oversee commercial development in Volcano. Committee members would include: (1) a person who currently operates a commercial enterprise in Volcano, (2) an owner of a significant property in Volcano, (3) persons with appreciation for cultural and natural environmental values, (4) a person with experience in town planning, and (5) at least one member of the Design Review Committee.
2. Analyze economic growth projections for Volcano and other portions of upper Puna District.
3. Collaborate with present commercial operators to reorganize and/or redesign existing developments and to locate future commercial developments in accord with the Volcano Long Range Plan and Design Guidelines. Developments will include structures, roads, pedestrian and bicycle pathways, landscaping, lighting, vistas, etc.
4. Submit requests for zone changes to County Planning Department, who will ensure that local reviews have been secured and documented before rendering any approvals.

Estimated Time to Completion: Two years, with an understanding that the above process, though becoming less frequent, will be perpetual.

Schedule: Begun 2014 Complete 2016

Source of Funds:

Developers will bear major costs per the Fair Share formula. The appropriate County and State bureaus will bear supplemental infrastructure costs.

Estimated Costs: TBD**Implementing Persons or Groups:**

Commercial Development Steering Committee, a subcommittee appointed by VCA

Progress to date:

- Subcommittee of the VLRP has made recommendations to the VLRP members

Consequences if Not Implemented:

- Haphazard and disruptive development within Volcano, incompatible with the rural forested environment

COMPLETE CONSTRUCTION OF THE FULL SERVICE WASTE MANAGEMENT FACILITY

Priority: 4

Description of the Project:

Complete replacement of the transfer station near mile marker 25 along Highway 11 with an orderly, durable full service Waste Management Facility that will accommodate categories of recyclable waste (glass, paper, plastic, organic, metal, etc.), hazardous waste, electronic waste, disposal waste, and reusable material. It will be roofed over thresholds and container bins, and include a secure, dry sales area and storage building for serving reuse transactions, and a dry, secure storage building for selected community use, such as coqui frog control drums, pumps, chemicals, etc. Also included will be a water storage tank for rain catchment, and a green waste mulch facility for Volcano green waste sources to avoid coqui propagation.

Access will be from Highway 11, but the facility will not be visible from the highway.

Project Implementation:

1. Continue collaboration with County Departments of Public Works and Environmental Management regarding design.
2. Secure design and construction funds in order to complete the full service project..
3. Determine the extent of community participation that will be involved in matters such as managing the re-use store and products that yield a cash deposit (HI-5 beverage containers), and the involvement of community schools and civic groups in promoting zero waste consumption of materials.
4. Collaborate with County DPW regarding hours of operation, access, standards for maintenance, invasive species control, noise and nuisance, etc.

Estimated time to Completion: Two years

Schedule: Begun 2009 Complete 2017

Implementing Persons or Groups:

County Dept. of Environmental Management, Solid Waste Division

Community Association, Environmental Committee (Jeffrey Mermel)

Source of Funds:

County Dept. of Public Works through a bond managed by Dept. of Environmental Mgmt. (DEM)

Federal USDA rural community infrastructure grant

Estimated Costs: TBD

Progress to Date:

- The first phase was completed in July, 2015. This included bin chutes for general household waste, mixed recycling, glass, and large appliances. The site layout was changed to a circular traffic flow, with elevated tipping platforms, new covered bins, retaining barriers, and an enclosure fence, with a secure entry/exit gate.
- The final phase of the project will include a covered and secured re-use transactions and storage area, a beverage container refund station, a secure and dry storage building with a 10,000 gallon water catchment that would be available for emergency fire control and incidentally for coqui frog and other invasive species control.

Consequences if Not Implemented:

- Continued overloading at the current transfer station, despite Phase I improvements
- Continued stress on County's ability to handle the waste stream, and made more difficult with the advent of rapid population increase in the Volcano area
- No relief from residents' requirement to carry organic waste, resale, and re-use items to sites in Kea`au and Hilo
- No relief of stress and crowding at the Cooper Center, which now handles re-use materials in a make-shift "thrift shop," where more productive uses for that space could be developed
- No accommodation for local schools or civic organizations to conduct environmental and waste management educational visits
- No central storage and service facility for coqui frog control, presently using several private properties in the community
- No provision for coqui-free green waste mulch

PROVIDE FOR HEALTH CARE SERVICES IN VOLCANO

Priority: 5

Description of the Project:

Establish, by phases, a full service health care program for the roughly 5,000 residents of Greater Volcano (from about MP 23 to the Volcano Golf Course Estates subdivision) and surrounding areas. The population continues to grow rapidly. Over half the residents of this rural area are of low or moderate income. The population of the area is enough to support a full time primary care provider for both medical and dental services. Volcano is about 52 miles, round trip, to most health care services.

Presently there is only a part time nurse practitioner, but no resident professional medical doctor or dentist. A health services program proposed by the Volcano Health Collaborative (VHC) was not implemented, though considerable information was obtained and needs to be re-evaluated, and the work begun should be renewed. A program that begins with a mobile medical and dental unit, based in Hilo, is a likely starting point. The program will evolve as needs are brought into clearer focus, and financial and social support develops.

Project Implementation:

1. Evaluate medical, dental, adult day-care, and other health care needs, starting with a re-evaluation of the survey undertaken in 2005 by the Volcano Health Collaborative.
2. Seek an organization that would oversee the development and implementation of a health services program.
3. Establish an association with community health services that are ongoing in Hilo, Kea`au, Pāhoa, and Nā`ālehu.
4. Establish basic health services that can be undertaken by mobile units, such as monthly blood pressure checks, dental and eye exams, and other basic clinical services.
5. Determine need for more developed facilities, and apply for grants that would address short and medium term needs.
6. If a permanent medical clinic is warranted, seek and evaluate site location, building design, and staffing, including a residence for a medical professional.

Estimated Time to Completion: 10 years

Schedule: Begun 2016 Complete 2025

Implementing Persons or Groups:

Volcano Health Collaborative 501c3
Local community service organization TBD
Partnership with Hilo Bay Clinic

Source of Funds:

Hawai'i State Grant in Aid
U.S. Department of Agriculture Rural Grants program
State of Hawaii Department of Health

Estimated Cost: \$1M

Social survey to update VHC survey of 2005	\$ 25K
Share cost of mobile medical and dental services	100K
Land purchase for clinic facility	100K
Incentive salary for medical professional	100K

Progress to Date:

- Through the efforts of the Volcano Health Collaborative, the following steps were made from 2005 to the present:
- Initial planning for the Health Center started in 2005
- Needs assessment completed in 2006 culminating with a community meeting in November 2006
- Detailed recommendations developed in 2007 focused on site location, scope of services, and non-facility based services like the monthly blood pressure table at the Farmers' Market
- The legislature has recently appropriated \$250,000 for design and development of the Health Center
- VHC produced a design concept for a clinic facility

Consequences if Not Implemented:

- Volcano residents will continue to travel 52 miles or more, round trip, for most health care services

ESTABLISH A CULTURAL RESOURCES MANAGEMENT TRADITION FOR HISTORIC PROPERTIES

Priority: 6

Description of the Project:

Historic architecture and landscape design are fundamental Volcano values. The unique cultural resources of the Village core and associated residential areas are mostly intact and cherished by present inhabitants. This action project would ensure their long term protection by establishing an enduring cultural resources management tradition of recording, monitoring, protecting, and education. The project will enable the transfer of knowledge and fundamental Volcano values to the larger community and future generations.

Project Implementation:

1. Establish a register of historic properties.
2. Investigate the interest of private owners in their property being included in a Multiple Property State Register nomination, as determined by a structure's contribution to a broad historical theme that is significant to the larger history of the State of Hawai'i. Qualifying historic structures in Volcano can be listed within a discontinuous district, ensuring the protection of individual properties seeking national register level protection, while providing flexibility for growth and development for property owners not listing. Alternately, neighboring historic property owners could choose to create a contiguous historic district, either residential or commercial. The present Residential Historic District that lies along Hale 'Ōhi'a Road could be expanded.
3. Continue to collect and appropriately archive oral histories from longtime Volcano residents, both present and former.
4. Sponsor community seminars to train interested groups in preservation initiatives. This could include, but not be limited to, recording oral histories, inventorying historically significant features and sites for the creation of databases of historic information, caring for artifacts, and understanding different strategies for preservation of historic buildings and cultural resources. Examples of relevant organizations/programs are Historic Hawai'i Foundation's Circuit Rider program, National Trust for Historic Preservation outreach programs and UH Manoa's Center for Oral History workshops.
5. Establish a non-profit Volcano Historical Society to serve as the primary institution for the collection and display of historical artifacts and information and for the creation of a museum.

Estimated Time to Completion: 10 years

Schedule: TBD

Implementing Persons or Groups:

Volcano Community Association

Volcano Art Center

Volcano Cultural Foundation

Cooper Center Council

Other civic groups

A Volcano Historical Society

Source of Funds:

Local sources

Estimated Costs: TBD

Progress to Date:

- Inventory of historic structures complete (*VOLCANO VILLAGE HISTORIC BUILDING INVENTORY* by Boone Morrison). Monolog, annotated with photos, descriptions, historic significance, with distribution map. Published in 1993. (Needs to be updated.)

Consequences if Not Implemented:

- Irretrievable loss of cultural knowledge and awareness of Volcano for future generations
- Unique historical structures unknowingly remodeled or demolished
- Loss of historical artifacts in Volcano

PREPARE A MANUAL FOR RESIDENTIAL AND COMMERCIAL DEVELOPMENT IN VOLCANO

Priority: 7

Description of the Project:

A manual about low-impact, forest-friendly site preparation techniques and building design, specific to the Volcano area, will be prepared as a guide for residents, owner-builders, land clearing contractors, landscapers, draftsmen, architects, realtors, and building contractors.

The purpose of the manual is to provide recommendations and detailed, illustrated technical guidance and models for site preparation and design of both residential and commercial structures, with the goal of minimizing native forest clearing. The manual will be prepared in consultation with professionals who have demonstrated knowledge and experience in forest ecology, forest-friendly clearing, landscaping, and construction. All recommendations will be consistent with County building code specifications.

Available in on-line and hard copy format, the manual will link to other community based publications about building and forest protection, native plant propagation, native forest restoration, and weed control.

Project Implementation:

1. Establish a subcommittee of the Volcano Community Association to initiate and guide the preparation of the manual. The VCA has a history of advocating for forest protection in a context of increasing development, preparing publications (*Building in the Forest brochure*), and sponsoring classes in native forest protection and restoration. In addition, the VCA has financial resources to partially support the development and printing of this publication and the expertise to write grant proposals.
2. Identify both a lead individual to coordinate the writing of the manual and an editor.
3. Identify and secure assistance of resource individuals with expertise in forest ecology, in forest-friendly clearing, landscaping, building design, and construction, and with technical publication skills.
4. Prepare an outline of the manual for review by the subcommittee and the Volcano Community Association board.
5. Prepare a draft, edit, and submit to the Volcano Community Association for review and approval.

6. Print a limited number of hard copies and post the manual on the Volcano Community Association website.

Estimated Time to Completion: Three years

Schedule: Begin 2016 Complete 2019

Implementing Persons or Groups:

Volcano Community Association

Source of Funds:

Volcano Community Association

Grants (Atherton Foundation, Cooke Foundations, and others to be identified)

Estimated Costs: Est. \$10,000 for preparation, writing, and printing

Progress to Date:

- The Volcano Community Association has prepared a brochure titled *Building in the Forest*, along with a list of knowledgeable individuals and contractors for land clearing, landscaping, and building

Consequences if Not Implemented:

- Even well intended residents, land clearers, architects, and builders will not be provided with the tools and examples to clear, design, and build forest-friendly residential and commercial structures
- The forest canopy will be unnecessarily lost as residential and commercial development takes place in Volcano

PROMOTE SMALL PROPERTY CONSERVATION EASEMENTS

Priority: 8

Description of the Project:

A Conservation Easement (CE) is a commitment by a property owner to dedicate all or a portion of his/her property to the conservation of native plants and animals, in perpetuity, rather than allowing heirs or other future owners to replace native forest cover with developments. While retaining all rights to the property, including the right to remain on, sell, or bequeath the property, an owner enters into a formal, legal agreement with a certified land trust which grants a perpetual Conservation Easement to the land trust. Such an agreement essentially removes further development options from the owner in exchange for granting perpetual status of the land as natural forest. The Conservation Easement designation and all the terms that apply to it stay with the land and oblige all future owners to adhere to the conditions of the CE.

The Hawai'i Islands Land Trust (HILT) collaborates with The Nature Conservancy of Hawai'i (TNCH) to enhance communications among owners of large private holdings, particularly "charismatic" properties, and the HILT.

Project Implementation:

1. Establish a CE subcommittee to educate the community about Conservation Easements and their benefits.
2. Identify private property owners willing to grant a conservation easement for their property. Strive to establish a network of connected properties that will link the natural forest tree canopy and understory plant communities among the National Park and the Pu'u Makala and Kahauale'a Natural Area Reserves.
3. Introduce property owners to a certified land trust, such as the Hawai'i Islands Land Trust, to enable the property owner to fully understand the biological, financial, legal, and ethical considerations that a CE grant entails.
4. Investigate sources of grants and subsidies available to CE land owners to help defray costs. Other CE grants would be easily arranged if property owners were not expected to donate any substantial amount of money to the land trust organization, notwithstanding the considerable income tax benefit such a donation provides.

5. Record Conservation Easement grants as they emerge across the community, and make them visible to encourage others to participate in this program, and so promote one of the principal values of the Volcano Long Range Plan, to demonstrate the high quality of living that goes with living harmoniously in the native forest environment.
6. Collaborate with CE grantees, other persons who serve environmental and cultural causes in the community and local residents, HILT, and TNCH to maintain important mutual support links.
7. Consider re-naming the program, currently known as THE KIPUKA MOSAIC, to a simpler and more attractive program title. Recognize that such a change would require minor amendments in the CE grant documents already on file with the Land Court and County bureaus.
8. Approach TNC for financial stimulus money for the Volcano small properties program.

Estimated time to completion: 30 years

Schedule: Begun 2010 Complete 2040

Source of Funds:

Each CE grantee is expected to donate to the land trust an amount of money, estimated to cover the cost that the land trust would incur over many years of conducting annual inspections of the property, and to provide a hedge in the unlikely event litigation would arise from violations of the CE grant. Grantees have donated amounts of \$1000 to \$2500 initially, with an agreement to later bequeath balances of \$5000 to \$7500.

Grants and subsidies are available and might be awarded by the land trust organization or any other funding source, such as The Nature Conservancy of Hawai'i, to the land owner to defray costs. An amount of \$10,000, for example might enable at least four new CE grants. An amount of \$50,000 is a more desirable target. Such a fund might enable at least 20 new CE grants. If such money is used to subsidize the amount owners would contribute to the land trust, the money would go further and would enable more CE grants.

It may be possible for small property owners to arrange easements directly with a land court and therefore bypass a land trust entity.

Estimated Costs: TBD, but considered to be negligible

Implementing Persons or Groups:

The Volcano Community Association: CE subcommittee

HILT

TNCH

Progress to date:

- As of August, 2015, five CE grants have been consummated in Volcano: in Hawaiian Orchid Island Estates, two 3-acre grants; in Mauna Loa Estates a ½ acre, and in Volcano Village a 1/3 acre and a 1 acre. Another CE of 3-acres is imminent, and a 30-acre grant is under consideration.

Consequences if Not Implemented:

- If there are not substantial Conservation Easement grants in the community, further residential and commercial development in Volcano could reduce the number of native trees to the point where native birds, insects, and seed dispersal abilities of some plants will be constrained because of gaps in the canopy
- Dispersals of seeds and wildlife into the intact Natural Area Reserves and the National Park would diminish, possibly with adverse effects in those protected areas
- Residents would be deprived of the pleasure of native wildlife passing through, and native plants seeding, on their properties
- Diminished tree cover would open the forest to increased sunlight, encouraging the dispersal of alien plants into cleared areas and roadsides
- Due to diminished tree cover, stronger winds, more noise, and greater visibility of other structures, roads, traffic, and people moving about will adversely affect Volcano's cherished "village ambience"

SUPPORT ROAD CONNECTIVITY AMONG PUNA SUBDIVISIONS

Priority: 9

Description of the Project:

The primary purpose of this project is to establish an alternative connecting route between Volcano and Pāhoā. There is a need to provide an emergency transportation corridor in the event the Highway 11 corridor is blocked. A secondary purpose, so residents are not obliged to use the Highway 11 corridor simply for entry and exit when shorter and more direct routings are possible, is to provide connecting roads within and between subdivisions.

Designated roads are in place to accomplish this project. There is connectivity possible, with no land purchase or extraordinary efforts needed, between Hawaiian Orchid Island Estates, Royal Hawaiian Estates, and Fern Forest Estates, and between `Ōhi`a Estates and Mauna Loa Estates. This project is one of the highest priority projects for the PCDP Action Committee.

Project Implementation:

1. Identify barriers to connectivity, including physical and social barriers.
2. Identify potential connecting points using an interactive mapping exercise and large scale maps that identify all roads and subdivisions.
3. Determine types of permitted development.
4. Organize among subdivisions with participation by residents to determine logical connecting points.
5. Coordinate communications among neighboring subdivision road committees.
6. Apply Hawai`i County Department of Public Works (DPW) and PCDP Action Committee criteria for selecting and developing connecting point.
7. Identify construction and capital funds in County budget.
8. Organize communities to participate in implementing projects.
9. Open entryways by removing physical barriers, making surface improvements, and/or purchasing land.

Estimated Time to Completion: Five years

Schedule: Begun 2014 Complete 2019

Implementing Persons or Groups:

Hawai`i County Civil Defense, DPW, and PCDP Action Committee

Source of Funds:

Hawai`i County DPW

USDA grants for occasional paving, roundabout intersections, signs, land purchase.

Estimated Cost: Est. \$1,000,000

Progress to Date:

- County and PCDP connectivity criteria have been shared and agreed upon. The PCDP Action Committee strongly favors designing scenic, staggered routes, rather than express direct routes. Hawai`i County DPW prefers to use County owned roads for connecting points wherever possible.
- Hawai`i County Civil Defense and PCDP Action Committee have carried out an interactive mapping exercise designed to identify potential connecting points and barriers.
- A preliminary high priority connecting intersection is in Hawaiian Orchid Island Estates, where Lehuapele Road intersects with Ali`i Kane Road, which accesses Fern Forest via Kaleponi Road, and would connect with roads in Eden Rock Estates and beyond into lower Puna. One proposed route is to connect Nāhelenani Road in `Ōhi`a Estates to Lehuapele in Hawaiian Orchid Island Estates with a new 1-½ mile road across W.H. Shipman land. Another proposed route is to connect the Old Volcano Highway to Ali`i Anela (RHE) through residential roads, such as Alaula Road, to Ali`i Kane. RHE roads are owned and maintained by County; HOIE roads are privately owned by property owners there.

Consequences if Not Implemented:

- A seriously deficient component in underserved rural community infrastructure will be recorded, in violation of a Federal requirement that local government address such issues in the Puna District

- Residents of rural subdivisions in Upper Puna will not have alternative routes in and out of their residential roads in case of emergencies, especially in the a case of a blockage along the Volcano-to-Kea`au and Hilo Highway 11 corridor
- Residents in the rural subdivisions will continue to use longer, less convenient, and more expensive routes to travel between and within their subdivisions

• UPDATE A MASTER PLAN FOR COOPER CENTER

Priority: 10

Description of the Project:

Cooper Center is the name for the community center for Volcano Village. The Cooper Center was established in 1983, and named after an eminent and beloved elder, John Cooper. Its purpose is to serve as an information distribution center for community needs and resources, and to provide a meeting venue for many local organizations and activities.

The center consists of a small multi-purpose building, two covered open-air courts, a children's playground, paved parking in two sections (capacity 100 cars), Fuhrmann Fire House, and approximately 5 acres of native closed-canopy forest. The center, though situated in Volcano Village, is not in a central location, but rather in a low-density residential area. The land is assigned a zone category of Agriculture (A-3a), meaning it is eligible for subdividing into 3-acre parcels. The land and buildings are owned by the County of Hawai'i, and are operated under a memorandum of understanding between the Cooper Center Council (CCC) and the County Department of Parks and Recreation.

Cooper Community Center hosts a diverse array of community activities: cultural events, small and large meetings, food service, farmers' market, community gatherings, classes, reading library, thrift shop, etc. The multiple use building and open-air courts have long been overwhelmed by the demands for space and scheduling placed upon them by the community. A long-range plan for expanded capabilities is over-due, and includes the following proposed improvements:

- A comprehensive development plan that would specify design standards, comply with County and State regulations, and minimize encroachment into the native forest, which is a significant recreational resource
- Increase the capacity for potable water
- Modernize the wastewater management system
- Construct a significantly expanded multi-purpose building that would include office and storage space, meeting rooms (both small and private as well as auditorium style), a certified modern kitchen, public restrooms, Internet service, photovoltaic and solar water heating panels, enlarged library, enlarged thrift shop
- Construct an enclosed gymnasium, skate park, and other recreation facilities

- Collaborate with County, State, and other land managers to find suitable space in order to develop field sports facilities, such as baseball, soccer, etc.
- Continue to develop educational and recreational pathways into the native forest
- Continue to restore the forest ecosystem by removing alien plants and selective direct management, such as out-planting native species

Project Implementation:

1. Select a competent facilities development planner who will collaborate with Cooper Center Council to prepare a long term comprehensive design plan.
2. Present a draft design plan to Volcano Community members for comment and approval.
3. Secure required County and State permits for infrastructure development.
4. Separate various components of the plan for prioritization and implementation.
5. Develop a fund-raising strategy, to include voluntary service, local fundraising, grant writing and solicitation of County and State sources.

Estimated time to completion: 10 years

Schedule: Begin 2015 Complete 2025

Source of Funds:

USDA small communities grant
County DPW, capital budget (CIP)

Estimated Costs:

Multi-purpose building construction:
Design and planning consultant: Est. \$50,000
Architect: Est. \$50,000
Construction: Est. \$500,000

Implementing Persons or Groups:

Cooper Center Council

Progress to date:

- A Long Range comprehensive Development Plan for Cooper Center was prepared, some 20 or more years ago
- Cooper Center Council has begun discussions about improvements to Cooper Center
- Community volunteers have carried out remarkable weed removal work in the native forest, have identified tentative interpretive trails, and weed removal work is ongoing

Consequences if Not Implemented:

- Future recreation and meeting needs due to an increasing Volcano population would not be met
- Invasive species would continue to populate there and affect the natural flora and fauna of the native forest
- Haphazard construction at Cooper Center would result in the rundown appearance of a prominent community landmark and a lack of adherence to the proposed Design Guidelines for the Historic District

SUPPORT VOLCANO CERT AND FIREWISE PROGRAMS

Priority: 11

Description of the Project:

Volcano's Community Emergency Response Team (CERT), as part of national CERT, under the umbrella of the Federal Emergency Management Agency (FEMA), maintains a trained group of local residents so that, if a major disaster were to occur and outside help would not be able to arrive promptly, they will be able to provide the Volcano community with needed services and supplies.

FIREWISE is a national program co-sponsored by the US Department of Agriculture Forest Service, the US Department of the Interior, and the National Association of State Foresters. FIREWISE helps local communities identify and then seek ways to mitigate existing wild/brushfire hazards, and prepare for effective action should fire emergencies actually occur.

Project Implementation:

CERT:

1. Acquire additional supplies and equipment needed for the CERT Incident Command Center at Cooper Center to make it operational during an emergency.
2. Establish a permanent Communication Command Center at Cooper Center.
3. Establish a Mobile Radio Command Center that can be deployed as needed.
4. Establish a Community Alliance Network to connect with other community providers to help with collaboration of ideas and resources and reduce duplication of efforts.

Firewise:

1. Create a Volcano Firewise Committee to coordinate and oversee the various individuals, groups, and activities related to fire prevention education, mitigation, and planning, as required by Firewise Communities USA.

Source of Funds:

Volcano Health Collaborative, VCA

Rotary Club of Volcano

Grants from public, private, County, State, and Federal sources

Implementing persons or groups:

Volcano CERT, Volcano Community Association, Volcano Volunteer Fire Department

Certified Firewise assessors/inspectors

Firewise Hawaii Community Coordinator, Denise Laitinen

Wildland Urban Interface Grant Program

County, State and Federal programs

Estimated Time to Completion: Ongoing

Schedule: Begun 2006 Ongoing

Estimated Cost: TBD

Progress to Date:

CERT

- Volcano residents began organizing and training in 2006 as a project of the Volcano Health Collaborative (VHC) and became a fully certified Community Emergency Response Team recognized by Hawai'i County Civil Defense in 2008
- Monthly training meetings are held at the Cooper Center for active members and other interested parties
- Annual mock disaster drills are held in Volcano Village and other areas in Hawai'i County
- Close communication with Hawai'i County Civil Defense keeps members up to date with the latest State and Federal training opportunities
- CERT members re-certify credentials every two years by training and passing the Civil Defense exam and remain current with American Red Cross First Aid, CPR and AED certifications
- Training to coordinate activities with Hawai'i County Emergency Operations Center is held regularly
- CERT members participate in annual conferences offered by the State of Hawai'i and FEMA
- Over half of Volcano's CERT members are licensed amateur radio operators who participate regularly three times per week with Big Island radio networks (Big Island Amateur Radio Club and Puna Emergency Radio Club) and 2 times a week with Amateur Radio Emergency Service networks to practice communication protocols
- CERT maintains some walkie-talkie and hand-held Ham radios for their Team Leaders

- CERT maintains a 20 foot storage container located in the Cooper Center lower parking which holds holding emergency medical supplies, bedding, clothing, tents, tarps, water, and communication equipment, and also acts as a temporary communication command center
- CERT sponsors educational events for the community and maintains a presence also by supporting community events such as 4th of July, annual Rainforest Run, Mongolian BBQ, and Sunday Farmers' Market CERT table

Firewise:

- In 2006 Firewise Hawai'i Community Coordinator, Denise Laitinen, conducted a training conference sponsored by Hawai'i Volcanoes National Park in collaboration with the Big Island Wildfire Coordinating Group. An outgrowth of this workshop was a Community Wildfire Protection Plan (CWPP) for Volcano.
- The Hawaii Volcanoes National Park (HVNP) conducted a Firewise educational event in 2011 for the residents of the Volcano Golf Course Community, which was the most wildfire endangered area bordering the Hawai'i Volcanoes National Park.
- In 2013 Volcano CERT conducted a Firewise assessor certification training class for CERT members and interested Volcano residents. Twenty-two Volcano residents completed the Firewise Assessor Certification requirements.
- Certified members have offered free inspections for Volcano residents to assess their properties for fire hazards and suggest fire mitigation actions.
- The national Firewise brochure is being reviewed to modify the information and make it relevant to our unique rainforest environment.

Consequences if Not Implemented:

- Critical services and supplies would be delayed in an emergency
- Communication would be disrupted in an emergency
- Devastating wildfires could be more frequent
- Possibility of irretrievable losses in the Volcano area involving native forests, historic structures, and other residential and commercial properties

REDESIGN MAIN THOROUGHFARES FOR SHARED BICYCLE, VEHICLE, AND PEDESTRIAN USE

Priority: 12

Description of the Project:

This project will be developed, in accordance with the design guidelines of the Volcano Village Design District, to enable non-motorized bikes, pedestrians, strollers, etc., to navigate around the Volcano area, and to connect with external trails and bike paths going toward the National Park and toward Kea`au.

Project Implementation:

1. Form a special VLRP subcommittee to determine what is needed for pedestrian and bicycle safety and convenience in our community.
2. Draft and present maps and plans to the VLRP committee for input and approval.
3. Discuss VLRP approved maps and plans with the County Department of Transportation for DOT approval.
4. Encourage and assist with the DOT budget process.
5. State and County implement plan.

Estimated time to completion: Four years

Schedule: Begin 2016 Complete 2020

Implementing persons or groups:

Transportation Subcommittee of the VLRP committee

DOT

Source of Funds:

Federal and State highway funds

Estimated Costs: Est. \$1.5M

Progress to Date:

- Have made contact with cyclist Ron Reilly who has agreed to help us with planning

Consequences if Not Implemented:

- Possibility of deadly accidents due to the increasing use of our roads by bicyclists and pedestrians, including students going to and from school
- Possibility of a loss of economic growth due to the lack of connectivity between commercial outlets in Volcano Village
- Visitors and residents who drive instead of walking or bicycling will necessitate increased paved parking areas for automobiles and an accompanying loss of the native forest and “village ambiance”

DESIGNATE HIGHWAY 11 VOLCANO TO MOUNTAIN VIEW AS A NATIONAL SCENIC BYWAY

Priority: 13

Description of the Project:

A National Scenic Byway designation for this segment of Highway 11 is listed as a desired action in the Puna Community Development Plan. Such a designation requires considerable participation by affected property owners, and a significant amount of organizing by a team of local residents. Though the title implies a Federal designation, State and local governments have a considerable stake in the process.

The Highway 11 corridor still provides an illusion of rural upland Hawai'i, and thus conforms to a regional concept of a land use gradient that transitions from the wilderness of the National Park, as it goes through Volcano Village (along the highway bypass), through pasture lands and low-density residential, into rural and low-density residential, to commercial and low density suburban, and further into high density residential and suburban to high density commercial and light industrial land use in the approach to suburban and light industrial areas of Kea'au and Hilo.

The Mountain View to Volcano portion of the corridor, remaining relatively undisturbed by commercial and residential development, is worthy of preservation and designation as a Scenic Byway.

Project Implementation:

1. Establish a task force to learn the Federal Highways Administration steps required to make such a designation along a length of approximately 11 miles.
2. Investigate past attempts and obstacles encountered by the Ka'ū Hwy 11 Group and Kapono Village Long Range Plan Committee to learn what has been done and what obstacles they encountered.
3. Survey opinion of property owners along the proposed highway corridor to determine the level of support that exists or might be forthcoming for this designation.
4. Develop a designation plan, if support is demonstrated, with full participation of property owners in the proposed corridor, County Council members, and County Planning Department.

Estimated time to completion: 3 years

Schedule: TBD

Implementing Persons or Groups:

A new task group: The National Scenic Byway (NSB) steering committee, appointed by the VCA

Source of funds:

Federal Highways Administration

Hawai'i County Dept. of Public Works/Highways Division

State of Hawai'i Department of Transportation/Highways Division

Hawai'i Tourism Bureau

Estimated costs: TBD**Progress to date:**

- The nomination process was begun in Ka'u prior to the preparation of a long term community plan. There was a steering committee and several steps were taken toward preparing the formal nomination. The Ka'u NSB was to include the entire Highway 11 corridor from Manukā State Park to the western boundary of Hawai'i Volcanoes National Park, a distance of approximately 42 miles (67 kilometers)
- The Kaponu Community Plan for the Kalapana to Kapoho corridor along Highway 132, "Red Road," was forming a steering committee to oversee NSB designation

Consequences if Not Done:

- Potential for small scale unplanned commercial development with spot zoning along the corridor where unfortunately, some commercial spots have already appeared like a Bakery/Coffee sign, Food Truck, and a Yurt sales demonstration office.
- Inability to guide development along the corridor
- Loss of integrity of the landscape gradient from the Park through Volcano towards lower Puna

ESTABLISH A SECONDARY COMMERCIAL CENTER IN VOLCANO

Priority: 14

Description of the Project:

The Puna Community Development Plan (PCDP) proposes a secondary commercial development approximately three miles east of Volcano Village, where service-oriented businesses might be located. The proposed site is a small, degraded area makai of the Old Volcano Highway on land owned by the W.H. Shipman Estate. A rock quarry was once in operation at this site. The Volcano Solid Waste Management Facility is located opposite, beyond a veneer of vegetation and across Highway 11. The site proposed for the new commercial center would also not be visible from the Highway 11 corridor.

This commercial zone might provide for activities inappropriate for the proposed Volcano Village Design District, such as a shopping center (grocery, pharmacy), light industrial, auto repair, storage, warehousing, manufacturing, etc.

Project Implementation:

1. Establish a subcommittee to guide this project.
2. Survey residents regarding types of commercial development desired.
3. Approach the W.H. Shipman Estate and other landowners to assess willingness to collaborate in such a development.
4. Redesignate current land use zone from Agriculture (A) to a suitable commercial designation.
5. Determine the types of development that would be permitted.
6. Prepare and present Design Guidelines for approval by ordinance of County Council.
7. Prepare a management plan.

Estimated time to Completion: Five years

Schedule: TBD

Implementing Persons or Groups:

Volcano Community Association

W. H. Shipman and investors (The community has not approached W.H. Shipman, and no indications of intent by WHS have been revealed)

Source of Funds: W.H. Shipman and investors

Estimated Costs: TBD

Progress to Date:

Consequences if Not Implemented:

- The full range of land use in the Volcano area might not be developed
- Volcano residents will continue to travel long distances for services and employment
- With no other option, future concentrated commercial development would likely take place in the less than a mile long area in the Village core currently zoned for commercial development
- Loss of distinctive and cherished Village “ambience” due to such development

DESIGNATE HIKING AND BIKING TRAIL LINKS TO THE NATIONAL PARK

Priority: 15

Description of the Project:

Create hiking and biking trails, using existing trails/roads between Volcano Village, Volcano Golf Course, and the National Park, to connect these communities by going through the forest rather than along the highway.

Project Implementation:

1. Establish a subcommittee to meet with the National Park, State Highways, and PATH (Peoples Advocacy for Trails Hawai'i) to discuss the project and propose the possible routes.
2. Secure funding and/or volunteers to make the trails safe for bicycles and hikers.
3. Develop a maintenance program to keep the trails safe and fun.
4. Promote the biking/hiking path in national and international magazines/websites.
5. Print maps showing the trails/paths.

Estimated Time to Completion: 3 years

Schedule: Begun 2013 Complete 2016

Source of funds:

Donations from the public and grants from local and national organizations such as PATH and Rails to Trails

Estimated Costs:

Estimated costs for the planning stage is minimal to none

Costs for the preparing the trails will depend on the routes chosen and the condition of the old roads and trails

Implementing Persons or Groups:

VCA subcommittee of the Volcano Long Range Plan

National Park

State Highway Department

Progress to date:

- Contact made with executive director of PATH, who has agreed to help

Consequences if Not Implemented:

- Possibly deadly accidents on the Highway 11 and Old Volcano Road involving cars, bikes, and pedestrians
- Loss of economic growth due to the lack of biking and hiking friendly access between the National Park and Volcano Village

ESTABLISH A POLICE SUBSTATION IN VOLCANO

Priority: not prioritized

Description of the Project:

Construct a stand-alone office, 12' X 16', in an area between the Cooper Center playground and the fenced skate-park. Although the Cooper Center will be outside the boundaries of the proposed Volcano Village Design District, it will be preferred that design the structure conform with not only design features required by County police standards for safety and security, but also with locally common exterior design elements such as board-and-batten to resemble as much as possible other buildings in Volcano. Such a structure should also avoid removal of any trees in the site.

Project Implementation:

1. Present the building plan and design for review by the community, Hawai'i Police Department (HPD), Cooper Center Council, and others who have an interest in the project.
2. Allocate funds from Rotary Club of Volcano
3. Secure a place to store building materials.

Estimated time to Completion: three months after project is approved

Schedule: Begin 2015

Implementing Persons or Groups:

Rotary Club of Volcano
Cooper Center Council
Hawai'i Police Department
County of Hawai'i

Source of Funds:

Rotary Club of Volcano

Estimated Cost: \$5000, considering local volunteer carpenter labor

Progress to Date:

- Drawings have been readied
- Approvals have been secured from Cooper Center Council and HPD

- Funds have been identified by Rotary Club of Volcano

Consequences if Not Implemented:

- HPD presence and patrol capabilities in Volcano will not be increased
- HPD officers will continue to assemble and originate patrols in Pāhoa, about an hour's drive from Volcano
- Response time to incidents in Volcano will not be shortened
- Security in the village will not improve

APPENDIX III

HISTORY OF THE VOLCANO LONG RANGE PLAN

The purpose of this long term plan is to adhere to the values expressed in the comprehensive community plan, approved by the community in 2001, in the **Volcano Vision 20/20 Long Range Plan**:

We envision a community dedicated to harmony with the rare and beautiful native forest in which we live, and to harmony among the activities we pursue, our collective and personal needs, the stewardship of the forest and the rural character of our community.

We strive for a community dedicated to respecting the needs of our citizens of all ages to live in dignity and to seek personal fulfillment.

We desire a community dedicated to the preservation of our unique natural environment, which we so graciously share. We aspire to be a community dedicated to a sense of place where one can forever listen to the `āina, hear one's own soul, and preserve the bond between the two for future generations.

The vision for Volcano is reflected in the desired Vision for Puna expressed in the Puna Community Development Plan (PCDP): Mālama Puna A Mau Loa. *“Residents of Puna live in harmony with the `āina while promoting a sustainable vibrant local economy, healthy communities, and a viable transportation system that is accessible, friendly, and safe for now and future generations.”*

The 2001 Volcano Long Range Plan also expressed priorities for the community:

“Preservation of the natural environment:

Maintain forest

Reforestation

Educate about the environment and resources

Create paths and trails

Cottage industries of all kinds

Education and recreational activities and opportunities for young people

Assisted living facilities for Volcano folks”

History of Planning, Revisions, and Public Participation

The 2001 Volcano Vision 20/20 was the culmination of community meetings and planning starting in 1985 and intensifying in the 1990's. A condensed history of planning and public participation is outlined below:

- 1985 VCA Long Range Planning Committee (LRPC) formed
- 1988 Monthly meetings of LRPC commence
- 1989 Community charges the LRPC with formulating a Special Design District (SDD) in the "commercial core"
- 1992 VCA LRPC charged with surveying public opinion
- 1993 Boone Morrison (Lic. Architect) contracted by the Hawai'i State DLNR to inventory historic homes of the Volcano area
- May 1993 LRPC survey mailed out (203 respondents)
- Dec. 4, 1993 Public planning workshop, "Where do we go from here?" (over 150 attend)
- Feb. 5, 1994 Planning Forum II, decision to create a formal planning document
- March 13, 1994 Oregon Visioning Process chosen as model upon which to proceed with community planning
- May 14, 1994 Steering Committee and Working Groups form under categories established in the Hawai'i County General Plan
- March 4, 1995 Community meeting held to discuss results. Working Groups reformulated to address amendments
- July 8, 1995 Community meeting to consider zoning and land-use issues
- Sept. 1995 Mass mailing of five group reports (Natural Resources, Recreation, Public Safety, Medical Assisted Living, and Economic Interests)
- Sept. 23, 1995 Community meeting to discuss mail out and Vision Statement
- Nov. 29, 1995 Community meeting to discuss Transportation, Design Guidelines, and Historical and Cultural Resources
- Jan. 13, 1996 Community meeting to discuss Final Design Guidelines and Cultural/Historical Report

- Feb. 17, 1996 Community meeting, presentation of planning document to community for review and acceptance
- 2001 In addition to a vision and priorities, the 2001 plan expressed goals, objectives, and actions for the community regarding historical/cultural resources, economic interests, natural resources/natural beauty/environmental quality, recreation, transportation, medical/assisted living, and public safety.
- 2006 The goals, objectives, and actions sections of Volcano Vision 20/20 were revised following 16 small community meetings were held in Volcano during the early stages of the PCDP preparation. In these group meetings, there was clear consensus on several issues: preserving village character, regulation of forest clearing, and support of school facilities and infrastructure improvements at Cooper Center. Other issues emphasized included inclusion of Volcano in the International Biosphere Reserve, alternative transportation, a County fire station, senior services, health services, support of local farming, rethinking commercial zoning, and consolidation of business zones.
- 2007 The draft 2007 revision was presented to the community for comment and review at the annual VCA meeting.
- 2008 The Volcano Community Association wrote the 20/20 Revision with the assistance of a citizens' committee. The on-line availability of the draft revision was announced in a forthcoming issue of the Volcano Community Newsletter, and mailed to all Volcano residents and lot owners. Hard copies were available on request. Public comments were solicited by the committee and received by phone, US Postal Service mail, and e-mail. These comments were considered by the committee and used as a basis for editing and revising the draft. The second draft was available online and via hard copy, prior to the announcement of a public meeting inviting further comments.
- 2009-2013
Period of re-group and revisit of the Vision 20/20 draft plan. Reform the long range committee, and evaluate the Vision 20/20 plan VIZ the new Puna Community Development Plan (PCDP), which provides a clear framework and mandate for local community plans.
- 2014
- Jan 06 VLRP regular planning team meeting (Cooper Center)
- Jan 07 Design guidelines/Historic District advice/consult w/Boone Morrison (Lava Rock Café)
- Jan 08 WHS/community plans –Pahoa, Volcano, Mtn View, Kea’au (WHS office, Kea’au)
- Jan 09 HOIE CA: VLRP on agenda, RE: alternative road route via Lehuapale Rd
- Jan 15 County Planning Dept (Larry Brown) – consult RE VLRP draft plan
- Jan 22 HOIE CA: VLRP alternative route issue on agenda, along with VLRP draft plan
- Jan 27 VCA annual meeting, VLRP draft main agenda item
- Feb 18 VLRP regular planning team meeting (Cooper Center)

Feb 20 County Planning Dept VLRP advise/consult (Larry Brown) County Planning office
 Mar 31 Design guidelines w/Boone Morrison (private meeting, Café Ohia
 Mar 31 VLRP regular planning team meeting (Halpern house)
 Apr 21 VLRP regular planning team meeting (Cooper Center)
 May 09 VLRP edit committee, final editing of draft (Milon house)
 May 12 VLRP regular planning team meeting (Kilauea Lodge)
 May 13 PCDDP Action Committee –update AC on VLRP progress
 May 15 VLRP viz Volcano Health Collaborative (Mary Brewer house)
 May 18 HOIE CA: present VLRP – part of CA agenda
 May 25 Volcano Rotary: introduce draft VLRP (Volcano House)
 Jun 09 VLRP regular team meeting: Kilauea Lodge
 Jul 08 VLRP Special Overlay sub-committee: formulate strategy, develop committee
 Jul 10 WHS discuss PCDDP, Community plans, VLRP
 Aug 08 HOIE CA, Volcano: present VLRP draft
 Aug 12 PCDDP Action Committee, Kea’au: present VLRP draft VLRP
 Sep 5 Planning Commission RE Blake appl for Thai food truck testimony RE VLRP
 Sep 19 Brief Councilwoman Maile David (Taylor house) w/Brian Jenkins
 Sep 27 Present to Rotary of Volcano (Volcano House) VLRP overview
 Oct 13 Regular meeting (Kilauea Lodge): Hist Dist, Special Overlay, Transfer Sta
 Nov 10 Regular meeting (Kilauea Lodge): Hist Dist, County review, outreach

2015

Jan 19 Team meeting to plan for VCA annual meeting
 Jan 26 VCA annual meeting: present VLRP to community
 Feb 05 Orientation presentation to community – Cooper Center
 Feb 19 regular third-Thursday general planning team meeting
 Mar 05 irregular planning team meeting –focus group organization
 Mar 10 letter from County Planning Director endorsing VLRP, w/guidance
 Mar 10 presentation to PCDDP Action Committee
 Mar 19 regular third-Thursday planning team meeting
 Mar 27 briefing VLRP issues to PCDDP AC Chair, Patti Pinto
 Mar 29 Ex Com meeting: evaluate progress (Milon house)
 Apr 02 Village Design focus group (Kilauea Lodge)
 Apr 16 present to Cultural Res Commission: Albert family dwelling
 Apr 23 regular third-Thursday planning meeting: village design
 Apr 28 Village design focus group (Milon house)
 May 21 regular third-Thursday planning meeting: Cooper Ctr; combine 2 focus groups
 May 26 meet with Council Rep Maile David, Kilauea Lodge
 Jun 09 Ex Comm meeting: discuss Maile David meeting and strategy for further action
 Jun 18 regular third-Thursday planning meeting: Cooper Center
 Jun 23 Draft Plan final editing session, Chia Longtree
 July 01 Draft Plan, more final editing, Chia Longtree
 July 03 Revision finalized and posted as 2015 edition in VCA website; minor editing pending
 Aug 25 Additional minor editing completed

GLOSSARY OF ACRONYMS

CCC	Cooper Center Council
CDMT	County Department of Mass Transit
CE	Conservation Easement
CERT	Community Emergency Response Team
CIP	Capital Improvement Project (a section of the County budget)
CMTA	County Mass Transit Authority
DEM	Department of Environmental Management
DLNR	Department of Land & Natural Resources
DPW	Department of Public Works
HILT	Hawai'i Islands Land Trust
HPD	Hawai'i Police Department
HVNP	Hawai'i Volcanoes National Park
IBR	International Biosphere Reserve (a designation by UNESCO of HVNP, currently inactive)
KMC	Kilauea Military Camp
MP	Mileage Point
NPS	National Park Service
NSB	National Scenic Byway
PATH	Peoples Advocacy for Trails Hawai'i
PCDP	Puna Community Development Plan
RHE	Royal Hawai'i an Estates
TNC	The Nature Conservancy
UNESCO	United Nations Educational, Scientific, and Cultural Organization
VCA	Volcano Community Association
VGCCE	Volcano Golf and Country Club Estates
VSAS	Volcano School of Arts and Sciences
VLRP	Volcano Long Range Plan
WHS	World Heritage Site (a designation by UNESCO of the national park)