

**HANA
COMMUNITY PLAN
(1994)**

Maui County Council

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PART I

INTRODUCTION TO THE HANA COMMUNITY PLAN

A. Purpose of the Hana Community Plan

The Hana Community Plan, one of nine (9) community plans for Maui County, reflects current and anticipated conditions in the Hana region, and advances planning goals, objectives, policies and implementation considerations to guide decision making in the region through the year 2010. The Hana Community Plan provides specific recommendations to address the goals, objectives and policies contained in the General Plan, while recognizing the values and unique attributes of Hana, in order to enhance the region's overall living environment.

The Maui County General Plan, first adopted in 1980 and updated in 1991, sets forth goals, directions and strategies for meeting the long-term social, economic, environmental and land use needs of the County. Similarly, the Hana Community Plan, first adopted by Ordinance 1247 in 1982, was updated in 1992-93.

B. The Role of the Community Plan in the Planning Process

For Maui County, the General Plan and the community plans are strategic planning documents which guide government action and decision making. Both the General Plan and the community plans are part of a planning hierarchy which includes, as primary components, the Hawaii State Plan and State Functional Plans (See Exhibit "A").

Exhibit "A"

County Planning Hierarchy

Exhibit A

Mutually supporting goals, objectives, policies and implementing actions contained in the Hawaii State Plan, State Functional Plans, Maui County General Plan and the Hana Community Plan provide for optimum planning effectiveness and benefits for the residents of the Hana Community Plan region.

Implementation of the goals, objectives and policies contained in the Community Plan is defined through specific implementing actions, also set forth in each community plan. Implementing actions as well as broader policy recommendations are effectuated through various processes, including zoning, capital improvements program, and the County budgeting process.

C. The 1992 Community Plan Update

The update process was driven by the work of the Hana Citizens Advisory Committee (CAC). This 14-member panel met a total of 13 times during a 180-day deliberation process to identify, formulate and recommend appropriate revisions to the Hana Community Plan. The CAC carefully reviewed the 1982 version of the Community Plan, reshaping the plan to create a viable document which will serve the Hana region through the turn of the century.

The update process incorporated technical studies and assessments. The results of two of these four studies were used by the Department of Planning and the CAC to understand possible future conditions and needs for the Hana region. The technical studies consisted of the following:

1. A Socio-Economic Forecast which projects population, employment and housing characteristics through the year 2010 for each community plan region;
2. A Land Use Forecast which provides a measure of existing and future vacant and undeveloped lands (by community plan land use designation) for each community plan region;
3. An Infrastructure Assessment which identifies infrastructure (e.g., roadways, drainage, water, wastewater, telephone and electrical systems) limits and opportunities in high-growth community plan regions; and
4. A Public Facilities and Service Assessment which identifies public facilities and services (e.g., schools, parks, police and fire protection, hospital and solid waste disposal services), and their limits and opportunities in high-growth community plan regions.

Following the 180-day CAC process, the CAC's recommendations were submitted to the Department of Planning. The Department of Planning prepared the revised Community Plan, based on the work of the CAC. The revised Community Plan was first forwarded to the Hana Advisory Committee to the Maui Planning Commission for comment, then to the Maui Planning Commission for public hearing and review, and finally sent to the County Council for further review and adoption by ordinance. This process is summarized graphically in Exhibit "B".

Exhibit "B"

Community Plan Review Process

Exhibit B

PART II

DESCRIPTION OF THE REGION AND ITS PROBLEMS AND OPPORTUNITIES

A. Planning Area Description

1. General Description of Region and Existing Community Plan Boundary

The Hana region encompasses approximately 145,000 acres in the eastern portion of the island of Maui. The boundary of the region, from its northern shoreline at Makaiwa Bay, runs *mauka* along `O`opuola and Waikamoi Streams, then along the boundaries of Haleakala National Park and the Kahikinui Forest Reserve and finally *makai* along the boundary between Auahi and Kanaio to Kanaloa Point on the southern shoreline of the region. This area includes the entire tax map key zone 1 (See Exhibit "C").

Hana Town is located on the easternmost shoreline of Maui, midway between the region's northern and southern boundaries. Situated 55 miles from the County seat in Wailuku, Hana Town is the major population center of the region. The Hana region also includes Ke`anae, Kipahulu and Kaupo, small rural settlements situated at dispersed points along the coast. The region's population was 1,895 in 1990, up from 1,423 in 1980 and 969 in 1970.

The region's economy is based primarily on diversified agriculture, the visitor industry, government services, and subsistence activities. Diversified agricultural activities include ranching, tropical fruit, flower and foliage, and taro cultivation. Visitor accommodations are centered in Hana Town. The entire region offers numerous scenic attractions including `Ohe`o Gulch which is part of the Haleakala National Park.

Exhibit "C"

Exhibit C

2. Environmental and Historical Context of the Hana Region

The Hana Community Plan District contains more than 90 *ahupua`a* within the five traditional districts of Ko`olau, Hana, Kipahulu, Kaupo, and Kahikinui.

Encompassing the eastern half of Haleakala, rainfall in the region ranges from over 150 inches annually along the Ke`anae shoreline to only 20 inches along the Kahikinui coastline. Steep slopes, rugged shorelines and the rough waters of the Alenuihaha Channel characterize the entire region as do mountain rainforests, perennial streams and open ranch lands.

Most of the region, except portions of Hana and Kipahulu, was never plowed under for large-scale plantation agriculture which has resulted in the preservation of many of its ancient and historic sites in stream valleys and along the shoreline. There are at least 104 *heiau* recorded in the Hana region. There are several remaining Hawaiian churches over 100 years old, which were built of stone and coral cement in former population centers throughout the region. The scenic Hana Highway, with its many historic bridges, winds through the Ko`olau and Hana districts and becomes Pi`ilani Highway as it passes through Kipahulu, Kaupo and Kahikinui. The ancient "King's Highway" or Pi`ilani Trail is also still intact throughout much of the region.

Ko`olau, the northern portion of east Maui, is by far the wettest, and its many streams provide water for the taro growing centers of Ke`anae and Wailua, as well as for the former canoe building center of Nahiku. Taro *lo`i* blanket the Ke`anae peninsula and ring the Wailua Valley, many of which are still in cultivation today. The historic Ko`olau ditch, constructed by Japanese stone cutters, bisects the many streams of the district, exporting water for irrigation and urban use in the central valley and upcountry region. There are 20 recorded *heiau* in Ko`olau.

Hana is steeped in legend and was a major center of population and political power in ancient Hawai`i. Plantation sugar was cultivated here from the mid-nineteenth to the mid-twentieth century, obliterating many traditional structures. However, the ruggedness of the land, and the persistence of a large Hawaiian population with many small land claims have contributed to the preservation of sites. Hana has 32 recorded *heiau*, including the recently restored Pi`ilanihale, the largest in the state.

Kipahulu also experienced plantation agriculture for a period of approximately 40 years during which countless taro terraces, house sites and *heiau* were destroyed. However, at least six *heiau* still exist and other sites are still plentiful in the rugged areas not cultivated in sugar. The old Kipahulu mill, other plantation remnants, Hawaiian house sites, and terraces dot the landscape.

Kaupo supported a large population before an earthquake in the 1930s dried up several springs that watered Manawainui and Naholoku. Numerous agricultural terraces and house sites cover the landscape. Loalua *heiau* is a National Historic Landmark, one of 30 recorded *heiau* in the district.

Kahikinui is said to have been heavily wooded and populated before devastating lava flows and fires in the mid-eighteenth century. Overgrazing destroyed what remained of the high altitude dryland forest in the early 20th century. Many intact village sites, 16 recorded *heiau* and the 19th century Hoapili trail make up the archaeological resources found in the desolate landscape of Kahikinui today.

B. Identification of Major Problems and Opportunities of the Region

This description of key problems and opportunities, formulated by the 1992 Citizens Advisory Committee, provides the underlying basis for the planning goals, objectives and policies which are described in the community plan.

1. Problems

AFFORDABLE HOUSING. Identification of affordable housing solutions to meet the needs of existing Hana region residents is a fundamental community need. The lack of an affordable housing inventory is attributed to (1) inadequate infrastructure servicing lands designated for residential use and (2) regulatory requirements which may not be suited to rural conditions found in the region. In addition, the use of the existing housing inventory for illegal vacation rentals was cited as a factor which decreases the availability of housing for residents.

ECONOMIC OPPORTUNITY. The need to strengthen the local economy to provide employment and other income earning opportunities and choices for Hana residents is viewed as a major challenge for government, business and the community. Equally important is the recognition that the future must hold some promise of economic well-being for the community's youth. Evolving from substantial dependency upon the visitor industry by developing viable economic

alternatives is the preferred strategy for creating a local, self-sustaining economy which is compatible with the rural character of the region and the cultural sensitivities of its residents.

INFRASTRUCTURE. It is necessary to balance infrastructure needs with the environmental and cultural sensitivities of the residents of the region. For example, roadway improvements to Hana Highway are needed to maintain the safety of the traveling public. On the other hand, roadway design standards must recognize and preserve the historic nature of the highway and the rural character of the community it serves. Inadequate water, telephone and electrical facilities are also viewed as significant concerns. Greater reliability in these services must be provided for the health and well-being of residents and businesses in the region.

GOVERNMENT SERVICES. A greater level of resource commitment is required in the region to satisfy the community's social, educational, recreational and emergency service needs. While the region's geographic isolation from the more urbanized areas of the island is acknowledged as a reason for the existing level of government service, it is necessary to provide a level of service which will ensure the health, safety and well-being of Hana's residents. Areas of concern with regard to government services include the lack of vocational educational programs, inadequate services for the care of the elderly and disabled, substandard fire protection service, and the turnover in government personnel serving the region.

2. Opportunities

LIFESTYLE. The Hana community takes pride in the quality of life found in the Hana region. Within this natural setting, the region's most important resource, its people, share qualities of honesty, respect and compassion with and for each other. The preservation of this distinctly Hawaiian lifestyle for future generations is viewed as a commitment to the youth of the region.

ENVIRONMENT. Recognizing that many of the residents depend upon the region's natural resources for sustenance, protection of the region's natural environment is essential to ensuring the sustainability of these resources. Through respect for and proper management of the region's natural resources, future generations will be able to reap the benefits offered by these resources, and visitors, as well as residents, will be able to continue to enjoy the natural, scenic beauty characteristic of "Heavenly Hana."

CULTURAL RESOURCES. The sensitivities of the region's residents for the cultural resources which are located within the Hana district are recognized. The district's historic sites and cultural resources provide

evidence of Hana's history and serve as tools for conveying the heritage of the region to its youth as a legacy for the future.

C. Interregional Issues

Several issues impact the Hana Community Plan region which need interregional, island-wide or County-wide comprehensive policy analyses and formulation.

1. Exportation of resources found within the Hana Community Plan Region. The impacts and implications of exporting resources, particularly the diversion of surface water from the region, are of key concern to Hana residents. The exportation of these resources will not only affect resource availability and environmental integrity within the region, but also affect the balance of resource supply in other community plan regions.
2. Infrastructure and public services considerations. It is recognized that policies relating to infrastructure and public services in one community plan region will bear upon the policies of other community plan regions. For example, transportation policies developed in adjoining community plan regions should be consistent with the desire of the Hana community to preserve the natural and cultural characteristics distinctive to the Hana region. Similarly, recreational needs not provided for in other community plan regions may result in a spillover effect into the Hana region, again having implications for the fundamental desire to maintain the region's unique character and conditions. Careful consideration of interregional implications of infrastructure and public services policies will help to preserve the integrity of the recommendations advanced by the Hana Community Plan.
3. Population and other socio-economic considerations. Like infrastructure and public services, population and other socio-economic policies advanced in one region may result in impacts to the policies advanced by another region. The preservation of Hana's unique characteristics is essential to allow future generations to experience and understand a true Hawaiian lifestyle. Policies which constrain or induce market economic forces in one region may have spillover effects in the Hana region.

PART III

POLICY RECOMMENDATIONS, IMPLEMENTING ACTIONS AND STANDARDS FOR THE HANA REGION

A. Intended Effect of the Hana Community Plan

Policy recommendations contained herein express a vision for the Hana community. They will be used in formulating and prioritizing programs and strategies, and will have a direct effect on the sequence and pattern of growth in the region.

Population numbers, while subject to a host of variables and external factors, provide a useful benchmark for conceptualizing growth in a region, and are useful in measuring the effectiveness of the community plan. It is in this context that population forecasts for the Hana Community Plan region are addressed. As a result of the policy recommendations advanced in this plan, it may be anticipated that the projected population of the Hana region in the year 2010 would range from 2,349 to 2,452 residents.

Land use patterns in the Hana region are designed to maintain Hana's identity as a unique "Hawaiian place," having qualities of old Hawaii which are reflected in its natural beauty, its cultural resources and practices, and in the character of its people. Land use patterns recognize the need to preserve and protect Hana's unique natural and cultural resources while providing its residents with opportunities to lead a stable and harmonious Hana lifestyle.

B. Goals, Objectives, Policies and Implementing Actions

Policy recommendations for the Hana Community Plan region have been developed to guide decision making in a number of subject areas having community-wide impact. Simply interpreted, the goals are those broad statements which identify a preferred future condition. The objectives and policies specify steps and measures to be taken to achieve the stated goal. Finally, the implementing actions identify specific programs, project requirements and activities necessary to successfully bring reality to the desired goal.

LAND USE

Goal

An efficient distribution of urban, rural and agricultural land uses in order to provide for the social and economic well-being of residents in the Hana Community Plan region. Preservation and enhancement of the current land use patterns which establish and enrich the Hana Community Plan region's unique and diverse qualities.

Objectives and Policies

1. Preserve existing mauka open space vistas throughout the State Agricultural and Conservation Districts and existing coastal open space vistas by discouraging linear development along the highways traversing the Hana District.
2. Encourage single-family and multi-family land use designations which provide affordable housing opportunities for the region's residents in areas compatible with surrounding uses and in proximity to urban infrastructure and services.
3. Explore alternative land use and overlay zoning designations that recognize and preserve the unique natural and cultural characteristics of each community within the Hana region.
4. Consider alternative regulatory frameworks to facilitate family residential use of Hawaiian *hui* and *kuleana* lands.
5. Encourage the availability of agriculturally suitable lands to provide opportunities for small diversified agricultural activities with residential tenancy for farmers.
6. Prohibit uses and discourage activities which adversely affect active diversified agricultural endeavors within designated agricultural use areas.
7. Discourage developing or subdividing land under agricultural use or agriculturally designated lands for passive agricultural, estate residential uses.
8. Discourage urban land uses and Special Use Permits outside of the Hana Town area except to allow those activities which are essential to the region's economic well-being, which provide essential services for the residents of the Hana District, or which provide for the essential

domestic needs of remote communities such as Ke`anae, Kipahulu and Kaupo. Such activities shall not adversely affect surrounding neighborhoods and shall be supportive of the agricultural activities of the area.

9. Discourage transient rental accommodation uses outside of the Hana urban area.
10. Discourage "heavy industrial" uses within the Hana Community Plan region, except those temporary or on-site activities which are essential for the construction of facilities and infrastructure within the Hana District.
11. Encourage the development of a light industrial area to serve the region's needs.
12. Should further land other than that depicted on the Land Use Map be required to accommodate urban growth, limit State Urban District boundary expansion to the State Agricultural and Rural District areas between the current Hana School and the Hasegawa General Store site in Hana Town.
13. Encourage community-based dialogue regarding proposed land use changes in order to avoid unwarranted conflict.

Implementing Actions

1. Identify and inventory exceptional open space resources and viewsheds. Explore protective management measures such as covenants, easements, and other planning tools.
2. Establish zoning standards with varying minimum lot sizes to prevent improper use and reflect different kinds of agricultural activities within the agricultural district.
3. Implement new procedures to provide increased opportunity for community and agency review of agricultural subdivisions.
4. Adopt land use standards and overlay zoning designations that recognize and preserve the unique natural, cultural and land use characteristics of each community within the Hana region.
5. Conduct an inventory and study of existing non-conforming uses, including vacation rentals, to determine (1) their numbers, (2)

geographic distribution, and (3) effects upon the local housing and real estate markets and the local economy, and identify recommendations for resolving non-conforming use issues.

ENVIRONMENT

Goal

Protection and management of Hana's land, water and ocean resources to ensure that future generations can enjoy the region's exceptional environmental qualities.

Objectives and Policies

1. Protect, preserve and increase the Hana region's natural marine, coastal and inland resources, encouraging comprehensive resource management programs.
2. Recognize residents' traditional uses of the region's natural resources which balance environmental protection and self-sufficiency.
3. Manage, protect, and where appropriate, restore areas which have significant indigenous flora and fauna habitat resource value.
4. Discourage water or land development and activities which threaten the biological diversity of the Hana region and degrade the existing quality of the region's (1) air and noise character, (2) marine, surface and ground water and (3) scenic resources and vistas.
5. Encourage organic farming practices and environmental protective practices in the selection and application of chemical pesticides, herbicides, and fertilizers.
6. Encourage resource management programs that maintain and re-establish indigenous and endemic flora and fauna in the Hana region.
7. Protect, restore and preserve native aquatic habitats and resources within and along all streams within the Hana District by (1) protecting existing instream flows, and (2) regulating diversions of stream waters.
8. Ensure that groundwater and surface water resources are preserved and maintained at capacities and levels to meet the current and future

domestic, agricultural, commercial, ecological and traditional cultural demands of each area in the Hana District.

9. Avoid development of flood prone areas, stream channels and gulches.
10. Discourage development of geothermal sources or energy transmission line corridors within environmentally sensitive and archaeologically significant areas in the Hana Community Plan region.

Implementing Actions

1. In coordination with native Hawaiian residents and community representatives, prepare watershed management plans and a groundwater and surface water resources monitoring program to protect the district's surface and ground waters, and monitor water levels to meet current and future demands.
2. Establish and maintain an aquatic resources management and monitoring program to ensure the sustainability of the region's ocean resources and protect the ecological integrity of the district's coastal waters and streams.
3. Establish and maintain feral animal control programs, and programs which control invasive alien plant species.
4. Conduct a regional land resource assessment to identify areas suitable for (1) revegetation and reforestation with native plant species, and (2) the re-establishment of indigenous fauna.
5. Establish pro-active conservation programs to ensure the sustainability of the region's indigenous flora and fauna.
6. Establish a program to (1) monitor the selection and application of chemical pesticides, herbicides, and fertilizers, and (2) develop incentives to reduce the dependency on such chemicals.
7. Explore methods to diminish out-of-district diversions of the district's groundwater and/or surface water resources in order to meet current and future domestic, agricultural, commercial, ecological, and traditional cultural needs within the district.
8. Initiate re-classification of lands and streams into the State Conservation District where warranted by biological values that do not

unduly burden native Hawaiian rights to cultivate or reside on kuleana or hui lands.

CULTURAL RESOURCES

Goal

Identification, preservation, protection, and where appropriate, restoration of significant cultural resources and practices, that provide a sense of history and identity for the Hana region.

Objectives and Policies

1. Identify, preserve and protect historically, archaeologically and culturally significant areas, sites, and features within the Hana District.
2. Acknowledge and respect family ancestral ties to cultural resources.
3. Encourage community stewardship of historic sites and provide for the curation of artifacts in the Hana region.
4. Promote the cultural resources of the Hana region as an identifying characteristic of the people and the place.
5. Encourage the restoration and use of *lo`i kalo* (taro terraces) found in the Hana region.
6. Encourage and protect traditional mauka and makai accesses for traditional cultural uses and practices.
7. Promote development of educational and cultural programs which emphasize the perpetuation of Hawaiian and other ethnic arts, crafts and practices.

Implementing Actions

1. Encourage community participation by creating a Hana Cultural Resources and Historic Site Preservation Committee to serve as an

advisory agency to the Maui Cultural Resources Commission to identify significant cultural resources and provide recommendations specific to the Hana region.

2. Require development projects to identify all cultural resources within or adjacent to the project area as part of the County development review process. Further require that all proposed development include appropriate mitigation measures including site avoidance, adequate buffer areas and interpretation.
3. General site types and areas that should be flagged for preservation during development review include the following:
 - Pi`ilani Trail/Old government roads
 - Hana/Pi`ilani Highways and historic bridges
 - Fishponds
 - Landings
 - Nearshore marine cultural resources
 - Habitation complexes (shoreline and interior)
 - Lo`i* terraces and *`auwai*
 - Native vegetation zones
 - Plantation ditch systems
 - Religious structures (shrines, churches and *heiau*)
 - Plantation era structures and homes
 - Petroglyphs
 - Burials
4. Develop regulations and implement programs to protect *lo`i kalo* (taro terraces), and encourage their productive use.
5. Conduct and maintain a native language oral history program to record the knowledge and expertise of the *kupuna*, particularly as it relates to agricultural practices, fishing practices, and cultural practices and values.
6. Establish and maintain programs to rejuvenate and exhibit the various cultural practices, skills and traditions of the Hana region, and to re-orient youth and adults with their cultural heritage and Hawaiian language.
7. Establish a Hawaiian language immersion program in Hana.

ECONOMIC ACTIVITY

Goal

A balanced local economy which provides long-term viability and sustainability while meeting residents' needs and respecting the cultural and natural resources of Hana.

Objectives and Policies

1. Encourage a local economy which provides employment choices for the region's residents and which provides future employment opportunities for the region's youth.
2. Utilize existing components of the local economy to establish a framework for balanced regional economic development.
3. Encourage economic activities which are: of substantive economic benefit to the residents of the area; environmentally benign; and compatible with the cultural sensitivities of the residents of the Hana region.
4. Protect traditional *mauka* and *makai* access for subsistence activities that supplement family food sources.
5. Promote and maintain agriculture as a major economic activity with emphasis on a regional diversified agricultural industry.
6. Maintain taro farming, ranching and floriculture as major economic activities and promote their economic viability and sustainability. Promote aquaculture and horticulture as economic activities.
7. Maintain the visitor industry as a major economic activity, encouraging commercial activities which focus on the "day" visitor market and/or complement the "overnight" visitor market.
8. Support the continued operation of the Hotel Hana-Maui as a significant economic unit in order to provide stable employment for local residents at a size and scale that is in balance with the character of the Hana Town community.
9. Support community-based economic development activities and regional cooperative marketing.

10. Promote self-sufficiency by using local resource materials, products, and natural energy sources. Encourage and promote programs which allow use of certain abundant native plant species, such as *hala* and *kukui*, for commercial endeavors by residents of the Hana District.
11. Assist the region's local fishing industry and promote its economic viability and sustainability.
12. Encourage contractors to employ qualified Hana District residents when constructing facilities or other structures within the Hana District.

Implementing Actions

1. Update the County's socio-economic forecast model at least once a year to provide an on-going basis for evaluating socio-economic issues and conditions in the Hana Community Plan region.
2. Seek government funds to promote economic diversification, community-based economic development, and economic self-sufficiency of the Hana District.
3. Seek government funds and technical assistance to establish a community-based Hana Economic Development Task Force to implement the policies of this plan.

HOUSING

Goal

The provision of housing opportunities to the residents of Hana, for all income and age groups, which are affordable, safe, and environmentally and culturally compatible.

Objectives and Policies

1. Encourage a comprehensive housing strategy which encompasses private sector initiatives, government programs, public-private joint efforts, and other assistance programs to reduce costs and increase housing availability for all income and age groups.
2. Provide sufficient land area for urban residential development only in appropriate areas near urban facilities.

3. Encourage modification of regulatory codes which may not be appropriate to the Hana region and which increase the time and cost of providing housing opportunities for the region's residents.

Implementing Actions

1. Develop government-sponsored housing units to be used by State and County personnel who reside in the Hana region only for the purpose of fulfilling their professional responsibilities.
2. Review and modify the existing Maui County building code and subdivision code to reduce home construction costs in rural and remote areas. Implement alternative rural standards for items such as road widths, street lighting, etc.
3. Seek government funds to assist community-based housing groups, such as the Hana Affordable Housing and Community Development Corporation, in developing housing projects and housing rehabilitation programs, consistent with the Hana Community Plan, to meet the needs of Hana District residents.
4. Establish a housing rehabilitation program, including loans, grants, and/or technical assistance and community outreach.
5. Provide programs including, but not limited to, home ownership counseling and self-help housing to enhance home ownership opportunities for the residents of the Hana District.

URBAN DESIGN

Goal

Harmony between the natural and man-made environments through building, infrastructure and landscaping design which ensures that the natural beauty and character of the Hana region is preserved.

Objectives and Policies

1. Support design controls for Hana Town and the Hana region based on maintaining the existing low rise character and rural scale of the area.

2. Encourage roadway, drainage, landscaping and other public improvement standards which are in harmony with an informal rural or natural environment.
3. Maintain the informal rural streetscape which provides character identification for Hana Town.
4. Preserve significant view corridors.

Implementing Actions

1. Prepare "country town" design guidelines for Hana Town which enhance the natural beauty and Hawaiian character of the region, through appropriate building, infrastructure and landscape design.
2. Develop and implement appropriate "rural standards" for public facilities and privately sponsored building improvements, roadways and subdivisions.
3. Limit building height to two stories or thirty-five (35) feet above grade throughout the region.
4. Limit the height of man-made walls to avoid visual obstruction of coastal and scenic mauka areas.
5. Identify significant view corridors and seek their protection through covenants, easements, and other planning tools.

PHYSICAL INFRASTRUCTURE

Goal

Timely and environmentally sensitive development and maintenance of infrastructure systems which protect and preserve the safety and health of the Hana region's residents and visitors, including the provision of domestic water, utility and waste disposal services, and effective transportation systems which meet the needs of residents and visitors while protecting the region's rural character.

Objectives and Policies

All Areas

1. Ensure community participation, including resident Hawaiian, in all long-term infrastructure planning.

Transportation

2. Improve road conditions through more frequent resurfacing and repair.
3. Encourage a program of roadway safety improvements, including shoulder widening, pull-over spots and installation of new signage and guardrails that do not detract from the region's scenic and rural character.
4. Balance traffic flow and safety requirements with the preservation of the Hana region's historic bridges.
5. Encourage the development of a quasi-public shuttle service to meet the intraregional and/or interregional transportation needs of the residents of the Hana Community Plan region.
6. Ensure that any master plan for the Hana Airport is consistent with the objectives and policies set forth in the Hana Community Plan.

Water

7. Improve water source and delivery facilities to ensure that water supplied to the region's residents and visitors is of the highest quality.
8. Identify water service area expansion needs in the Hana region.
9. Encourage water conservation measures by residents and businesses.

Liquid and Solid Waste

10. Develop and implement a comprehensive waste management plan which includes reduction, recycling and reuse of solid waste and wastewater as major plan components.
11. Incorporate household re-use of gray water in the County's wastewater management strategy.

Energy and Public Utilities

12. Promote energy efficiency as the energy resource of first choice, and encourage energy conservation practices by residents and businesses.
13. Improve energy and communication systems to ensure reliable service to the residents and businesses of the Hana region.
14. Identify service area expansion needs for energy services in the Hana region.
15. Promote the environmentally and culturally sensitive use of renewable energy resources, like biomass, solar energy, and wind energy, in all sectors of the community.

Implementing Actions

1. Prepare a Hana Highway and Pi'ilani Highway roadway management plan which identifies: (1) significant natural and structural features to be preserved; (2) comprehensive road signage requirements; (3) long-term roadway maintenance requirements; and (4) a traffic management system which provides for pull-over spots, and interpretive scenic lookouts.
2. Improve Hana Highway to allow safe passage of two-way vehicular traffic.
3. Improve Pi'ilani Highway as an alternative route to Hana while protecting and preserving the integrity of natural landforms and historic structures.
4. Improve walkways and roads within residential areas to ensure safe passage for pedestrians and vehicular traffic.
5. Develop appropriate and achievable rural standards for infrastructural improvements.
6. Provide a back-up electrical generator which will provide power to the Hana region during periods of electrical power outages.
7. Provide energy services to Kipahulu.
8. Provide municipal water service to Kipahulu and Upper Nahiku.

9. Prepare a domestic water system master plan and a wastewater system master plan for the Hana region.
10. Prepare a Hana Airport master plan.

SOCIAL INFRASTRUCTURE

Goal

An efficient and responsive system of people-oriented public services which enable residents to live a safe, healthy and enjoyable lifestyle, and offer the youth and adults of the region opportunities and choices for self and community improvement.

Objectives and Policies

Recreation

1. Encourage recreational programs for all age groups, and provide opportunities for passive recreation.
2. Improve regulation of commercial activities with public recreational areas in collaboration with community-based organizations.
3. Recognize and respect the recreational values and pristine character of Hana's natural land and water resources.

Public Health and Safety

4. Improve emergency rescue services and medical services for the Hana region.
5. Encourage the provision of public health education programs, including mental health counseling services.
6. Improve fire protection, prevention and suppression services in the Hana region.
7. Encourage the recruitment and retention of police department personnel who are thoroughly familiar with the needs of the community.

8. Encourage upgrading and expanding the facilities at the Hana Medical Center.
9. Encourage the provision of services and development of facilities to meet the current and future "elderly care" needs of the Hana District.

Education

10. Maintain and expand educational opportunities for adults.
11. Expand vocational programs.
12. Support a Hawaiian language immersion program in Hana.
13. Enhance educational quality of schools within the Hana region through collaborative efforts with community-based groups such as the PTSA.

Implementing Actions

1. Prepare a recreation management plan for Hana Bay to identify compatible and conflicting uses and to establish a regulatory context for uses within the bay in conjunction with the Hana Harbor Advisory Committee.
2. Establish and maintain an area for canoes and other similar recreational type boats at Hana Bay.
3. Prohibit dry docking of boats within the Hana Bay area except during storm and/or high surf conditions.
4. Provide water safety officers for Hana Bay.
5. Regulate commercial tour operator use of Hana Bay Pavilion and picnicking area, Wai'anapanapa, Pua'a Ka'a, and Kaumahina State Parks in order to allow residents and other visitors greater use of these facilities.
6. Maintain Hana Bay Beach Park and Hana Ball Park as primary recreational areas within Hana Town. Establish traffic management programs to promote safety during times when events are occurring.
7. Develop a larger multi-purpose facility in order to meet the social activity needs of an expanding residential population.

8. Establish and maintain passive parks and regional recreation parks to meet the residential needs of remote communities throughout the Hana region.
9. Improve and maintain Ke`anae Community Park.
10. Establish and maintain an enforcement officer's position dedicated to enforcing rules and regulations within State parks, beach areas, and conservation lands.
11. Establish and maintain a Rescue Squad at the new Hana Fire Station.
12. Maintain a civil defense coordinator position for Hana and establish emergency evacuation centers for remote centers of the region.
13. Increase the police force, possibly by deputizing part-time officers in more remote areas.
14. Improve emergency communications equipment.
15. Maintain the Hana Health Advisory Committee to assist in developing programs to meet future medical service needs.
16. Establish a full-time mental health case management position and a full-time elderly services case management position in the Department of Health to meet the residents' needs.
17. Develop and maintain a "meals-on-wheels" program and a transportation program for senior citizens.
18. Establish and maintain a public cemetery.
19. Provide sufficient counselor positions in the Department of Education to meet the students' needs at the Hana High and Elementary School.
20. With community participation, identify the causes and develop appropriate incentives to reduce teacher turnover at schools.
21. Seek funding to expand skybridge and other community education and telecommunications programs.

GOVERNMENT

Goal

The provision of accessible, cost effective, and responsive government services and programs which meet the unique needs of residents and the cultural, geographic and socio-economic characteristics of the Hana region.

Objectives and Policies

1. Provide better access to County and State officials by establishing outreach services in the Hana region.
2. Encourage improved communication between government agencies and residents in order to improve residents' understanding of the development permit process and compliance with regulatory requirements.
3. Promote the development of building and subdivision codes and standards which are appropriate for the Hana region.
4. Utilize the government budgeting process as a means to carry out the policies and priorities of the Hana Community Plan.
5. Ensure the participation of native Hawaiian residents and community representatives in all CIP and program planning that impacts on the Hana region.
6. Maintain a policy within the County Council and the State Land Use Commission to hold hearings in Hana on land use issues which affect the Hana District.
7. Maintain the Hana Advisory Committee to the Maui Planning Commission to make recommendations regarding all land use policies, permits, and changes in designation within the Hana District.

Implementing Actions

1. Develop a satellite government center for the Hana region with scheduled days for different government agencies.
2. Pursue creative regulatory solutions to provide better government services.
3. Develop recruitment/incentive programs to attract Hana region residents into positions within the Fire and Police Departments,

Department of Land and Natural Resources, the National Parks Service and other government agencies located in the Hana region.

4. Compile special plans and studies necessary to implement the recommendations of the Community Plan. These would include market studies and assessments of the diversified agricultural economic sector, the current and projected visitor accommodation market mix, water development, housing, local and regional circulation, drainage, solid waste, and other special studies as required.

C. Planning Standards

The following planning standards are specific guidelines or measures for development and design. These standards are essential in clarifying the intent of the land use and urban design objectives and policies and the Land Use Map.

1. Building Height:

Two stories or thirty-five (35) feet above grade throughout the region.

2. Landscaping:

Native plant species which are found in the Hana region shall be utilized for public and quasi-public facilities to the greatest extent possible.

Non-retaining wall structures along public roadways shall not exceed four (4) feet in height.

3. Building Design:

All commercial buildings, subdivision improvements, multi-family projects, and government or private infrastructure improvements shall be designed in accordance with design guidelines developed for Hana Town.

4. Roadways:

Highways and major roadways shall have a minimum pavement width of 16 feet, and shoulder width of two feet, to provide for the safe passage of two-way traffic, except in areas where natural landforms, historic structures and other environmental constraints preclude widening beyond existing roadway widths.

Roadways, including Highways shall not exceed 20 feet in pavement width, except in residential areas where on-street parking is desired.

County-standard curbs, gutters, and sidewalks shall not be required in the Hana district. Grassed shoulders and swales shall be allowed without curbs.

Where walkways are provided, they shall be separated from roadways by a minimum two-foot wide planting strip along residential streets, and a minimum four-foot wide planting strip along highways.

5. Subdivisions:

Environmental Design

Lot configurations, roadways and subdivision improvements shall be designed to respect existing landforms, coastal and aquatic resources, biological resources and cultural/historic resources to the greatest extent possible.

Socio-Economic Considerations

The direct and cumulative impacts on agriculture and the socio-economic impacts on the community shall be assessed and considered.

Improvements

County urban subdivision standards shall not apply to the Hana region, except in areas where deemed appropriate, in regards to the following improvements:

Curb, gutter, sidewalks shall not be required;
Street lighting shall not be required;
Pavement width shall not exceed 20 feet.

6. Hotel District Standards:

Within the Hotel District, the total ground area occupied by all buildings shall not exceed 25 percent of the lot area.

7. Service Business/Residential Standards:

A new Service Business/Residential zoning district may be established where the following conditions are met:

- a. Parcel is currently used for single-family residential purposes;
- b. Structure has residential design character;

- c. Business or service is compatible with the character of the surrounding neighborhood, such as an office, small kitchen, or small specialty shop;
- d. Scale and intensity of use is not disruptive to surrounding properties or roadways;
- e. One vacation unit per lot containing another long-term residential unit (County Special Use permit required for more than one unit, or for lots with no long-term residential unit);
- f. Minimum front and side yard setbacks of 20-feet and 10-feet, respectively; and
- g. One (1) sign, not to exceed eight (8) square feet.

8. Standards for Commercial Activities in the Rural and Agricultural Districts

- a. Proposed uses must:
 - Be visually compatible with the rural and agricultural character of the area;
 - Be compatible in scale and intensity with surrounding properties or roadways;
 - Not adversely affect the surrounding neighborhood; and
 - Be supportive of and not adversely effect the agricultural activities of the area.
- b. In addition, proposed uses must either:
 - Be essential to the region's economic well-being;
 - Provide essential services for the residents of the Hana District; or
 - Provide for the essential domestic needs of remote communities such as Ke`anae, Kipahulu and Kaupo.

PART IV

IMPLEMENTATION CONSIDERATIONS

To facilitate the implementation of the Hana Community Plan, the implementing actions shall be considered by County and State agencies in their planning, programming and budgeting. In this regard, respective County agencies shall review and incorporate applicable implementing actions, as well as the broader statements of goals, objectives and policies contained in the Hana Community Plan as follows:

1. Annual budget requests shall address requirements identified by implementing actions contained in the Hana Community Plan;
2. Capital improvements programming undertaken by each agency shall incorporate, as appropriate, specific projects listed in the Hana Community Plan;
3. Priority assignments to capital improvement projects shall consider implementing actions contained in the Hana Community Plan;
4. Agency master plans shall address project, program and policy actions advanced in the Hana Community Plan;
5. Agency program and policy formulation processes shall consider, and where appropriate, incorporate implementing actions set forth in the Hana Community Plan; and
6. Agency reviews of and recommendations for individual projects being processed for approval shall consider the relationship of the proposed action to the implementing provisions contained in the Hana Community Plan.

The following table summarizes and categorizes each action as either a program, policy or project-related implementing action to further facilitate agency review, consideration and action on applicable implementing provisions.

Table 1

Hana Community Plan Region Implementation Responsibilities		
DEPARTMENT: Department of Planning		
Action Category	Implementing Action	Planning Category
Policy	<ol style="list-style-type: none"> 1. Require development projects to identify and mitigate all cultural resources within or adjacent to the project area as part of the development review process. 2. Initiate legislation to limit building height to two stories or thirty-five (35) feet above grade throughout the region. 3. Protect view corridors through covenants, easements, and other planning tools. 	<p>Cultural Resources</p> <p>Urban Design</p> <p>Urban Design</p>
Project	<ol style="list-style-type: none"> 1. Identify and inventory exceptional open space resources and viewsheds for protection via covenants, easements, and other planning tools. 2. Establish zoning standards with varying minimum lot sizes for lands within the agricultural district. 3. Establish new land use standards designations that recognize and preserve the unique natural & cultural characteristics of Hana. 4. Conduct an inventory and study of existing non-conforming uses, including vacation rentals, and identify solutions to non-conforming use issues. 5. Update the County's socio-economic forecast model at least once a year to provide an on-going basis for evaluating socio-economic issues in Hana. 6. Update the Cultural Resource Management Plan to identify cultural resources and recommendations for preservation specific to the Hana region. 7. Develop and implement regulations to protect lo'i kalo (taro terraces). 8. Prepare "country town" design guidelines for Hana Town which enhance the natural beauty and Hawaiian character of the region. 9. Compile special plans and studies necessary to implement the recommendations of the Community Plan. 	<p>Land Use</p> <p>Land Use</p> <p>Land Use</p> <p>Land Use</p> <p>Economic Activity</p> <p>Cultural Resources</p> <p>Cultural Resources</p> <p>Urban Design</p> <p>Government</p>
DEPARTMENT: Department of Public Works and Waste Management		
Action Category	Implementing Action	Planning Category
Policy	<ol style="list-style-type: none"> 1. Limit the height of man-made walls to avoid visual obstruction of coastal areas and scenic mauka areas. 2. Incorporate the use of gray water, including household recycling, in the County's wastewater reuse strategy. 	<p>Urban Design</p> <p>Infrastructure</p>

Hana Community Plan Region Implementation Responsibilities		
DEPARTMENT: Department of Public Works and Waste Management (continued)		
Action Category	Implementing Action	Planning Category
Project	<ol style="list-style-type: none"> 1. Review and modify, as appropriate, the existing Maui County building code and subdivision code, to promote reduction in home construction costs. 2. Develop and implement appropriate "rural standards" for public facilities and privately sponsored building improvements, roadways and subdivisions. 3. Improve sidewalks and roads within residential areas to ensure safe passage for pedestrians and vehicular traffic. 4. Develop appropriate and achievable rural standards for infrastructural improvements. 5. Provide a back-up electrical generator which will provide power to the Hana region during periods of electrical power outages. 6. Provide energy services to Kipahulu. 7. Prepare a Pi'ilani Highway management plan which identifies: (1) features to be preserved; (2) signage requirements; (3) maintenance requirements; and (4) traffic management. 8. Improve Hana Highway to allow safe passage of two-way vehicular traffic. 9. Improve Pi'ilani Highway as an alternative route to Hana while protecting and preserving the integrity of natural landforms and historic structures in remote areas. 10. Prepare a wastewater system master plan for the Hana Region. 	<p>Housing</p> <p>Urban Design</p> <p>Infrastructure</p> <p>Infrastructure</p> <p>Infrastructure</p> <p>Infrastructure</p> <p>Infrastructure</p> <p>Infrastructure</p> <p>Infrastructure</p>
DEPARTMENT: Department of Parks and Recreation		
Action Category	Implementing Action	Planning Category
Program	<ol style="list-style-type: none"> 1. Establish and maintain passive parks and regional recreation parks throughout the Hana region. 2. Establish and maintain an area for canoes and other similar recreational type boats at Hana Bay. 3. Regulate commercial tour operator use of Hana Bay in order to allow greater resident use. 4. Provide water safety officers for Hana Bay. 	<p>Social Infrastructure</p> <p>Social Infrastructure</p> <p>Social Infrastructure</p> <p>Social Infrastructure</p>
Policy	<ol style="list-style-type: none"> 1. Establish traffic management programs to protect participants and spectators at the Hana Ball Park and Hana Bay Beach Park. 	<p>Social Infrastructure</p>
Project	<ol style="list-style-type: none"> 1. Prepare a recreation management plan for Hana Bay to identify compatible and conflicting uses and to establish regulations. 	<p>Social Infrastructure</p>

Hana Community Plan Region Implementation Responsibilities		
DEPARTMENT: Department of Parks (continued)	and Recreation	
Action Category	Implementing Action	Planning Category
Project	2. Improve and maintain Ke'anae Community Park.	Social Infrastructure
	3. Develop a larger multi-purpose facility in order to meet the social activity needs of an expanding residential population.	Social Infrastructure
DEPARTMENT: Office of the Mayor		
Action Category	Implementing Action	Planning Category
Program	1. Pursue creative regulatory solutions to provide better government services.	Government
Policy	1. Seek government funds to promote economic diversification, community-based economic development, and economic self-sufficiency of the Hana District.	Economic Activity
Project	1. Develop a satellite government center for the Hana region with scheduled days for different government agencies.	Government
DEPARTMENT: Department of Water Supply		
Action Category	Implementing Action	Planning Category
Project	1. Provide municipal water service to Kipahulu and Upper Nahiku.	Infrastructure
	2. Prepare a domestic water system master plan for the Hana region.	Infrastructure
DEPARTMENT: Department of Housing and Human Concerns		
Action Category	Implementing Action	Planning Category
Program	1. Provide programs including, but not limited to, home ownership counseling and self-help housing to enhance home ownership opportunities for residents.	Housing
	2. Establish a housing rehabilitation program, including loans, grants and /or technical assistance and community outreach.	Housing
	3. Develop and maintain a "meals-on-wheels" program and a transportation program for senior citizens residing in the Hana region.	Social Infrastructure
Policy	1. Seek government funds to assist community-based housing groups, in developing housing projects and housing rehabilitation programs.	Housing
Project	1. Develop housing units to be used by government personnel who reside in Hana only to fulfill their professional responsibilities.	Housing
Hana Community Plan Region Implementation Responsibilities		

DEPARTMENT: Civil Defense Agency			
Action Category	Implementing Action	Planning Category	
Program	1. Maintain a civil defense coordinator position for Hana and establish emergency evacuation centers for remote centers of the region.	Social Infrastructure	
DEPARTMENT: Department of Personnel Services			
Action Category	Implementing Action	Planning Category	
Program	1. Develop a recruitment/incentive program to attract Hana region residents into positions within the Fire and Police Departments, Department of Land and Natural Resources, and the National Parks Service.	Government	
DEPARTMENT: State Department of Land and Natural Resources			
Action Category	Implementing Action	Planning Category	
Program	<ol style="list-style-type: none"> 1. Develop and maintain a groundwater and surface water resources monitoring program to define and monitor water levels to meet the current and future demands. 2. Establish and maintain an aquatic resources management and monitoring program. 3. Establish and maintain feral animal control programs, and programs which control invasive alien plant species. 4. Conduct a native language oral history program to record the knowledge of the kupuna, as it relates to cultural practices and values. 5. Establish programs to rejuvenate and exhibit the various cultural practices, and to reorient youth and adults with their cultural heritage. 6. Develop and implement regulations to protect taro lo'i. 7. Regulate commercial tour operator use of Waianapanapa, Pua'a Ka'a, and Kaumahina State Parks in order to allow greater resident use. 8. Establish an enforcement officer's position to enforce rules and regulations within State parks, beach areas, and conservation lands. 	Environment Environment Environment Cultural Resources Cultural Resources Cultural Resources Social Infrastructure Social Infrastructure	
Policy	<ol style="list-style-type: none"> 1. Prohibit dry docking of boats within the Hana Bay area except during storm and/or high surf conditions. 2. Prepare watershed management plans for the Hana District to protect the district's surface, ground and coastal waters. 3. Conduct a regional assessment to identify areas suitable for revegetation with native plants and the re-establishment indigenous fauna and avifauna. 	Social Infrastructure Environment Environment	

**Hana Community Plan Region
Implementation Responsibilities**

DEPARTMENT: State Department of Agriculture			
Action Category	Implementing Action		Planning Category
Program	1. Monitor the selection and application of chemical pesticides and fertilizers, and develop incentives to reduce their use.		Environment
DEPARTMENT: State Department of Education			
Action Category	Implementing Action		Planning Category
Program	1. Establish a Hawaiian language immersion program in Hana. 2. Offer programs in Hawaiian language and culture for all age groups 3. Establish additional counselor positions to meet the students' needs at the Hana High and Elementary School.		Cultural Resources Cultural Resources Social Infrastructure
Project	1. Develop incentives to reduce teacher turnover at schools within the Hana region.		Social Infrastructure
DEPARTMENT: Office of Hawaiian Affairs			
Action Category	Implementing Action		Planning Category
Program	1. Conduct a native language oral history program to record the knowledge of the kupuna, as it relates to cultural practices and values. 2. Establish programs to rejuvenate and exhibit the various cultural practices, and to reorient youth and adults with their cultural heritage.		Cultural Resources Cultural Resources
DEPARTMENT: State Department of Transportation			
Action Category	Implementing Action		Planning Category
Project	1. Improve Hana Highway to allow safe passage of two-way vehicular traffic. 2. Improve Pi'ilani Highway as an alternative route to Hana while protecting and preserving the integrity of natural landforms and historic structures in remote areas. 3. Prepare a Hana Highway and Pi'ilani Highway roadway management plan which identifies: (1) significant features to be preserved; (2) signage requirements; (3) roadway maintenance requirements; and (4) a traffic management system. 4. Prepare a Hana Airport master plan.		Infrastructure Infrastructure Infrastructure Infrastructure
Hana Community Plan Region Implementation Responsibilities			

DEPARTMENT:	State Department of Health		
	Action Category	Implementing Action	Planning Category
Program		1. Establish full-time mental health and elderly services case management positions to meet the needs of the Hana region.	Social Infrastructure
Policy		1. Maintain the Hana Health Advisory Committee to assist in developing programs to meet the future medical service needs of the Hana District.	Social Infrastructure
DEPARTMENT:	University of Hawaii		
	Action Category	Implementing Action	Planning Category
Program		1. Seek funding to expand skybridge and other community education and telecommunications programs.	Social Infrastructure
		2. Conduct a native language oral history program to record the knowledge of the kupuna, as it relates to cultural practices and values.	Cultural Resources

PART V

LAND USE MAP

A. Land Use Categories and Definitions

Conservation (C)

This category primarily recognizes the designation of lands in the State Conservation District and is used to protect and preserve wilderness areas, beach reserves, scenic areas and historic sites, open ranges, and watersheds; to conserve fish and wildlife; and to promote forestry and grazing.

Agriculture (AG)

This use indicates areas for agricultural activity which would be in keeping with the economic base of the County and the requirements and procedures of Chapter 205 HRS, as amended.

Rural (R)

This use is to protect and preserve areas consisting of small farms intermixed with low density single-family residential lots. It is intended that, at a minimum, the requirements of Chapter 205 HRS, as amended, shall govern this area.

Single-Family (SF)

This includes single-family and duplex dwellings.

Multi-Family (MF)

This includes apartment and condominium buildings having more than two dwellings.

Hotel (H)

This applies to transient accommodations which do not contain kitchens within individual units. Such hotel facilities may include permissible accessory uses primarily intended to serve hotel guests.

Business/Multi-Family (BMF)

This includes a mixture of retail, office, and commercial services which are oriented to neighborhood service and single family and multi-family residential uses.

Business/Commercial (B)

This includes retail stores, offices, entertainment enterprises and related accessory uses.

Business/Industrial (BI)

This includes a mixture of warehousing, distribution, service operations, retail and office uses.

Light Industrial (LI)

This is for warehousing, light assembly, service and craft-type industrial operations.

Heavy Industrial (HI)

This is for major industrial operations whose effects are potentially noxious due to noise, airborne emissions or liquid discharges.

Airport (AP)

This includes all commercial and general aviation airports, and their accessory uses.

Public/Quasi-Public (P)

This includes schools, libraries, fire/police stations, government buildings, public utilities, hospitals, churches, cemeteries, and community centers.

Project District (PD)

This category provides for a flexible and creative planning approach rather than specific land use designations for quality developments. The planning approach would establish continuity in land uses and designs while providing for a comprehensive network of infrastructural facilities and systems. A variety of uses as well as open space, parks and other project uses are intended in accord with each individual project district objective.

Park (PK)

This designation applies to lands developed or to be developed for recreational use. This includes all public and private active and passive parks.

Open Space (OS)

This use is intended to limit development on certain urban and non-urban designated lands which may be inappropriate for intensive development due to environmental, physical, or scenic constraints; this category would include, but not be limited to, shoreline buffer areas, landscape buffers, drainageways, viewplanes, flood plains, and tsunami areas. Other appropriate urban and non-urban uses may be allowed on a permit basis.

Service Business/Single Family Residential (SBR)

This includes single family dwellings with small scale-service and neighborhood-oriented businesses which are established in previously utilized residential dwellings or other existing structures. The business use should be compatible with the physical character of the residential neighborhood.

PC:COMPLANS:hana

Proposed Revision to the Hana Community Plan Land Use Map

Current Designation	Approx Acre	CAC Recommendation	Department of Planning Proposed Plan Revision	Maui Planning Commission Recommendation	Planning Committee Recommendation	Comments
Conservation	15.3	Not reviewed by the CAC.	Department proposes Agriculture in accordance with recommendation by the Hana Advisory Committee (HAC) to the Planning Commission.	Concurs with the Department's proposed revision.	Change the acreage to 15.15 and identify the affected parcels: TMK: 1-3-09:002, (2.93 acres) TMK: 1-3-09:097, (2.93 acres) TMK: 1-3-09:004, (9.49 acres)	Ka`eleku.
Conservation/ Agriculture	18.5	Not acted on by the CAC.	Department proposes Rural in accordance with a neighborhood petition after CAC adjournment.	Concurs with the Department's proposed revision.	Change the acreage to 41.54 and identify the affected parcels. Agriculture to Rural: TMK: 1-3-05:010, (14.6 acres) TMK: 1-3-05:016, (2.0 acres) TMK: 1-3-05:017, (4.0 acres) TMK: 1-3-05:018, (0.5 acres) TMK: 1-3-05:019, (1.0 acres) TMK: 1-3-05:020, (0.81 acres) Conservation to Rural: TMK: 1-3-05:021, (0.83 acres) TMK: 1-3-05:022, (0.5 acres) TMK: 1-3-05:023, (0.5 acres) TMK: 1-3-05:024, (2.0 acres) TMK: 1-3-05:025, (0.5 acres) TMK: 1-3-05:026, (0.87 acres) TMK: 1-3-05:027, (2.81 acres) TMK: 1-3-05:028, (3.97 acres) TMK: 1-3-05:029, (0.94 acres) TMK: 1-3-05:030, (0.92 acres) TMK: 1-3-05:031, (4.0 acres) TMK: 1-3-05:032, (0.79 acres)	Wai`anapanapa. CAC took no action due to potential conflict of interest. HAC concurred with Department.

Proposed Revision to the Hana Community Plan Land Use Map

Current Designation	Approx Acre	CAC Recommendation	Department of Planning Proposed Plan Revision	Maui Planning Commission Recommendation	Planning Committee Recommendation	Comments
SF	88.0	The CAC proposed Rural designation to reflect intent of 1982 CAC and to be consistent with existing Wakiu Houselots.	Department concurs with the CAC recommendation.	Concurs with the CAC recommendation and the Department's proposed revision.	<p>TMK: 1-3-04:001 (portion)</p> <p>TMK: 1-3-04:002, (0.725 acres)</p> <p>TMK: 1-3-04:003, (0.14 acres)</p> <p>TMK: 1-3-04:004, (0.11 acres)</p> <p>TMK: 1-3-04:005, (0.13 acres)</p> <p>TMK: 1-3-04:009, (5.33 acres)</p> <p>TMK: 1-3-04:021, (0.20 acres)</p> <p>TMK: 1-3-04:022, (2.44 acres)</p> <p>TMK: 1-3-06:002, (3.08 acres)</p> <p>TMK: 1-3-06:004, (0.85 acres)</p> <p>TMK: 1-3-06:005, (4.44 acres)</p> <p>TMK: 1-3-06:007 (portion)</p> <p>TMK: 1-3-06:013, (2.0 acres)</p> <p>TMK: 1-3-06:014, (0.1 acres)</p>	Wakiu.
MF	3.8	The CAC proposed Rural designation to reflect intent of 1982 CAC and to be consistent with existing Wakiu Houselots.	Department concurs with the CAC recommendation.	Concurs with the CAC recommendation and the Department's proposed revision.	<p>Change the acreage to 4.04 and identify the affected parcels:</p> <p>TMK: 1-3-08:015, (0.97 acres)</p> <p>TMK: 1-3-08:016, (0.94 acres)</p> <p>TMK: 1-3-08:017, (2.13 acres)</p>	Wakiu.
AG	9.3	Not reviewed by the CAC.	Department proposes Rural in accordance with land owner request.	Concurs with the Department's proposed revision.	TMK: 1-4-03:019 (portion)	Kawaipapa. Land owner proposal first introduced at Commission public hearing.
AG/ Rural/ SF	N/A 200' Wide	Not reviewed by the CAC.	Department proposes an Open Space corridor along Kawaipapa Stream.	Concurs with the Department's proposed revision.	Reject this recommendation regarding a 200 feet open space area. Instead, development plans should identify mitigative measures to minimize flooding.	

Proposed Revision to the Hana Community Plan Land Use Map

Current Designation	Approx Acre	CAC Recommendation	Department of Planning Proposed Plan Revision	Maui Planning Commission Recommendation	Planning Committee Recommendation	Comments
AG	10	The CAC recommended 7 acres to Public/Quasi-Public and 3 to MF to provide for Hana Medical Center expansion and elderly housing.	Department recommends 10 acres to P/Q-P in order to provide flexibility in site planning.	Concurs with the Department's proposed revision.	TMK: 1-4-03:022, (10.07 acres)	Elderly housing allowed in P/Q-P. HAC concurred with Department.
AG	15	Redesignate to SF an area identified by the Hana Affordable Housing and Development Corporation for a self-help housing project.	Department concurs with the CAC recommendation.	Concurs with the CAC recommendation and the Department's proposed revision.	TMK: 1-4-03:009 (portion)	Kawaipapa. Intended to designate area to be donated by Keola Hana Maui.
AG	1	Redesignate to P/Q-P for development of new Hana Fire Station.	Department concurs with the CAC recommendation.	Concurs with the CAC recommendation and the Department's proposed revision.	TMK: 1-4-06:002, (1.0 acres)	Kawaipapa.
SF	7	Redesignate to MF an area identified by the Hana Affordable Housing and Development Corporation for a multi-family rental housing project.	Department concurs with the CAC recommendation.	Concurs with the CAC recommendation and the Department's proposed revision.	TMK: 1-4-06:001 (portion)	Niumalu.
P/Q-P	18.5	Redesignate to Rural in recognition of underlying State Land Use District and probable mapping error in existing Plan.	Department concurs with the CAC recommendation.	Concurs with the CAC recommendation and the Department's proposed revision.	Change the acreage to 18.63 and identify the affected parcels: TMK: 1-3-07:010, (2.38 acres) TMK: 1-3-07:011, (0.80 acres) TMK: 1-3-07:012, (1.39 acres) TMK: 1-3-07:015, (2.22 acres) TMK: 1-3-07:016, (2.39 acres) TMK: 1-3-07:017, (2.02 acres) TMK: 1-3-07:018, (2.62 acres) TMK: 1-3-07:023, (4.65 acres) TMK: 1-3-07:027, (0.16 acres)	Waikaloa.

Proposed Revision to the Hana Community Plan Land Use Map

Current Designation	Approx Acre	CAC Recommendation	Department of Planning Proposed Plan Revision	Maui Planning Commission Recommendation	Planning Committee Recommendation	Comments
SF/MF	4.6	Redesignate to Service Business/Residential (SBR) twelve (12) parcels along the perimeter of the residential area to provide for small scale businesses and vacation rentals compatible with SF residential uses.	Department concurs with the CAC recommendation.	Concurs with the recommendation and the Department's proposed revision.	Change the acreage to 5.156 and identify the affected parcels. Multi-Family to SBR: TMK: 1-4-04:005, (1.25 acres) TMK: 1-4-05:043, (0.2 acres) TMK: 1-4-05:045, (0.14 acres) Single-Family to SBR: TMK: 1-4-05:023, (0.32 acres) TMK: 1-4-05:026, (0.62 acres) TMK: 1-4-13:009, (0.76 acres) TMK: 1-4-13:010, (0.15 acres) TMK: 1-4-13:016, (0.24 acres) TMK: 1-4-13:025, (0.32 acres) TMK: 1-4-13:039, (0.98 acres) TMK: 1-4-14:003, (0.86 acres)	SBR is a new category for Hana. Planning Standards for the SBR District are listed on page 29 of proposed Plan.
SF	0.5	Redesignate to SBR.	Redesignate to Service Business/Residential (SBR) in accordance with recommendation of HAC, and in recognition of historic use.	Concurs with the Department's proposed revision.	Redesignate to Business/Commercial: TMK: 1-4-13:001, (0.5 acres)	To reflect land use map designation.
SF	0.5	Not reviewed by the CAC.	Department proposes redesignation to Public/Quasi-Public, in accordance with recommendation of HAC, to recognize expansion of Hana Cultural Center.	Concurs with the Department's proposed revision.	Change the acreage to 0.2 and identify the affected parcels. Single-Family to P/Q-P: TMK: 1-4-13:014, (0.1 acres) TMK: 1-4-13:015, (0.1 acres)	Hana Cultural Center.

Proposed Revision to the Hana Community Plan Land Use Map

Current Designation	Approximate Acre	CAC Recommendation	Department of Planning Proposed Plan Revision	Maui Planning Commission Recommendation	Planning Committee Recommendation	Comments
OS	7.5	Not reviewed by the CAC.	Department proposes redesignation to Hotel to provide flexibility for renovations within the existing Hotel Hana Maui grounds. See comments.	Concurs with the Department's proposed revision.	Concurs with Planning Commission. TMK: 1-4-04:022 (portion)	HAC did not take action for lack of consensus.
AG	3.37	Not reviewed by the CAC.	Redesignate to Rural in recognition of underlying State Land Use District and probable mapping error in existing Plan.	Concurs with the Department's proposed revision.	TMK: 1-4-12:012, (0.99 acres) TMK: 1-4-12:013, (0.76 acres) TMK: 1-4-12:014, (0.76 acres) TMK: 1-4-12:015, (0.76 acres) TMK: 1-4-12:020, (0.1 acres)	Kaui'o. HAC concurred with Department.
AG/Rural/ PK/SF	8.7	Not reviewed by the CAC.	Redesignate to Public/Quasi-Public five (5) parcels in recognition of existing uses.	Concurs with the Department's proposed revision.	TMK: 1-4-03:052, (1.0 acres) TMK: 1-4-04:029, (1.26 acres) TMK: 1-4-06:007, (2.00 acres) TMK: 1-4-14:001, (1.25 acres) TMK: 1-5-03:014 (portion)	Churches, Electric Substation, Hana Day Care Center.

PLANS:hanamtx

SIERRA CLUB LEGAL DEFENSE FUND**FAX TRANSMITTAL MEMORANDUM**

TO: JOHN BLUMER-BUELL
HANA COMMUNITY ASSOCIATION
Fax No.: 1-248-7487

FROM: Arnold L. Lum/ceci
[Transmitting from (808) 521-6841]

DATE: October 3, 1991

RE: Maui Pineapple Company, Ltd. Pump Installation
-293-

Number of Pages (including this cover memo): 38

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COMMENTS: Findings of Fact, Conclusions of Law, and Decision and Order

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COMMISSION ON WATER RESOURCE MANAGEMENT
STATE OF HAWAII

In Re Application of) MA-CC-91-1
MAUI PINEAPPLE COMPANY, LTD.)
Pump Installation Permit)
Kuhiwa, Nahiku, Maui, Hawaii)
_____)

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND
DECISION AND ORDER

By application dated August 17, 1990, Maui Pineapple Company, Ltd. (hereinafter "Applicant" or "Maui Pine") requested approval of a permit to install a well pump with the capacity to withdraw up to 1.0 million gallons of water per day (MGD) from the Kuhiwa Well at Nahiku, Maui, Hawaii.

At the December 19, 1990 meeting of the Commission on Water Resource Management (hereinafter "Commission") to consider Applicant's request, the Hana Community Association (hereinafter "HCA" or "Petitioner"), through counsel, requested a contested case hearing on the application.

On March 25, 1991, the Commission published notice of the contested case hearing in The Maui News and the Honolulu Star Bulletin. The notice informed interested parties that the Commission intended to conduct a contested case hearing on the application, and that applications for intervention were to be filed by April 15, 1991.

Subsequently the Commission granted intervention to the HCA and Ned Iliahi Goodness.

On May 30, 1991, the Commission convened a contested case hearing in Wailuku, Maui, Hawaii. The hearing was concluded on June 19, 1991, at Honolulu, Oahu, Hawaii.

Dennis Niles, Esq., and Arnold Lum, Esq., appeared at both hearings as counsel for Applicant and HCA respectively. Mr. Goodness appeared at the first hearing but waived his right to appear and participate at the second hearing.

The Commission, having fully heard and examined the testimony, evidence and argument of counsel presented during the hearing, the proposed findings of fact, conclusions of law, and decision and order submitted by the Applicant and Petitioner, after deliberation hereby makes the following findings of fact and conclusions of law, and issues its decision and order:

I.

FINDINGS OF FACT

A. Applicant

1. Maui Pine is engaged in the business of the cultivation, processing, marketing, and distribution of canned

pineapple. Hartley, p. 3¹. The company employs approximately 900 year round employees, and a number of seasonal laborers. Tr. I, p. 64.²

2. The pineapple business is cyclical and very competitive. Over the past 10 years, the company was profitable in the first seven years, but lost money in the last three years. In 1990, the company had a record loss of approximately 6.5 million dollars on gross sales of approximately 70 million dollars. Tr. I, pp. 43-44.

3. The company cultivates approximately 8,000 acres of pineapple on the island of Maui, of which approximately 1,700 acres is under cultivation in Central Maui. Tr. I, pp. 34-35. The 1,700 acres of pineapple crop in Central Maui is supplied with irrigation water drawn from the Koolau Ditch of the East Maui Irrigation (EMI) distribution system. Hartley, p. 3; Tr. I, pp. 18 and 31.

4. Maui Pine use of water from the EMI system is made under an agreement with East Maui Irrigation, Inc, which requires Maui Pine to supply the ditch with a quantity of water equivalent

¹Citations to the written direct testimony submitted in this proceeding will be to the name of the author, e.g., "Hartley", "Behrens", etc.

²Citations to the transcript of the contested case hearing held on May 30, 1991 will be referenced as "Tr. I, p. ". Citations to the transcript of the reconvened contested case hearing held on June 19, 1991 will be referenced as "Tr. II, p. -".

to the amount which it withdraws, plus a factor for transmission losses. From 1956 through 1989, the agreement allowed Maui Pine to accumulate water credits by pumping water into the ditch during rainy periods when withdrawals for irrigation were not required and to use those credits by withdrawing irrigation water during dry periods. Hartley, pp. 3-4.

5. Maui Pine's maximum withdrawal from the EMI system for pineapple irrigation under the pre-1989 agreement was 1.5 MGD. This daily quantity of water was sufficient for periods when irrigation was required. Tr. I, p. 31.

6. Maui Pine's existing source for supplying the Koolau Ditch is the Hanawi Pump Station, located on Hanawi Stream immediately below the Hana Highway. This source withdraws surface water from Hanawi Stream through a pipe which is installed behind a dam on the stream. Tr. I, p. 181.

7. The maximum pumping capacity of the Hanawi Pump is approximately 0.5 MGD. Tr. I, pp. 31 and 74. On an annual basis, this pumping capacity has been sufficient to meet Maui Pine's annual irrigation requirements in Central Maui. From 1983 through 1987, Maui Pine diverted between 110 and 148 million gallons annually from Hanawi Stream through the operation of the Hanawi Pump. Applicant's Exhibit E (Registration and Declaration of Water Use Form).

8. In 1989, Maui Pine and EMI concluded a new agreement, under which Maui Pine will no longer be able to accumulate water credits, and will instead be limited each day to withdrawing the quantity of water it actually puts into the ditch on that same day, less transmission losses. Hartley, pp. 4-5. Maui Pine is, however, presently able to continue accumulating water credits under a two-year extension of its pre-1989 agreement with EMI. This extension will expire on December 31, 1991. Tr. I, pp. 61-62.

9. In conjunction with the new agreement, EMI granted Maui Pine permission to utilize and operate the Kuhiwa Well, located on land owned by EMI. By application dated August 17, 1990, Maui Pine applied to the Commission for a permit to install a 700 gpm (1.0 MGD) capacity pump on the Kuhiwa Well.

10. Maui Pine desires to operate the Kuhiwa Well (1.0 MGD capacity) in addition to the Hanawi Pump Station (approximately 0.5 MGD capacity) such that Maui Pine's total capacity for putting water into the EMI ditch system on a daily basis is approximately 1.5 MGD.

11. Maui Pine claims it needs to operate the Kuhiwa Well. "Pumping from Kuhiwa Well is absolutely essential during dry years to drip irrigate the company's East Maui fields to the extent necessary to keep them healthy and productive." Pyle, p. 6. "We can't reduce our volume and continue to be a reliable

source of supply to the private pineapple trade." Tr. I, p. 35 (Hartley). "It's the kind of thing that can destroy a business. I'm seriously concerned that it would destroy ours." Tr. I, p. 36 (Hartley).

B. Intervenors

12. The Hana Community Association (HCA) is comprised of individual residents of the Hana District of Maui. The HCA does not oppose the issuance of a pump installation permit. Tr. II, p. 84. Rather, HCA's concerns center on the terms and conditions pursuant to which Maui Pine will be allowed to draw water from the Kuhiwa Well. Id.

13. The central issue raised by the HCA relates to the possible effect of well pumpage on the flow of streams and springs in the area, including the Hanawi and Makapipi streams and on the Behren's spring and Big Spring, and the kind of monitoring needed to judge the effects, if any. Minute Order No. 1.

13. Ned Iliahi Goodness claims an interest in a Royal Patent (Grant) 4448, (Parcel 26, Nahiku), located in TMK 1-2-04:03. Kuhiwa Well is also located in TMK 1-2-04:03. Mr. Goodness also appears concerned with appropriate conditions for the issuance of a permit. He urges monitoring of the impact of pumping, the adoption of an allocation system that favors taro

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farming, and the cessation of pumping "for cause." Tr. I, p. 188.

C. Nature of Surface Waters in the Vicinity of Kuhiwa Well

14. The Kuhiwa Well is located in the vicinity of three streams which exhibit reaches of perennial flow and which provide aquatic habitat and other instream values. These streams are: 1) Hanawi Stream; 2) Makapipi Stream; and 3) an unnamed stream (hereinafter "unnamed stream") which flows through a property owned by Dr. Michael Behrens.³ All of these streams discharge into the ocean approximately 10,000 feet makai of the Kuhiwa Well.

Hanawi Stream

15. Hanawi Stream is located approximately 4,000 feet to the west of the Kuhiwa Well at its nearest point. Big Spring, a major spring providing much of the base flow of Hanawi Stream, is located on Hanawi Stream approximately 5,500 feet makai of the well.

16. Hanawi Stream is presently diverted by EMI's Koolau Ditch and by Maui Pine's Hanawi Pump, located about 1,500 feet below the ditch. Hanawi Stream has perennial flow above the ditch. Tr. I, pp. 115, 116.

³Dr. Behrens is a member of the Hana Community Association.

17. Hanawi Stream has perennial flow from Big Spring to the ocean. Nearly 21 years of historical streamflow records are available on Hanawi Stream below Big Spring. These include 15 years at USGS gage station 16509000, Hanawi Stream Below Government Road, near Nahiku, operated from July 1932 through July 1947, and 5-1/2 years of record collected at the same site by East Maui Irrigation from January 1927 through June 1932. The average 15-year discharge recorded by the USGS was 27.1 MGD. The minimum flow recorded during the 21 years of record was 8.2 MGD, occurring in 1936. The second lowest recorded discharge was 9.5 MGD, occurring in both 1931 and 1935. Commission Submittal Item 10, December 19, 1990.

18. Hanawi Stream is generally regarded as one of the most biologically productive East Maui streams for three species of native o'opu, and also provides habitat for the native hihiwai snail and the 'opae shrimp. Yuen, p. 1. It is rated by the United States Fish and Wildlife Service (USFWS) as one of the highest quality streams in the state and by the Hawaii Department of Land and Natural Resources as one of the high quality streams in the State. Tr. II, pp. 38 and 58.

19. Hanawi Stream is used by Hawaiian families for gathering hihiwai, o'opu, and 'opae. Kahookele, p. 1; Bergau, p. 1.

Makapipi Stream

20. At its nearest point, West Makapipi Stream is located less than 1,000 feet west of the Kuhuwa Well. East Makapipi Stream is located less than 1,500 feet east of the Kuhuwa Well. The confluence of these two main tributaries of Makapipi stream is located approximately 2,500 feet makai of the Kuhuwa Well.

21. West Makapipi Stream is presently diverted by EMI's Koolau Ditch. There are no other known existing diversions of Makapipi Stream.

22. Makapipi Stream flows are intermittent, but there are perennial spring-fed pools within the stream below the ditch. Kahookele, p. 1; Bergau, p. 1.

23. Makapipi Stream is described in the Hawaii Stream Assessment as an "outstanding" stream, and supports a diverse assemblage of native species. Tr. II, p. 58. Native fishes and invertebrates are present in the stream. Yuen, p. 1. 'Opae and two species of o'opu have been found in the stream. Kahookele, p. 1; Petitioner's Exhibit "E".

24. Makapipi Stream is used by Hawaiian families for gathering o'opu, prawns, and 'opae. Bergau, p. 1.

Unnamed Stream

25. The unnamed stream is located between Hanawi and Makapipi Streams. It flows through the property at TMK 1-2-01:14 owned by Dr. Michael Behrens, and flows into a pond near the ocean in Lower Nahiku. Behrens, p. 1; Bergau, p. 1.

26. Two springs provide water to the unnamed stream. An upper spring at the head of the stream is located just makai of the highway, and is approximately 4,000 feet makai of the Kuhiwa Well. A second spring is located at a waterfall about halfway between the upper spring and the ocean, and is approximately 7,500 feet makai of the Kuhiwa Well. The property owned by Dr. Behrens is located downstream of both springs. Map by Commission staff; map from Stearns and Macdonald, Bulletin 7, 1942; Behrens Statement of Fact, p. 1.

27. The unnamed stream has perennial flow through the property owned by Dr. Behrens and also where it flows into a pond near the ocean in Lower Nahiku. Behrens, p. 1; Kahookele, p. 1; Bergau, p. 1.

28. On May 24, 1991, Dr. Behrens estimated the flow of the unnamed stream on his property as three (3) gallons per second by placing a five gallon bucket in the stream. This flow rate corresponds to 0.26 MGD. Conditions in the Nahiku area were

quite dry on the date of measurement and streams in the area were at a low level. Behrens Statement of Fact, p. 1.

29. Of the estimated 3 gallons per second flow in the unnamed stream on May 24, 1991, Dr. Behrens further estimated that approximately one half of the flow originated at the (lower) spring at the waterfall and that the remainder of the flow originated from above the waterfall. Tr. I, pp. 155-156.

30. The unnamed stream is the sole source of water for Dr. Behren's property, where it is used for drinking, bathing, and for irrigation of plants, and aesthetics. Behrens, p. 1. The pool at the end of the stream at Nahiku landing is used for recreational purposes by the Nahiku community and has been traditionally used as a source of water in drought periods for residents of lower Nahiku whose homes do not have access to the county water line. Behren's Statement of Fact, p. 1.

31. The unnamed stream contains populations of o'opu and prawns. Kahookele, p. 1.

D. Effects on Surface Water by Pumping Ground Water at Kuhiwa Well

32. When water is pumped from a well, the water taken from the ground has to be balanced by a loss of water from somewhere else. Tr. I, p. 111.

33. If the groundwater body tapped by the well is connected to springs and/or streams, then pumping the well will cause the flow of the springs and/or streams to be reduced. Id.

34. If the groundwater body is not connected to springs and/or streams, then pumping the well would not have any effect on these. Id.

35. Hanawi Stream is generally connected to a groundwater body, as evidenced by perennial flow at a USGS gage above the Koolau Ditch, and by gaining flows and perennial flow below the ditch. Tr. I, pp. 115-116.

36. There is insufficient information to conclude that Makapipi Stream is generally connected to a groundwater body. Tr. I, p. 113. However, reports of perennial pools and springs shown on a map by Stearns and Macdonald indicate that some groundwater connections may exist. Bergau, p. 1; Stearns and Macdonald, Bulletin 7, 1942.

37. There is insufficient information to conclude that the unnamed stream is generally connected to a groundwater body. However, the perennial nature of the stream through the property owned by Dr. Behrens and springs shown on a map by Stearns and Macdonald indicate that some groundwater connections may exist. Behrens, p. 1; Stearns and Macdonald, Bulletin 7, 1942.

38. Two opposing models of groundwater behavior in the Nahiku region were described to the Commission by expert witnesses Doak Cox and William Meyer respectively.

39. Doak Cox has served as director of the University of Hawaii's Water Resources Research Center (1964-70) and Environmental Center (1970-85). Dr. Cox was involved in the original geohydrology studies which led to the development of the Kuhiwa Well in the 1940s. In 1980, he assessed possible downstream effects of diverting water from Hanawi Stream in the area of the Big Spring. Cox, pp. 2, 3 (Exhibit DT-3).

40. William Meyer is the District Chief of the Water Resources Division, United States Geological Survey, Pacific Region.

41. The data and analyses available at this time are insufficient to determine which of the two opposing models of groundwater behavior best describes conditions in the Nahiku region for purposes of predicting effects of well pumpage. However, the two models concur in several significant ways.

42. Due to highly complex geological conditions, neither groundwater model is able to specifically predict the full impact of well pumping in terms of where all impacts would occur, or the expected magnitude of impact at any point along the streams in the region. Tr. II, p. 13.

43. Both groundwater models suggest that well pumping will have some impact on the flow of Big Spring into Hanawi Stream. Commission Staff Exhibit 2. However, neither model can conclude at this time that the impact would be of sufficiently large magnitude in relation to the normal flow of the stream at that point to be detectable.

44. In terms of predicting impacts on streams from well pumping, the only significant difference between the groundwater models is in whether any impact is possible above the elevation of the standing water level in the existing open well hole. This elevation, approximately 1,100 feet, corresponds approximately to the elevation of the Hana Highway in this area. The model presented by Doak Cox suggests that impacts can only occur on streams and springs at elevations lower than this elevation. The model presented by William Meyer suggests that impacts might occur on springs and streams both above and below this elevation. Commission Staff Exhibit 2.

45. Approximately 50 files with information on exploratory wells in the Nahiku area have been located which, if analyzed, might provide more evidence on which of the two opposing models of groundwater occurrence is most applicable in the Nahiku area. Tr. II, pp. 7, 12-13. However, a determination of the more applicable model would likely only answer the question of whether impacts might occur above the Hana Highway in addition to below the highway.

46. After pumping begins, the response time before there is any impact on flows of streams and springs might be anywhere from a few days to as long as ten years. Tr. II, p. 20. The uncertainty of how long it would take for impacts to result is due to uncertainty over the properties of rocks that exist between the well and the streams. Tr. II, p. 19.

47. Because pumping will be intermittent, the maximum possible impact on flows of streams and springs is related to the response time before any impact occurs. Tr. II, pp. 20-23.

48. Maui Pine's historical water usage over the last 15 years suggests that pumping of the Kuhiwa well would occur on approximately 43 days per year on average. In any single year, pumping of the well would occur for anywhere from 0 (zero) days to 100 days during the year. The historical usage data also suggest that continuous pumping (running the pump 24 hours per day) would not occur for more than 50 days consecutively. The greatest use would occur during dry years with low rainfall. Pyle, Exhibit T-2-D.

49. If the response time for an impact to occur is longer than the consecutive days of pumping, then the maximum possible impact on flows of streams and springs should be less than 1.0 MGD, the maximum pumping rate. If the response time is longer than several years, then the maximum possible impact should

approach $(1.0 \times 43/365) = 0.12$ MGD, the average pumping rate.

Tr. II, pp. 20-23.

50. The significance (and detectability) of a surface water flow reduction is related to the amount of flow which would otherwise occur. For example, a flow reduction of 0.25 MGD at the springs feeding the unnamed stream or perennial pools along Makapipi stream might cause that stream or the pools to go completely dry and be readily detectable. However, the same 0.25 MGD level of flow reduction at Big Spring would be extremely difficult to detect.

51. Given present information, it is not possible to predict the total impact on surface waters in the Nahiku region which would result from pumping of the Kuhiwa well. Tr. II, p. 13. At one extreme, the impact might be an undetectable loss of flow totalling less than 0.12 MGD. At the other extreme, it might be a highly detectable drying up of normally perennial small springs and streams, and have a total magnitude equal to the pump capacity, 1.0 MGD.

E. Determining Impacts on Instream Flows

52. The only method available to fully predict in advance actual streamflow depletion from pumping of the Kuhiwa well is through construction of a ground water model. Sufficient data

are not available to do this. The time and cost to obtain the data would be prohibitive. Meyer, May 2, 1991, p. 3.

53. Close monitoring of water levels in the well during pumping might answer the question of whether the impact would occur in the short-term or in the long-term, and hence whether the total magnitude of possible streamflow depletion would be closer to the short-term pumping rate, 1.0 MGD, or to the long-term average pumping rate, 0.12 MGD. Tr. II, pp. 23-24.

54. The most direct manner to determine the impact of pumping the Kuhiwa Well on nearby springs and streams is to pump the well and monitor for actual impacts. Id.

55. Any monitoring program requires baseline data on conditions prior to the onset of pumping.

56. It is probably not possible to design a monitoring program which would detect the total impact of well pumping on stream flows. Tr. II, p. 16.

57. Three approaches to monitoring for impacts on stream flows have been proposed to the Commission: a single-gage or observation point flow measurement approach; a paired-gage flow measurement approach; and a biological monitoring approach.

F. Single-Gage or Observation Point Monitoring Approach

58. A single-gage or observation point approach involves monitoring flow characteristics of streams and springs at specific points of interest, such as at Hanawi Stream below Big Spring and at perennial pools along Makapipi Stream and the unnamed stream.

59. Presently available baseline data for a single-gage or observation point approach include:

- 21 years of gaged streamflow records at (discontinued) USGS gage station 16509000, Hanawi Stream Below Government Road;
- more than 70 years of gaged streamflow records at (active) USGS gage station 16508000, Hanawi Stream near Nahiku, located 200 feet upstream from the Koolau ditch intake;
- testimony that the flow of Hanawi Stream at the pump station at Hana Highway rarely drops below 0.5 MGD, which occurs only once every several years and for a period of three or four days (Tr. I, pp. 30, 41, 78);

- testimony that certain pools never go dry along intermittent Makapipi Stream (Kahookele, p. 1, Bergau, p. 1);
- testimony that a pool in Lower Nahiku fed by the unnamed stream never goes dry, although the flow to the pool was lower than usual during a drought (Kahookele, p. 1, Bergau, p. 1, Behrens Statement of Fact, p. 1); and
- testimony that the unnamed stream never goes dry where it flows through the property owned by Dr. Behrens, and that the flow in the stream at that property during a low-flow period on May 24, 1991 was estimated to be approximately 3 gallons per second or 0.26 MGD (Tr. I, p. 156, Behrens Statement of Fact, p. 1).

60. Under a single-gage or observation point monitoring approach, streamflow records at gaged sites would be assessed in terms of low-flow frequency characteristics and/or by correlations with climatic data such as shown by Cox (April, 1980). Other locations with known flow characteristics as described above would be monitored by visual observation and/or spot flow measurements.

61. A single-gage or observation point approach would detect impacts which are of large magnitude relative to the base

flow of the stream or spring at the points being observed. For example, an impact of 1 MGD should be readily detectable at sites with a base flow of 2 MGD or less in the absence of pumping. Tr. I, pp. 143-145.

62. Except for Hanawi Stream below Big Spring, all the sites with gaged or visually determined baseline data described above are believed to have base flows of 2 MGD or less during low flow periods.

G. Paired-Gage Monitoring

63. A paired-gage monitoring approach would directly monitor the groundwater inflow to a reach of stream by constructing a gage at the upstream and downstream end of the reach. Under conditions of steady low flow, the groundwater inflow to the reach is the difference in streamflows between the two gages.

64. Baseline data are not presently available for the paired-gage approach. Collection of these baseline data would require operating each pair of stations for one year prior to pumping. Tr. I, pp. 151-152. Analysis of these data would involve determining the correlation between the flow in the stream and the groundwater inflow to the reach being assessed.

65. The paired-gage approach would not be appropriate for determining whether there is an impact on specific springs, such as on Big Spring, because individual springs represent a single point discharge of water. Tr. I, p. 134.

66. The paired gage approach would be required to identify impacts which are small relative to the base flow in the stream, and hence which require very accurate measurements. Tr. I, pp. 143-145.

67. Installing a new gaging station in the Nahiku area would likely involve an intensive effort due to difficult access. The installation cost for each new gaging station could be in the tens of thousands of dollars. Tr. I, pp. 137-138. Once established, the average cost for the USGS to collect and analyze the data from each gage would be approximately \$6,500 per year per station. Tr. I, p. 133.

H. Biological Monitoring

68. A biological monitoring approach would directly monitor the habitat values and indigenous species in the streams potentially affected by pumping of the Kuhiwa well.

69. The biological monitoring approach would require baseline data collection prior to pumping. The U.S. Fish and Wildlife Service has suggested that two to seven months would be

required for baseline data collection, including site selection and replicates of pre-project conditions to develop a statistically valid baseline. Tr. II, pp. 43, 46.

70. The State Division of Aquatic Resources is presently engaged in setting up a statewide stream monitoring program which would provide long-term controls to determine whether aquatic variations observed by a consultant for the applicant on Hanawi or Makapipi Streams are consistent with variations elsewhere. Tr. II, p. 59.

I. Alternatives to Well Pumping

71. Maui Pine considered the alternative of constructing a water storage facility in central Maui as an alternative to withdrawing groundwater from the Kuhuwa Well. However, this alternative was rejected because expected costs in the order of \$0.50 to \$1.00 per gallon of reservoir capacity was not economically feasible for the company. Tr. I, pp. 28, 86-87.

72. Cost estimates developed by the County of Maui and State of Hawaii for water storage reservoirs in Kula, Maui vary between 7.6 and 20 cents per gallon of reservoir capacity. Petitioner's Motion to Supplement the Administrative Record, Exhibits "A" and "B".

II.

CONCLUSIONS OF LAW

After fully reviewing the record, pleadings, and arguments of counsel in this case and based upon the foregoing Findings of Fact, the Commission makes the following Conclusions of Law.

1. The Commission has jurisdiction to consider and authorize pump installation permits to extract ground water pursuant to Hawaii Revised Statutes, chapter 174C and, more particularly, HRS §§ 174C-5, 174C-82, 174C-84, and 174C-86.

2. The Commission has jurisdiction to establish, revise, and require amendments to interim instream flow standards pursuant to Hawaii Revised Statutes, Chapter 174C and, more particularly, HRS §§ 174C-5 and 174C-71.

3. The proposed use of ground water for agricultural irrigation purposes is a recognized beneficial use under the Water Code. HRS § 174C-2(c).

4. While promoting maximum beneficial use of Hawaii's water resources, the Code also requires the Commission to make adequate provision for the protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of the waters of the State for municipal uses, public recreation, public water

supply, agricultural, and navigation all of which are in the public interest. HRS § 174C-2(c).

5. Maui Pine's proposed use of this water for continued agricultural irrigation will serve the broad public interest in several ways.

First, it will help to sustain a long established pineapple operation and enterprise by insuring a critically needed water source. This is in keeping with the State's declared goal of supporting a diversified agricultural economy (HRS § 226-7(a)(1) and (b)(6)) as well as the maintenance of open green spaces. HRS § 226-11, -12, and -13.

Second, a pump installation permit with appropriate conditions will allow the maximum beneficial use of the water while respecting and not compromising the protection of the resource, both ground and surface, or the other objectives of the Water Code.

Third, a biological and hydrological monitoring system as a condition to a permit could provide information which will guide future decisions and actions of the Commission in managing water resources in the Nahiku region, including the establishment of permanent instream flow standards.

Fourth, faced with inconclusive factual information, the Commission recognizes the need to establish a process to both proceed with a needed use while retaining jurisdiction to monitor and modify the use should subsequent data indicate any injury or harm. This balance may be modified over time as data becomes more accurate, the environment changes, or legal obligations impose different standards.

6. The Commission concludes that the proposed pumping could have some impact on stream flows in the vicinity of the well. However, the magnitude of such an impact remains uncertain. The record does not provide sufficient evidence to conclude that the proposed pumping would or would not harm the stream flows in question, or whether the impact would be greater than an insubstantial modification of the stream flow allowable under Hawaii Administrative Rules, § 13-169-36. However, if the actual impact of the proposed pumping is a de minimis loss of stream flow, the benefits that inure to the public from the proposed pumping outweigh such a minimal reduction.

7. The Commission concludes that approval of this pump installation permit is not inconsistent with the interim instream flow standards established by this Commission on June 15, 1988. Hawaii Administrative Rules, § 13-169-44. However, any detectable and not "insubstantial" reduction of instream flows would require Maui Pine to apply for and obtain an amendment to the interim instream flow standards under HRS § 174C-71 and

Hawaii Administrative Rules, Title 13, Chapter 169. That process would then weigh Maui Pine's proposed use on the basis of more conclusive data showing the magnitude of the reduction and the impact upon the biological environment and other protected interests.

8. The Commission is well satisfied that the concerns raised by the Intervenors may be resolved through the program of biological and hydrological monitoring and by the other conditions established in this Decision and Order. Moreover, the conditions imposed by this Order and by law will reasonably protect the interests asserted by the Intervenors both now and in the future.

9. The Commission concludes that by both proceeding with the pumping of the well and the collection of biological and hydrological data, the development of a permanent instream flow standard will be premised upon more complete data.

10. By retaining the involvement of the Intervenors in the process, their concerns will continue to be heard and analyzed.

11. By granting the permit, the hardship on Maui Pine that would ensue from denying the use of water for irrigation both in the short and longer terms is avoided.

12. Based upon the foregoing, the Commission concludes that the record of evidence and the applicable law warrant and justify the granting of the pump installation permit upon the terms and conditions stated in the accompanying Decision and Order.

13. Any Finding of Fact or Conclusion of Law by either Maui Pine or the Intervenors not specifically adopted by the Commission is hereby denied and rejected.

14. Any Conclusion of Law improperly deemed, construed, or designated as a Find of Fact shall be treated as a Conclusion of Law. Likewise, any Finding of Fact improperly deemed, construed, or designated a Conclusion of Law shall be treated as a Finding of Fact.

III.

DECISION AND ORDER

Based on the foregoing Findings of Fact and Conclusions of Law, it is the Decision and Order of the Commission that the application of Maui Pineapple Company, Ltd., for a pump be and the same hereby is granted, subject to the following terms and conditions:

1. The applicant shall provide and maintain appropriate measurement devices in the Kuhiwa well to measure and record the water level in the well. The applicant shall also provide and maintain approved meters or other appropriate devices or means for measuring and reporting well pumpage on a continuous basis and total water usage on a monthly basis. In total, one meter shall record the pumpage from the well, a second meter shall record the pumpage from the Hanawi Pumping Station and a third meter shall record the amount of water taken from the irrigation ditch for pineapple irrigation.

2. The applicant shall submit a Well Completion Report to the Division of Water Resource Management within 30 days after the completion of the work.

3. The proposed use shall not adversely affect existing legal uses in the area, including instream uses and existing off-stream uses.

4. Use of water from the well shall be for pineapple irrigation only.

5. The maximum quantity of water to be pumped on an annual basis from the well and the existing Hanawi Stream Pumping Station combined shall not exceed the annual capacity for withdrawing water from the Hanawi Stream Pumping Station alone under past operating practice. This maximum annual quantity is approximately 180 million gallons per year, based on the 0.5 MGD capacity of the pumping station.

6. In order for the Commission to be able to determine whether the pumping of the Kuhiwa Well is causing a reduction in stream flows, a monitoring program shall be implemented by the Applicant.

7. To ensure that the monitoring program is effective and fair, a review panel shall be established which consists of five members: one person representing each of the involved parties, the Hana Community Association and Maui Pineapple Company, Ltd.; one person representing the Commission; a biologist from the State Division of Aquatic Resources; and, a hydrologist or hydrogeologist from the US Geological Survey. However, it would not be considered a violation of these permit conditions should either the Hana Community Association or US Geological Survey

decline to participate in the review panel. The review panel would meet on a regular basis as it considers appropriate to:

- a. Assess the Applicant's compliance with the conditions of this permit.
- b. Assess the data collected under the monitoring program, with particular attention to determining whether there is any evidence that pumping may be causing a reduction of stream flows.
- c. Assess any additional data or analysis not specifically required by this permit which might be brought forward by any party to provide greater insight into predicting or determining the specific impacts of pumping the well.
- d. Report its findings to the Commission.

8. The monitoring program to be implemented by the Applicant, and assessed by the review panel, shall include the following elements:

- a. Before the commencement of well pumping, baseline biological surveys of the stream biota of Hanawi and Makapipi Streams shall be conducted, and one or more permanent monitoring sites shall be selected following

the findings of the baseline surveys. The protocol for said baseline biological surveys and selection of permanent monitoring sites shall meet the approval of the State Division of Aquatic Resources.

- b. Before the commencement of well pumping, the USGS gaging station on Hanawi Stream below Big Spring shall be re-established with a continuous recording gage in a manner which meets the approval of the USGS. Low-flow stream discharge and water level measurements for the gage shall be made by the USGS.
- c. Before the commencement of well pumping, a single gaging station consisting of an appropriate measuring device such as a standard "V-notch" weir and staff gage shall be established along the unnamed stream at TMK 1-2-01:14, by Maui Pine and the USGS in cooperation with the landowner, Michael Behrens. Should the landowner decline to cooperate, this condition would not apply.
- d. Before the commencement of well pumping, the locations of perennial pools along Makapipi Stream and the unnamed stream shall be located in cooperation with the persons who testified to their perennial nature, and their characteristics documented to the extent possible. Should the persons who testified as to the

existence of perennial pools along these streams decline to cooperate, this condition would not apply.

- e. Maui Pine shall notify or cause notice of the scheduled commencement of pumping date to be given to the Commission and to the Hana Community Association not less than seven days prior to the commencement of pumping.
- f. The commencement of pumping shall be controlled as a pump test to determine well yield and drawdown characteristics. The protocol for the pump test shall be determined by the State Division of Water Resource Management in cooperation with the USGS.
- g. After pumping has commenced, biological data shall be regularly collected from permanent monitoring sites established under element "a" above. The protocol for the biological monitoring shall meet the approval of the State Division of Aquatic Resources.
- h. After pumping has commenced, data from the re-established USGS gaging station on Hanawi Stream below Big Spring shall be continuously collected and analyzed by the USGS.

- i. After pumping has commenced, data from the unnamed stream shall be continuously collected and analyzed by the landowner at TMK 1-2-01:14, who shall allow for field verification of low-flow events by Maui Pine and other members of the review panel.
- j. After pumping has commenced, perennial pools (if any) along Makapipi Stream and the unnamed stream shall be regularly inspected during low flow periods and their characteristics documented to the extent possible.
- k. All biological, streamflow, and other data described above shall be collected at Maui Pine's expense for a period not to exceed 10 years. The duration of the monitoring program may be shortened by the Commission if data collected under conditions of extreme low flow and prolonged continuous pumping do not show any detectable impact on stream flows and biological habitat, if other evidence is brought forward which yields the same conclusion, or if Maui Pine terminates its use of water from the well.
- l. All biological, streamflow, and other data described above, including total monthly water usage data, shall be provided to the Commission and to each member of the review panel on a timely basis after being collected.

9. Evidence to be considered by the review panel and the Commission that pumping may be causing a reduction in stream flows includes, but is not limited to:

- a. The drying up of historically perennial pools and/or springs along Makapipi Stream or the unnamed stream.
- b. The drying up or discernable depletion of the unnamed stream where it flows through TMK 1-2-01:14.
- c. Record low flows at either of the two USGS gaging stations on Hanawi stream which are less than the record low flows recorded previously at those stations, and not attributable to extreme climatic conditions.
- d. More frequent occurrence of low flows (a shift in the low-flow frequency characteristics) at either of the two USGS gaging stations on Hanawi Stream, and not attributable to climatic conditions.
- e. A loss or reduction in aquatic habitat and/or native species as determined by the biological monitoring program.

10. If either the review panel or the Commission finds evidence that pumping of the Kuhiwa Well may be reducing the flow of either Makapipi Stream, Hanawi Stream, or the unnamed stream,

the Commission shall instruct the Applicant to cease pumping, pending a hearing, at which time the Commission shall consider whether said reduction in stream flow is: 1) due to pumping; and, 2) whether an amendment of the Interim Instream Flow Standards would be required before the Applicant could resume pumping.

11. Pumping shall cease immediately if evidence of possible pumping-related impacts is found and if this or other evidence suggests that the response time between start of pumping and impact on streams is six months or less. In particular, pumping shall cease immediately if any evidence of pumping-related impacts is found during the first year of pump operation.

12. If evidence of possible pumping-related impacts is found after the first year of operation and the response time between start of pumping and impact on streams is believed to be more than six months (in which case an immediate stop of pumping would not correspond to an immediate restoration of stream flows), pumping shall cease within six months of this evidence being found.

13. If the unnamed stream at TMK 1-2-01:14 were to go dry or be discernably depleted, the Applicant shall cease pumping in accordance with conditions 11 and 12 above, and, for the period it takes for normal stream flows to be restored, shall furthermore be responsible for providing sufficient water to the property to satisfy domestic needs, and reimburse the landowner

for crop damages and any other financial losses directly caused by the loss of water supply.

14. Total monthly water usage data shall be reported to the Commission on a regular basis.

15. The permit may be revoked if work is not started within six months of the date of issuance or if work is suspended or abandoned for six months. The work shall be completed within two years of the date of issuance.

16. This permit shall not be deemed to diminish or waive the rights granted under Hawaii Revised Statutes section 174C-63 to any person to apply for and receive a water use permit to exercise appurtenant water rights whether or not those appurtenant rights are currently being exercised.


17. The permittee's right to this permit or to withdraw water is subject to diminution and modification by the Commission on Water Resource Management or the courts of the State of Hawaii in order to protect the natural resource, to maintain instream flow standards, and to assure appurtenant rights, riparian and correlative rights and uses under Article XII, section 7 of the Hawaii State Constitution, HRS Chapter 174C, and the common law, and to assure to the Department of Hawaiian Home Lands those rights provided by section 221 of the Hawaiian Homes Commission

Act, whether such rights are or will require the actual withdrawal of water or not.

IT IS SO ORDERED.

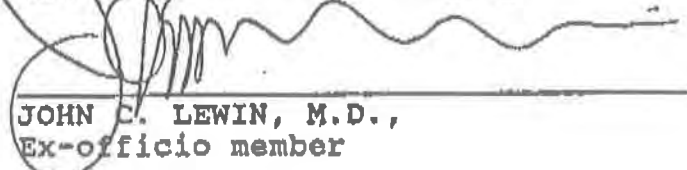
DATED: Honolulu, Hawaii, October 2, 1991

COMMISSION ON WATER RESOURCE MANAGEMENT
STATE OF HAWAII

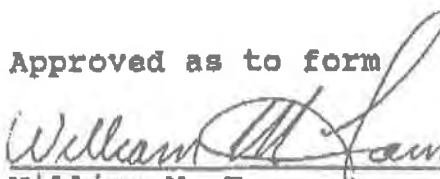
By: 
WILLIAM W. PATY, Jr., Chairperson


GUY K. FUJIMURA, Commissioner


ROBERT S. NAKATA, Commissioner


JOHN C. LEWIN, M.D.,
Ex-officio member

Approved as to form


William M. Tam,
Deputy Attorney General

NAME MARCELO URES PHONE NO. 248 (home) 8243 (work)

ADDRESS 1350 HAHA HWY

TAX MAP KEY (TMK) 1-3-0221 MILE MARKER _____ OWN OR RENT _____

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

Simone Blanchette

1. HOW MANY PEOPLE IN HOUSEHOLD 2

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? dozens

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? week

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? no

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? one

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? no

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? yes

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? _____

COMMENTS: _____

SIGNATURE Marcus Concio DATE 5/29/03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME Raphael "Nedee" 205 PHONE NO. _____ (home) 248-4898 (work)

ADDRESS PO BOX 213

TAX MAP KEY (TMK) 1-2-03-01 MILE MARKER 28.4 OWN OR RENT Car take

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

~~Grandma~~ Grandma

1. HOW MANY PEOPLE IN HOUSEHOLD 1

2. ARE THERE TIMES WHEN YOU WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? Many

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 3 months

4. WHAT IS YOUR WATER SOURCE? (circle) river

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? NO

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? NONE

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? yes

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? NO

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? yes

COMMENTS: _____

SIGNATURE Raphael Medeiros Jr. DATE 5/28/03

If you have any questions about his survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME Patrick Mullen PHONE NO. 24887 (home) _____ (work) _____
ADDRESS SR # 1 Box 119, Nahaika 96708
TAX MAP KEY (TMK) II-1-3-002:018 MILE MARKER _____ OWN OR RENT Own
IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 2
2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO
IF YES, HOW MANY TIMES IN THE PAST YEAR? 6
3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2-3 wks
4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING
5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes
6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1
7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? Yes
8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes
9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? Yes
10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? Yes

COMMENTS: Many neighbors got sick (Giardia) from catchment water

SIGNATURE Patrick Mullen DATE 5/5/03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME STACY m ce. PHONE NO. 248 ⁷²³ (home) NONE (work)

ADDRESS PO Box 753 Hana 96713

TAX MAP KEY (TMK) 1-3-2-12 MILE MARKER 29 OWN OR RENT (RENT)

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE Bill Gulstein

160 Honolulu HI 808-732-0666

1. HOW MANY PEOPLE IN HOUSEHOLD 2

2. ARE THERE TIMES WHEN YOU WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? 2

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2 wks

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? NO

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? yes

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes *if hook to curr suppl*

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? NO

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? yes

COMMENTS: NO new wells

SIGNATURE [Signature] DATE 5-29-03

If you have any questions about his survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME Douglas Ray Sr.mons PHONE NO 24833 (home) _____ (work) _____

ADDRESS Po. Box 331 HANA MAUI HI. 96713

TAX MAP KEY (TMK) 1-3-2-12 MILE MARKER _____ OWN OR RENT Own

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 2

2. ARE THERE TIMES WHEN YOU WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? _____

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? _____

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? No

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? yes

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? yes

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? No

COMMENTS: _____

SIGNATURE [Signature] DATE 5/29/03

If you have any questions about his survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME TIMOTHY F. AURI COECHA PHONE NO. 248 7 2(home) _____ (work)

ADDRESS P.O. BOX 638 HANA HI 96713 MILE MARK 27 1/2 HAWAII

TAX MAP KEY (TMK) 1-2-003-033-0000 MILE MARKER 27 OWN OR RENT RENT

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE DOROTAY OWEKOOLA

P.O. BOX 469 HAIKU HI

1. HOW MANY PEOPLE IN HOUSEHOLD 2

2. ARE THERE TIMES WHEN YOU WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? 1

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2 Days

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? No

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 0

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? No

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? YES

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? YES

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? YES

COMMENTS: _____

SIGNATURE J.F. Auri coechea DATE 5-29-03

If you have any questions about his survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

Hana Soil and Water Conservation District
Rural Water Project Assessment
Project Site: Hana Highway, from Nahiku Road to Kaeleku

NAME Ramona O'Neil PHONE NO. 2488078 (home) 2487375 (work)
ADDRESS P.O. Box 923 Hana, HI 96713
TAX MAP KEY (TMK) (2) 1-2-3-5 MILE MARKER 28-29 OWN OR RENT own
IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 3
2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO
IF YES, HOW MANY TIMES IN THE PAST YEAR? 10
3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 1 wk.
4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING
5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? yes
6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 4
7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? yes
8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes
9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? yes
10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? yes

COMMENTS: _____

SIGNATURE Ramona J. O'Neil DATE 5/1/02

If you have any questions about this survey,
please contact Tri-Isle Resource Conservation

HANA SOIL AND WATER CONSERVATION DISTRICT

Local Water Project Assessment

Project Site: Hana Highway, from Nahiku Road to Kaeleku

NAME Edwin Young PHONE NO. 2487366 (home) same (work)

ADDRESS BX 284 Hana Maui HI 96713

TAX MAP KEY (TMK) 13-2-12 MILE MARKER OWN OR RENT

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 3

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? / YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? 4

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2 mo

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? No

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 3

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE?

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? Yes

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? _____

COMMENTS: There are about 50 households in my area w/out water. For the benefit of the (over)

SIGNATURE [Signature] DATE 4/4/03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

[Handwritten mark]

Hana Soil and Water Conservation District
Rural Water Project Assessment
Project Site: Hana Highway, from Nahiku Road to Kaeleku

NAME Robin Kanewske PHONE NO. _____ (home) _____ (work)

ADDRESS P.O. BOX 986 Hana, HI

TAX MAP KEY (TMK) 1-3-2-12 MILE MARKER 2' OWN OR RENT

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 1

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? LOTS

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 3-4 days

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? NO

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 5

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? NO

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? yes

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? _____

COMMENTS: yes

SIGNATURE Robin Kanewske DATE 4/13/03

If you have any questions about this survey,
please contact Tri-Isle Resource Conservation

Island Water Project Assessment
Project Site: Hana Highway, from Nahiku Road to Kaeleku

NAME ERIC ST. ONGE PHONE NO. 248-7499 (home) _____ (work) _____

ADDRESS GENERAL DELIVERY

TAX MAP KEY (TMK) 1-3-2-12 MILE MARKER 29 OWN OR RENT RENT

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 2

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? ALL THE TIME

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2 Mo

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? YES

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 4

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? NO

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? YES

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? YES

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? SURE

COMMENTS: _____

SIGNATURE [Signature] DATE 4-13-03

If you have any questions about this survey,
please contact Tri-Isle Resource Conservation
800-441-4411 or 441-5300

Tri-Isle Water Project Assessment
Project Site: Hana Highway, from Nahiku Road to Kaeleku

NAME LINDA & CARL EBRUS PHONE NO. 248-8235 (home) _____ (work)

ADDRESS PO BOX 774

TAX MAP KEY (TMK) 1-3-2-12 MILE MARKER 11 OWN OR RENT

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 2

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? many x's

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2 month

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? no

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? not sure

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? no

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? yes

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? _____

COMMENTS: _____

SIGNATURE Linda Ebrus CEL DATE 4/13/03

If you have any questions about this survey,
please contact Tri-Isle Resource Conservation

Hana Soil and Water Conservation District
Rural Water Project Assessment
Project Site: Hana Highway, from Nahiku Road to Kaeleku

NAME B. Wing PHONE NO 248-7551 (home) _____ (work) _____
ADDRESS PO Box 664
TAX MAP KEY (TMK) TMK 1.3.2-12 MILE MARKER _____ OWN OR RENT RENT
IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 1
2. ARE THERE TIMES WHEN YOU WATER SOURCE SHUTS DOWN? * YES NO
IF YES, HOW MANY TIMES IN THE PAST YEAR? 5
3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? days
4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING
5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? NO
6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1
7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? NO
8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? _____
9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? yes
10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? NO

COMMENTS: _____

SIGNATURE Bernadette Wing DATE 05/18, 05

If you have any questions about his survey,
please contact Tri-Isle Resource Conservation

NAME JAMES C FFE PHONE NO. 248-7076 (home) 248-8461 (work)

ADDRESS P.O. Box 191 often Delivery HAWAII

TAX MAP KEY (TMK) (2) 1-2-3-5 MILE MARKER 285 OWN OR RENT Rent

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE Sue Sykos
P.O. Box 191 HAWAII, HI 96713

1. HOW MANY PEOPLE IN HOUSEHOLD 1

2. ARE THERE TIMES WHEN YOU WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? 5

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 1 wk

4. WHAT IS YOUR WATER SOURCE? (circle) Stream/spring
WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 5

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? yes

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? possibly

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? yes

COMMENTS: Drought conditions make water quality worse & more chance of contamination by animals or other organisms/parasites

SIGNATURE [Signature] DATE 4/5/05

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

Hana Soil and Water Conservation District
Rural Water Project Assessment

Project Site: Hana Highway, from Nahiku Road to Kaeleku

NAME Wilford Poston PHONE NO. 9866 (home) _____ (work) _____
ADDRESS PO Box 664 Hana HI, 96713
TAX MAP KEY (TMK) 1-3-2-12 MILE MARKER 18.9 OWN OR RENT
IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE Edwin Jordan
2911230

1. HOW MANY PEOPLE IN HOUSEHOLD 1
2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO
IF YES, HOW MANY TIMES IN THE PAST YEAR? 10
3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2wk.
4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK **ROOF** CATCHMENT SPRING
5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? No
6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? N/A
7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? Yes
8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes
9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? Yes
10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? Yes

COMMENTS: Eliminate catchments, reduce mosquito breeding areas.

SIGNATURE Wilford Poston DATE 5-19-03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation

NAME ROBERT WILSON PHONE NO. 248-733 (home) _____ (work) _____

ADDRESS H.C. 1 Box 182 HAIKU HI 96708

TAX MAP KEY (TMK) 1-2-03-01 MILE MARKER 28 OWN OR RENT OWN

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 2

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? _____ YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? _____

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? _____

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? NO

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 6

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? NO

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? NO

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? NO

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? YES

COMMENTS: _____

SIGNATURE Robert Wilson

DATE 4/25/03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME Wolfgang Dell Senia PHONE NO. 248-70 (home) _____ (work) _____

ADDRESS PO. 747 Huron 96713

TAX MAP KEY (TMK) 1-2-3-35 MILE MARKER 26 8/10 OWN OR RENT Own

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 4

2. ARE THERE TIMES WHEN YOU WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? 6

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 1 month

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? Yes

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? Yes

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? both

COMMENTS: need water to live

SIGNATURE [Signature] DATE 05/29/03

If you have any questions about his survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME: Yvonne Roggen, uck PHONE NO. 2788 2 (home) _____ (work)

ADDRESS PO 625

TAX MAP KEY (TMK) 1-2-003-0033 MILE MARKER 2 1/2 OWN OR RENT rent

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE ted Guyton
PO 666 HANA, HI 96713

1. HOW MANY PEOPLE IN HOUSEHOLD 3

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? 4-5

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 1 month

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? NO

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 3

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? yes

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? Yes

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? Yes

COMMENTS: _____

SIGNATURE Yvonne Roggen DATE 5/25/03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME TED E. GUYTON PHONE NO. 248-8092 (home) _____ (work)

ADDRESS P.O. BOX 666, HANA, HI 96713

TAX MAP KEY (TMK) 1-2-003-033-0000 MILE MARKER 2 1/2 OWN OR RENT OWN

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE N/A

1. HOW MANY PEOPLE IN HOUSEHOLD 3

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? 4

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 3 WEEKS

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL (STREAM WATER TANK ROOF CATCHMENT) SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? No

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 3

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? NO

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? YES

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? YES

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? NO

COMMENTS: WOULD USE COUNTY WATER FULL TIME & ABANDON PRIVATE SYSTEM

SIGNATURE Ted E. Guyton

DATE 5-29-03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

Hana Soil and Water Conservation District
Rural Water Project Assessment
Project Site: Hana Highway, from Nahiku Road to Kaeleku

NAME PETER CHIN PHONE NO. 876 0310 (home) _____ (work) _____

ADDRESS 110 HANA HWY, NAHIKU HI

TAX MAP KEY (TMK) (2) 1/2/003/041 MILE MARKER 26 OWN OR RENT _____

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 2

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? 12

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 4 days

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? _____

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? NO

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? YES

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? YES

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? YES

COMMENTS: _____

SIGNATURE [Signature] DATE 4/12/03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

* PLEASE FILL OUT AND RETURN TO ME A.S.A.P. (NOW) THANKS.

Monty

Hana Soil and Water Conservation District
Irrigation Water Project Assessment
Project Site: Hana Highway, from Nahiku Road to Kaeleku

NAME Gary S. Smith PHONE NO. 248-405² (home) 244-9028 (work)
ADDRESS 1400 Hana Highway
TAX MAP KEY (TMK) 212003040 MILE MARKER 27^{3/4} OWN OR RENT Own
IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 2
2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? _____ YES _____ NO
IF YES, HOW MANY TIMES IN THE PAST YEAR? New House
3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? Don't Know
Yet
4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING
5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? No
6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1
7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE?
8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes
9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? Yes
10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? No

COMMENTS: I would certainly be very interested
in County Water

SIGNATURE Gary Smith DATE 4/14/03

If you have any questions about this survey,
please contact Tri-Isle Resource Conservation
& Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

* PLEASE RETURN TO me:
Monty Bone
P.O. Box 69
HANA, HI 96713 20

NAME Neola Caveny PHONE NO. 573-7451 (home) _____ (work) _____
ADDRESS 445 Huelo Rd., Hailu, HI 96708
TAX MAP KEY (TMK) 2-1-3-2-12 MILE MARKER 27.2 OWN OR RENT own
IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE NA

1. HOW MANY PEOPLE IN HOUSEHOLD 1
 2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO
IF YES, HOW MANY TIMES IN THE PAST YEAR? 5 No Rain
 3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 4 wks
 4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING
 5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? _____
 6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1
 7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? No
 8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes
 9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? Yes
 10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? _____
- COMMENTS: WE NEED HELP NOW! my old one as backup or extra

SIGNATURE Neola Caveny DATE 5/26/03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc. at 244-5100 ext. 6.

Thanks for your participation.

Hana Soil and Water Conservation District
Rural Water Project Assessment
Project Site: Hana Highway, from Nahiku Road to Kaeleku

P.O. Box 69
HANA, HI 96711

NAME Cherie Hanchett PHONE NO. 248-8672 (home) 248-8224 (work)

ADDRESS P.O. Box 234 Hana, HI 96713

TAX MAP KEY (TMK) 2-1-2-003-007-0000-003 MILE MARKER 27 OWN OR RENT own

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 4

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? 8 +

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 4 wks +

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL (STREAM) WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? yes

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? yes

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? Also

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? yes

COMMENTS: Drinking Water needed (as well as other daily uses)
Nahiku residents have been trying for MANY years to have
access to County water lines.

SIGNATURE Cherie Hanchett DATE May 21, 2003

If you have any questions about this survey,
please contact Tri-Isle Resource Conservation
& Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME Christine Hoerl PHONE NO. 667-9118 (home) 667-9118 (work)
ADDRESS PO Box 1024 Lahaina HI 96761

TAX MAP KEY (TMR) 1-2-03-1 MILE MARKER _____ OWN OR RENT Own

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 2

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? + 20

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2 wks

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 4

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? YES

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? YES

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? YES

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? YES

COMMENTS: _____

SIGNATURE Christine Hoerl DATE 5/20-03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc. at 244-5100 ext. 6.

Thanks for your participation.
Sue Fax 248-7541
ph 248-7451

Return for Christine Hoerl.
A&AP please!
661 4655
661 9316 FAX
Robbie's phone

Hana Soil and Water Conservation District
Rural Water Project Assessment
Project Site: Hana Highway, from Nahiku Road to Kaeleku

NAME PATRICIA GOOLD PHONE NO 248-7366 (home) _____ (work)

ADDRESS Box 583 HANA HI 96713

TAX MAP KEY (TMK) (2) 1-2-3-5 MILE MARKER 29 OWN OR RENT

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE 281-1230 cell

EDWIN YOUNG Box 284 HANA, HI 96713

1. HOW MANY PEOPLE IN HOUSEHOLD 1

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? 20

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2 weeks

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? YES

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 0

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? YES

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? YES

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? YES

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? YES

COMMENTS: _____

SIGNATURE Patricia Goold DATE 05-01-03

If you have any questions about this survey,
please contact Tri-Isle Resource Conservation
& Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME Cart/Site. HRAST PHONE NO. 248-338 (home) _____ (work)
ADDRESS P.O. 474 HANA, HI 96713
TAX MAP KEY (TMK) ~~0-1-3-23~~ MILE MARKER 25 OWN OR RENT OWN
IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE OWN

1. HOW MANY PEOPLE IN HOUSEHOLD 2
2. ARE THERE TIMES WHEN YOU WATER SOURCE SHUTS DOWN? YES NO
IF YES, HOW MANY TIMES IN THE PAST YEAR? 4-5
3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2 months
4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING
5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes
6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1
7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? yes
8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes
9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? Yes
10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? _____

COMMENTS: It's Ridiculous to have Agriculture Zone
land and NO County Water

SIGNATURE Debra Post DATE 6/19/03

If you have any questions about his survey,
please contact Tri-Isle Resource Conservation
& Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

Hana Soil and Water Conservation District
Irrigation Water Project Assessment

Project Site: Hana Highway, from Nahiku Road to Kaeleku

NAME Raymond W. Soden PHONE NO. 808 248 7548 (home) 808 248 8255 (work)

ADDRESS 979 Hana Hwy, Hailu, HI 96708

TAX MAP KEY (TMK) 1-2-003-044-0000 MILE MARKER 27/360 OWN OR RENT OWN

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 2

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? 2

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 30 days

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL (STREAM) WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? No

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 6

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? No

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? No

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? Yes

COMMENTS: _____

SIGNATURE Raymond W Soden DATE 6/4/03

If you have any questions about this survey,
please contact Tri-Isle Resource Conservation
& Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME FROYAM E. L PHONE NO. 248-7 E(home) _____ (work)

ADDRESS P.O. Box 1031 HANIT

TAX MAP KEY (TMK) II-1-3-3-13 MILE MARKER 30 OWN OR RENT OWN

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 5

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? _____ YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? _____

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? NEVER

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? NO

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 2

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? YES

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? YES

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? YES + NO

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? YES

COMMENTS: COUNTY WATER HELPS WITH GETTING LOANS

SIGNATURE Froyam E. L DATE 5/10/03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME Ann E. (Elliott) Viets PHONE NO. 808 874 6278 (home) _____ (work)

ADDRESS _____

TAX MAP KEY (TMK) 1-2-3-15 and 56 MILE MARKER 26 OWN OR RENT own

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD *No residential use of property.
2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? *YES NO
IF YES, HOW MANY TIMES IN THE PAST YEAR? No reliable water source
3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? _____
4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING None
5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? _____
6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 0
7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? _____
8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes
9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? Yes
10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? _____

COMMENTS: Due to lack of water source, we have not been able to use the land. County water would be very beneficial.

SIGNATURE Ann E. Viets DATE 6/10/03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 8.

Thanks for your participation.

28

NAME Kathy Cook PHONE NO. 573-3477 (home) _____ (work) _____
ADDRESS Star Rt 1 Box 121 Haiku Maui HI
TAX MAP KEY (TMK) II 1-3-2-9 MILE MARKER 28-29 OWN OR RENT Rent

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____
Mr. Habashi

1. HOW MANY PEOPLE IN HOUSEHOLD 1
2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO
IF YES, HOW MANY TIMES IN THE PAST YEAR? 3
3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2 weeks
4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING
5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? No
6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1
7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? yes
8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes
9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? Both
10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? Yes

COMMENTS: _____

SIGNATURE Kathy Cook DATE June 11, 03

If you have any questions about this survey,
please contact Tri-Isle Resource Conservation
& Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME Brendan Oliver PHONE NO. 248-86 (home) 2487302 (work)

ADDRESS P.O. 1307 84

TAX MAP KEY (TMK) 1-2-3-05 MILE MARKER 28 OWN OR RENT Rent

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE Arabella Kusurua

1. HOW MANY PEOPLE IN HOUSEHOLD 1

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? _____

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? _____

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? NO

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 6

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? _____

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? _____

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? _____

COMMENTS: _____

SIGNATURE [Signature] DATE 6-17-03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME William JK Oliveira PHONE NO. 248-863 (home) 248-800 (work)

ADDRESS Romane K. Oliveira
P.O. Box 302 Hana, HI 96713

TAX MAP KEY (TMK) 12-03-01 MILE MARKER 28 OWN OR RENT Own

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE N/A

1. HOW MANY PEOPLE IN HOUSEHOLD 5

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO
IF YES, HOW MANY TIMES IN THE PAST YEAR? 6

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? Never

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT (SPRING)

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? No

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 6

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? Yes

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? Yes

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? Yes

COMMENTS: _____

SIGNATURE Romane K. Oliveira DATE 06/18/03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME Susan M. Zykos PHONE NO. 248 841 21 (home) 248 7451 (work)
ADDRESS P.O. Box 191 - 28.5 Hana Hwy, HANA HI
TAX MAP KEY (TMK) (2)-23-5 MILE MARKER (C) OWN OR RENT OWN 967
IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

Same

1. HOW MANY PEOPLE IN HOUSEHOLD 2
2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO
IF YES, HOW MANY TIMES IN THE PAST YEAR? 5-6
3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 3 wks
4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING
5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD?
6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 7
7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? YES
8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? YES
9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? YES
10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? Pos Old

COMMENTS: WE ARE TAX-PAYERS One for Blu
This should have been done years ago!

SIGNATURE Susan M. Zykos DATE 4/22/05

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

Hana Soil and Water Conservation District
Rural Water Project Assessment
Project Site: Hana Highway, from Nahiku Road to Kaeleku

NAME James Botelho PHONE NO. None (home) _____ (work) _____
ADDRESS R.R. 1 Box 607 Kula HI 96790
TAX MAP KEY (TMK) 1-2-605-57 MILE MARKER 27 OWN OR RENT Own
IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 3
2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO
IF YES, HOW MANY TIMES IN THE PAST YEAR? 6
3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 90 days
4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING
5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? yes
6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1
7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? yes
8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes
9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? yes
10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? no

COMMENTS: _____

SIGNATURE James Botelho DATE 9/6/02

If you have any questions about this survey,
please contact Tri-Isle Resource Conservation
& Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

Hana Soil and Water Conservation District
Irrigation Water Project Assessment
Project Site: Hana Highway, from Nahiku Road to Kaeleku

NAME Walter Botelho PHONE NO. 248-8512 (home) 5-4000 (work)

ADDRESS P.O. Box 470 Hana H. 96713

TAX MAP KEY (TMK) 1-2-003-053⁰⁰⁰⁰ MILE MARKER 27 OWN OR RENT

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 4

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? 5

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 40 Days

4. WHAT IS YOUR WATER SOURCE? (circle) Filter

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? yes

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 2

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? yes

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? yes

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? no

COMMENTS: _____

SIGNATURE Walter Botelho DATE 4/1/03

If you have any questions about this survey,
please contact Tri-Isle Resource Conservation
& Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.


Hana Soil and Water Conservation District
Irrigation Water Project Assessment
Project Site: Hana Highway, from Nahiku Road to Kaeleku

NAME TONY WICKEY PHONE NO. 248-7750(home) 264 2684(work)
(NA KAWELA AINA)
ADDRESS _____

TAX MAP KEY (TMK) (2) 1-3-003 MILE MARKER 30 OWN OR RENT OWN
IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 4
2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO
IF YES, HOW MANY TIMES IN THE PAST YEAR? 2
3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 1 WEEK
4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING
5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? YES
6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1
7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? YES
8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? YES
9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? YES
10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? NO

COMMENTS: I WOULD STOP USING CATCHMENT

SIGNATURE  DATE 4/10/03

If you have any questions about this survey,
please contact Tri-Isle Resource Conservation
& Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

Hana Soil and Water Conservation District
Rural Water Project Assessment
Project Site: Hana Highway, from Nahiku Road to Kaeleku

NAME JERRY SCHWARTZ PHONE NO. 808-248-7886 (home) — (work)

ADDRESS PO Box 4

TAX MAP KEY (TMK) 2-1-2-4-12 MILE MARKER 78.5 OWN OR RENT own

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 3
2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? N/A YES _____ NO _____
IF YES, HOW MANY TIMES IN THE PAST YEAR? N/A
3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? N/A
4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING
when built & move to our land.
5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? N/A
6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1
7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? N/A
8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes
9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? ~~LOT TO DO PROCESS~~ yes
10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? YES

COMMENTS: LOT IS IN PROGRESS TO BECOME A SINGLE FAMILY DWELLING & FARM.

SIGNATURE Amy J. Schief DATE 3/13/03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

Hana Soil and Water Conservation District
Irrigation Water Project Assessment
Project Site: Hana Highway, from Nahiku Road to Kaeleku

owns
2 parcels

NAME BRAD REID PHONE NO. 248 7751 (home) SAME (work)
ADDRESS 780 HANA HWY.
TAX MAP KEY (TMK) 1-2-003-055 MILE MARKER 26 1/2 OWN OR RENT _____
IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 4
2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO
IF YES, HOW MANY TIMES IN THE PAST YEAR? 2-3
3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? I HAUL WATER
4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING
5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? NO
6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1
7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? YES
8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? YES
9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? YES
10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? YES

COMMENTS: _____

SIGNATURE Brad Reid DATE 3/11/03

If you have any questions about this survey,
please contact Tri-Isle Resource Conservation
& Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

Hana Soil and Water Conservation District
Rural Water Project Assessment
Project Site: Hana Highway, from Nahiku Road to Kaeleku

new
2 parcel

NAME BRAD REID PHONE NO. 248 7254 (home) _____ (work) _____
ADDRESS 800 HANA HWY.
TAX MAP KEY (TMK) 1-2-003-004 MILE MARKER 26 1/2 OWN RENT
IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 2
2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? NEW HOUSE
? YES _____ NO _____
IF YES, HOW MANY TIMES IN THE PAST YEAR? NOT YET
3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? _____
4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING
5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? NO
6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1
7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? YES
8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? YES
9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? YES
10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? YES

COMMENTS: _____

SIGNATURE Brad Reid DATE 3/11/03

If you have any questions about this survey,
please contact Tri-Isle Resource Conservation
& Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

Hana Soil and Water Conservation District
Rural Water Project Assessment
Project Site: Hana Highway, from Nahiku Road to Kaeleku

NAME RALPH L. BOWE PHONE NO. 248-8505 (home) 283-0288 (work)
ADDRESS 747 H. Hwy P.O. BX 69
TAX MAP KEY (TMK) 1-2-03-39 MILE MARKER 26 OWN RENT
IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 2
2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO
IF YES, HOW MANY TIMES IN THE PAST YEAR? 4
3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 1 wk
4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING
5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? yes
6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1
7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? CANT NOT ENOUGH
8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes BY ALL MEANS
9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? YES
10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? _____

COMMENTS: I would use county system for
everything I do on my farm

SIGNATURE Ralph L. Bowe DATE 5/21/03

If you have any questions about this survey,
please contact Tri-Isle Resource Conservation
& Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

Hana Soil and Water Conservation District
Rural Water Project Assessment

THIS, PLEASE
RETURN TO

Project Site: Hana Highway, from Nahiku Road to Kaeleku

monty

NAME Matt Kristiansen PHONE NO. 248 7698 (home) _____ (work) _____

ADDRESS HC1 Box 370 Hana Hwy HAKU HI 96708

TAX MAP KEY (TMK) (2) 1-2-004 011-0000-001-01 MILE MARKER 26 OWN OR RENT OWN

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 4

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? 20

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 8 Months

4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? yes

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1 now and soon 2

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? yes

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? Definitely

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? I will use it as my primary water source

COMMENTS: I have been to hospital for sickness related to rat problems in water tank
SIGNATURE Matt Kristiansen DATE 3-18-03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

* This doesn't mean you have to get a county meter. It gives you THE ABILITY if you so desire to obtain one. 40

NAME James Heilman PHONE NO. 248-283 (home) _____ (work) _____
ADDRESS P.O. Box 6839, HANA, HI 96713
TAX MAP KEY (TMK) 01-02-003 005-0 MILE MARKER _____ OWN OR RENT (OWN)
IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE JACK UAIWA

1. HOW MANY PEOPLE IN HOUSEHOLD 2
2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? X YES _____ NO _____
IF YES, HOW MANY TIMES IN THE PAST YEAR? 5
3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 1 wk
4. WHAT IS YOUR WATER SOURCE? (circle)
WELL STREAM WATER TANK ROOF CATCHMENT SPRING
5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? _____
6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1
7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? _____
8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? _____
9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? YES
10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? No
- COMMENTS: NEED WATER

SIGNATURE James Heilman DATE 9/15/83

If you have any questions about his survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME EDWARD Oliveira PHONE NO 248 71 7 (home) _____ (work) _____

ADDRESS _____

TAX MAP KEY (TMK) 01-2-03-01 MILE MARKER 28.5 OWN OR RENT own

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 1

2. ARE THERE TIMES WHEN YOU WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? 5-6

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 1 wk

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? NO

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 5

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? NO

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? Yes

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? Yes

COMMENTS: _____

SIGNATURE EDDIE Oliveira DATE 07/15

If you have any questions about his survey,
please contact Tri-Isle Resource Conservation
& Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME OLIVEIRA, W. PHONE NO. 248 80 8 (home) (work)

ADDRESS PO Box 84

TAX MAP KEY (TMK) 1-2-03 01 MILE MARKER 28 OWN OR RENT OWN

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE

1. HOW MANY PEOPLE IN HOUSEHOLD 3

2. ARE THERE TIMES WHEN YOU WATER SOURCE SHUTS DOWN? YES X NO

IF YES, HOW MANY TIMES IN THE PAST YEAR?

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER?

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? No

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 6

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? Yes

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? Yes

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM?

COMMENTS:

SIGNATURE William A. Oliveira DATE 05-29-03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

NAME Krist Lisa Kristofferson PHONE NO 248-7063 (home 248-7072 work)

ADDRESS Po Box 593 Hana, HI 96713

TAX MAP KEY (TMK) 1-3-03:28 MILE MARKER 29.6 OWN OR RENT OWN

IF RENTING PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

1. HOW MANY PEOPLE IN HOUSEHOLD 7

2. ARE THERE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? YES NO

IF YES, HOW MANY TIMES IN THE PAST YEAR? twice

3. WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2 wks

4. WHAT IS YOUR WATER SOURCE? (circle)

WELL STREAM WATER TANK ROOF CATCHMENT SPRING
Hana Water Co.

5. HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? No

6. HOW MANY HOUSEHOLDS ARE ON YOUR WATERLINE? 1
We have tertiary filters down to one micron.

7. DO YOU USE YOUR CURRENT WATER SOURCE FOR AGRICULTURE? No

8. DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? yes

9. WOULD YOU USE THE COUNTY WATER SUPPLY IF AVAILABLE RATHER THAN YOUR CURRENT SYSTEM? yes

10. WOULD YOU USE THE COUNTY WATER SYSTEM AS BACKUP TO PRESENT SYSTEM? yes

COMMENTS: Our pipes coming to the property need repair and spring leaks.

SIGNATURE Jus Kristofferson

DATE 6-19-03

If you have any questions about this survey, please contact Tri-Isle Resource Conservation & Development Council, Inc., at 244-3100 ext. 5.

Thanks for your participation.

HANA LAND & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

RECEIVED
9/20/02

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&D

NAME EDGAR SABBETH PHONE 305-745-2902
805-572-4085
ADDRESS BOX 420957 SUMMERLAND KEY FLA. 33042
4425 Opama Pl. Hana, HI (letter mailed from this address)
TAX MAP KEY (TMK) (2) 1-2-3-50 MILE MARKER (OWN or RENT)

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____
UNDEVELOPED LAND HOW MANY PEOPLE IN HOUSEHOLD _____

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No
IF YES, HOW OFTEN IN THE PAST YEAR? _____

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? _____

WATER SOURCE (circle one): . WELL . STREAM . WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? _____

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No ?

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No ?

COMMENTS: AT THIS DATE - NO PLANS FOR
DEVELOPMENT

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.



Thank you for your cooperation

(OVER)

RECEIVED
1/15/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME TED BULTON PHONE 808 248-8092

ADDRESS P.O. BOX 503 - Hana, HI 96713

TAX MAP KEY (TMK) 12003033 MILE MARKER 2 1/2 MAUKA OWN or RENT OWN

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE N/A

HOW MANY PEOPLE IN HOUSEHOLD 3

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? 4

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 9 DAYS

WATER SOURCE (circle one): SEE COMMENTS WELL STREAM . WATER TANK . ROOF . CATCHMENT SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 4

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: I STORE BOTH STREAM WATER & ~~ROOF~~ ROOF CATCHMENT IN WATER TANK.

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperation

RECEIVED

9/19/02

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME MATT Kristiansen PHONE 808 248 7698

ADDRESS HCI BOX 370 Hana Hwy HAiku HI 96708 (HAWAII)

TAX MAP KEY (TMK) (2) 1-2-004-011-0000-001 7/26 MILE MARKER 26 OWN or RENT

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

HOW MANY PEOPLE IN HOUSEHOLD 4

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? 12 times

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 3 weeks

WATER SOURCE (circle one): . WELL . STREAM . WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 1

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: Rate defecation in water catchment.
often time sick

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperatio

RECEIVED

9/6/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&D

NAME ISABEL WILSON & ROBERT WILSON^{SON} PHONE 248 7356

ADDRESS HCI BOX 182 HAIKU, HI 96708

TAX MAP KEY (TMK) 1-2-003-001 MILE MARKER 28 OWN or RENT OWN

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

_____ HOW MANY PEOPLE IN HOUSEHOLD _____

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? _____

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? Never

WATER SOURCE (circle one): . WELL . STREAM . WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 7

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: _____

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperation

RECEIVED
9/7/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME William E Oliveira PHONE 808.248.8068

ADDRESS Po Box 84 - Hana HI 96713
1-2-003-001-0000

TAX MAP KEY (TMK) 1-2-003-005-0000 MILE MARKER 28 OWN or RENT OWN

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

HOW MANY PEOPLE IN HOUSEHOLD 4

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? ONCE

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? NONE

WATER SOURCE (circle one): . WELL . STREAM . WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 8

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: _____

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperatio

RECEIVED
7/15/02

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME PATRICK MULLEN PHONE 248-8427

ADDRESS ~~PO 4467~~ ~~HANA~~ SR#1 BOX 119 NAHIKU, 96708

TAX MAP KEY (TMK) II-1-3-002:018 MILE MARKER _____ OWN or RENT OWN

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE DALE BOTTOMS

(NO RENT - CARETAKER) HOW MANY PEOPLE IN HOUSEHOLD 1

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? 7

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2 weeks

WATER SOURCE (circle one): . WELL . STREAM . WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 1

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: Several neighbors have gotten sick, Giardia from catchment water, safe drinking water would be a great improvement.

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperation

RECEIVED
9/20/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME MR. LAWRENCE J. & BRENDA L. MATSUDA PHONE 248-7473 AFTER 7:00

ADDRESS P.O. Box 504 HANA HI 96713

TAX MAP KEY (TMK) _____ MILE MARKER 29.1 OWN or RENT _____

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

_____ HOW MANY PEOPLE IN HOUSEHOLD 3

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? 5 or 6

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2 1/2 - 3 WEEKS

WATER SOURCE (circle one): . WELL . STREAM . WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No
UNKNOWN

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? NO WATERLINE

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: _____

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperatio

9/20/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME FROYAM EDZL PHONE 248-7570

ADDRESS STAR Route 4

TAX MAP KEY (TMK) II-1-3-3-13 MILE MARKER 30 OWN or RENT OWN

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

_____ HOW MANY PEOPLE IN HOUSEHOLD _____

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? _____

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? _____

WATER SOURCE (circle one): . WELL . STREAM . WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 2

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: I NEED COUNTY WATER FOR MY FARM.

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperation

RECEIVED
9/20/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME William J.K. Oliveira PHONE # 248-8613

ADDRESS P.O. Box 302 Hana, HI 96713

TAX MAP KEY (TMK) 1-2-3-5 MILE MARKER 28 (OWN) or RENT OWN

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

N/A

HOW MANY PEOPLE IN HOUSEHOLD (5)

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? Twice

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? NEVER
Water line sometimes breaks during heavy rains, but we fix it as soon as we can!

WATER SOURCE (circle one): . WELL . (STREAM) . WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 8

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: _____

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperatio

RECEIVED

10/12/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME Cherie Hanchett PHONE 808-248-8672
808-248-8220

ADDRESS P.O. Box 234 Hana, HI 96713

TAX MAP KEY (TMK) (2) 1-2-003-007-0000 MILE MARKER 27 OWN or RENT

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

HOW MANY PEOPLE IN HOUSEHOLD 5

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? 20

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2 months

WATER SOURCE (circle one): . WELL STREAM WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 1

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: _____

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperation

RECEIVED

10/18/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME JUTTA ROEGENBUCK PHONE 248-8692

ADDRESS HANA, HI 96713-0625

TAX MAP KEY (TMK) _____ MILE MARKER 27-28 OWN or RENT RENT

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE Ted GUYTON

HANA, 248-8092 HOW MANY PEOPLE IN HOUSEHOLD 3

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? 3

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2 weeks

WATER SOURCE (circle one): . WELL . (STREAM) . WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 3

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: _____

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperatio

RECEIVED
10/28/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&D

NAME Barbara Ann J. Benton PHONE 808-248-8688

ADDRESS P.O. Box 333 Hana Hi. 96713

TAX MAP KEY (TMK) _____ MILE MARKER 28 ^{close to} OWN or RENT OWN

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE Mr. & Mrs. William Mend
13719 9th Ave. E
Tacoma, Wash. 98445 HOW MANY PEOPLE IN HOUSEHOLD 4

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? _____

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 7

WATER SOURCE (circle one): . WELL . STREAM . WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 8

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: _____

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperatio

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME Edwin R Pimental PHONE 877 5148

ADDRESS Hahala'i Wai

TAX MAP KEY (TMK) (2) 1-2-003-005-0503-019-1 MILE MARKER 18 OWN or RENT OWN

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

HOW MANY PEOPLE IN HOUSEHOLD 1

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? _____

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? _____

WATER SOURCE (circle one): . WELL . STREAM . WATER TANK . ROOF . CATCHMENT SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 5

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: _____

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperation

RECEIVED
9/6/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME _____ PHONE _____

ADDRESS Upper Nahiku

TAX MAP KEY (TMK) _____ MILE MARKER _____ OWN or RENT _____

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

HOW MANY PEOPLE IN HOUSEHOLD 4

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? 2

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2 weeks

WATER SOURCE (circle one): . WELL STREAM WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 4

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: _____

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperation

RECEIVED
9/6/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME DELLA SCARLA WOFFAWA PHONE 248-7095

ADDRESS P.O. BOX 747, HANA HI 96713

TAX MAP KEY (TMK) 1-2-3-35 MILE MARKER 26 $\frac{8}{10}$ OWN or RENT OWN

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

HOW MANY PEOPLE IN HOUSEHOLD ~~3~~ 4

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? 5-6

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 1 MONTH

WATER SOURCE (circle one): . WELL . STREAM . WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 1

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: _____

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperation

RECEIVED
9/6/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME Kenny Lee Cook PHONE 248-7678

ADDRESS Mile Marker 29, Nahiku

TAX MAP KEY (TMK) Not readily available MILE MARKER 29 OWN or RENT Own

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

HOW MANY PEOPLE IN HOUSEHOLD 2

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? 3 times

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 4 weeks

WATER SOURCE (circle one): . WELL . STREAM . WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 1

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: i'm interested, but not if the road must be torn up (like Hana) or system will be seen at all, including tanks or roadside pipes.

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperation

P.S. - In general, I do not think this is a good idea.

9/7/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill-out form and mail in self addressed stamped envelope to Tri-Isle RC&D

NAME Wilton E Boston PHONE 2482866

ADDRESS PO 664 Hana 96741

TAX MAP KEY (TMK) _____ MILE MARKER 28.9 OWN or RENT _____

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE SHIP YARD

mile mark 28.9 2482866 HOW MANY PEOPLE IN HOUSEHOLD 2

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? SEVERAL TO TIMES

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 6 days

WATER SOURCE (circle one): . WELL . STREAM . WATER TANK . ROOF CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 1

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: Our quality of life and health would be greatly improved with reliable water.
We hope to work with you on any future projects.

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperation

RECEIVED
9/7/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME JAMES HEILMAN PHONE 248-8283

ADDRESS P.O. Box 683 Hana HI 96713

TAX MAP KEY (TMK) _____ MILE MARKER 30 OWN or RENT RENT

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE JACK UAIWA

HANA HI 96713 HOW MANY PEOPLE IN HOUSEHOLD 2 OR 3

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? 2 TIMES

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 1 WEEK

WATER SOURCE (circle one): . WELL . STREAM . WATER TANK . ROOF CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 1

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: COUNTY WATER WILL UNQUESTIONABLY BRING A HIGH STANDARD OF SANITATION & QUALITY OF LIFE TO THE NAHIKU AREA. WE NEED COUNTY WATER!

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperation

9/7/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME Kristofferson PHONE 248-7063
ADDRESS 29.7 Mile Marker (P.O. Box 593) Hana
TAX MAP KEY (TMK) ? MILE MARKER 29.7 OWN or RENT OWN
IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____
HOW MANY PEOPLE IN HOUSEHOLD 7

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? Once

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 3 days

WATER SOURCE (circle one): . WELL . STREAM . WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No
↳ back up

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? ?

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: Naihiku desperately needs safe drinking water. We have access to Hana Water Co - a private well with a poor pipe system.

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperatio

RECEIVED
9/11/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME MICHAEL + TERRY KRISTIANSEN PHONE (808) 248-7698

ADDRESS 370 Hana Hwy. Upper Nahiku

TAX MAP KEY (TMK) (2) 1-2-004-011-0000-001 1 MILE MARKER 26 OWN or RENT

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

HOW MANY PEOPLE IN HOUSEHOLD 4

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? ONCE A MONTH

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 3 WEEKS

WATER SOURCE (circle one): . WELL . STREAM . WATER TANK ROOF CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? ONE HOUSE

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: We are currently planning a new 5000 sq. ' house
Having County water come to our property would be
appreciated.

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperation

RECEIVED
1 9/11/08

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME BRAD REIN - NAHIKU TROPICALS PHONE 248 7751

ADDRESS PO BOX 324 HANA HI. 96713
1-2-003-004 HCL BOX 195

TAX MAP KEY (TMK) 1-2-003-055 MILE MARKER 26 1/2 OWN or RENT

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

HOW MANY PEOPLE IN HOUSEHOLD 4

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? 2

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 3 MONTHS
I HAUL WATER

WATER SOURCE (circle one): . WELL . STREAM WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 1

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: THE MAKAPIPI' IS THE BEST WATER AROUND HERE.
GO FOR IT

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperation

RECEIVED
9/14/00

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&I

NAME Edwin U. TAKE MATSUDA PHONE (808) 248-8580
ADDRESS P.O. Box 94-23 KEAWA Place HANA HI 96711
TAX MAP KEY (TMK) 1-3-02-027 1-3-02-033 1-3-02-034 MILE MARKER 29 OWN or RENT OWN
IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____
HOW MANY PEOPLE IN HOUSEHOLD 5

ARE TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? once

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 1 DAY

PRIVATE = HANA WATER Co. - (HANA RANCH)
WATER SOURCE (circle one): WELL . STREAM . WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 2

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No ? - cost

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No cost

COMMENTS: Already invested over \$5,000.00 plus maintenance of water line 3/4 of mile along rd easement.

Should you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thank you for your cooperation

RECEIVED
9/15/10

HANA SOIL & WATER CONSERVATION DISTRICT
RURAL WATER PROJECT ASSESSMENT
PROJECT SITE: Hana Highway, from Nahiku Road to Kaeleku

The purpose of this assessment is to determine public interest/concerns that will possibly warrant a rural water project. Please fill out form and mail in self addressed stamped envelope to Tri-Isle RC&D

NAME BARTON D. HEAST PHONE (808) 248 8938

ADDRESS P.O. 474 Hana, HI 96713

TAX MAP KEY (TMK) 01-02-23 MILE MARKER 25 OWN or RENT OWN

IF RENTING, PROVIDE OWNER'S NAME, ADDRESS, AND PHONE _____

HOW MANY PEOPLE IN HOUSEHOLD 2

HOW MANY TIMES WHEN YOUR WATER SOURCE SHUTS DOWN? Yes No

IF YES, HOW OFTEN IN THE PAST YEAR? 2 MONTHS

WHAT IS THE LONGEST PERIOD OF TIME YOU HAVE BEEN WITHOUT WATER? 2 MONTHS

WATER SOURCE (circle one): . WELL . STREAM . WATER TANK . ROOF . CATCHMENT . SPRING

HAVE YOU EVER HAD WATER RELATED HEALTH PROBLEMS IN YOUR HOUSEHOLD? Yes No

HOW MANY HOUSEHOLDS ARE ON YOUR WATER LINE? 1

DO YOU FEEL YOU SHOULD HAVE ACCESS TO COUNTY WATER SUPPLY? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY INSTEAD OF WHAT YOU HAVE NOW? Yes No

WOULD YOU USE THE COUNTY WATER SUPPLY AS BACKUP OF PRESENT SYSTEM? Yes No

COMMENTS: IT IS UTTERLY RIDICULOUS TO DESIGNATE LAND AS AGRICULTURAL, WITH NO COUNTY WATER EVEN AVAILABLE

If you have any questions, please contact Tri-Isle Resource Conservation & Development at 244-3100 extension 5.

Thanks for calling.
Here's the survey form & return envelop.

Thank you for your cooperation

from the desk of

Dr. Jeanne L. Fitzpatrick
193 Lower Waiehu Beach Road
Wailuku, HI 96793

12 August 1998

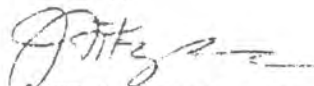
County of Maui
Water Supply Board

Dear Sirs:

While I served as physician in Hana, over twenty families in the East Maui area were treated for diarrheal illness. These patients ranged in age from one year old to 84 years old. Symptoms ranged from stomach cramps to severe diarrhea and dehydration. Lab test results on stool specimens indicated both *Blastocystis Hominis* and *Giardia*. Both of these parasitic infections are directly related to contaminated surface water systems. The majority of these patients reside in the Upper Nahiku and Makalala areas where county treated water is not available.

More than one course of treatment was occasionally required for patients with repeated exposure to surface water catchment systems. The presence of these organisms in the GI tracts of asymptomatic patients compromises their immune system and renders the patient more vulnerable to other infections. The high incidence of these water-borne contaminants is a costly and potentially serious health risk in East Maui.

Sincerely,



Jeanne L. Fitzpatrick, M.D.



HANA MEDICAL CENTER

P. O. BOX 99

HANA, MAUI, HAWAII 96713

COUNTY OF MAUI
WATER SUPPLY BOARD

June 30, 1997

DELORES SOLER R.N.

Dear Sirs;

Due to lack of access to potable drinking water, over twenty families in the East Maui were tested and treated for Ova and parasites from 1/1/97 to 6/30/97. These patients ranged in age from 1 year old to 84 years old. Symptoms ranged from severe diarrhea to stomach cramps and dehydration. Lab test results indicated both Blastocystis Hominis and Giardia Cysts present in stool specimens. The majority of these patients reside in the Upper Nahiku and Makalai areas where county treated water is not available. More than one course of treatment is often required for patients with repeat exposure to surface water catchment systems. The presence of these organisms in the GI track of an asymptomatic patient compromises the Immune system and renders the patient generally more vulnerable to other parasites and infections. The high incidence of these water born contaminations is a costly and serious health risk in East Maui.

Sincerely,

DeLoras Soler R.N.

Posted on: Monday, October 22, 2001

Ignorance adds to dengue fever woes on Maui

Online special: [Dengue fever: health crisis in the making](#)

•

By [Timothy Hurley](#)

Advertiser Maui County Bureau

NAHIKU, Maui — Coming down with dengue fever can be a dreadful physical challenge. But facing the ignorance of neighbors and strangers afterward can be pretty lousy, too.



Dengue fever victim Brad Aquinde of Hali'imaile, Maui, is trying to stamp out rumors about the disease.

Timothy Hurley • The Honolulu

Advertiser

Ask Brad Aquinde. He knows the feeling.

The Hali'imaile resident had just gotten over the disease a couple of weeks ago when he was discussing it with tellers at his bank. A customer standing nearby

overheard a bit of the conversation and asked if Aquinde had contracted dengue fever. When Aquinde said he had, the woman backed away, shooting him a glance that said: "Don't come any closer."

"Don't you read the papers?" he fired back. "I'm not the one, it's the mosquito."

The dengue virus is transmitted only through mosquitoes. Once you come down with the disease, you're a carrier for only about five days after the onset of symptoms.

Dengue is a viral infection spread via mosquitoes that bite an infected person and then carry the virus to the next person. People cannot infect other people. To date, there is no treatment for the disease.

Many dengue fever victims aren't interested in being in the spotlight, afraid they'll be stigmatized and ostracized.

"You have to be careful who you talk to about it," said a Nahiku woman who contracted dengue fever in August and did not want to be identified. "The complexity of the disease is hard for most people to grasp easily — the people-to-mosquito-to-people thing, the four strains ... some just don't understand."

Another victim, a man from Ha'iku who also asked to remain anonymous, said he casually mentioned his plight at a neighborhood store and soon started getting phone calls at home from strangers warning him not to spread the disease.

State Sen. J. Kalani English, D-5th (Wailuku, Kahului, Upcountry), who revealed last week he came down with the disease while working at his late grandmother's Hamoa home, said a waitress at the Hotel Hana-Maui visited a store in Central Maui and was told to steer clear of the area.

Her retort: "Get educated!"



Bruce and Debby Stoner of Nahiku, Maui, were among the first dengue fever victims identified by state health officials.

Timothy Hurley • The Honolulu

Advertiser

"That's the cry going around Hana these days," English said. "People have got to get educated."

When Aquinde and his wife, Janice, heard unconfirmed rumors that Hana residents were being discouraged from coming to the County Fair earlier in the month, they felt badly and decided to do something about it.

With the help of the Salvation Army, they collected about 60 stuffed animals. They told County Councilman Robert Carroll of Hana they wanted to take them to the children of East Maui, and soon county employees also began donating to the cause.

The result: lots and lots of stuffed animals that were distributed at an Aloha Festivals gathering last weekend in Hana.

Not everyone is treated badly after going public. Then again, the Stoner family of Nahiku hasn't done much traveling since coming down with dengue in late August.

The Stoners, who live amid the wet Nahiku jungle in a Swiss Family Robinson-style house with no doors or windows, were the first to be tested for the disease following an examination by state health officials.

At first, 61-year-old Bruce Stoner didn't know what was afflicting him, his wife and two children. It seemed like a bad case of the flu. Then it got worse.

"It's worse than the flu." Stoner said. "I guess you aren't doing to die, but there are times when it doesn't seem like such a bad idea."

Stoner's 18-year-old son, Russell, got sick first. Then his wife, Debby, fell ill.

Bruce Stoner said he was amazed that what he thought was a bad strain of flu could send her to bed.

"She's one of those people who never gets sick," he said.

Then it hit him — strong and hard. He went to bed and tried not to think.

"Just the activity of having a thought hurt," he said, adding that "it's like somebody razor-blading your brain."

For days, Stoner moved between pain-filled wakefulness and a blurrier but equally pain-filled state he was reluctant to call sleep. During the wakeful times, he drank guava juice and swallowed large doses of Tylenol to keep the high fever at bay.

When his wife broke out in a rash and complained of hot and itchy hands and feet, local doctors began to suspect dengue fever and summoned specialists with the state Department of Health.

"But by that time," he said, "the terrorists had attacked and all the planes were grounded."

During the recuperation phase, the couple suffered from fits of irritability and long and heavy bouts of depression.

Today, Stoner still feels the disease in his mouth and in his head, suffering what he calls dengue flashbacks.

Even so, Stoner refuses to put screens on his windows. He knows he's immune to this particular strain of dengue, and he'll take his chances with the three others.

"Where else in the world can you live like this?" he said, gesturing to the lush, idyllic surroundings.

Staff writers Karen Blakeman and Yasmin Anwar contributed to this report.

Dengue fever expert: Prevent spread

E. Maui urged to remove mosquito breeding grounds

April 10, 2011

By CHRIS HAMILTON - Staff Writer (chamilton@mauinews.com) , The Maui News

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WAILUKU - East Maui residents should do everything they can to eliminate mosquitoes in their community to prevent two suspected cases of dengue fever from turning into an epidemic, said dengue expert and Maui District Health Officer Dr. Lorrin Pang.

Pang met with about 40 Keanae and Nahiku residents Saturday to answer questions and share information about the "bone-crushing" tropical disease.

"I told them, irrespective if cases are confirmed, we are being bombarded by people who are traveling right now, and they could be carrying it. It's dengue fever time across the globe.

"They said, 'We did eradicate it before, and we're willing to do it again.' "

Pang said that means cutting back brush at least 20 yards from homes, and eliminating potential mosquito breeding grounds in yards, such as empty flowerpots and old tires. He also said he hoped that East Maui Irrigation could be convinced to increase flows at Makapipi Stream, and maybe other waterways, so that faster-moving water could flush out mosquito larvae.

County Communications Director Rod Antone said the Public Works Department might support the prevention effort by cleaning up public property.

Pang said nonprofits, community groups and government agencies have already started working on mosquito eradication and dengue prevention. One effort will involve setting up five stations along Hana

Highway near popular tourist destinations to distribute mosquito repellent, which he hopes to purchase with state funds.

The remote East Maui communities have welcomed the help of Pang and his colleagues - in stark contrast to the suspicious reception public health officials received when the area last saw a dengue fever outbreak 10 years ago.

"They were hostile back then, and now it's night and day," he said. "I think it's because we had a great result a decade ago. People already know what to do."

Pang said he reviewed basic information about dengue fever for newcomers at the meetings, and also explained how the disease can quickly become more dangerous if it's contracted for a second time.

While a first infection can be painful, with a second contraction of dengue, the victim can feel just fine after their fever breaks, then start hemorrhaging and go into shock.

He advised anyone with feverish symptoms to contact a health professional.

Symptoms of dengue include severe headaches, fever and incredible muscle aches. The disease is treated with acetaminophen - not blood thinners such as ibuprofen - and patients should be closely watched, drink plenty of fluids and be cooled with damp sponges.

About one in a thousand people will have serious complications in a first infection of dengue fever. Between 15 and 85 percent will experience at least some symptoms.

While a prior dengue infection will give the victim immunity to that strain, if they contract a different strain of the disease, they will experience much more severe symptoms and have a much higher risk of dying, Pang said.

He said it has not yet been determined if the current outbreak is the same strain of the disease that sickened as many as 100 East Maui residents in 2001 and 2002.

State Sen. J. Kalani English, who was among the Hana residents who contracted dengue 10 years ago, and state Rep. Mele Carroll, have said they are working at the Legislature to restart an environmental response team to address the issue.

And County Council Member Bob Carroll, who holds the Hana residency seat, said he plans to request aid again from the Maui Invasive Species Committee in helping East Maui residents, especially the elderly, in cleaning up potential mosquito breeding grounds in their yards.

Carroll attended the meetings in Nahiku and Keanae on Saturday. A third meeting is scheduled for 6 p.m. Tuesday at Helene Hall in Hana.

"We're hopeful to get on it right away," Carroll said. "We think we can at least keep it to a minimum and have no outbreak . . . I think we can handle it."

Pang said he expects the U.S. Centers for Disease Control and Prevention to have the results of the blood tests on the two suspected Keanae cases in the next five days. Four cases were already confirmed late last month from a family in Pearl City on Oahu.

"Help out your neighbor," Pang said. "I don't want you to think you are ratting them out, but try to remember that you are helping them out. That's why we are running a lot of our information through the community associations. It should be easier to talk to them."

Hana resident Jean Mardfin was a bit skeptical about how successful total eradication efforts in East Maui could be. After all, the region has regular heavy rainfall and thousands of acres of undeveloped land and a number of unkept yards.

"I am very well aware of dengue," her husband, Ward Mardfin, of the Maui Planning Commission, said. "When I lived in Fiji (years ago), people died from it all the time. I think I might have had it in Vietnam. And I was here in Hana the last time we went through it. It

does a nasty piece of work to you. You do not want to mess around with it.

"We will have to do whatever we can to stop it," he said.

* Chris Hamilton can be reached at chamilton@mauinews.com.

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TRAVEL

A Mosquito-Borne Virus Sweeps the Caribbean

NOV. 5, 2014

Update

By **FRANCES ROBLES**

It started with a nagging pain in his wrists.

Gabriel S. Abromovitz, 32, an American who lives in Haiti helping to rebuild hospitals, thought his muscles ached one day in May because he had overdone it at the gym. He wondered if he was starting to get carpal tunnel syndrome from overusing the computer.

When other workers got sick, one of them passed along a fact sheet from the United States Centers for Disease Control and Prevention about an illness sweeping the Caribbean: chikungunya.

"I thought it was something related to chicken," he said. "I was wiped out. It felt like a strong flu with aches and joint pain. My whole body was covered in red bumps."

Mr. Abromovitz is among at least 800,000 people this year in the Caribbean and surrounding nations who contracted the chikungunya (pronounced chik-en-GUN-ya) virus, a mosquito-borne illness similar to dengue, which causes fever and muscle pain that is sometimes severe. It is rarely fatal, but some people suffer debilitating muscle pain for months or years.

Chikungunya was spotted on St. Martin in December 2013 and quickly spread across the islands. Although common in Asia, it was the first time the painful disease was detected in the Western Hemisphere. Now, experts say, it's here to stay and has become an important issue for governments in tourism-

heavy countries to tackle.

“Now I’d say about 40 percent of the people I know have gotten it,” Mr. Abromovitz said. “If you are going on vacation, I would recommend using DEET as opposed to taking your chances. Even if you’re only staying a week, I think you would have a chance of getting chikungunya.”

He recovered completely within two weeks, but saw co-workers affected more seriously.

First discovered in Tanzania in 1952, the disease has a name that means “that which bends up” in the Kimakonde language of Mozambique. It has sickened people in more than three dozen countries, including popular tourist destinations such as Martinique and the Dominican Republic. Some of the smaller islands, such as Guadeloupe and St. Barthélemy, were hit particularly hard, a sign that those nations may be over the peak.

Nearly 1,500 travelers to the region, often people visiting their families in the Caribbean, brought the disease back to the United States this year, according to the C.D.C. Before the Caribbean epidemic, the United States saw only about 30 cases a year, and those were usually people returning from Asia. After nearly 300 people in Florida brought the disease home this year, the state wound up with 11 locally transmitted cases — a first for the United States.

The C.D.C. has issued a “watch” alert for the Caribbean, which means tourists should take normal precautions.

Hugh Riley, secretary general of the Caribbean Tourism Organization, noted that “only a fraction” of the 45 million visitors who went to the Caribbean by air and cruise ship last year fell ill, and “they all have recovered.”

“The first thing the tourism industry did about chikungunya was to get the facts and the recommended procedures from the Caribbean Public Health Agency on how to protect both our citizens and our guests,” Mr. Riley said in a statement to The New York Times. “Our health officials are very actively engaging local communities to destroy mosquito breeding sites in order to reduce and eventually eliminate new cases of the virus. The aggressive program includes fumigation and getting rid of stagnant water and cleaning up the surroundings.”

Jeff Vasser, director general and chief executive of the Caribbean Hotel &

Tourism Association, said that many hotels are providing their guests with repellents as a precautionary measure.

“Since the virus is spread by mosquitoes, we continue to encourage visitors to protect themselves from mosquito bites by using long-lasting repellents containing DEET, Picaridin, oil of lemon eucalyptus, or IR3535 on exposed skin,” Mr. Vasser wrote in a statement.

“The good news is that according to our local hotel association executives, across the Caribbean there have been few guest cancellations at hotels, and we are happy to see that the number of new cases of chikungunya has leveled off,” Mr. Vasser said.

Outdoor events, such as the World Creole Festival in Dominica, took place without outbreaks, and the Barbados Food & Wine and Rum Festival, which takes place in late November, is scheduled as planned, Mr. Riley said.

Lyndon Taylor, a spokesman for the Jamaica Tourist Board, said hotels are fumigating as often as five times a week, and have equipped rooms with vape mats. And in Puerto Rico, visitors to El Yunque National Forest are now greeted with posters that tell hikers how to prevent the virus.

Carnival Cruise Lines has included such information — including tips like putting on sunscreen before repellent — in the shipboard newsletter distributed daily to passengers.

Sandals and Club Med resorts did not respond to several requests for comment about what measures are being taken at their properties.

Kate Richardson, a spokeswoman for the St. Martin Tourism Ministry, said cleaning and awareness campaigns intensified in July. St. Martin, a country of just 33,000 people, had 4,240 suspected cases this year.

The last few months have recorded sizable decreases in the number of cases, Ms. Richardson said. But experts note that although some nations are past the worst of it, the illness tends to become more common during rainy season, which is approaching.

Dr. C. James Hospedales, the executive director of the Caribbean Public Health Agency, said the islands that were affected first, like St. Martin and Dominica, seem to be “over their peak, but not over the problem.” Based on past epidemics, experts predict this wave will take about 18 months to wind down.

The disease hit the region hard because it was new there, and no one had immunity.

"We predicted there would be widespread transmission, and that's what's happening," Dr. Hospedales said from Trinidad. "This disease entered late last year, and now it's spread to just about all Caribbean countries."

The illness affects people differently. Children get over it quickly, but up to 20 percent of the people who contract it, particularly the elderly or people with chronic illnesses, are crippled with pain that is difficult to treat, he said.

"For a day or two many people describe extreme pain," Dr. Hospedales said. " 'I've never had anything like this in my life.' I can't tell you how many times I have heard that sentence. Or, 'I'd rather have 10 babies than chikungunya.' "

PROTECTING YOURSELF

Dr. J. Erin Staples, a medical epidemiologist with the Centers for Disease Control and Prevention, says tourists should pick hotels with good screens or air-conditioning. "One of things about these mosquitoes is that they like to bite during the daytime," Dr. Staples said. "People need to be diligent. People heard messages about West Nile that warned about mosquitoes at dusk and dawn. This is slightly different messaging."

There is no vaccine or treatment, so that means the only prevention is to guard against mosquitoes. Experts offer these tips:

- Wear repellent with a high percentage of the active ingredient.
- Avoid products that combine sunscreen with repellent.
- Wear long sleeves or specially treated clothing.
- Be particularly mindful in the mornings, because the insects that transmit chikungunya — *Aedes aegypti* and *Aedes albopictus* mosquitoes — tend to be daytime biters.
- People with arthritis, serious underlying medical conditions, the elderly and women who are late in their pregnancies are considered to be at higher risk for serious symptoms and should discuss their travel plans with a doctor, the C.D.C. says.

"The message is to take extra precautions to avoid being bitten," Dr. C. James Hospedales, the executive director of the Caribbean Public Health Agency, said. "By all means come and enjoy yourself. The vast majority of visitors will have a perfectly fine holiday and enjoy themselves. Some folks will get this; that is true. A minority."

A version of this article appears in print on November 9, 2014, on page TR2 of the New York edition.

Subject: Re: Volume of capacity for Betsill well

Date: Mon, 16 Sep 2002 07:56:18 -1000

From: "David Craddick" <David.Craddick@co.maui.hi.us>

To: <sharon.souza@hi.usda.gov>

** High Priority **

about 700 gpm is what I'm hearing but it's only hearsay. DRC

>>> Sharon Souza <sharon.souza@hi.usda.gov> 09/13/02 04:07PM >>>
Dave,

What was the exact figure of the volume of the Betsill well in terms of gallons per day?

Are there plans of the county purchasing Kaeleku system? Can this be an alternative water system serve the residents in Upper Nahiku?

Upper Nahiku residents are exploring the need of clean water for human consumption and following the Clean Water Act. They have 32 households interested.

Thanks for sending George.

Happy late birthday! It's a celebration!

Sharon Souza