

FORESTCITY

KAMAKANA VILLAGES AT KEAHUOLU

A SMART, AFFORDABLE COMMUNITY



STATE OF HAWAII
HAWAII HOUSING FINANCE
& DEVELOPMENT CORPORATION

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GROUP 70 INTERNATIONAL
CALTHORPE AND ASSOCIATES

2007

- HHRDC Released RFP
- HHFDC begins EIS Process

2008

- April – HHFDC selects Forest City to be the developer of Kamakana Villages at Keahuolu
- October - December - Final EIS completed and accepted by the Governor's Office

2009

- March - HHFDC and Forest City execute Development Agreement
- April - Forest City creates project planning team to include Calthorpe, Group 70 and Michael Riehm
- June - Start of the planning and entitlements process
- July - First community Charrette
- October - Second community Charrette

2010

- Land Use Commission District Boundary Amendment - Agricultural to Urban
- County Council 201H Resolution to approve exemptions for the development of an affordable housing project

2011

- Bulk lot subdivisions
- Initial infrastructure development
- Plan Approval and Residential lot subdivisions Permits

2012

- First Homeowners Move-in (Best Case)

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REGIONAL MAP



Kamakana Villages at Keahuolu



LEED 2009 FOR
**NEIGHBORHOOD
 DEVELOPMENT**

- **Leadership in Energy and Environmental Design**
 - A collaboration among US Green Building Council, CNU, and National Resources Defense Council
 - Help spur development that offers mixed-use, pedestrian-friendly neighborhoods that are easy on the environment - saving energy, water and other natural resources
 - Projects can now register for approval

Kamakana LEED ND Checklist
 Reference: LEED for Neighborhood Development Rating System - Silver Draft.pdf
 Last updated by: Calliterra Associates (05/05)

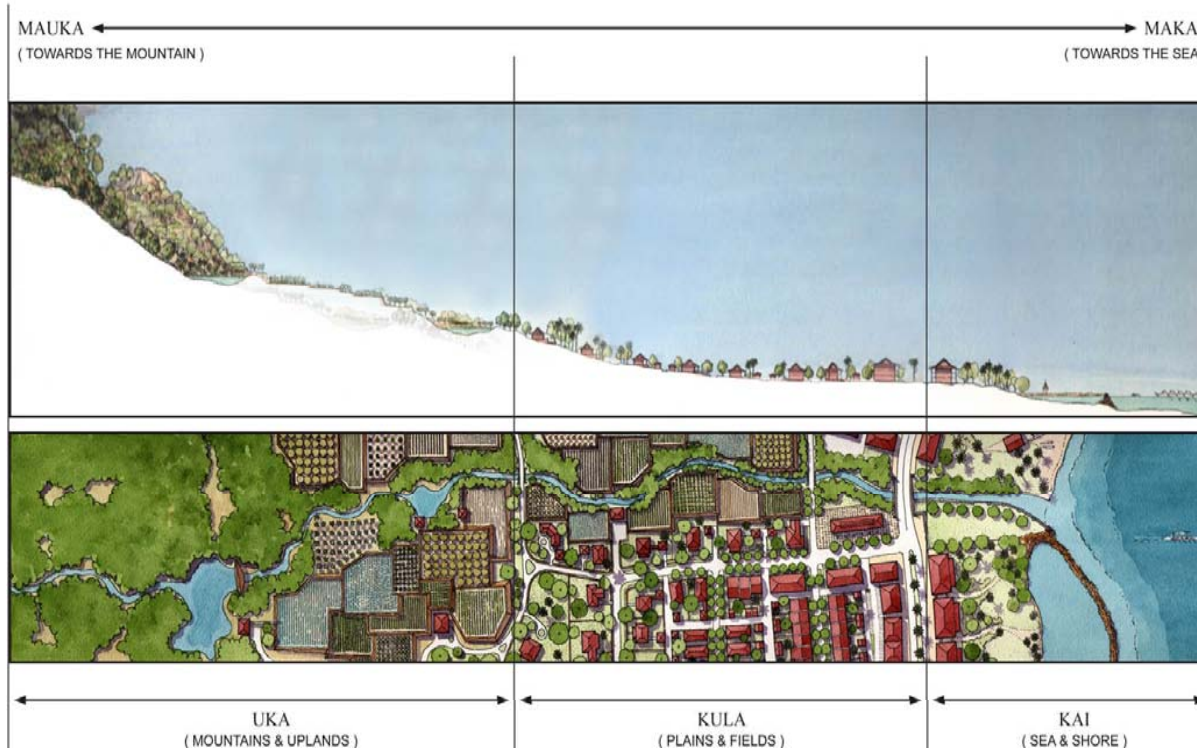
Item Number	Green Infrastructure & Buildings (GIB)	Prerequisite ?	Credit ?	Points Available	Points Gained	Comments
62	GSB Prerequisite 1: Certified Green Building	Y	Y	0	0	
63	GSB Prerequisite 3: Minimum Building Energy Efficiency	Y	Y	0	0	
65	GSB Prerequisite 5: Minimum Building Water Efficiency	Y	Y	0	0	
66	GSB Prerequisite 4: Construction Activity Pollution Prevention	Y	Y	0	0	
69	GSB Credit 1: Certified Green Buildings	Y	Y	5	5	GSB: We may be able to achieve 2 points here. RB: Talk with Jim to confirm.
70	GSB Credit 2: Building Energy Efficiency	Y	Y	4	4	GSB: We may be able to achieve 2 points here.
72	GSB Credit 3: Building Water Efficiency	Y	Y	1	1	
74	GSB Credit 4: Water Efficient Landscaping	Y	Y	1	1	
75	GSB Credit 5: Existing Building Reuse	N	N	1	0	
76	GSB Credit 6: Historic Resource Preservation and Adaptive Reuse	Y	Y	1	1	
77	GSB Credit 7: Minimize Site Disturbance in Design and Construction	Y	Y	1	0	OPTION 2 - UNDEVELOPED PORTION OF PROJECT REMAINS UNDEVELOPED
79	GSB Credit 8: Stormwater Management	Y	Y	4	4	
81	GSB Credit 9: Heat Island Reduction	Y	Y	1	1	
82	GSB Credit 10: Indoor Air Quality	N	N	4	0	
85	GSB Credit 14: On-Site Renewable Energy Sources	Y	Y	3	3	
86	GSB Credit 15: Efficient Heating & Cooling	N	N	2	0	
87	GSB Credit 13: Infrastructure Energy Efficiency	Y	Y	1	1	
88	GSB Credit 14: Wastewater Management	Y	Y	2	0	Consider and consider the project to retain on-site (with pre-site treatment) of least 25% of the average annual wastewater generated for the project (inclusive of existing buildings), and reuse that wastewater to reduce the use of potable water. GS: Not ready to commit to this credit. GS: We may be able to achieve 2 points here, but depends on how we reuse the water on-site.
89	GSB Credit 16: Recycled Content in Infrastructure	Y	Y	1	0	Have materials for new infrastructure that the sum of new construction material content in base structural materials, and one half of the pre-consumer recycled content (minimum of least 50% of the total mass of infrastructure materials). GS: We may be able to achieve 1 point here, but depends on how we reuse the water on-site.
90	GSB Credit 14: Solid Waste Management - Infrastructure	Y	Y	1	0	Meet at least 4 of the following 5 requirements and publish their availability and benefits: at least one recycling or reuse station; at least one drop-off point; at least one compost station; at least one private contractor responsible for reuse and one responsible agency; and/or at least one storage or reuse yard of non-durable construction and demolition debris. GS: We may be able to achieve 1 point here, but depends on how we reuse the water on-site.
91	GSB Credit 17: Light Pollution Management	Y	Y	1	1	

GSB Points Available	29
GSB Total Points Gained	20
LEED ND Project Total Points Gained	44

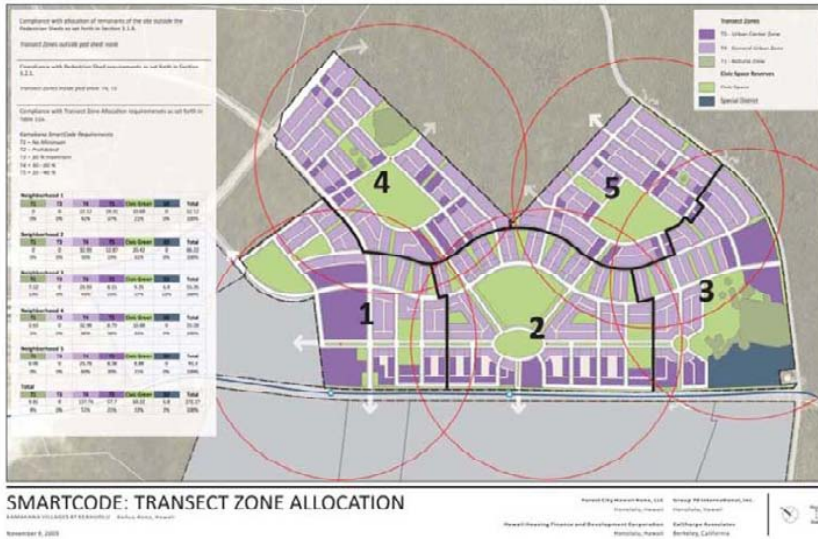
Certified: 40-49 points
 Silver: 30-39 points
 Gold: 20-29 points
 Platinum: 8-17 points

- Smart Location and Linkage (SLL)
- Neighborhood Pattern and Design (NPD) - **Affordability**
- Green Infrastructure and Buildings (GIB)
- Innovation and Design Process (IDP & RP)
- Assuming feasibility of build out – our goal is Silver

HAWAI'I AHUPUA'A
(A VALLEY SECTION)



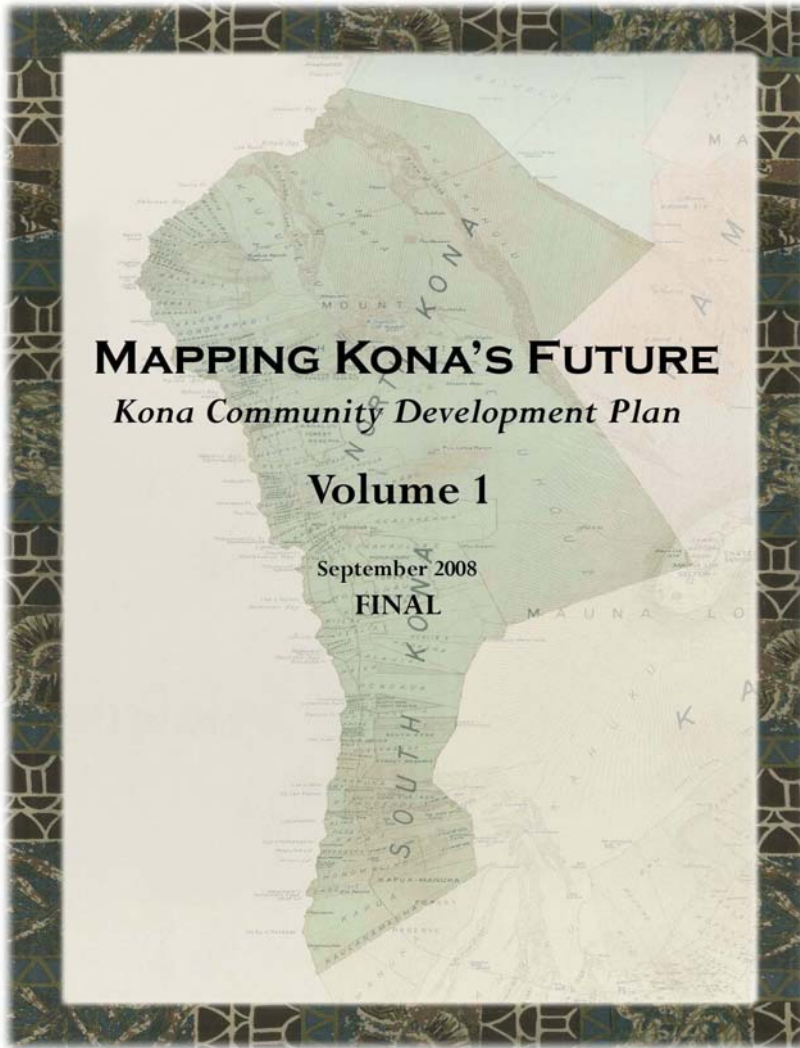
- Adopted in the CDP
- Recalibrated and adjusted for Kona by PlaceMakers in November 2009



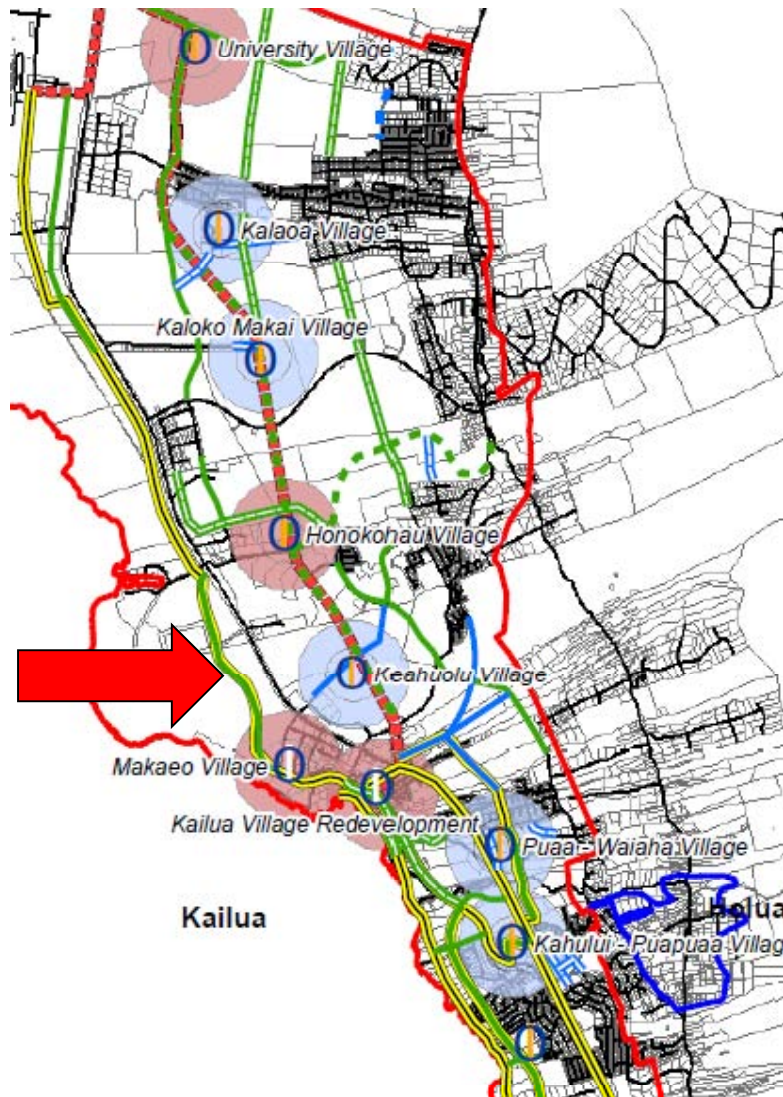
• **SmartCode Measures**

- Land Use and Density distribution
- Limits Block sizes
- Describes setbacks
- Describes building forms
- Suggests street sections





- Adopted by the Hawaii County Council in **September 2008**
- Process involved well over **100** community public meetings, charrettes, and working group sessions involving **hundreds** of individuals.
- The plan supports and guides the future growth of the region into designated areas using new urbanism principles and a **Smart Code**.



- CDP goals and principles engaged in the planning process
 - TOD/TND
 - Smart Growth Principles
 - Multi-Modal Transportation (walking, biking, transit)
 - Small Blocks, Pedestrian Friendly Streets, Connectivity, Minimize Cul-de-sacs
 - Proximity to jobs helps affordability



SMARTCODE: TRANSECT ZONE ALLOCATION

Forest City Research, LLC
 Hawaii Planning and Development Corporation
 Honolulu, Hawaii
 November 9, 2020

Hele-On Bus
 Hawai'i County Mass Transit Agency

Before After



Conservation & Restoration

Initial Public Visioning Charrette July 7th – stakeholder input on the vision and themes

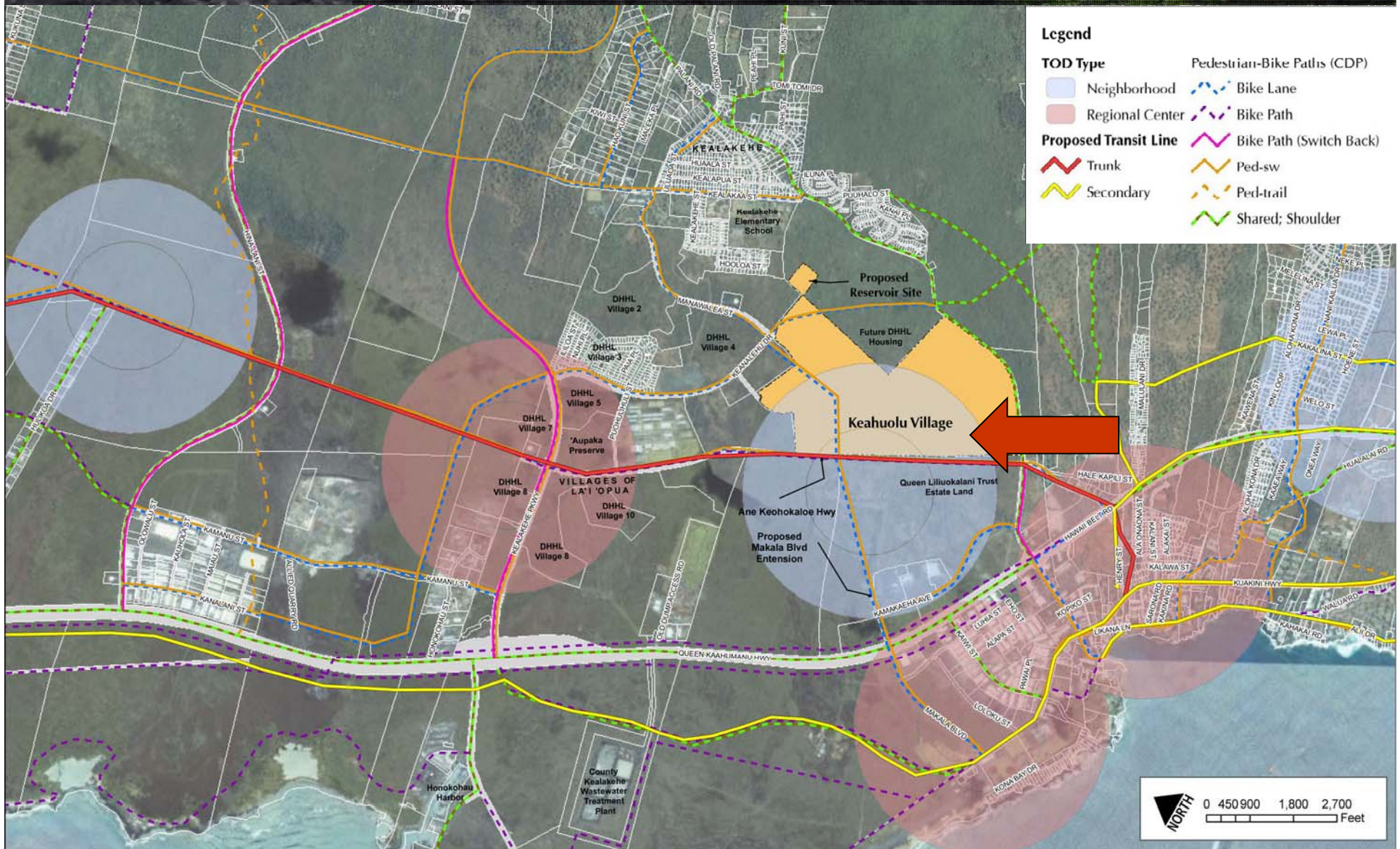
Major Themes selected by the Charrette group which will serve as a foundation for the physical plan.

- 1. Connectivity**
- 2. Kokua Aku, Kokua Mai**
- 3. Education “Learning Place”**
- 4. Open Space & Nature**
- 5. Sustainability**



Kamakana Villages at Keahuolu

CONNECTIVITY - TOD



Kamakana Villages at Keahuolu

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CONNECTIVITY-FUTURE USE MAP

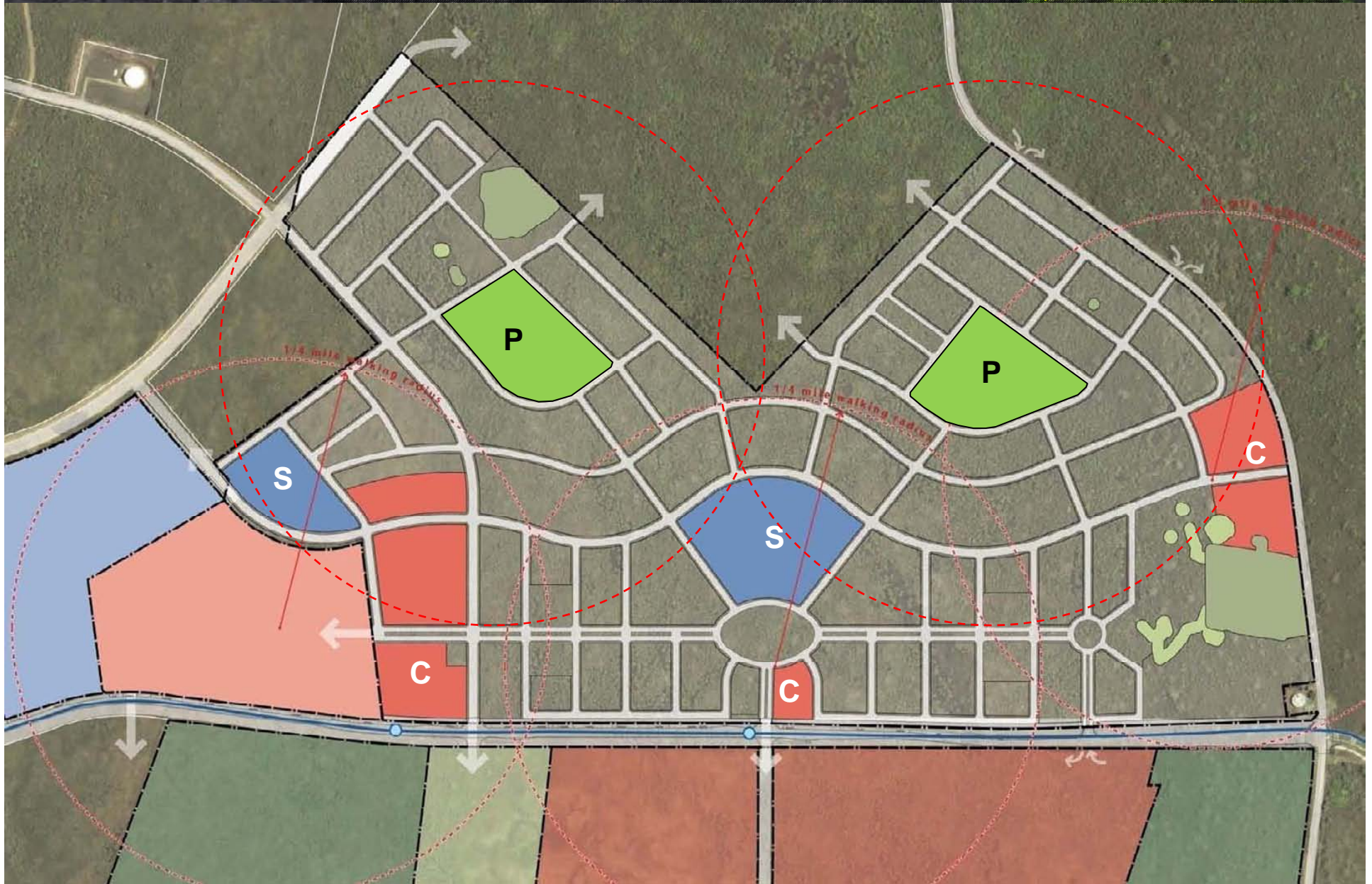


Kamakana Villages at Keahuolu

PEDESTRIAN SHEDS



FORESTCITY COMMON DESTINATIONS-STORES, SCHOOLS, PARKS



Kamakana Villages at Keahuolu

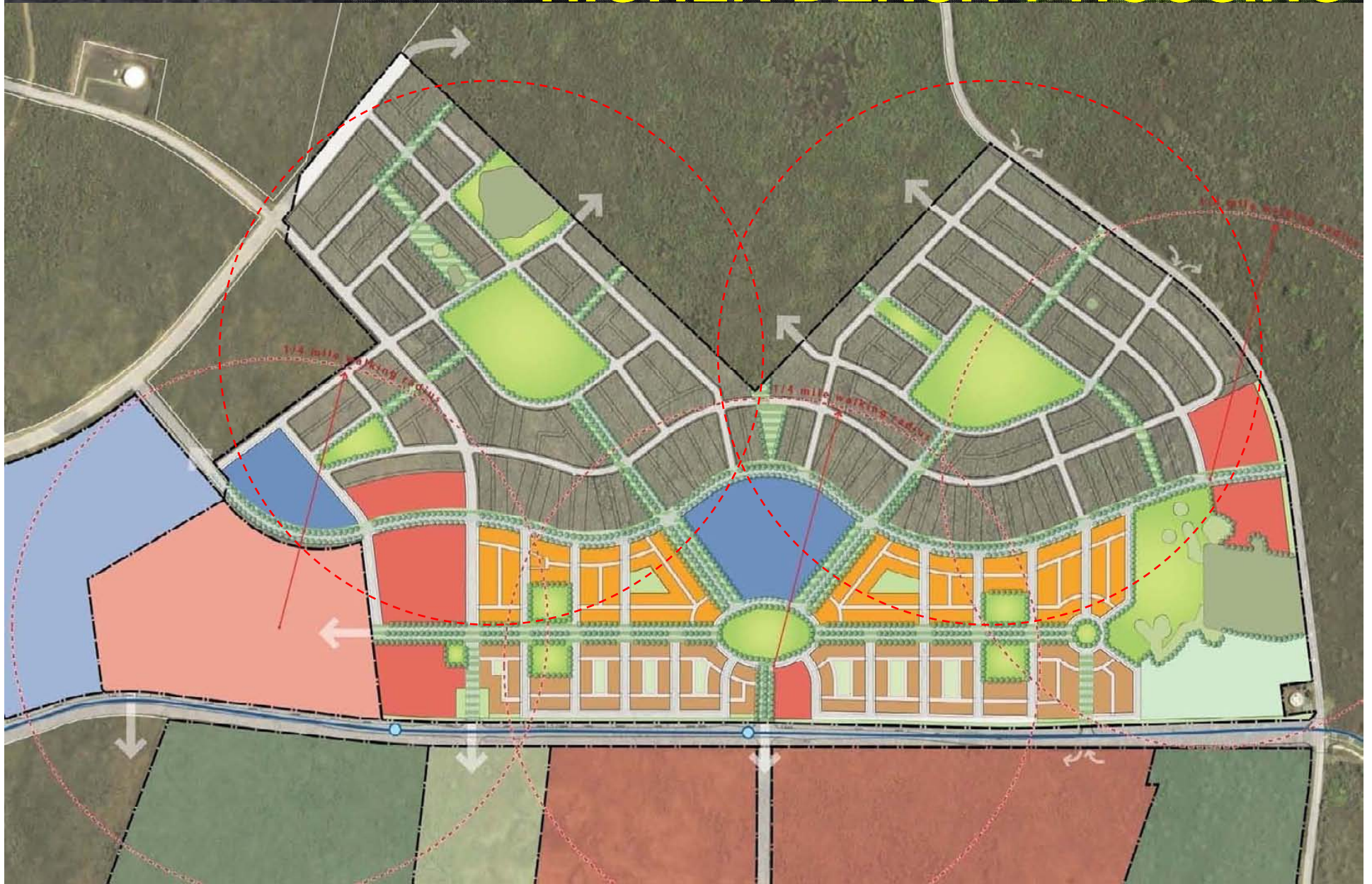
FORESTCITY ROADS-OPEN SPACE NETWORK



Kamakana Villages at Keahuolu

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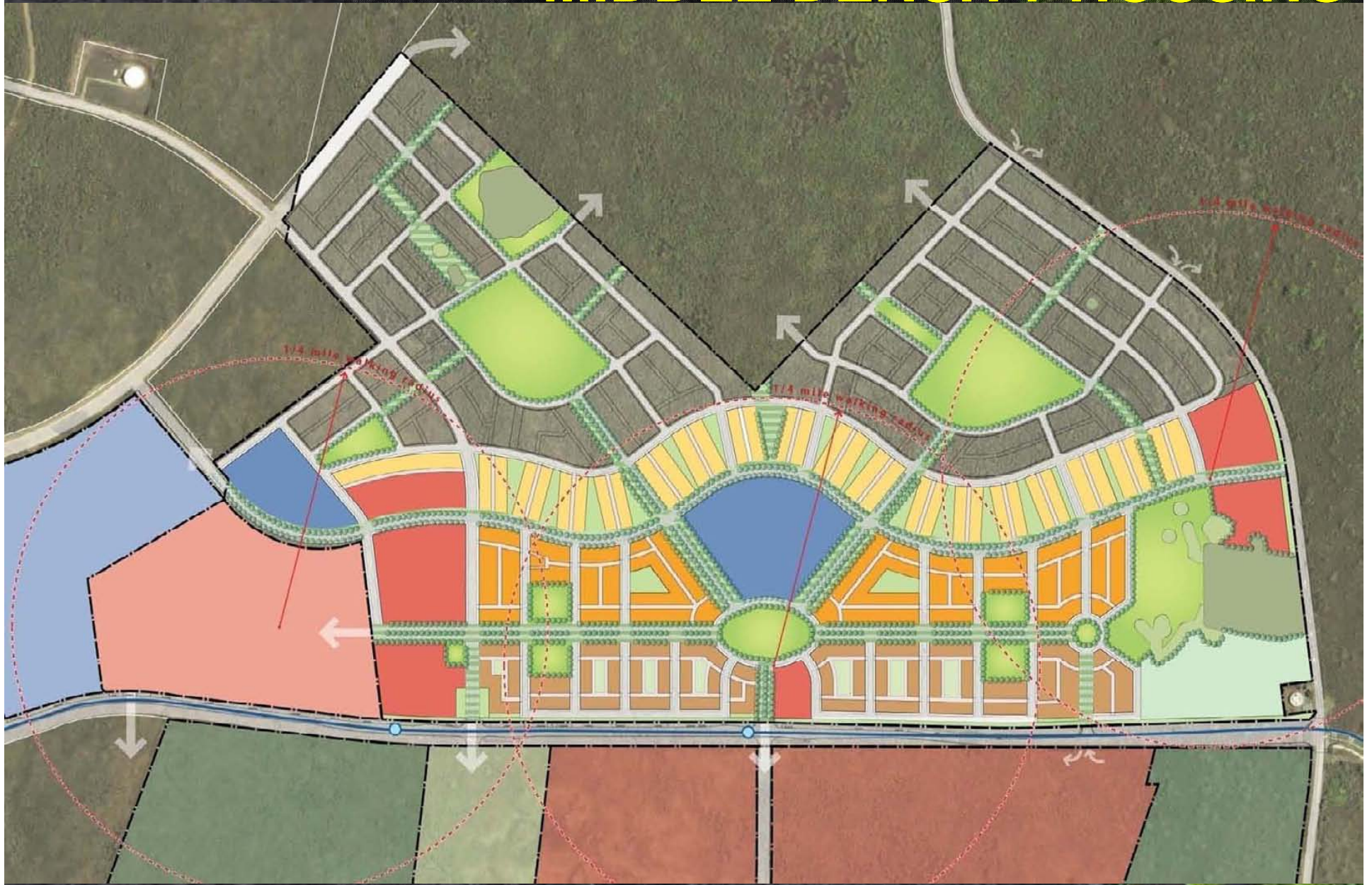
HIGHER DENSITY HOUSING



Kamakana Villages at Keahuolu

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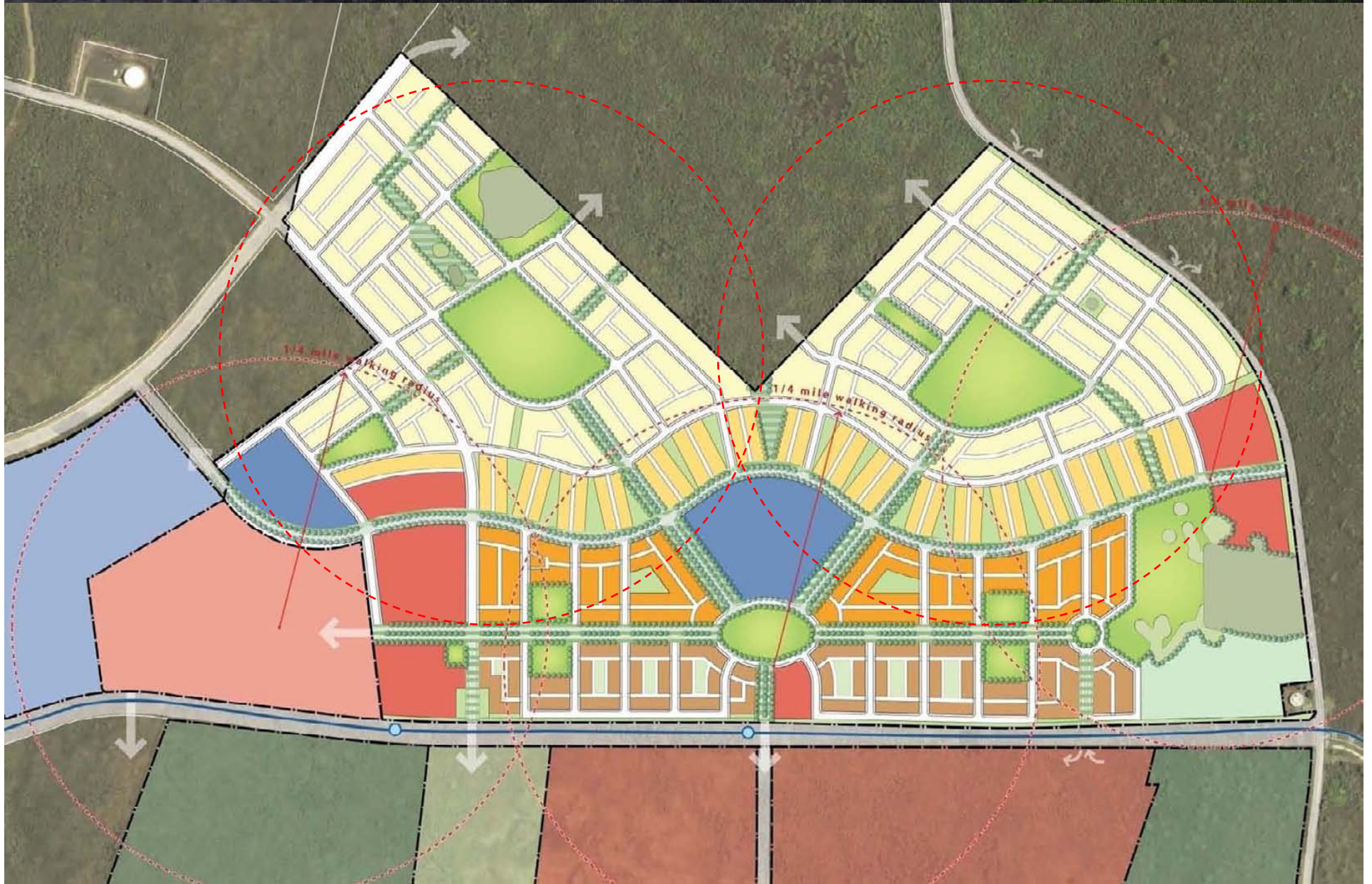
MIDDLE DENSITY HOUSING



Kamakana Villages at Keahuolu

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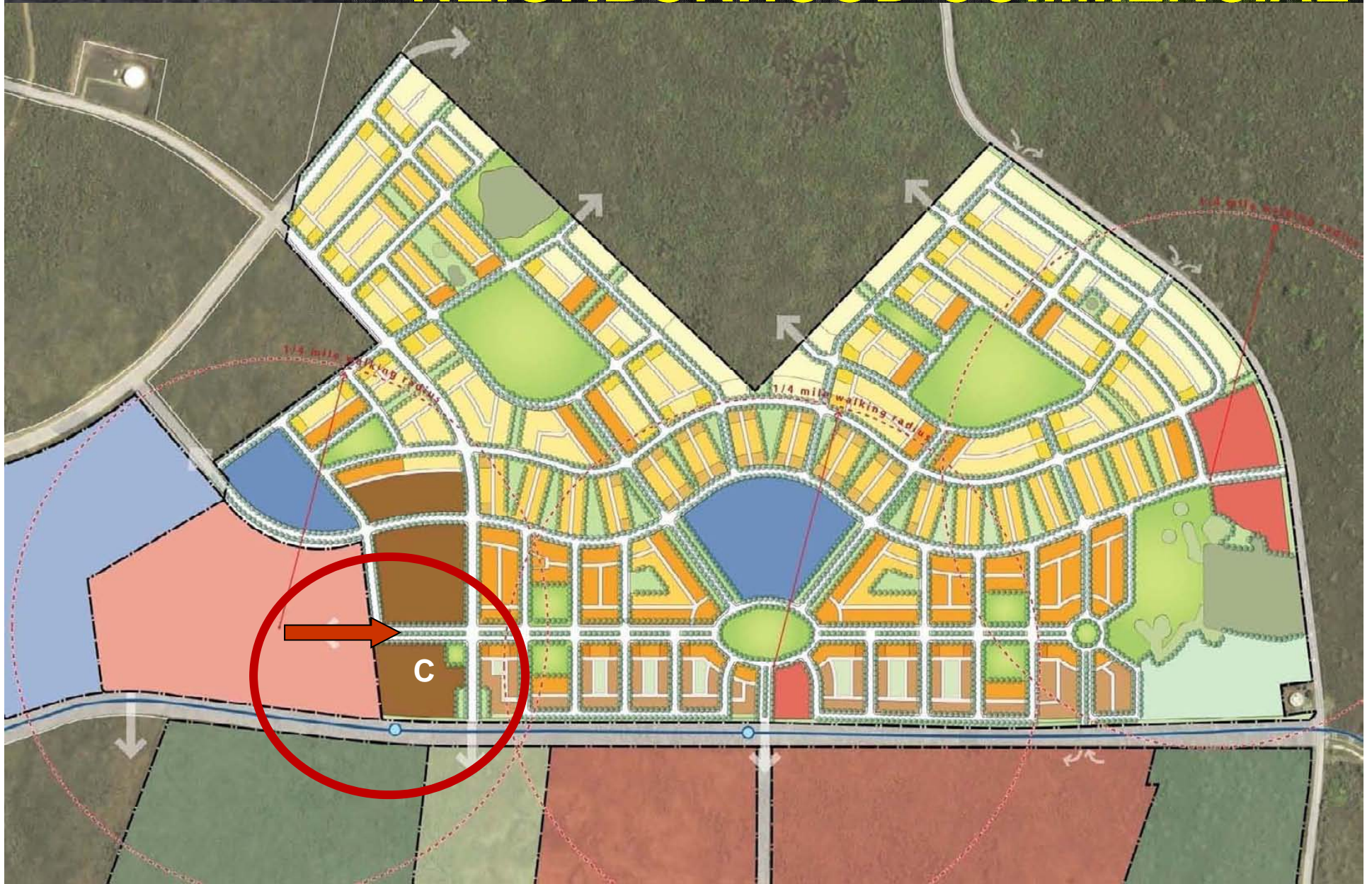
LOW-MIDDLE-HIGH / MIXED DENSITY



Kamakana Villages at Keahuolu

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NEIGHBORHOOD COMMERCIAL



Kamakana Villages at Keahuolu

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MAIN STREET

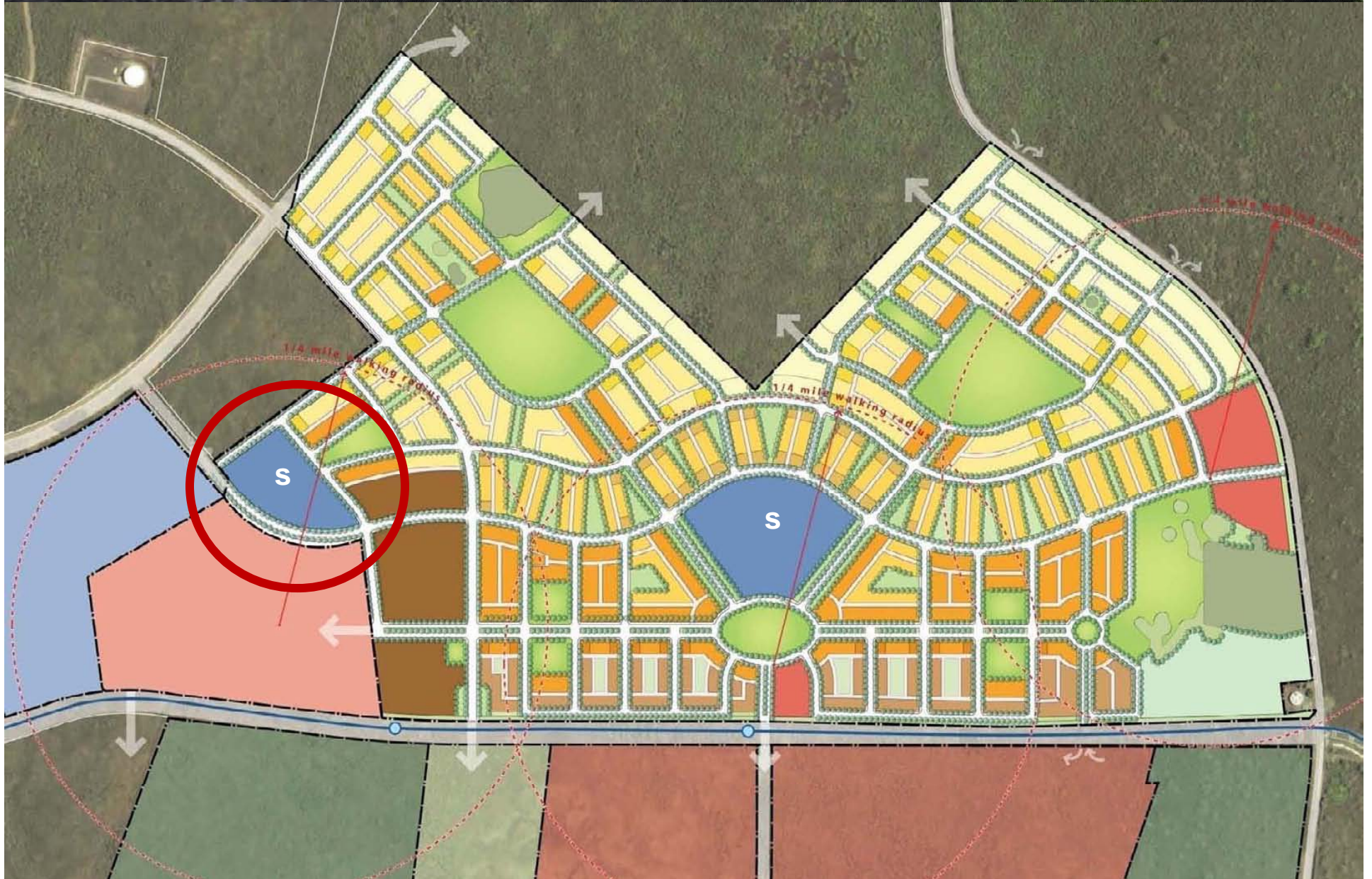






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NON-DOE SCHOOL



Kamakana Villages at Keahuolu

FORESTCITY KANU O KA 'ĀINA CHARTER SCHOOL

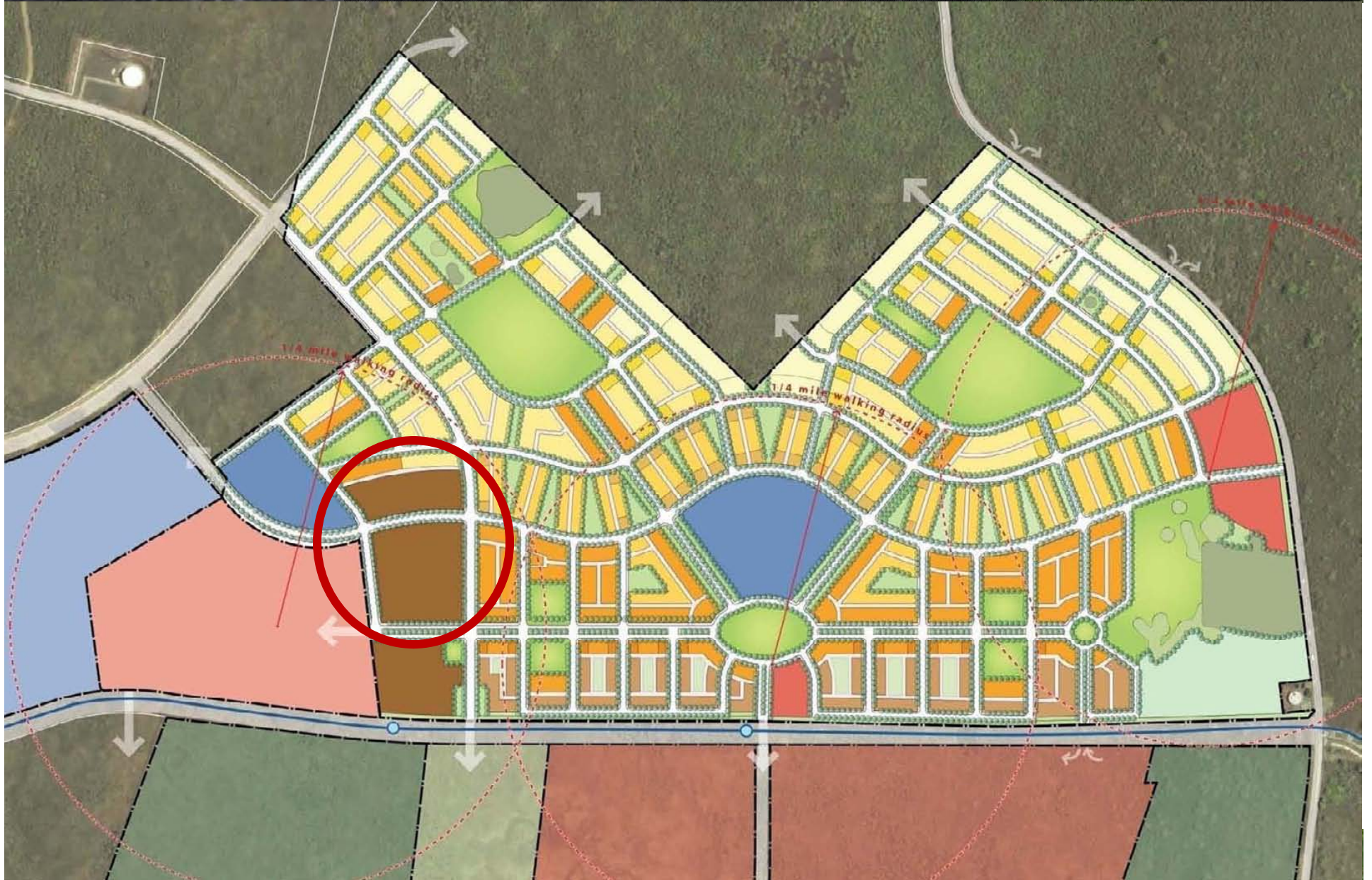


Kamakana Villages at Keahuolu



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MIXED USE-AFFORDABLE RENTAL



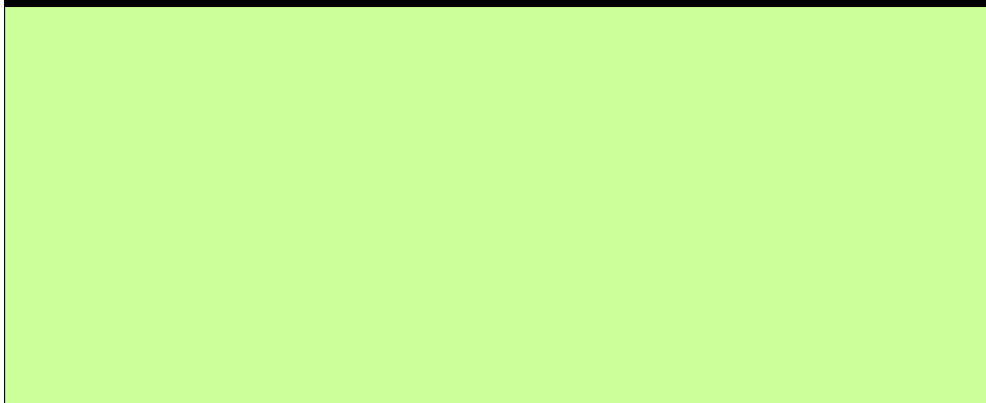
Kamakana Villages at Keahuolu

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COURTYARD RENTALS



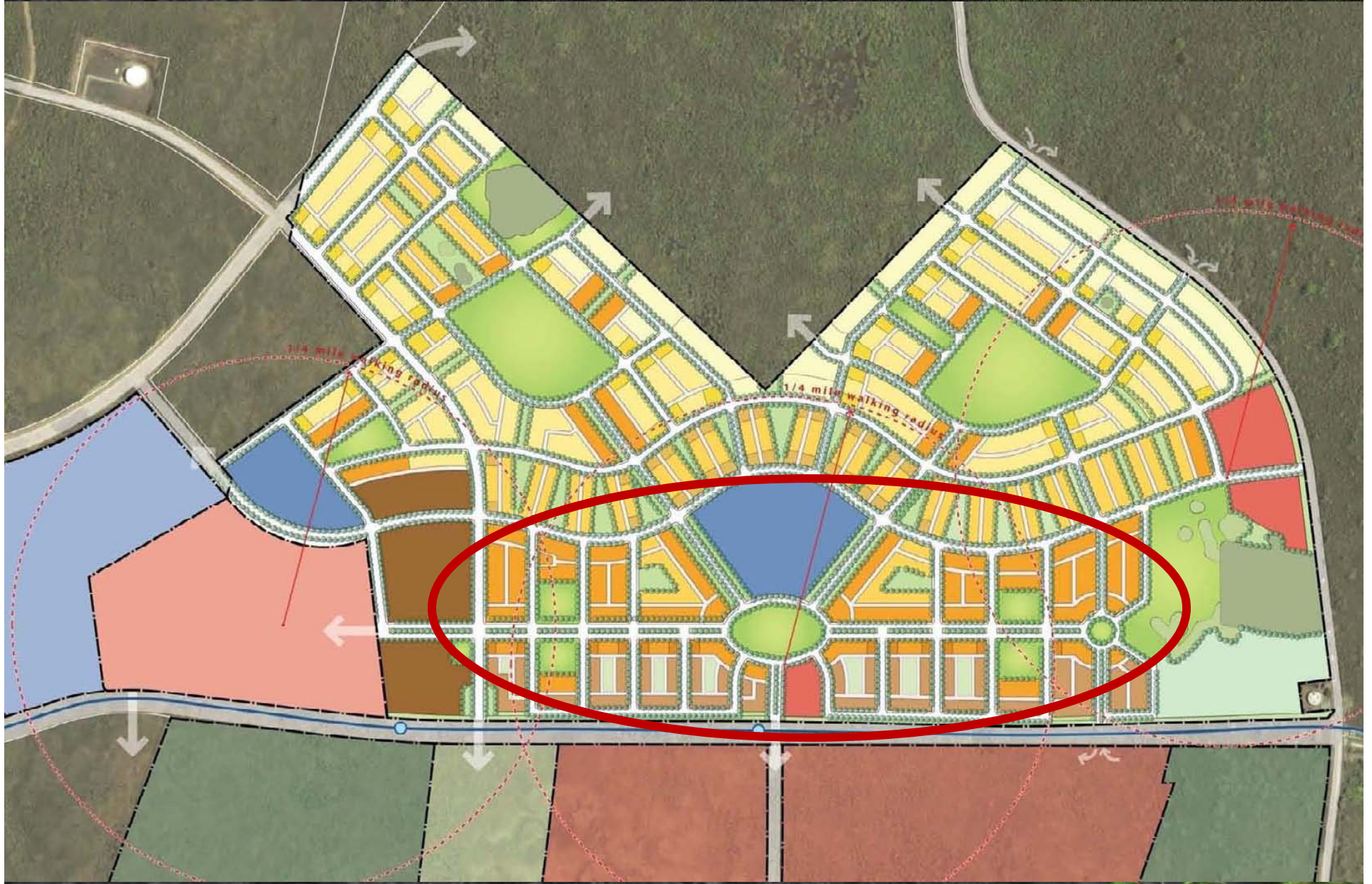
Each unit with through ventilation and direct private entry lanai, either from street or court



Kamakana Villages at Keahuolu

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TOWNHOUSES AND FLATS



Kamakana Villages at Keahuolu

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HIGH DENSITY MULTI-FAMILY



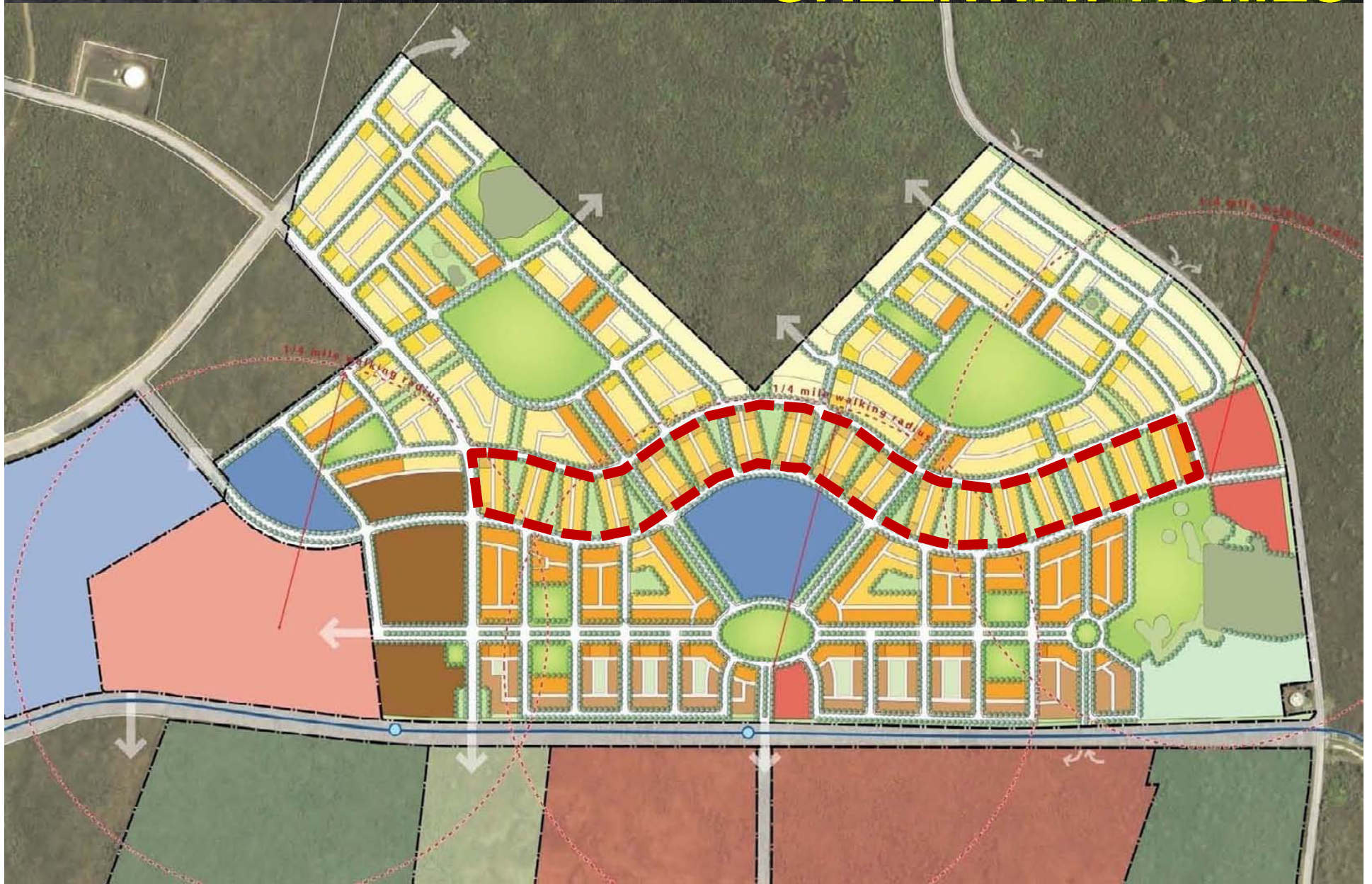
Each home with entry yard and private entry lanai/stoop at street, covered parking from alley.



Detached “green court” units will face a shared front yard. Garage accessed from alley.

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GREENWAY HOMES



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GREENWAY HOMES



GROUP 70 INTERNATIONAL

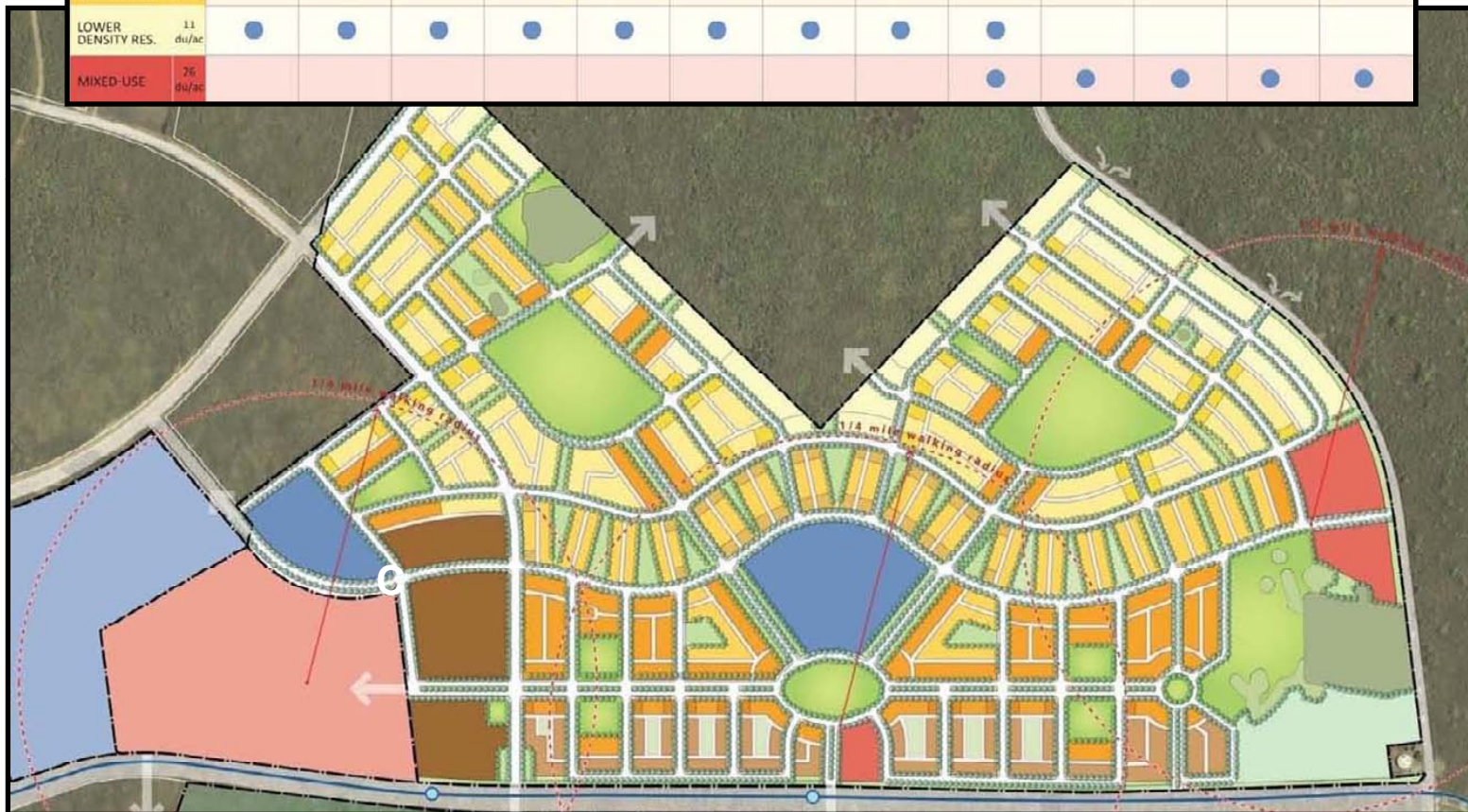






GUIDELINES – HOUSING TYPES

AVERAGE DENSITY	BUILDING TYPE												
	LARGE LOT FRONT LOADED	LARGE LOT ALLEY LOADED	SMALL LOT FRONT LOADED	SMALL LOT ALLEY LOADED	GREENWAY HOMES	GREEN COURT HOMES	DUPLEX (GREENWAY)	DUPLEX GREEN COURT	ROWHOUSE	2-PLEX	4-PLEX	COURTYARD APARTMENT	MIXED-USE/COMMERCIAL
HIGHER DENSITY RES. 36 du/ac									•	•	•	•	
MED-HIGHER DENSITY RES. 20 du/ac					•	•			•				
MFD-LOWFR DENSITY RES. 14 du/ac			•	•	•	•	•	•	•				
LOWER DENSITY RES. 11 du/ac	•	•	•	•	•	•	•	•	•				
MIXED-USE 26 du/ac									•	•	•	•	•



FORESTCITY DESIGN GUIDELINES- COURT HOMES



Site Plan
0' 60' 120'



Elevation
0' 8' 16'



Ground Floor Plan
0' 10' 20'



Second Level Plan

Keahuolu Village GREEN COURT HOMES

DESCRIPTION:
Small lot detached single-family homes that create a U-shaped wrap around an open space. Each home with a large front porch looks into the shared open space. Typically a 3-bedroom, 2.5 bathroom, 2-car garage, the Green Court units are alley loaded.

LOT SIZE: 30'x 60' or 1800sf

NUMBER OF FLOORS: 2 Floors

UNIT TYPE:
3 Bed/2.5 Bath (1200sf)

PARKING:
Two-car attached garage accessible from alley.

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CAUTIONER ASSOCIATES
URBAN DESIGNERS, PLANNERS, ARCHITECTS

FORESTCITY DESIGN GUIDELINES- ROW HOUSES



Keahuolu Village ROW HOUSES

DESCRIPTION:
Rowhouses are inline attached 2-story units. Each unit has 2 bedrooms and 2.5 bathrooms, with a front porch along its street front access. Parking is available from the back of the house by means of an alley. Individual enclosed yards provide means of access to each Rowhouse from parking.

NUMBER OF FLOORS:
2 Floors

UNIT TYPE:
2 Bed/2.5 Bath (1100sf)

PARKING:
Alley



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URBAN DESIGNERS, PLANNERS, ARCHITECTS

FORESTCITY DESIGN GUIDELINES-THOROUGHFARES



SMARTCODE: THOROUGHFARE STANDARDS

KAMAKANA VILLAGES AT KEAHUOLU Kailua-Kona, Hawaii

November 9, 2009

Forest City Hawaii Kona, LLC Honolulu, Hawaii	Group 70 International, Inc. Honolulu, Hawaii
Hawaii Housing Finance and Development Corporation Honolulu, Hawaii	Calthorpe Associates Berkeley, California

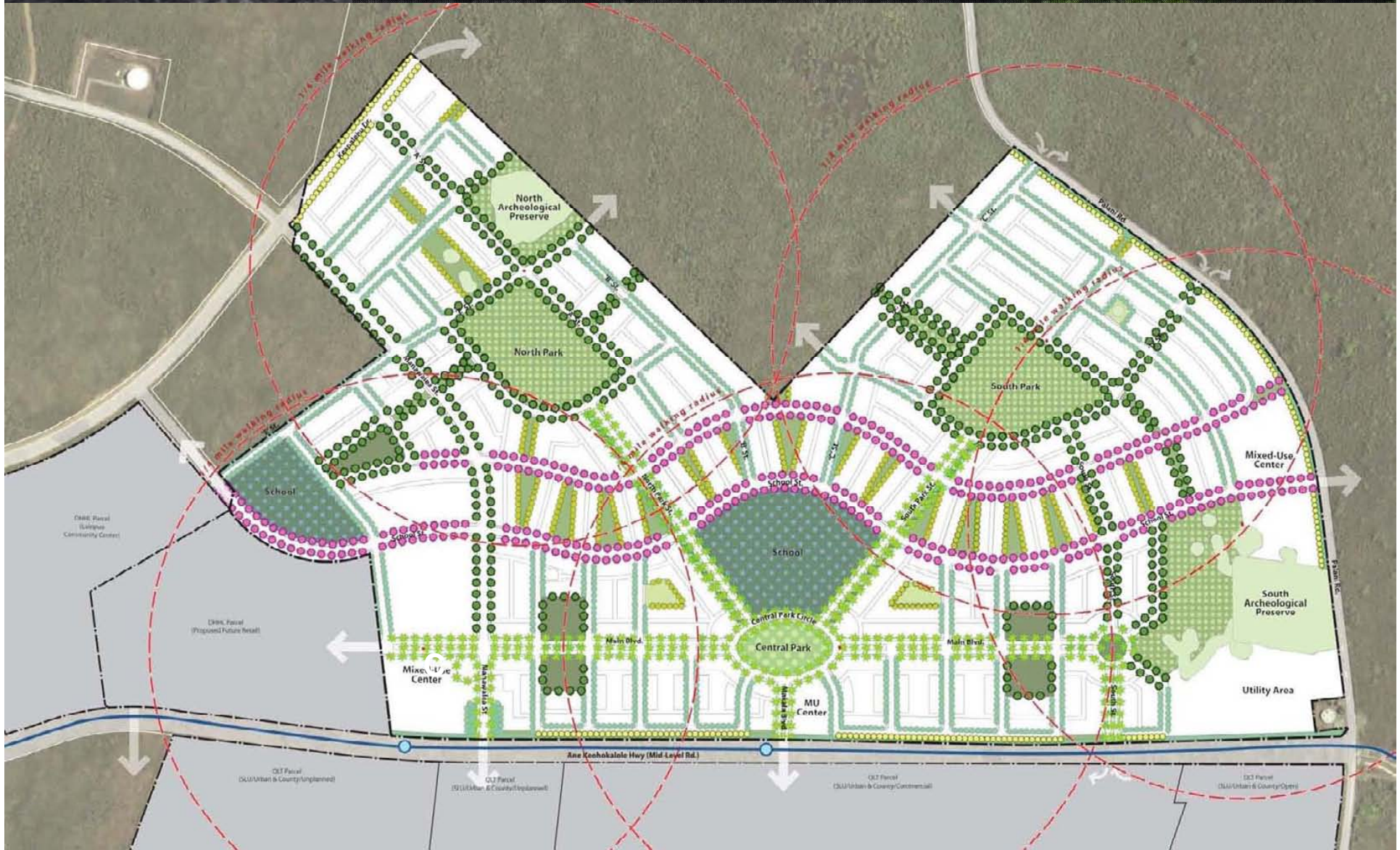






The spirit of the special native dryland landscape of the site would be retained by preservation and the reintroduction of this landscape into the Villages. This landscape would be sensitive to the existing natural and cultural elements and still be resilient enough to adapt to the new needs of the site. With this opportunity to become a major component of the Villages development, the landscape would be designed to flourish and contribute to the long term well being of this new community.

LANDSCAPE STRUCTURE



Kamakana Villages at Keahuolu

Project Trees

Common Name	Botanical Name	Common Name	Botanical Name
Native to Keahuolu			
Alahe'e	<i>Psydrax odoratum</i> *	Formosan Koa	<i>Acacia confusa</i>
'Ohe	<i>Reynoldsia sandwicensis</i> *	Foxtail Palm	<i>Wodyetia bifurcata</i>
Mamane	<i>Sophora chrysophylla</i> *	Geiger Tree	<i>Cordia sebestena</i>
Wiliwili	<i>Erythrina sandwicensis</i> *	Gold Tree	<i>Tabebuia donnell-smithii</i> *
Native to Hawaii			
Hala	<i>Pandanus tectorius</i>	Hong Kong Orchid Tree	<i>Bauhinia x blakeana</i>
Hau	<i>Hibiscus tiliaceus</i>	Jacaranda	<i>Jacaranda acutifolia</i> *
Koala's Koa	<i>Acacia koa</i> *	Kiawe Tree 'Thornless'	<i>Prosopis pallida</i> *
Loulu Palm	<i>Pritchardia affinis</i>	Ugnum Vitae	<i>Guaiacum officinale</i> *
Manele	<i>Sapindus saponaria</i>	Lucuba Palm	<i>Chrysalidocarpus lucuberna</i>
Ohia Lehua	<i>Metrosideros polymorpha</i> *	Macadamia Nut	<i>Macadamia integrifolia</i>
Polynesian Introduction Plants			
Kamarii	<i>Calophyllum inophyllum</i> *	MacArthur Palm	<i>Ptychosperma macarthurii</i>
Kou	<i>Cordia subcordata</i>	Mango	<i>Mangifera indica</i>
Kukui	<i>Aleurites moluccana</i> *	Mania Palm	<i>Veitchia merillii</i>
Niu	<i>Cocos nucifera</i>	Monkeypod	<i>Samanea saman</i> *
'Ulu	<i>Artocarpus altilis</i>	Needle Flower Tree	<i>Panicum granatum</i> *
Introduced Plants			
Arca Palm	<i>Chrysalidocarpus lutescens</i>	Pink Tecoma	<i>Pythosperma album</i>
Autograph Tree	<i>Clusia rosea</i> *	Pomegranate	<i>Cassia javanica x Cassia fistula</i> *
Avocado	<i>Persea americana</i>	Red Bottlebrush	<i>Callistemon citrinus</i> *
Cabanae Palm	<i>Chrysalidocarpus cabanae</i>	Royal Poinciana	<i>Delonix regia</i> *
Coral Tree	<i>Erythrina crista-galli</i>	Samson Cocconut	<i>Cocos spp.</i>
Crape Myrtle	<i>Lagerstroemia indica</i>	Sea Grape	<i>Coccoloba uvifera</i>
False Olive	<i>laeodendron orientale</i>	Silver Buttonwood	<i>Conocarpus erectus</i>
Fern Tree	<i>Felicium decipiens</i>	Silver Trumpet Tree	<i>Ptychosperma elegans</i>
		Solitaire Palm	<i>Veitchia joannis</i>
		White Tecoma	<i>Tabebuia berterii</i>



Shrubs

Common Name	Botanical Name	Common Name	Botanical Name
Native to Keahuolu			
A'ali'i	<i>Dodonaea viscosa</i> *	Bird of Paradise	<i>Strelitzia reginae</i>
Ko'oko'olau	<i>Bidens micrantha</i> Gaud.*	Bougainvillea	<i>Bougainvillea spp.*</i>
'Ilie'e	<i>Plumbago zeylanica</i> *	Canna	<i>Canna indica</i>
'Ilima	<i>Sida fallax</i> *	Cherille Plant	<i>Acalypha hispida</i>
Popolo	<i>Solanum americanum</i> *	Coffee	<i>Coffea arabica</i>
Pua Pilo	<i>Capparis sandwichiana</i> *	Crape Jasmine	<i>Ervatamia divaricata</i>
'Uhaloa	<i>Waltheria indica</i> *	Dracaena	<i>Dracaena spp.</i>
Native to Hawaii			
'Akiohala	<i>Hibiscus furcellatus</i>	Dwarf Scheffler	<i>Schefflera arboricola</i>
Ho'awa	<i>Pittosporum bogneri</i>	Eldorado	<i>Pseuderanthemum reticulatum</i>
Naio	<i>Myoporum sandwicense</i> *	Heliconia	<i>Heliconia spp.</i>
Naupaka	<i>Scaevola sericea</i> *	Hibiscus	<i>Hibiscus spp.</i>
Pia	<i>Tacca leontopetaloides</i>	Hymenocallis	<i>Hymenocallis littoralis</i>
Pua Kala	<i>Argemone glauca</i> *	Ixora	<i>Ixora spp.</i>
Polynesian Introduction Plants			
Ape	<i>Alocasia macrorrhiza</i>	Lehua Haoie	<i>Calliandra haematocephala</i>
'Awapuhi	<i>Zingiber zerumbet</i>	Mock Orange	<i>Murraya paniculata</i>
Kalo	<i>Colocasia esculenta</i>	Monstera	<i>Monstera deliciosa</i>
Ki	<i>Cordyline fruticosa</i>	Moraea Iris	<i>Moraea iridoides</i>
Noni	<i>Morinda citrifolia</i> *	Philodendron	<i>Philodendron selloum</i>
'Olena	<i>Curcuma longa</i>	Pikake	<i>Jasminum sambac</i>
Pia	<i>Tacca leontopetaloides</i>	Pittosporum	<i>Pittosporum tobira</i>
		Plumbago	<i>Plumbago auriculata</i> *
		Privet	<i>Ligustrum spp.</i>
		Red Rauhinia	<i>Rauhinia galpinii</i>
		Rhaps Palm	<i>Rhaps exelsa</i>
		Red Ginger	<i>Alpinia purpurata</i>
		Spider Lily	<i>Crinum asiaticum</i>
		Tiare Gardenia	<i>Gardenia taitensis</i>



Groundcovers / Vines

Common Name	Botanical Name	Common Name	Botanical Name
Native to Keahuolu			
Ala'ala-wai-nui	<i>Peperomia leptostachya</i>	Cat's-Claw Creeper	<i>Macladyena unguis-cati</i>
Ala'ala wai nui wahine	<i>Plectranthus parviflorus</i> *	Daylily	<i>Hemerocallis spp.</i>
Huehue	<i>Coccoloba trilobus</i>	Dwarf Natal Plum	<i>Carissa spp.</i>
Kauna'oa	<i>Cuscuta sandwichiana</i> *	Honeysuckle	<i>Lonicera spp.</i>
Koali 'awa	<i>Ipomoea indica</i> *	Jade Vine	<i>Strongylodon macrobotrys</i>
Kupukupu	<i>Nepenthes exaltata</i>	Joyweed	<i>Alternanthera tenella</i>
Moa	<i>Ptilotum nudum</i> *	Kuhio Vine	<i>Ipomoea horstalisii</i>
Pili Grass	<i>Heteropogon contortus</i> *	Lauae Fern	<i>Phymatosorus grossus</i>
Native to Hawaii			
'Ae'ae	<i>Dacrydium monnieri</i>	Melican Creeper	<i>Antigonon leptopus</i> *
Akia	<i>Wikstroemia uva-ursi</i> *	Phothos	<i>Epipremnum pinnatum</i>
'Akuikuli	<i>Sesuvium portulacastrum</i> *	Sandpaper Vine	<i>Petrea vulubilis</i>
Beach Morning Glory	<i>Ipomoea pes-caprae subsp. Brasilensis</i> *	Spider Plant	<i>Chlorophytum comosum</i>
Beach Vitex	<i>Vitex rotundifolia</i> *	Stephanotis	<i>Marsdenia floribunda</i>
Hinahina	<i>Heliotropium anomalum var. argenteum</i> *	Sweet Potato	<i>Ipomoea batatas</i>
Pa'u-o-Hi'aka	<i>Jarquesmontia ovalifolia subsp. Sandwicensis</i> *	Trailing Gardenia	<i>Gardenia augusta 'Radicans'</i>
Uki'uki	<i>Dianella sandwicensis</i>	Carpenter Grass	<i>Axonopus affinis</i>
Polynesian Introduction Plants			
Auhuhu	<i>Tephrosia purpurata</i> *	Seashore Paspalum	<i>Paspalum vaginatum</i>
		St. Augustine Grass	<i>Stentaphrum secundatum</i>
		Zoysia Grass	<i>Zoysia japonica 'El Toro'</i>



Photos Courtesy of Forest and Kim Starr and the University of Hawaii Botany Department



Alahe'e



'Ohe



Mamane



Wiliwili



Hala



Hau



Koai'a Koa



Loulou Palm



Manele



Ohi'a Lehua



Kamani



Kou



Kukui



Niu



'Ulu



Areca Palm



Autograph Tree



Avocado



Cabadae Palm



Citrus



Coral Tree



Crape Myrtle



False Olive



Fern Tree



Gold Tree



A'ali'i



'Ilie'e



'Ilima



Pua Pilo



'Uhaloa



'Akiohala



Ho'awa



Naio



Naupaka



Pia



Pua Kala



'Awapuhi



Kalo



Ki



Noni



'Olena



Bird of Paradise



Bougainvillea



Chenille Plant



Crape Jasmine



Dracaena



Dwf. Schefflera



Eldorado



Heliconia



Hymenocallis Lily

GROUND COVERS & VINES



Kauna'oa



Koali-'awa



Kupukupu



Moa



Pili Grass



'Akiohala



Akia



'Akuikuli



Beach Morning Glory



Beach Vitex



Hinahina



Pa'u-o-Hi'iaka



Uki'uki



Daylily



Dwf. Natal Plum



Honeysuckle



Jade Vine



Joyweed



Kuhio Vine



Lauae Fern



Lippia Grass



Mexican Creeper



Pothos



Sandpaper Vine



Spider Plant



Stephanotis



Trailing Gardenia



Cat's-Claw Creeper



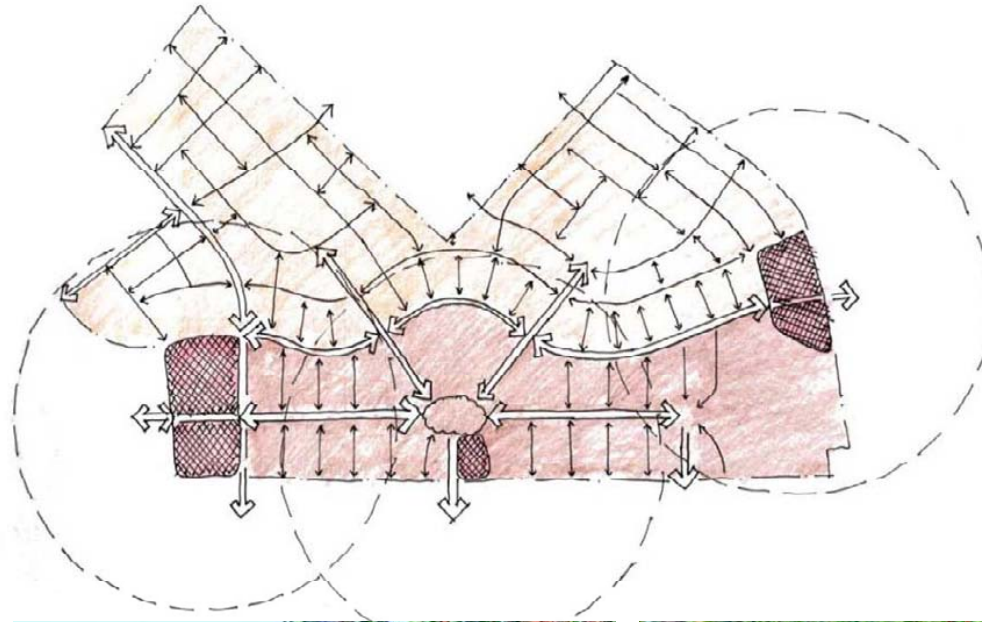
St. Augustine Grass



Zoysia Grass

HOMEOWNER OR NEIGHBORHOOD GARDENS

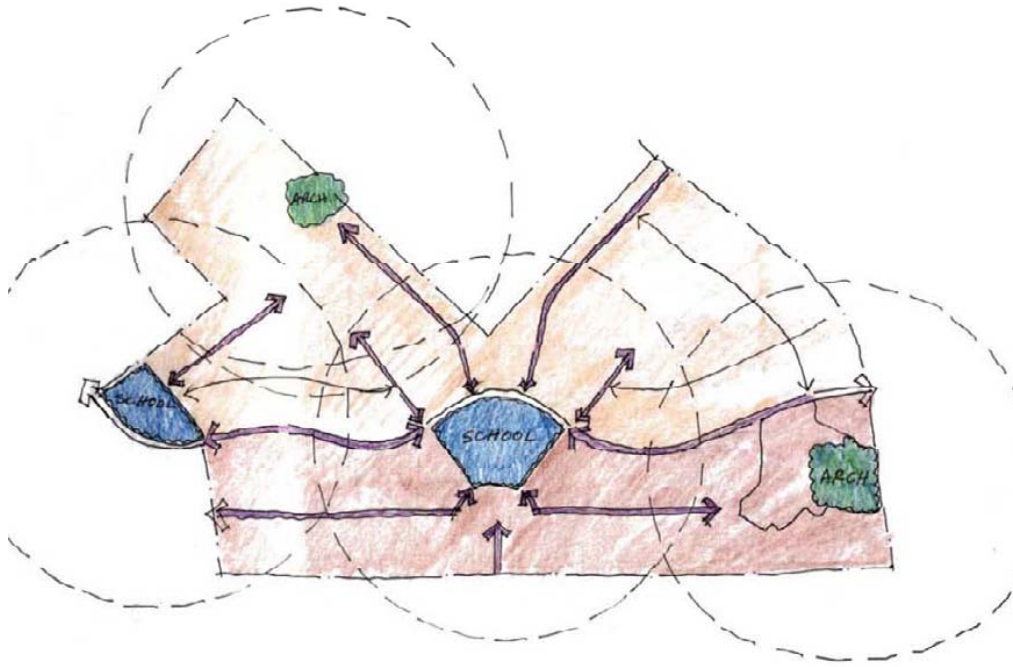




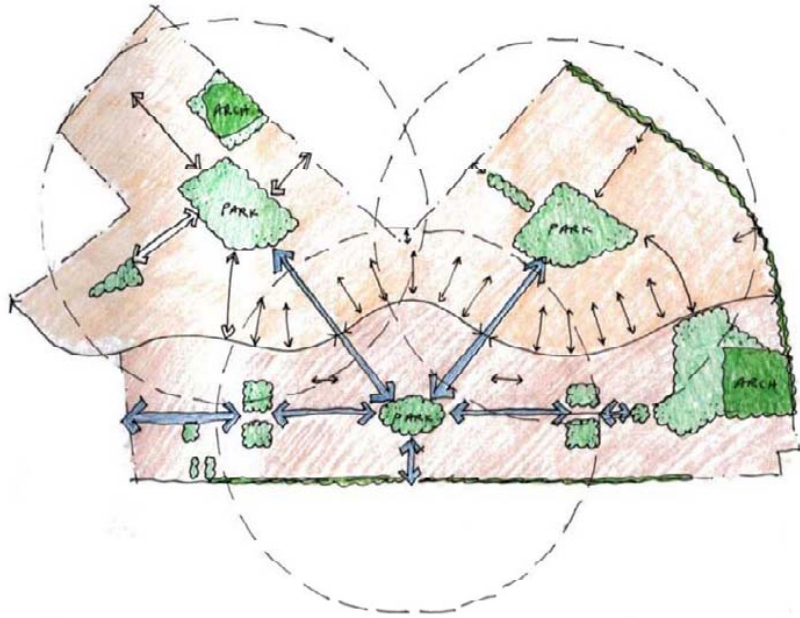
FORESTCITY

Kokua Aku, Kokua Mai





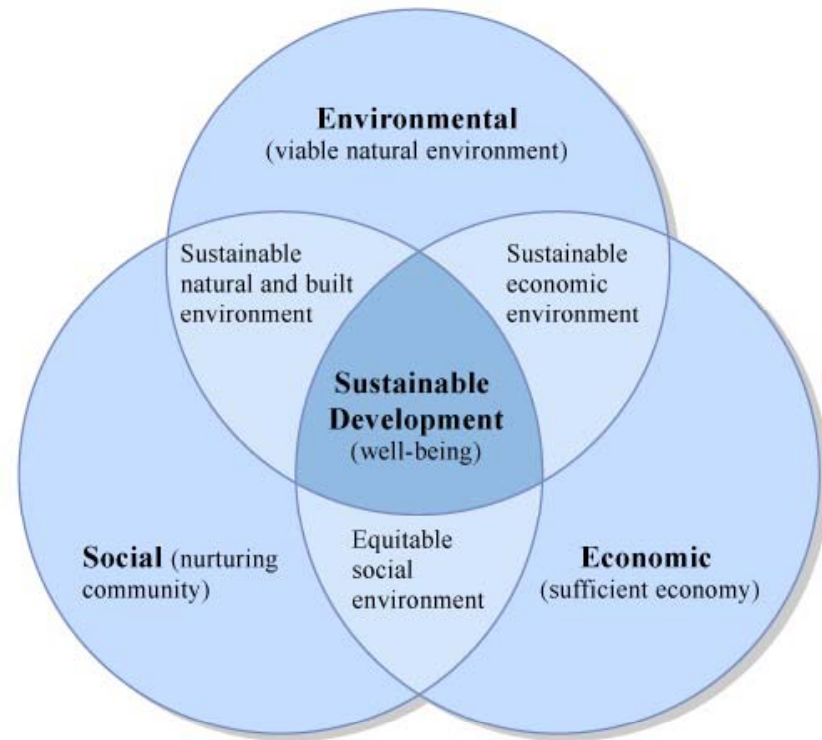
Open Space and Nature



Housing + Transportation Affordability



Source: Scott Bernstein "Creating Livable Communities"



KAMAKANA – A SMART, AFFORDABLE COMMUNITY



FORESTCITY

MAHALO