X. PARTIES CONSULTED DURING THE PREPARATION OF THE FINAL ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED DURING THE 30-DAY PUBLIC COMMENT PERIOD AND RESPONSES TO SUBSTANTIVE COMMENTS

X. PARTIES CONSULTED DURING THE PREPARATION OF THE FINAL ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED DURING THE 30-DAY PUBLIC COMMENT PERIOD AND RESPONSES TO SUBSTANTIVE COMMENTS

A notice of the Draft EA for the subject project was filed and published in the Office of Environmental Quality Control's The Environmental Notice, on March 23, 2008.

The following agencies were also sent a copy of the Draft EA for review and comment. Comments on the Draft EA were received during the 30-day public comment period. Comments, as well as responses to substantive comments, are included in this chapter.

1. Ranae Ganske-Cerizo, Soil Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
210 Imi Kala Street, Suite 209
Wailuku, Hawaii 96793-2100

2. George Young
Chief, Regulatory Branch
U.S. Department of the Army
U.S. Army Engineer District, Honolulu
Regulatory Branch
Building 230
Fort Shafter, Hawaii 96858-5440

3. Gordon Furutani, Field Office Director
U. S. Department of Housing and Urban Development
500 Ala Moana Boulevard, Suite 3A
Honolulu, Hawaii 96813-4918

4. Patrick Leonard
Field Supervisor
U. S. Fish and Wildlife Service
300 Ala Moana Blvd., Rm. 3-122
Box 50088
Honolulu, Hawaii 96813

5. Dan Davidson, Executive Director
Hawaii Housing Finance and Development Corporation
677 Queen Street
Honolulu, Hawaii 96813

6. Sandra Lee Kunimoto, Chair
Department of Agriculture
1428 South King Street
Honolulu, Hawaii 96814-2512

7. Theodore E. Liu, Director
State of Hawaii
Department of Business, Economic Development & Tourism
P.O. Box 2359
Honolulu, Hawaii 96804

8. Patricia Hamamoto, Superintendent
State of Hawaii
Department of Education
P.O. Box 2360
Honolulu, Hawaii 96804

9. Ron Okamura, Complex Area Superintendent
State of Hawaii
Department of Education
54 High Street, 4th Floor
Wailuku, Hawaii 96793

10. Denis Lau, Chief
Clean Water Branch
State of Hawaii
Department of Health
919 Ala Moana Blvd., Room 300
Honolulu, Hawaii 96814

11. Laura H. Thielen, Chairperson **(5 copies)**
State of Hawaii
Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, Hawaii 96813

12. Rodney Maile, Interim Executive Officer
State of Hawaii
State Land Use Commission
P.O. Box 2359
Honolulu, Hawaii 96804

13. Rosalyn H. Baker, Senator
Hawaii State Senate
Hawaii State Capitol, Room 210
415 S. Beretania Street
Honolulu, Hawaii 96813

14. Angus L.K. McKelvey, Representative
House of Representatives
Hawaii State Capitol, Room 315
415 S. Beretania Street
Honolulu, Hawaii 96813

15. Katherine Kealoha, Director
Office Of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, Hawaii 96813

16. Clyde Namuo, Administrator
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

17. Abbey Seth Mayer, Director
State of Hawaii
Office of Planning
P.O. Box 2359
Honolulu, Hawaii 96804

18. Charmaine Tavares, Mayor
County of Maui
200 South High Street
Wailuku, Hawaii 96793

19. Gen Iinuma, Administrator
Maui Civil Defense Agency
200 South High Street
Wailuku, Hawaii 96793

20. Donald Medeiros, Director
County of Maui
Department of Transportation
200 South High Street
Wailuku, Hawaii 96793

21. G. Riki Hokama, Council Chair
Maui County Council
200 South High Street
Wailuku, Hawaii 96793

22. Danny Mateo, Council Vice Chair
Maui County Council
200 South High Street
Wailuku, Hawaii 96793

23. Councilmember Michelle Anderson
Maui County Council
200 South High Street
Wailuku, Hawaii 96793

24. Councilmember Gladys Baisa
Maui County Council
200 South High Street
Wailuku, Hawaii 96793

25. Councilmember Jo-Anne Johnson
Maui County Council
200 South High Street
Wailuku, Hawaii 96793

26. Councilmember Bill Medeiros
Maui County Council
200 South High Street
Wailuku, Hawaii 96793

27. Councilmember Michael J. Molina
Maui County Council
200 South High Street
Wailuku, Hawaii 96793

28. Councilmember Joseph Pontanilla
Maui County Council
200 South High Street
Wailuku, Hawaii 96793

29. Councilmember Mike Victorino
Maui County Council
200 South High Street
Wailuku, Hawaii 96793

30. Theo Morrison, Executive Director
Lahaina Bypass Now
505 Front Street, Suite 202
Lahaina, Hawaii 96761

31. Keoki Freeland, Executive Director
Lahaina Restoration Foundation
120 Dickenson Street
Lahaina, Hawaii 96761

32. Karee Karlucci, Executive Director
Lahaina Town Action Committee
648 Wharf Street, Suite 102
Lahaina, Hawaii 96761

33. Joe Pluta, President
West Maui Improvement Foundation
P. O. Box 10338
Lahaina, Hawaii 96761

34. May Fujiwara
Lahaina-Honolua Senior Citizens Club
P. O. Box 1086
Lahaina, Hawaii 96767

35. Zeke Kalua, Executive Director
West Maui Taxpayers Association
P.O. Box 10338
Lahaina, Hawaii 96761

36. Neal Shinyama, Manager – Engineering
Maui Electric Company, Ltd.
P.O. Box 398
Kahului, Hawaii 96733

37. **Hawaiian Telcom**
60 South Church Street
Wailuku, Hawaii 96793

USDA

United States
Department of
Agriculture

Natural
Resources
Conservation
Service
210 Imi Kala
Suite 209
Wailuku, HI 96793

MAR 3 1 2008

Our People...Our Islands...In Harmony

TO: Mr. Kyle Ginoza
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

Ms. Vanessa Medeiros
Department of Housing and Human Concerns
County of Maui
200 S. High St., Suite 400
Wailuku, HI 96793

DATE: March 28, 2008

FROM: James J. Ino
County Resource Planner/Acting District Conservationist

SUBJECT: Draft Environmental Assessment for Proposed Kahoma Residential Subdivision, Lahaina, Maui, Hawaii
TMK: (2) 4-5-010:005

Due to the location of the project along Kahoma Stream, drainage outlets from the subdivision into the channel need to be coordinated with various government agencies.

Comments on drainage and erosion control issues will be provided upon submittal of plans and designs.

Thank you for the opportunity to comment.

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

Ranae Ganske-Cerizo, Soil Conservationist
United States Department of Agriculture
Natural Resources Conservation Service
700 Hookele Street, Suite 202
Kahului, Hawaii 96732

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes Application Comment Letter Regarding Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Ms. Ganske-Cerizo:

Thank you for your department's letter dated March 28, 2008, providing us with your comments on the subject project. On behalf of our client, West Maui Land Company, Inc., we would like to offer the following responses to your comments. We concur with your comment regarding the coordination between the project's civil engineering consultant and various government agencies on the proposed drainage improvements for the project. The civil engineering consultant noted in the project's engineering and drainage report that construction plan approvals will be sought from various Federal, State of Hawaii, and County of Maui agencies. Further, the applicant continues to meet with various County Departments regarding the project and its proposed improvements.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes (HRS) review process. A copy of your letter will be included in the Final Environmental Assessment.

Very truly yours,

Erin Mukai, Associate

EM:tn
Cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
Kirk Tanaka, R.T. Tanaka Engineers, Inc.
K:\DATA\Kahoma\EmpeeHsg\NRCS response.ltr.doc

APR 0 8 2008

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME L. FUKINO, M. D.
DIRECTOR OF HEALTH

LORRIN W. PANG, M. D., M. P. H.
DISTRICT HEALTH OFFICER

STATE OF HAWAII
DEPARTMENT OF HEALTH
MAUI DISTRICT HEALTH OFFICE
54 HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2102

April 7, 2008

Ms. Vanessa Medeiros
County of Maui
Department of Housing and Human Concerns
200 South High Street, Suite 400
Wailuku, Hawai`i 96793-2155

Dear Ms. Medeiros:

Subject: **Draft Environmental Assessment and Preliminary Section 201H-38, Hawaii Revised Statutes, Application for Proposed Kahoma Residential Subdivision, TMK: (2) 4-5-010: 005**

Thank you for the opportunity to comment on the Draft Environmental Assessment and Preliminary Section 201H for the proposed Kahoma Residential Subdivision. Comments from this office were submitted during the early consultation process. We have no further comments.

Should you have any questions, please call me at 808 984-8230.

Sincerely,

Herbert S. Matsubayashi
District Environmental Health Program Chief

c Kyle Ginoza

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY,

September 12, 2011

Patti Kitkowski
District Environmental Health Program Chief
State of Hawaii
Department of Health
54 High Street
Wailuku, Hawaii 96793

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes Application Comment Letter Regarding Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Ms. Kitkowski:

Thank you for your department's letter dated April 7, 2008, providing us with comments on the subject project. On behalf of our client, West Maui Land Company, Inc., we appreciate your review of the document and your conveying confirmation that the Department has no comment at this time.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes (HRS) review process. A copy of your letter will be included in the Final Environmental Assessment. Should you have any additional questions on the project, please feel free to contact me at 244-2015.

Very truly yours,

Erin Mukai, Associate

EM:tn
Cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
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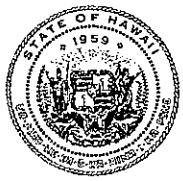

LAND USE COMMISSION
Department of Business, Economic Development & Tourism
State of Hawai`i

April 14, 2008

Ms. Vanessa Medeiros
Department of Housing and Human Concerns
County of Maui
200 South High Street, Suite 400
Wailuku, Hawaii 96793-2155

Dear Ms. Medeiros:

Subject: Draft Environmental Assessment (DEA) for Proposed Kahoma Residential Subdivision
Lahaina, Maui, Hawaii
Tax Map Key: 4-5-10: 5

We have reviewed the subject DEA and have the following comments for your consideration:

1) In accordance with section 11-200-10(5), Hawaii Administrative Rules (HAR), a summary description of the affected environment, including suitable and adequate regional, location, and site maps, should be provided. Based on our review of the project site on the tax map (Figure 2) and the subdivision plan (Figure 4), there appears to be a discrepancy in the depiction of the site as it relates to the sliver of land near the intersection of Kopili and Keone Streets. We also note that on Figure 14, the western boundary of the site is not accurately depicted in relation to the State land use districts.

   Inasmuch as the Underground Injection Control (UIC) line runs across the site, please include a UIC map.

2) In accordance with section 11-200-10(6) and (7), HAR, the impacts of and the alternatives to the proposed project and the proposed mitigation measures should be identified and summarized. The alternatives that are presented are primarily discussed in a negative context relative to the proposed project. Please also include a discussion on the potential benefits of the alternatives, including the extent to which the alternatives could avoid some or all of the short and long-term adverse environmental effects.

235 SOUTH BERETANIA STREET ❁ SUITE 406 ❁ HONOLULU, HAWAI`I 96813 ❁ TEL (808) 587-3822 ❁ FAX (808) 587-3827 ❁ EMAIL: luc@dbedt.hawaii.gov
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

We also note that the DEA contains statements that affirm the proposed project's negligible long-term impacts upon the air quality and ambient noise levels of the area. We further note that there are no studies in the DEA on which these conclusions are based. Given the technical and scientific nature of these issues, it has been customary to assess existing conditions and potential impacts and mitigation measures based on studies conducted by experts in the respective fields. In fact, the location, size, and configuration of the project would appear to require that such studies be done. As an alternative, the statements should be affirmed by acknowledged experts in the fields in question or, at a minimum, be comprehensively supported by published studies that have addressed the impacts on air quality and ambient noise levels from developments on Maui that are similar to the proposed project.

We request that the discussion on cumulative and secondary effects (pp. 60-61) reference the existing and proposed developments in the Lahaina area that were examined and include a quantitative analysis documenting the extent to which each development contributes or will contribute to the impacts on the region's infrastructure and services.

We note that the subject property was previously used for sugarcane cultivation. As such, there may be chemicals associated with the sugar industry that remain present in the soils. To the extent that such chemicals could be a threat to public health and the environment, we request that this matter be assessed to determine the potential risks and any remedial action that needs to be taken.

Finally, a discussion on the specific measures that will be undertaken to design and construct structures within the project to conserve natural resources and that are energy efficient should be included as should a discussion on the existing civil defense conditions, potential impacts, and proposed mitigation measures.

3) In accordance with section 11-200-10(9), HAR, the findings and reasons supporting the anticipated determination should be provided. In this case, it is anticipated that the proposed project will result in a Finding of No Significant Impact. Based on our review of chapter VII entitled *Findings and Conclusions* (pp. 99-102), we believe that the findings under significance criterion 3 and 5 are inadequate as they merely reflect the respective criterion in the negative.

4) In accordance with section 11-200-10(11), HAR, a list of all permits and approvals is required. To the extent possible, the status of each identified approval should be described in terms of the projected submittal dates (i.e., by month/year) of the applications and plans for approval.

5) The discussion on the need for the project (p. 13) should be expanded to include specific information on the incomes of Maui residents (e.g., household, per capita, etc.) and the existing and projected housing conditions as they pertain to affordable and market single-family and multi-family units to justify the statements that they are

unable to afford the median sales prices of single-family house and lots on Maui and in Lahaina.

6) We understand that the subject property on which the project is proposed is currently owned by Kahoma Land LLC. We further understand that West Maui Land Company, Inc., has an agreement to purchase the subject property. The nature and status of the agreement should be clarified.

7) We suggest that a list of acronyms and abbreviations be included for ease of reference.

8) We understand that a petition for land use district boundary amendment for the proposed project will be filed with the Land Use Commission (LUC) pursuant to section 15-15-97, Hawaii Administrative Rules. Given the expedited nature of this process, the applicant is strongly advised to work closely with the LUC staff prior to submittal of the required documents to ensure the orderly processing of the petition.

We have no further comments to offer at this time. Thank you for the opportunity to comment on the subject DEA.

Should you have any questions, please feel free to call me or Bert Saruwatari of our office at 587-3822.

Sincerely,

Rodney A. Maile

RODNEY A. MAILE
Interim Executive Officer

c: Office of Environmental Quality Control
Kyle Ginoza, Munekiyo & Hiraga, Inc. ✓

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

Dan Davidson, Executive Officer
State of Hawaii
State Land Use Commission
P.O. Box 2359
Honolulu, Hawaii 96804

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes, Application Comments For Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Mr. Davidson:

Thank you for the Land Use Commission's letter dated April 14, 2008, providing us with comments on the subject project. On behalf of our client, West Maui Land Company, Inc. (WMLC), we would like to offer the following responses to the comments, in the same order as your letter.

Response to Comment No. 1

We note your comment regarding the maps provided in the Draft Environmental Assessment (EA). The discrepancy in the depiction of the site as it relates to the sliver of land near the intersection of Kopili and Keone Streets on Figure 2 (Tax Map Key Map) and Figure 4 (Site Plan) has been corrected in the Final EA. We also note your comment regarding the western boundary of the site in the State Land Use District Map (Figure 14). Please note that the site boundary is an approximation, based on discernable landmarks from the State Land Use District Map, as parcels are not illustrated on the map.

The underground injection control (UIC) map from the State Department of Health (DOH) website is attached. The UIC line may cross the lower portion of the project site, however no injection wells will be constructed as part of this project. The project will connect to the County of Maui wastewater system.

Response to Comment No. 2

The Alternatives section has been expanded in the Final EA to include a discussion of the potential benefits of the alternatives. Please note, however, that alternatives to the proposed affordable housing project would be a loss of 68 residential units in a housing market where the median single-family home in Lahaina as of June 2011 is $1,320,000.00, according to statistics published by the Realtors Association of Maui.

We note the comment regarding the need for specialized studies for air quality and ambient noise levels of the area. It is noted that the proposed project site is surrounded by existing residential homes to the south and east. To the north and west of the project site are existing commercial and industrial developments, as well as the Kahoma Stream Flood Control Channel. The analysis on the air quality and ambient noise levels related to the proposed project was done taking into account the existing surrounding development, as well as the scope of the proposed residential project. The proposed project is an infill project, with no unusual circumstances proposed in the construction or operations for the residential subdivision

The major potential short-term air quality impact of the project will occur from the emission of fugitive dust during construction. In addition to regular watering and sprinkling, the following measures will be implemented by the applicant's contractor during construction activities to minimize the proliferation of fugitive dust, in accordance with Hawaii Administrative Rules, Chapter 11-60.1, Air Pollution Control.

Use of wind screens and/or limiting the area that is disturbed at any given time will help to contain fugitive dust emissions. Wind erosion of inactive areas of the site that have been disturbed could be controlled by mulching. Trucks hauling soil material would be covered to mitigate dust. A routine road cleaning and tire washing program would help reduce fugitive dust emissions from trucks/vehicles tracking dirt onto nearby paved roadways. Installation of landscaping early in the construction schedule will also help to control dust.

During the construction phase, emissions from engine exhaust will occur from onsite construction equipment and other construction related vehicles. Increased vehicular emissions due to traffic disruptions by construction equipment or vehicles entering/exiting the site can be mitigated by moving equipment during off-peak hours. Construction related emissions would be limited to the construction period of the project. After the project is completed, carbon monoxide concentrations at the site are anticipated to remain within acceptable air quality standards.

Development of the project will entail typical construction activities including excavation, grading, and the use of construction equipment (e.g. bulldozers, front-end loaders, and diesel-powered trucks). Existing residences to the south may be impacted by

construction noise due to their close proximity to the project site. Noise from such construction activities would be short term and must comply with the State DOH noise regulations. Should noise during the construction phase of the project exceed the maximum allowable levels, a noise permit may be required. This has been noted by the State DOH Maui District Health Office in their early consultation comment letter of August 28, 2007.

A review of relevant noise studies revealed that, for residential exterior environmental noise, a day-night average sound level should not exceed 65 dBA, according to the U.S. Department of Housing and Urban Development and the U.S. Environmental Protection Agency. According to data from the Kapalua Mauka Final Environmental Impact Statement, prepared by PBR Hawaii in November 2002, based on this acoustical standard, traffic noise from Honoapiilani Highway may impact residential properties located within 75 feet of the highway. The distance between the Honoapiilani Highway centerline and the project's property line is over 700 feet. Therefore, based on the sizable distance between the highway and the project site, it is anticipated that traffic noise attributed to Honoapiilani Highway will not adversely impact the proposed project. The applicant will work with the State Department of Transportation (DOT), the DOH, and other agencies in complying with all applicable noise standards.

The Final EA includes discussion on the cumulative and secondary impacts. It is noted that since publication of the Draft EA in 2008, the economic climate has changed such that many projects in the area have not yet moved forward with construction. As such, their development timeframes are uncertain.

There are no indications that chemicals associated with the sugar industry or other agricultural chemicals are present at the subject property. The land has remained fallow since the cessation of sugar cane cultivation at the subject property over 20 years ago.

We note your comment with regards to design and construction measures for the project that will conserve natural resources and energy. A discussion has been added to the Final EA to highlight the project's potential measures. Regarding existing civil defense conditions, there exist a civil defense warning siren on Papalaua Street in proximity to the project site. In consultation with both the State and County Civil defense agencies, neither agency noted a need for an upgrade to the existing warning system.

Response to Comment No. 3

We acknowledge your comment regarding the Findings and Conclusion section of the Draft EA. The findings and conclusions for items 3 and 5 in the "Significance Criteria"

has been expanded in the Final EA to illustrate how the project will not have significant impacts on the environment.

Response to Comment No. 4

We note your comment regarding a complete list of permits and approvals required of the project and projected submittal dates of said permits and approvals. It is noted, however, that WMLC will not submit its application for permits (construction and subdivision related) unless it receives approval for the proposed 201H-38, Hawaii Revised Statutes (HRS) application from the County of Maui and the State Land Use Commission. As such, it would be difficult to estimate the projected submittal and approval time frames for all permits.

Response to Comment No. 5

An expanded discussion on the need for the project has been included in the Final EA. We do note that the socio-economic forecast data prepared for the County of Maui's General Plan Update process reflects a continuing increase in housing demand. By the year 2020, the demand for resident housing units in the West Maui region is projected to increase to 9,687 units and by 2030 to 11,369 units. The project will provide 68 residential units, all affordable, to the supply of housing in West Maui. In June 2011, the median price of a single-family home in Lahaina was $1,320,000.00.

Response to Comment No. 6

We note your comment regarding the ownership of the land. The WMLC proposes to purchase the subject property from the landowner after the land use entitlements are secured for the project.

Response to Comment No. 7

A list of acronyms and abbreviations used in the Final EA has been included in the document.

Response to Comment No. 8

We concur with your comment regarding coordination between your office and the project team regarding the expedited processing of the 201H-38, HRS application. Following the review of the 201H-38, HRS application for affordable housing by the Maui County Council, the applicant will contact your office to schedule a meeting with staff to discuss processing of the petition for land use district boundary amendment.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Final EA.

Very truly yours,

Erin Mukai, Associate

EM:tn
Attachment
Cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
Kirk Tanaka, R.T. Tanaka Engineers, Inc.
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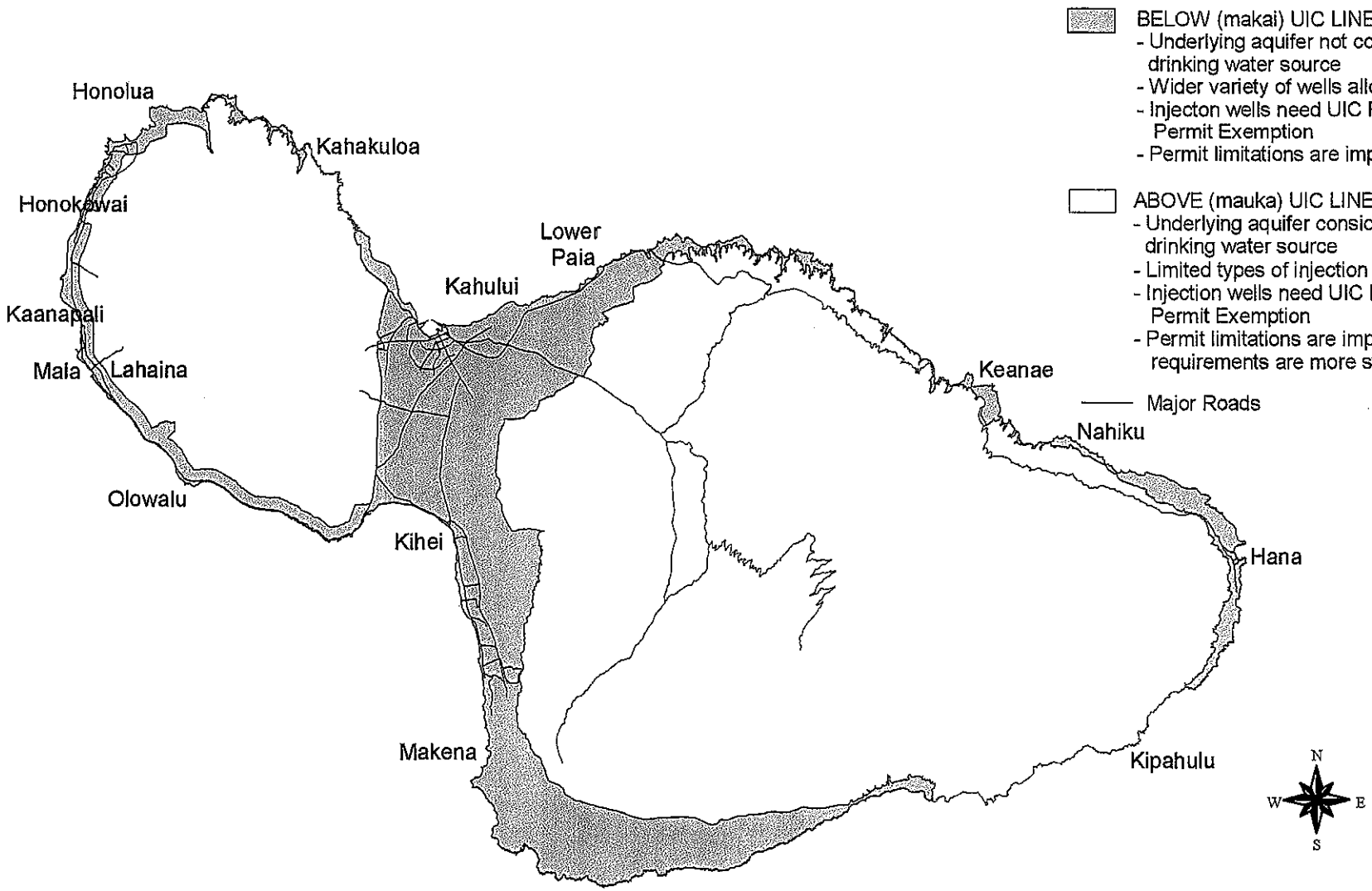
Island of Maui
Underground Injection Control Areas



Department of Health EGIS 9/99

LINDA LINGLE
GOVERNOR

APR 2 1 2008

BRENNON T. MORIOKA
DIRECTOR

Deputy Directors
MICHAEL D. FORMBY
FRANCIS PAUL KEENO
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:

STP 8.2842

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

April 16, 2008

Ms. Vanessa Medeiros
Department of Housing and Human Concerns
County of Maui
200 South High Street, Suite 400
Wailuku, Hawaii 96793-2155

Dear Ms. Medeiros:

Subject: Draft Environmental Assessment
Kahoma Residential Subdivision
West Maui Land Company, Inc.
TMK: (2) 4-5-010:005

The Department of Transportation (DOT) submits the following comments on the subject project as presented in the Draft Environmental Assessment (Draft EA):

1. The project will impact State highways by its contribution of traffic on to roads that connect to the highways. The determination of this impact, as discussed in the traffic impact analysis report (TIAR), Appendix E of the Draft EA, requires clarification and revision of the TIAR.

2. The items below represent the evaluation of the TIAR by the DOT Highways Division:

    a. The TIAR should be revised to comprehensively address the potential impacts of the proposed Mill Street improvements on the surrounding circulation system. The Draft EA states that the subject applicant will improve Mill Street between the project site and Keawe Street. The TIAR, however, does not specifically identify what assumptions are being made regarding the surrounding roadway system and does not clearly describe the assumptions that were used to determine the distribution and assignment of traffic on the surrounding streets (other than on Honoapiilani Highway).

    b. Clarification is needed on whether the TIAR is based on the presumption that Mill Street will be improved between the project site and Keawe Street or between Lahainaluna Road and Mill Street. Since the TIAR emphasizes the Mill Street extension mitigating project generated impacts, the TIAR should include an analysis of the proposed intersection of Lahainaluna Road with the Mill Street extension. The

proximity of the Honoapiilani Highway/Lahainaluna Road intersection to a future Lahainaluna Road/Mill Street intersection raises operational concerns as well as the potential for undesirable congestion on Lahainaluna Road and at the Honoapiilani/Lahainaluna Road intersection. As such, the TIAR should include intersection configuration, turn pockets, and taper lengths between these two intersections, along with capacity analyses and potential impacts at both the Honoapiilani Highway/Lahainaluna Road intersection and Lahainaluna Road/Mill Street intersection.

c. The DOT questions the assumed distribution of project-generated traffic presented in the TIAR as no traffic from the project site being distributed toward Lahaina town (or toward the three schools along Lahainaluna Road). As an affordable housing project, this development could be viewed as a step toward fulfilling the existing housing need for employees in the area. The distribution of project traffic, therefore, will not mirror existing traffic patterns but could reflect higher directional flows to and from major employment centers in the area. The TIAR should also include a discussion of the positive benefits to be gained by providing affordable housing in West Maui, thus reducing the demand for travel to/from Central and South Maui.

   Occupancy arrangements for the project, whether for residents working in West Maui or for occupants who may work elsewhere on Maui, influences traffic assignment. The TIAR should include a figure that clearly identifies the assumed distribution of project-generated trips as well as a figure that identifies the assignment of these project-generated trips on the surrounding roadway system and not just on Honoapiilani Highway. The reasonableness of the traffic assignment assumptions can be resolved with more and sufficient documentation of the planned or anticipated conditions for resident occupancy.

d. The TIAR should also include analyses and discussion of the Honoapiilani Highway/Lahainaluna Road intersection during the afternoon peak hour, when the students from the three schools that are along Lahainaluna Road are dismissed. This intersection experiences two afternoon peak periods, with an extremely heavy peak condition occurring at the end of the school day for the elementary, middle, and high schools on Lahainaluna Road. Extremely heavy queuing of westbound right-turn vehicles on Lahainaluna Road at Honoapiilani Highway has been observed during this afternoon school peak period. The TIAR analyses should, therefore, again include a discussion of the potential impacts to both the Honoapiilani Highway/Lahainaluna Road intersection and Lahainaluna Road/Mill Street intersection.

e. The TIAR should be revised to include the overall levels-of-service at signalized intersections along with the Level of Service (LOS) of individual movements. Further, the TIAR should more clearly identify those intersections that are anticipated to exceed LOS E and the mitigation measures needed to improve operations to LOS D or better.

f. Information on other potential developments in the area, as they relate to the growth in background traffic, should be presented in tabular format.

g. The discussion on trip generation, distribution, and assignment of project-generated traffic should follow future year without project conditions rather than precede it. This change in the TIAR would make the presentation follow the standard, traditional report format.

3. Discussion and resolution of the foregoing concerns with the DOT Highways Division can be arranged by contacting Mr. Ken Tatsuguchi of the Highways Planning Branch in Honolulu at 587-1830.

The DOT appreciates the opportunity to provide comments.

Very truly yours,

BRENNON T. MORIOKA, Ph.D, P.E.
Director of Transportation

c: Mr. Kyle Ginoza, Munekiyo & Hiraga, Inc.

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

Glenn Okimoto, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes, Application Comments for Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii (STP 8.2842)

Dear Mr. Okimoto:

Thank you for your department's letter dated April 16, 2008, providing us with your comments on the subject project. On behalf of our client, West Maui Land Company, Inc. (WMLC), we would like to offer the following responses to the comments, provided by the project's traffic consultant.

1. As indicated on page 14 of the traffic impact analysis report (TIAR), trips were distributed between the two (2) project access connections, to the old cane haul road on the north edge of the project and to Lui Street on the south edge of the project, based upon relative proximity of the planned dwelling units to each connection. These trips were then routed to Honoapiilani Highway utilizing the most convenient routes along the adjacent local roadways. Those trips distributed to the southern access connection were assumed to utilize Lui and Kalena Street and the surrounding local roadways to reach Lahainaluna Road and Honoapiilani Highway. Those trips distributed to the northern access connection were assumed to utilize the old cane haul road to reach Keawe Street and Honoapiilani Highway.

2. The TIAR is based upon the assumption that the old cane haul road will be improved between the project site and Keawe Street. All vehicles routed to Lahainaluna Road are assumed to access that roadway via Lui and Kalena Streets and the surrounding network of local roadways. As such, the TIAR does not include analysis of a future extension of the old cane haul road (Mill Street to Lahainaluna Road).

3. Although there are many philosophies regarding the distribution of trips, the methodology utilized for the TIAR was selected to represent a worst-case scenario. Turning movements at an intersection require additional time to execute their movement in comparison to through movements. As such, the site-generated trips were assigned to turning movements at the subject intersections to assess the worst-case scenario for traffic operations. The distribution of trips utilized for the TIAR is shown in Figure 4 of the study. It should be noted that the trip generation for the project is expected to be relatively low during the peak periods with a total (entering and exiting) of 58 trips and 75 trips during the AM and PM peak periods, respectively.

4. The data collection periods were determined based upon the available State DOT traffic counts at the intersection of Honoapiilani Highway and Lahainaluna Road which indicate that the peak periods at that intersection occur around 7:00 AM to 8:00 AM in the morning and 3:30 PM and 4:30 PM during the afternoon. The available data does indicate an earlier peak around 2:00 PM that corresponds with the ending of the school day. However, the volumes during this time period are lower than during the PM commuter peak period. As such, the PM commuter peak period was selected for analyses to present the worst-case scenario. As noted previously, the project does not include a future extension of the cane haul road between Keawe Street and Lahainaluna Road. As such, the future intersection at Lahainaluna Road was not analyzed. However, the traffic consultant does note that the construction of Phase 1A of the Lahaina Bypass Road and extension of Keawe Street are expected to alleviate existing traffic conditions along Lahainaluna Road due to the provision of an alternate route mauka of the highway. In addition, Year 2010 existing conditions at the intersection of Honoapiilani Highway with Lahainaluna Road were compared with the baseline conditions from the 2007 TIAR to verify if the previous analyses were still valid. The comparison indicated that Year 2010 traffic volumes were similar to or less than those utilized for the 2007 TIAR. As such, the proposed Kahoma Residential Development is not expected to have a significant impact on traffic operations in the vicinity and the recommendations included in the 2007 TIAR are still applicable to this project.

5. The purpose of the TIAR is to identify project-related impacts and provide mitigative measures to alleviate those impacts. As previously stated, it should be noted that the trip generation for the project is expected to be relatively low during the peak periods. As such, under with project conditions, the traffic movements at the subject intersections are expected to operate at levels-of-service similar to without project conditions. However, the TIAR does acknowledge that some of the traffic movements may operate at low levels-of-

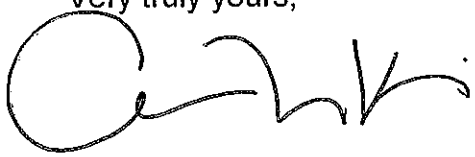
service without the proposed project and provides discussion of the planned Keawe Street extension that may alleviate these conditions.

6. Although not in tabular form, other potential developments in the area, as they relate to the growth in background traffic, was included in the 2007 TIAR on pages 16 through 18.

7. In preparing the TIAR, the project details and overall characteristics including trip generation, distribution, and assignment are included up front to provide a comprehensive discussion of the project without a fixed frame of reference. The following sections discussing without and with project conditions then provide the appropriate frame of reference for the project. In addition, the placement of the without and with project scenarios in adjacent sections of the report allows for a direct comparison of the two scenarios.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Final EA. Should you have any additional questions on the project, please feel free to contact me at (808)244-2015.

Very truly yours,



Erin Mukai
Associate

EM:tn
cc: Jo-Ann Ridao, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
Keith Niiya, Austin, Tsutsumi & Associates, Inc.
K:\DATA\Kahoma\EmpeeHsg\SDOTresponse.llr.doc

APR 2 2 2008

LINDA LINGLE
GOVERNOR

ORLANDO "DAN" DAVIDSON
EXECUTIVE DIRECTOR

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT AND TOURISM
HAWAII HOUSING FINANCE AND DEVELOPMENT CORPORATION
677 QUEEN STREET, SUITE 300
Honolulu, Hawaii 96813
FAX: (808) 587-0600

IN REPLY REFER TO:

08:PEO/49

April 18, 2008

Ms. Vanessa Medeiros, Director
County of Maui
Department of Housing and Human Concerns
200 South High Street, Suite 400
Wailuku, Hawaii 96793-2155

Dear Ms. Medeiros:

Re: Draft Environmental Assessment for the Proposed Kahoma Residential Subdivision, Lahaina, Maui, TMK: (2) 4-5-010:005

The proposed project will provide 88 affordable housing units in compliance with the Maui Residential Workforce Housing Policy. It appears the project is consistent with the affordable housing policy set forth in the Hawaii State Plan of increasing homeownership and rental opportunities and choices in terms of quality, location, cost densities, style and size of housing.

Thank you for the opportunity to comment.

Sincerely,

Orlando "Dan" Davidson
Executive Director

c: ✓Kyle Ginoza, Munekiyo & Hiraga, Inc.

20

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

Karen Seddon, Executive Director
Hawaii Housing Finance and Development
Corporation
677 Queen Street
Honolulu, Hawaii 96813

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes, Application Comment Letter Regarding Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Ms. Seddon:

Thank you for your department's letter dated April 18, 2008, providing us with comments on the subject project. On behalf of our client, West Maui Land Company, Inc., we would like to offer the following information in response to the comment.

We note that since publication of the Draft Environmental Assessment (EA), the project plans have been revised to provide a total of 68 affordable single-family units.

We also note your department's comment that the project is consistent with the affordable housing policy set forth in the Hawaii State Plan.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Final EA. Should you have any additional questions on the project, please feel free to contact me at 244-2015.

Very truly yours,

Erin Mukai, Associate

EM:tn
cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
K:\DATA\Kahoma\EmpeeHsg\HHFDCresponse.ltr.doc

APR 2 2 2008

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

April 18, 2008

County of Maui
Department of Housing & Human Concerns
200 South High Street Suite 400
Wailuku, Hawaii 96793-2155

Attention: Ms. Vanessa Medeiros

Gentlemen:

Subject: Draft Environmental Assessment for proposed Kahoma Residential Subdivision, Lahaina, Maui, Tax Map Key: (2) 4-5-10:5

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comment.

Other than the comments from Engineering Division, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

Charlene E Unoki

for Morris M. Atta
Administrator

Cc: Munekiyo & Hiraga, Inc.

'08 MAR 24 AM 10:19

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

March 20, 2008

MEMORANDUM

TO: **DLNR Agencies:**
_x_Div. of Aquatic Resources
_Div. of Boating & Ocean Recreation
_x_Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
_x_Commission on Water Resource Management
__Office of Conservation & Coastal Lands
__Land Division – District

FROM: for Morris M. Atta Charlene
SUBJECT: Draft Environmental Assessment for Proposed Kahoma Residential Subdivision
LOCATION: Lahaina, Maui, TMK: (2) 4-5-10:5
APPLICANT: Munekiyo & Hiraga, Inc. on behalf West Maui Land Co., Inc.

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by April 15, 2008.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed: [signature]
Date: 4/1/08

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Morris Atta
Ref.: DEA for Proposed Kahoma Residential Subdivision
Maui.001

COMMENTS

(X) **We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone C. The National Flood Insurance Program does not have any regulations for developments within Zone C.**

( ) Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is also located in Zone ____.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

( ) Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

( ) Mr. Robert Sumimoto at (808) 523-4254 or Mr. Mario Siu Li at (808) 523-4247 of the City and County of Honolulu, Department of Planning and Permitting.

( ) Mr. Kelly Gomes at (808) 961-8327 (Hilo) or Mr. Kiran Emler at (808) 327-3530 (Kona) of the County of Hawaii, Department of Public Works.

( ) Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.

( ) Mr. Mario Antonio at (808) 241-6620 of the County of Kauai, Department of Public Works.

( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.

( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

( ) Additional Comments: _____

_____

( ) Other: _____

Should you have any questions, please call Mr. Dennis Imada of the Planning Branch at 587-0257.

Signed: _____
ERIC T. HIRANO, CHIEF ENGINEER

Date: 4/1/08

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

April 29, 2008

RECEIVED
2008 MAY -1 PM 3:26
DHHC-DIRECTORS OFFICE
COUNTY OF MAUI

County of Maui
Department of housing & Human Concerns
200 South High Street, Suite 400
Wailuku, HI 96793-2155

Attention: Ms. Vanessa Medeiros

Dear Ms. Medeiros:

SUBJECT: Draft Environmental Assessment for proposed Kahoma Residential Subdivision, Lahaina, Maui; TMK: (2) 4-5-10:5

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

Other than the comments from the Engineering Division previously sent you, enclosed are comments from the Commission on Water Resources Management on the subject matter. Should you have any questions, please feel free to call my office at 587-0433. Thank you.

Sincerely,

Morris M. Atta
Acting Administrator

Enclosure

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED
08 MAR 24 A8:52
COMMISSION ON WATER RESOURCE MANAGEMENT

March 20, 2008

MEMORANDUM

TO: **DLNR Agencies:**
x Div. of Aquatic Resources
_Div. of Boating & Ocean Recreation
_x_Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
_x_Commission on Water Resource Management
__Office of Conservation & Coastal Lands
__Land Division – District

FROM: Morris M. Atta
SUBJECT: Draft Environmental Assessment for Proposed Kahoma Residential Subdivision
LOCATION: Lahaina, Maui, TMK: (2) 4-5-10:5
APPLICANT: Munekiyo & Hiraga, Inc. on behalf West Maui Land Co., Inc.

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by April 15, 2008.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
( ) Comments are attached.

Signed: _____
Date: _____

LINDA LINGLE
GOVERNOR OF HAWAII

RECEIVED
LAND DIVISION
2008 APR 25 P 3:55

LAURA H. THIELEN
CHAIRPERSON

MEREDITH J. CHING
JAMES A. FRAZIER
NEAL S. FUJIWARA
CHIYOME L. FUKINO, M.D.
DONNA FAY K. KIYOSAKI, P.E.
LAWRENCE H. MIIKE, M.D., J.D.

KEN C. KAWAHARA, P.E.
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

April 22, 2008

TO: Morris Atta, Acting Administrator
Land Division

FROM: Ken C. Kawahara, P.E., Deputy Director
Commission on Water Resource Management

SUBJECT: Kahoma Residential Subdivision (63 SF/25 MF), Maui

FILE NO.: TMK: (2) 4-5-10:5

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore, all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at *http://www.hawaii.gov/dlnr/cwrm*.

Our comments related to water resources are checked off below.

☒ 1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.

☐ 2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.

☐ 3. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.

Permits required by CWRM: Additional information and forms are available at *www.hawaii.gov/dlnr/cwrm/forms.htm*.

☐ 4. The proposed water supply source for the project is located in a designated ground-water management area, and a Water Use Permit is required prior to use of ground water.

☐ 5. A Well Construction Permit(s) is (are) required before the commencement of any well construction work.

☐ 6. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.

☐ 7. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.

☐ 8. Ground-water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.

☐ 9. A Stream Channel Alteration Permit(s) is (are) required before any alteration can be made to the bed and/or banks of a stream channel.

☐ 10. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is constructed or altered.

☐ 11. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.

☐ 12. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.

☐ 13. We recommend that the report identify feasible alternative non-potable water resources, including reclaimed wastewater.

☒ OTHER:

The project seems to meet the county guidelines for projected water demand. It reflects an awareness of limitations on potable water for irrigation. Continued use of surface water is subject to potential limitations due to determination of stream flow standards for the source streams.

If there are any questions, please contact Charley Ice at 587-0251.

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

Russel Y. Tsuji, Administrator
State of Hawaii
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawaii 96809

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38 Hawaii Revised Statutes Application Comment Letter Regarding Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Mr. Tsuji:

Thank you for your Department's letter dated April 18, 2008, providing us with comments from the Engineering Division on the subject project. We note that since receiving your letter on September 25, 2009, the Flood Designation for the project site was modified to Zone X.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes (HRS) review process. A copy of your letter will be included in the Final Environmental Assessment.

Very truly yours,

Erin Mukai, Associate

EM:tn
cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
K:\DATA\Kahoma\EmpeeHsg\DLNRLandresponse.ltr.doc

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

William M. Tam, Interim Deputy Director
State of Hawaii
Commission on Water Resource Management
P.O. Box 621
Honolulu, Hawaii 96809

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes, Application Comment Letter Regarding Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Mr. Tam:

Thank you for the Commission's memorandum dated April 22, 2008, providing us with comments on the subject project. On behalf of our client, West Maui Land Company, Inc. (WMLC), we would like to offer the following responses to the comments. We note the comment regarding coordination with the County of Maui's Department of Water Supply (DWS) and Department of Planning for inclusion of the project into the Water Use and Development Plan. Please note that both the DWS and Planning Department have been informed about the proposed Kahoma Residential affordable housing project through various meetings and correspondences with the departments. It is our understanding that the project has been included in the Planning Department's future projects list. We also note that since receiving your letter, the County of Maui approved Ordinance No. 3818 amending Section 14.12.030 of the Maui County Code relating to exemptions from the County's water availability policy. This Ordinance exempts "Residential development projects with one hundred percent affordable housing units and are within the service area of the department's Central or West Maui water system". As such, the project is exempt from providing a long-term reliable supply of water. Lastly, we note the comment regarding the limitations of potable water use for irrigation. WMLC will incorporate the use of drought tolerant plants to reduce the amount of water utilized for irrigation in the Kahoma Residential subdivision.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes (HRS) review process. A copy of your letter will be included in the Final Environmental Assessment.

Very truly yours,

Erin Mukai, Associate

EM:tn

cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
Kirk Tanaka, Tanaka Engineers, Inc.
K:\DATA\Kahoma\EmpeeHsg\CWRMresponse.ltr.doc

LINDA LINGLE
GOVERNOR

APR 2 2 2008

PATRICIA HAMAMOTO
SUPERINTENDENT

STATE OF HAWAI'I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI'I 96804

OFFICE OF THE SUPERINTENDENT

April 21, 2008

Ms. Vanessa Medeiros
County of Maui
Department of Housing and Human Concerns
200 South High Street, Suite 400
Wailuku, Hawaii 96793-2155

Dear Ms. Medeiros:

Subject: Draft Environmental Assessment (DEA) for Proposed Kahoma Subdivision, Lahaina, Maui, TMK: (2) 4-5-010:005

The Department of Education (DOE) has reviewed the DEA for the proposed Kahoma Residential Subdivision. We have the following comments:

Page 46, Section 4. Educational Facilities, a. Existing Conditions: Please update your figures to reflect the following 2007 update of actual and projected enrollments at DOE schools. Our enrollment numbers and future projections have changed since the data provided to you in 2006.

	ACTUAL ENROLLMENT		CAPACITY	PROJECTED ENROLLMENT				
LAHAINA COMPLEX	2006-07	2007-08	2006 - 07	2008-09	2009-10	2010-11	2011-12	2012-13
KAMEHAMEHA III	738	701	588	724	746	760	765	778
LAHAINA INT	584	615	545	598	605	608	611	615
LAHAINALUNA HI	984	996	756	979	976	974	972	970
NAHIENAENA	625	624	576	576	580	580	577	580

Page 46, b. Potential Impacts and Proposed Mitigation Measures: As we mentioned in our August 10, 2007 letter, the 2007 Legislature established school impact fees. DOE is in the process of implementing that law, which permits the DOE to impose impact fees on developers, outside of the county planning review process. A 201-H exemption does not apply.

Under the new law, we believe the project will be required to pay an impact fee. We currently do not know the amount of the fee per residential unit. The DOE looks forward to meeting with the developers of the project to discuss an agreement to mitigate the impacts of enrollment growth generated by this project.

Thank you for the opportunity to review this document. If you have any questions, please call George Casen of our Facilities Development Branch at (808) 377-8308.

Very truly yours,

Patricia Hamamoto
Superintendent

PH:jmb

c: Randolph Moore, Assistant Superintendent, OSFSS
Duane Kashiwai, Public Works Administrator, FDB
Ron Okamura, CAS, Hana/Lahaina/Lanai/Molokai Complex Areas
✓ Kyle Ginoza, Munekiyo & Hiraga, Inc.

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

Kathryn Matayoshi, Superintendent
State of Hawaii
Department of Education
P.O. Box 2360
Honolulu, Hawaii 96813-5097

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes, Application Comment Letter Regarding Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Ms. Matayoshi:

Thank you for your department's letter dated April 21, 2008, providing us with comments on the subject project. On behalf of our client, West Maui Land Company, Inc. (WMLC), we would like to offer the following responses to the comments.

1. Thank you for the enrollment information for the West Maui public schools. Since receiving your letter in 2008, we have updated our table in the Final Environmental Assessment (EA) to reflect new figures.

2. We note your comment regarding the passage by the State Legislature of the school impact fees. Please note that WMLC will be filing a Section 201H-38, Hawaii Revised Statutes (HRS), petition for a District Boundary Amendment with the State Land Use Commission (SLUC). An exemption from the educational fees will be sought through this process as one hundred percent (100%) of the units will meet the affordable housing pricing criteria based on Maui County's Residential Workforce Housing Policy. It is our understanding that the SLUC has previously provided exemptions from the educational fees for other projects to support the development of affordable housing.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Final EA.

Very truly yours,

Erin Mukai, Associate

EM:tn

cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
K:\DATA\Kahoma\EmpeeHsg\DOEresponse.ltr.doc

APR 2 5 2008

LINDA LINGLE
GOVERNOR
THEODORE E. LIU
DIRECTOR
MARK K. ANDERSON
DEPUTY DIRECTOR
ABBEY SETH MAYER
DIRECTOR
OFFICE OF PLANNING

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

OFFICE OF PLANNING
235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2846
Fax: (808) 587-2824

Ref. No. P-12096

April 22, 2008

Ms. Vanessa Medeiros
Department of Housing and Human Concerns
County of Maui
200 South High Street, Suite 400
Wailuku, Hawaii 96793-2155

Dear Ms. Medeiros:

Subject: West Maui Land Company, Inc.
Proposed Kahoma Residential Subdivision Draft Environmental Assessment (EA)
TMK: (2) 4-5-010:005
Lahaina, Maui, Hawaii

Thank you for the opportunity to submit comments on the draft EA, for the above referenced proposal to reclassify approximately 16.7 acres of land from the State Agricultural District to the State Urban District in Lahaina, Maui, Hawaii. The subject project proposes the development of a mix of approximately 88 affordable single-family and multi-family residential units, roadways, park, and open space. The applicant proposes to file a Section 201H-38 petition with the State Land Use Commission (LUC). LUC is required to "fast track" and approve or deny the petition within 45 days of acceptance as a proper filing.

We note that the project site is designated "Open Space" by the West Maui Community Plan, and the applicant will seek an exemption via the "fast track" process.

We offer the following comments and general observations related to topic areas of interest to the State:

1. **Transportation.** The final EA should include information on alternative modes of transportation that could serve the project and project residents, such as the public bus system, (i.e., identification of bus stops or street cut-out), and bike paths incorporated in regional transportation plans.

2. **Water.** The final EA should include a discussion of the water conservation measures such as use of brackish and/or reclaimed water sources for dust control and for all non-potable water uses during various phases of construction;

reduction of single-pass cooling systems, utilization of low-flow fixtures/devices; use of climate-adapted plants; and limitation of irrigated turf. In addition, please discuss coordination efforts and agreements reached with the Maui Department of Water Supply and if necessary, the State Commission on Water Resource Management.

3. **Wastewater.** The final EA should include identification of the selected wastewater disposal option and mitigation measures. The first option identified in the draft EA requires approval by the Department of Environmental Management to ensure that there is adequate transmission, treatment, and disposal capacity to serve the project. The second option requires additional approval from the U.S. Army Corps of Engineers due to the crossing of Kahoma Stream Flood Control Channel. Both options require easements to cross beneath private properties.

4. **Drainage.** The final EA should include a discussion of low impact development techniques that can be incorporated into the building and site design to improve stormwater management. The Hawaii Coastal Zone Management Program's publication, *Low Impact Development: A Practitioner's Guide* (2006), provides examples of design techniques that offer alternatives to conventional drainage plans. Impacts to the Kahoma Stream Flood Control Channel should be addressed.

5. **Other comments.**
   a. Page 57, Solid Waste Disposal: The final EA should include a discussion of the project's mitigation measures to reduce, reuse, or recycle solid waste in order to minimize impacts to County landfill facilities.

   b. Page 60, Electrical, Telephone, and Cable Television Services: The final EA should incorporate an exploration of measures to reduce energy demand generated by the project. This section should identify some of the demand side management measures for energy conservation.

Finally, the Office recommends using the final EA process as a means to incorporate and use sustainable design and development practices in the proposed project. The Office of Environmental Quality Control's (OEQC), *Guidelines for Sustainable Building Design in Hawai`i*, and the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) programs for new construction, and its pilot program for neighborhood development, offer guidelines and checklists for this purpose. The adoption of sustainable building and development practices has long-term environmental, social, and economic benefits to Hawaii's residents and communities.

Thank you again for the opportunity to review the draft EA and offer comments. The Office of Planning looks forward to receiving the Petitioner's final EA. If you have any questions, please call Debra Mendes in the Land Use Division at 587-2840.

Sincerely,

Abbey Seth Mayer
Director

c: ✓Mr. Kyle Ginoza, Munekiyo & Hiraga, Inc.
Mr. Rodney Maile, State Land Use Commission
Ms. Katherine Kealoha, OEQC

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

Jesse Souki, Director
State of Hawaii
Office of Planning
P.O. Box 2359
Honolulu, Hawaii 96804

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes, Application Comment Letter Regarding Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii (Reference No. P-12096)

Dear Mr. Souki:

Thank you for your office's letter dated April 22, 2008, providing us with your comments on the subject project. On behalf of our client, West Maui Land Company, Inc. (WMLC), we would like to offer the following responses to the comments.

1. We note your comment regarding the inclusion of a discussion on alternative modes of transportation that could serve the project's residents. The project presents an opportunity to promote non-automobile travel for recreational and household pursuits. Accommodations to support public bus transportation services will be considered to facilitate an alternative travel mode. Also, recreational needs will be served by the addition of an active park as part of the project. A network of bicycle lanes and walking paths will connect areas and promote recreational activity and also serve to reduce residents' reliance on automobiles.

2. Water conservation measures for the project are included in the "Water" section of the Draft Environmental Assessment (EA) and Final EA. During the development of the construction plans for the project, the applicant will coordinate with the Department of Water Supply (DWS) to specify an acceptable water conservation program. In addition, the applicant will coordinate with the DWS and the Commission on Water Resource Management, as applicable, to include the project on the County of Maui Water Use and Development Plan.

3. The project will connect to the County of Maui's wastewater system via the old cane haul road to Keawe Street.

4. The applicant has reviewed the possible incorporation of low impact development techniques for the project and this information is found in the Final EA. The project's civil engineer is coordinating review of the proposed drainage plans with the various Federal, State and County agencies. Potential impacts to the Kahoma Stream Flood Control Channel are not anticipated to be significant as the post-development increase in surface runoff will be retained onsite.

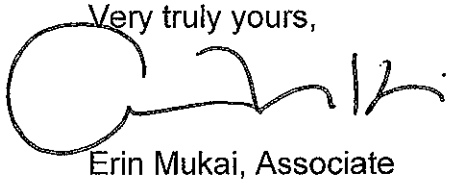
5. We note your comment regarding the inclusion of mitigation measures to reduce, reuse or recycle solid waste during construction. A construction waste disposal, recycling, and reuse plan will be included in the project's construction plans.

6. The project will review potential alternatives for reducing energy demands of the subdivision. The project's electrical consultant, once selected, will meet with Maui Electric Company, Ltd. personnel to examine potential energy conservation measures.

7. We note your comment regarding the incorporation of sustainable design and development practices for the proposed affordable housing subdivision. The Final EA has included a discussion on sustainable design measures.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes (HRS) review process. A copy of your letter will be included in the Final EA.

Very truly yours,



Erin Mukai, Associate

EM:tn
cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
Kirk Tanaka, Tanaka Engineers, Inc.
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PHONE (808) 594-1888

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STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

HRD08/3169B

April 22, 2008

Kyle Ginoza
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

RE: Draft Environmental Assessment (DEA) for Proposed Kahoma Residential Subdivision, Lahaina, Maui, Hawai'i, TMK (2) 4-5-010:005.

Dear Mr. Ginoza,

The Office of Hawaiian Affairs (OHA) is in receipt of your request for comments concerning the DEA for the proposed Kahoma Residential Subdivision in Lahaina on Maui. We offer the following comments:

OHA understands that this proposed project intends for all the units to be priced in the affordable category as defined in Table 2 on page 14 of the DEA. As such, OHA applauds the intent of this proposed project in trying to fulfill this important need. OHA is a bit concerned, however, by the description on page 10 of the DEA which states:

> At this point and time, based on the project's location proximate to established residential subdivisions, it is anticipated that the lots will be priced to be affordable to individuals and families in the 140 percent to 160 percent of the household median income range, assuming affordable lot only prices are 50 percent of the affordable 4-bedroom house and lot prices.[1] (emphasis added)

[1] OHA also points out that the affordability aspect of the proposed project is noticeably absent from section b. on page 19 of the DEA.

OHA had understood that this project was being proposed specifically to address the need for affordable housing in the Lahaina area and would encourage the applicant to provide assurances that this is indeed the intent.

OHA notes that ensuring that all units of this project are made to be affordable as proposed is particularly important in part due to the fact that the applicant intends to file a HRS section 201H-38 application for a total of eight different exemptions for the entire project. While OHA is generally supportive of this proposed project due to its affordability, we are critical of steps which allow applicants to bypass legal precedents and safeguards that this State struggled so hard to put in place. In particular, exemptions from zoning and community plan amendments as well as agency permitting process silences the community's voice and eliminates the expertise that these agencies were created to advocate for. OHA also recognizes that regulatory exemptions can create uncomfortable situations for applicants as well as recent environmental exemptions have so well demonstrated. Therefore, we urge that Maui City Council be particularly diligent when dealing with this part of the proposed project.

Because the DEA recognizes the presence of Newell's shearwater seabirds, all outdoor lights should be fully shaded or full cut-off styles. Uplighting should be avoided. Every effort should be made to avoid lighting situations where light glare projects upwards or laterally. Large, high-intensity floodlights located on building tops or poles should also be avoided. Use of amber colored or other color (such as blue or green) filters or bulbs should be used to assist in decreasing risk of seabird attraction. For the same reasons, OHA also recommends the use of motion detection-activated lights to prevent lights from being on for extended periods of time. Also, the painting of buildings and other facilities should be in earth tones; white or reflecting colors are to be avoided.

OHA was confused by section b. of the DEA on page 35 which states:

> In general, the proposed project will employ appropriate management and coordination practices to ensure that impacts to cultural values and practices are appropriately mitigated.

OHA's confusion stems from the fact that the DEA states on page 34 that adverse cultural impacts are not expected to arise from the proposed action. We seek clarification as to whether or not cultural impacts are expected from this proposed project and if so, what specifically are the appropriate management and coordination practices that will be employed to mitigate these adverse effects.

OHA also notes that the Maui County Department of Housing and Human Concerns, as a county agency, is mandated by the Hawai'i Constitution article XII, section 7, "to preserve and protect customary and traditional practices of Native Hawaiians." (Ka Pa'akai O Ka 'Aina v. Land Use Comm'n, 94 Haw. 31, 45 (2000)). Under Ka Pa'akai, to uphold the mandate of article XII, section 7, agencies are required, at a minimum, to determine "(1) the identity and scope of 'valued cultural, historical, or natural resources' in the petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area; (2) the extent to which those resources -- including traditional and customary native Hawaiian rights -- will be affected or impaired by the proposed action; and (3) the feasible action, if any, to be taken by the [agency] to reasonably protect native Hawaiian rights if they are found to exist."[2] If the Maui County Department of Housing and Human Concerns concludes that there is no practice of traditional and customary rights in the project area, that conclusion must be clearly supported.

OHA also asks that, in accordance with Section 6E-46.6, Hawaii Revised Statutes and Chapter 13-300, Hawaii Administrative Rules, if the project moves forward, and if any significant cultural deposits or human skeletal remains are encountered, work shall stop in the immediate vicinity and the State Historic Preservation Division (SHPD/DLNR) and OHA shall be contacted.

County of Maui Ordinance No. 3502 which requires that a long-term reliable supply of water be verified. OHA realizes that this verification must be made at the time of subdivision approval; however, an environmental review should not be segmented and particularly so when it deals with the fundamental issue of water. By the applicant already committing itself to this project without first meeting the burden presented by Ordinance No. 3502, the very intent of the law is being skirted.

As such, OHA seeks clarification regarding the water source and water availability. We realize that the applicant intends to bypass both Title 18 (subdivisions) and Title 19 (Zoning) of the Maui County Code as mentioned above; however, OHA requests assurances that Ordinance No. 3502 will still be complied with irregardless of whether or not the applicant intents to apply for subdivision approval.[3] The applicant has failed to provide enough information regarding the supply of water for this proposed project in this DEA. Saying that, "The applicant's discussions with the department (of Water Supply) are ongoing" is not enough.

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[2] Ka Pa'akai, 94 Haw. at 47.

[3] This is also a good example of how exemptions can present potential problems for all involved.

OHA does note that the project site does include lands which have been defined as important agricultural lands by the State Department of Agriculture and that the soils also classified as highly productive by the University of Hawai'i . The potential removal of approximately 16.7 acres of highly rated and historically productive agricultural lands concerns OHA. Our concerns are echoed by the myriad of laws and legislation supporting a strong agricultural economic base and retention of those lands primarily in agricultural pursuits in the specific project area. (see Hawaii Revised Statutes, Section 205, and the State Coastal Zone Management Act, among many other citations) OHA stresses that only accessory agribusiness activities which meet the above intent are to be permitted in this area. OHA's concern regarding this issue would be heightened should the project be exempted from zoning processes.

Thank you for the opportunity to comment. If you have further questions or concerns, please contact Grant Arnold, Policy Advocate-Preservation, Native Rights, Land and Culture, at (808) 594-0263 or granta@oha.org.

Aloha,

Clyde W. Nāmu'o
Administrator

C: Thelma Shimaoka
Community Resource Coordinator
OHA – Maui Office
140 Hoohana St., Ste. 206
Kahului, HI 96732

C: Vanessa Medeiros
County of Maui
Department of Housing and Human Concerns
200 South High Street, Suite 400
Wailuku, Hawai'i 96793

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

Clyde Namu`o, Administrator
State of Hawaii
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes, Application Comment Letter Regarding Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Mr. Namu`o:

Thank you for your letter of April 22, 2008, providing comments on the subject project. We offer the following information to address the comments raised.

1. Affordability

The text in the Draft Environmental Assessment (EA) describing affordability parameters reflected the stage of planning for the project. This language has been clarified in the Final EA. As you note, the applicant is committed to providing a fully affordable project which will meet the needs of not only Lahaina residents but also Maui Island residents.

2. Section 201H-38, Hawaii Revised Statutes (HRS) Exemptions

The Section 201H-38, HRS process is being utilized to ensure timely delivery of affordable units without compromising public health, safety and welfare. At the County level, the appropriateness and applicability of the 201H-38, HRS process for housing projects are carefully considered to ensure that exemptions being requested are reasonable and feasible within the context of the project's environs. In this regard, the applicant has worked closely with County and State agencies and will coordinate with the County Council to ensure that exemptions being sought will serve the best interest of advancing the provision of affordable housing on the island.

3. ***Outdoor Lighting and Building Colors***

Outdoor lighting will be designed to conform with the County's Outdoor Lighting Ordinance (Chapter 20.35, Maui County Code (MCC)) to ensure that effects on the night visual environment are minimized.

4. ***Cultural Impacts***

Adverse impacts to cultural resources and practices are not anticipated from the proposed action. Management and coordination measures referenced in the Draft EA pertains to actions which may be required should unanticipated cultural finds be discovered during the construction phase of project development. These measures include work stoppage if significant cultural deposits or human skeletal remains are encountered and contacting the State Historic Preservation Division and the Office of Hawaiian Affairs. In this connection, the Department of Housing and Human Concerns, as approving agency for the EA document, understands its role and responsibilities in terms of preservation and protection of customary and traditional practices of Native Hawaiians.

5. ***Water Availability***

Since receiving your letter, the County of Maui approved Ordinance No. 3818 amending Section 14.12.030 of the Maui County Code relating to exemptions from the County's water availability policy. This Ordinance exempts "Residential development projects with one hundred percent affordable housing units and are within the service area of the department's central or west Maui water system". As such, the project is exempt from providing a long term reliable supply of water.

6. ***Agricultural Potential***

The use of the subject property for affordable housing use is deemed appropriate given the surrounding existing and planned urban uses in the project vicinity. Bordering the property along its northern extent is the Kahoma Stream Flood Control Channel. Single-family residential use borders the project site to the south and east. Thus, while agricultural pursuit is an important public policy consideration, the applicant believes that this location provides an ideal infill setting to meet an equally important public policy need in affordable housing.

We very much appreciate the comments provided. Thank you again for your participation in the Chapter 343, HRS, review process. A copy of your letter will be included in the Final EA.

Very truly yours,

Erin Mukai, Associate

EM:tn
cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
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APR 0 2 2008

CHARMAINE TAVARES
MAYOR

DON A. MEDEIROS
Director
WAYNE A. BOTEILHO
Deputy Director
Telephone (808) 270-7511
Facsimile (808) 270-7505

DEPARTMENT OF TRANSPORTATION

COUNTY OF MAUI
200 South High Street
Wailuku, Hawaii, USA 96793-2155

March 27, 2008

Mr. Kyle Ginoza
Munekiyo & Hiraga Inc.
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

Subject: Proposed Kahoma Residential Subdivision, Lahaina ,Maui

Dear Mr. Ginoza,

Thank you for the opportunity to comment on this project. We have reviewed the project and have no comments to make at this time.

Please feel free to contact me should you have any questions.

Sincerely,

Don Medeiros
Director

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

JoAnne Johnson Winer, Director
County of Maui
Department of Transportation
200 South High Street
Wailuku, Hawaii 96793

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes, Application Comment Letter Regarding Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Ms. Johnson Winer:

Thank you for your department's letter dated March 27, 2008 providing us with comments on the subject project. On behalf of our client, West Maui Land Company, Inc., we note that your department has no comments at this time.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes. A copy of your letter will be included in the Final Environmental Assessment.

Very truly yours,

Erin Mukai
Associate

EM:tn
Cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
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CHARMAINE TAVARES
Mayor

MILTON M. ARAKAWA, A.I.C.P.
Director

MICHAEL M. MIYAMOTO
Deputy Director

Telephone: (808) 270-7845
Fax: (808) 270-7955

APR 1 1 2008

RALPH NAGAMINE, L.S., P.E.
Development Services Administration

CARY YAMASHITA, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
200 SOUTH HIGH STREET, ROOM NO. 434
WAILUKU, MAUI, HAWAII 96793

April 8, 2008

Mr. Kyle Ginoza, Project Manager
MUNEKIYO & HIRAGA, INC.
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

Dear Mr. Ginoza :

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT AND PRELIMINARY 201H REVIEW FOR PROPOSED KAHOMA RESIDENTIAL SUBDIVISION

We reviewed the subject application and have the following comments:

1. The architect and owner are advised that the project is subject to possible flood inundation. As such, said project must conform to Ordinance No. 1145 pertaining to flood hazard districts.

2. A verification shall be provided by a Registered Civil Engineer that the grading and runoff water generated by the project will not have an adverse effect on the adjacent and downstream properties.

3. A detailed and final drainage report and a Best Management Practices (BMP) Plan shall be submitted with the grading plans for review and approval prior to issuance of grading permits. The drainage report shall include hydrologic and hydraulic calculations and the schemes for disposal of runoff waters. It must comply with the provisions of the "Rules and Design of Storm Drainage Facilities in the County of Maui" and must provide verification that the grading and runoff water generated by the project will not have an adverse effect on adjacent and downstream properties. The BMP plans shall show the location and details of structural and non-structural measures to control erosion and sedimentation to the maximum extent practicable.

4. Applicant shall have U. S. Army Corps of Engineers review the drainage plan affecting Kahoma Stream. The Corps' response shall be provided to the Engineering Division for confirmation of action.

5. All existing features such as structures, driveways, drainage ways, edge of pavement, etc. shall be shown on the project plat plan.

6. A site plan and a sight distance report to determine required sight distance and available sight distance at existing and proposed street intersections shall be provided for our review and approval.

7. Sight distance setbacks and easements will not be allowed for all roadways public or private. Road right of way must accommodate sight distance allowances.

8. The applicant shall obtain street name approvals from the Commission on Naming Streets, Parks and Facilities and show street names on the map.

9. The 100-year flood inundation limits shall be shown on the project site plans. Lot geometrics cannot be approved until such data is submitted and reviewed.

10. The existing streets providing access to the subdivision shall have a 20 foot minimum pavement width and, therefore, must be improved.

11. A detailed final Traffic Impact Assessment Report for the entire subdivision/development shall be submitted for our review and approval. The report shall also address regional traffic impacts and include assessments from the local community police officer.

12. For all infrastructure that may be dedicated to the County, preliminary construction plan submittal shall include a completed technical assistance review performed by the Disability and Communication Access Board (DCAB) for compliance with the Americans with Disabilities Act Accessibility Guidelines (ADAAG) for all facilities. All technical and structural infeasible assessments shall be the responsibility of the developer and an agreement

waiving the County of Maui of any future liability, including redesign and reconstruction for said facility, shall be recorded with the State Bureau of Conveyances.

13. The applicant shall be responsible for all required improvements as required by Hawaii Revised Statutes, Maui County Code and rules and regulations.

14. Construction plans shall be designed in conformance with Hawaii Standard Specifications for Road and Bridge Construction dated 2005 and Standard Details for Public Works Construction, 1984, as amended.

15. Worksite traffic-control plans/devices shall conform to Manual on Uniform Traffic Control Devices for Streets and Highways, 2003.

16. In the Traffic Impact Analysis Report (TIAR), at the Papalaua Street intersection, the through movements on Honoapiilani Highway were not counted. This information would provide a check of the traffic count at the adjacent intersection.

17. Additional comments provided in the Department of Public Works' letter dated August 31, 2007.

Please call Michael Miyamoto at 270-7845 if you have any questions regarding this letter.

Sincerely,

MILTON M. ARAKAWA, A.I.C.P.
Director of Public Works

MMA:MMM:ls
xc: Highways Division
Engineering Division
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JUL 0 1 2008

CHARMAINE TAVARES
Mayor

MILTON M. ARAKAWA, A.I.C.P.
Director

MICHAEL M. MIYAMOTO
Deputy Director

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RALPH NAGAMINE, L.S., P.E.
Development Services Administration

CARY YAMASHITA, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

June 27, 2008

Mr. Kyle Ginoza, Project Manager
MUNEKIYO AND HIRAGA, INC.
305 High Street, Suite 104
Wailuku, Maui, Hawaii 96793

Dear Mr. Ginoza:

SUBJECT: EARLY CONSULTATION REQUEST AND DRAFT ENVIRONMENTAL ASSESSMENT AND PRELIMINARY 201H REVIEW FOR PROPOSED KAHOMA RESIDENTIAL SUBDIVISION

This letter supplements our previous response dated April 8, 2008 regarding the subject project.

We understand that the alignment for the proposed Mill Street Extension in the vicinity of your project is constrained immediately to the north with the location of the Cane Haul Bridge. However, please ensure that all other segments of your proposed access roadway and the alignment of any off-site utilities are closely coordinated with the design of Mill Street Extension by Kaanapali Land Management Corp. (KLMC).

Furthermore, the configuration of the proposed Roadway Reserve, Lot 68, exhibited on Figure 3 (attached), should also be closely coordinated with the alignment and design of Mill Street Extension by Kaanapali Land Management Corp. to ensure that a smooth reverse curve transition occurs immediately to the south of your project, to allow Mill Street Extension to swing up further east (refer to Figure 2 from your Early Consultation Request for Mill Street Extension Roadway Project dated December 26, 2007 as attached). Since Mill Street Extension is construed as a possible reliever to Honoapiilani Highway, it is being located as far away from Honoapiilani Highway as possible to provide the necessary queuing required between the two roadway systems as they converge on Lahainaluna Road.

Please call Michael Miyamoto at 270-7845 if you have any questions regarding this matter.

Sincerely,

MILTON M. ARAKAWA, A.I.C.P.
Director of Public Works

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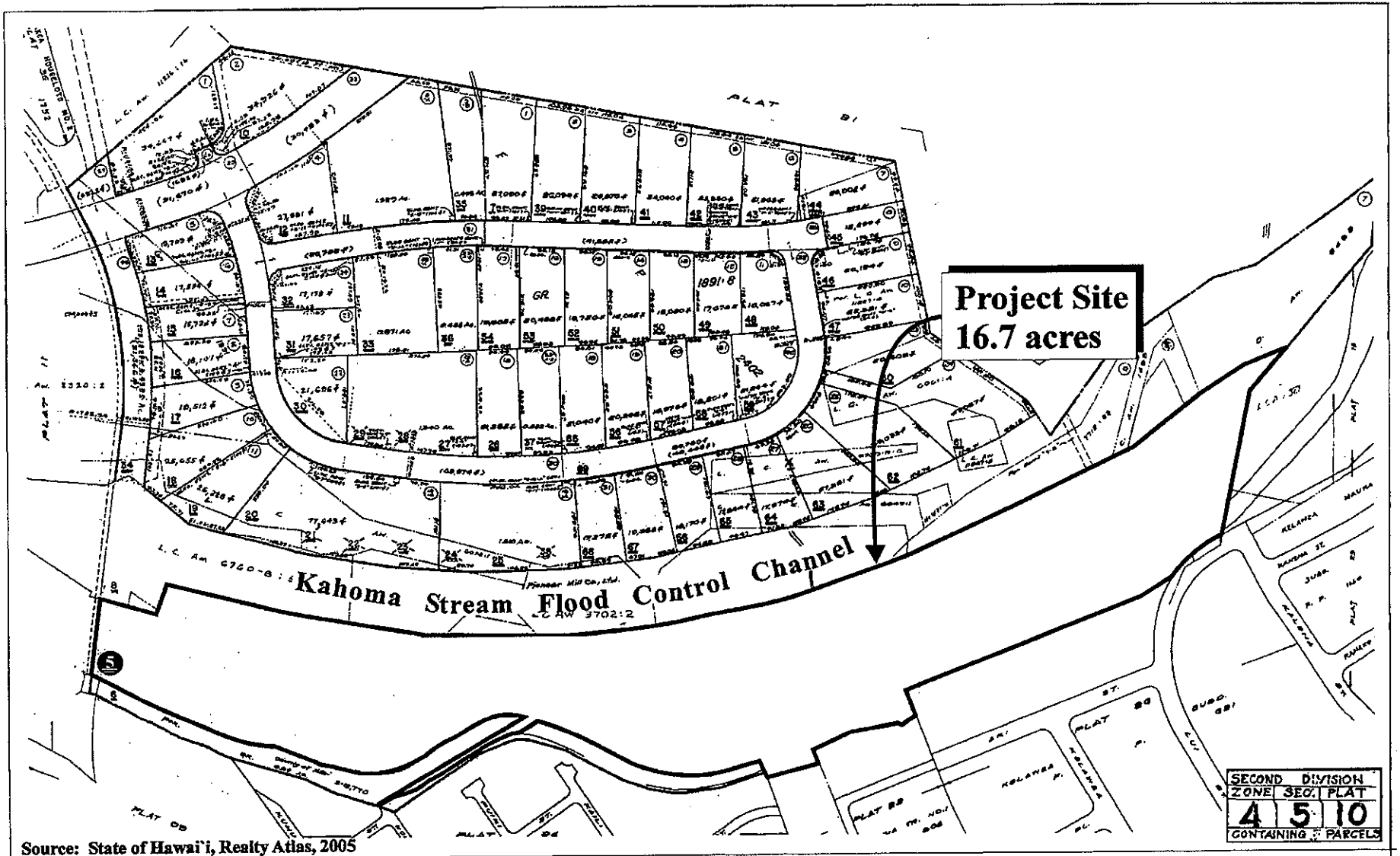
Attahments

xc: Developmental Services Administration
Kaanapali Land Management Corp. (Chad Fukunaga)
CY (File)



Source: State of Hawai'i, Realty Atlas, 2005

Figure 2

Proposed Kahoma Residential Subdivision

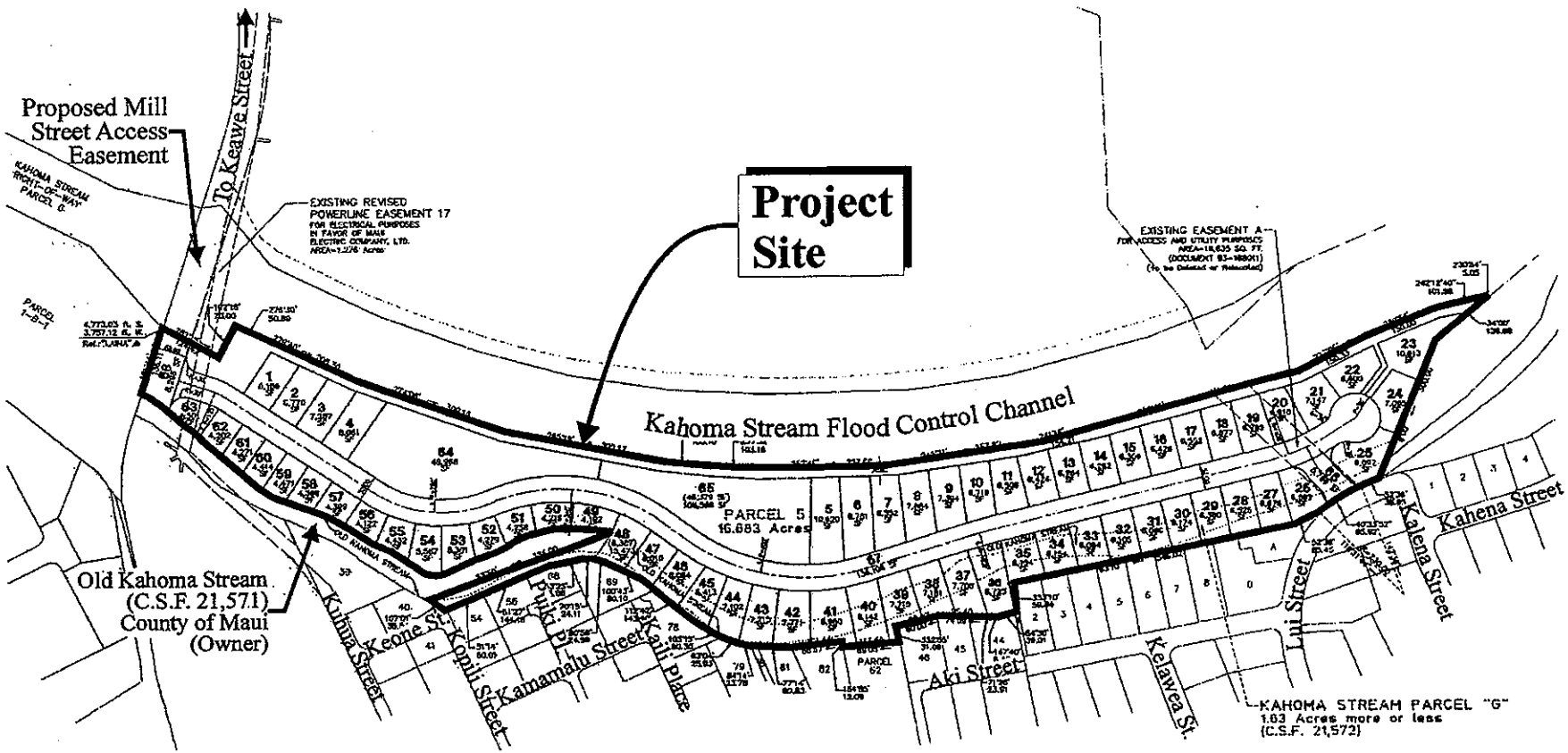
Site Location and Tax Map Key

NOT TO SCALE

Prepared for: West Maui Land Company, Inc.

MUNEKIYO & HIRAGA, INC.

Kahoma\EmpeeHsg\sitelocation



Source: R.T. Tanaka Engineers, Inc.

Figure 3

Proposed Kahoma Residential Subdivision

Subdivision Plan

NOT TO SCALE

MUNEKIYO HIRAGA, INC.

Prepared for: West Maui Land Company, Inc.

Kahoma/EmpeeHsg/subdivisionplan

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

David Goode, Director
County of Maui
Department of Public Works
200 South High Street, Room No. 434
Wailuku, Hawaii 96793

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes, Application Comment Letter Regarding Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Mr. Goode:

Thank you for your department's letters of April 8, 2008 and June 27, 2008 providing comments on the subject project, as well as meeting with the project team on July 20, 2011. We offer the following information to address the comments raised.

Comments from June 27, 2008 Letter

1. The applicant will continue to work with Kaanapali Land Management Corp. (KLMC) to ensure proper design coordination for the Kuhua Street Extension project (previously known as Mill Street Extension). In particular, criteria relating to horizontal design parameters will be coordinated with KLMC and the County of Maui to facilitate achieving required traffic operational outcomes. Please note that the project site plan has been revised to account for the proposed Kuhua Street Extension Alignment. This, in turn, resulted in the loss of one developable lot.

Comments from April 8, 2008 Letter

1. The project will comply with applicable requirements of the County of Maui's flood hazard ordinance.

2. Grading plans and a final drainage report prepared by a licensed civil engineer will be submitted to the Department for review. These documents will ensure that there will be no adverse effect on adjacent and downstream properties.

3. Best Management Practices and required hydrologic and hydraulic calculations will be included as part of the construction documents submittal package.

4. Coordination with the Department of the Army will be undertaken and appropriately documented as part of the design phase of work.

5. The plat map will reflect existing features such as driveways, drainage ways and pavement edges.

6. A sight distance report will be prepared as required.

7. Sight distance design parameters will be incorporated into the project plans.

8. Street naming shall be implemented in accordance with required protocols.

9. The 100-year flood inundation limits will be reflected on the project site plans.

10. Existing streets providing access to the subdivision will comply with applicable design and construction requirements.

11. Traffic Impact Analysis Reports (TIARs) have been prepared and submitted in connection with the Chapter 343, Hawaii Revised Statutes (HRS) process.

12. As may be required, technical assistance review by the Disability and Communication Access Board will be undertaken. Additionally, waivers of liability will be processed in accordance with County of Maui requirements.

13. With the exception of the Section 201H exemptions being sought, the design and construction of the project will be in compliance with applicable governmental regulations.

14. See response to Comment No. 13, above.

15. See response to Comment No. 13, above.

16. In addition to the TIAR prepared for the project in 2007, the applicant commissioned two (2) additional supplemental traffic studies in 2010 and 2011 which are included in the Final EA.

17. Responses to your comments of August 31, 2007 were submitted by letter dated February 26, 2008.

We very much appreciate the comments provided. Thank you again for your participation in the Chapter 343, HRS, review process. Copies of your letters will be included in the Final EA.

Very truly yours,

Erin Mukai, Associate

EM:tn

cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
Keith Niiya, Austin Tsutsumi & Associates, Inc.
Kirk Tanaka, R.T. Tanaka Engineers, Inc.
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APR 1 8 2008

CHARMAINE TAVARES
Mayor

CHERYL K. OKUMA, Esq.
Director

GREGG KRESGE
Deputy Director

TRACY TAKAMINE, P.E.
Solid Waste Division

DAVID TAYLOR, P.E.
Wastewater Reclamation
Division

COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
2200 MAIN STREET, SUITE 175
WAILUKU, MAUI, HAWAII 96793

April 14, 2008

Mr. Kyle Ginoza
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

SUBJECT: KAHOMA RESIDENTIAL SUBDIVISION
DRAFT ENVIRONMENTAL ASSESSMENT &
PRELIMINARY 201H REVIEW
TMK (2) 4-5-010:005, LAHAINA

Dear Mr. Ginoza,

We reviewed the subject project and have the following comments:

1. Solid Waste Division comments

   a. Include a plan for construction waste disposal, recycling, reuse.

2. Wastewater Reclamation Division comments:

   a. Although wastewater system capacity is currently available as of 3/20/08, the developer should be informed that wastewater system capacity cannot be ensured until the issuance of the building permit.
   b. Provide discussion and calculations (sewer impact study) to substantiate that the existing wastewater system is adequate to serve this project.
   c. Wastewater contribution calculations are required before building permit is issued.
   d. Developer is not required to pay assessment fees for this area at the current time.
   e. Developer is required to fund any necessary off-site improvements to collection system and wastewater pump stations.

LD

f. Plans should show the installation of a single service lateral and advanced riser for each lot.

g. Plans should show the installation of a service manhole near the property line prior to connection to the County sewer.

h. The subject subdivision's wastewater system shall remain privately owned and maintained.

i. Indicate on the plans the ownership of each easement (in favor of which party). Note: County will not accept sewer easements that traverse private property.

j. Kitchen facilities within the proposed project shall comply with pre-treatment requirements (including grease interceptors, sample boxes, screens etc.)

k. Non-contact cooling water and condensate should not drain to the wastewater system.

l. Should the subject subdivision's wastewater discharge into the Lahaina Business Park's existing private wastewater system (hereafter referred to as the LBP wastewater system), a letter from the owner of the LBP wastewater system will need to be submitted for our records. The letter shall confirm that the owner of the LBP wastewater system approves of the subject subdivision's sewerline connection and that the LBP wastewater system is adequate to accept the additional discharge created from the subject subdivision.

m. Hold Harmless should be executed. Signed agreement required before WWRD will give recommendations for final subdivision approval.

If you have any questions regarding this memorandum, please contact Gregg Kresge at 270-8230.

Sincerely,

Cheryl K. Okuma

Cheryl Okuma, Director

xc: Vanessa Medeiros, DHHC

MUNEKIYO HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

Kyle Ginoza, Director
County of Maui
Department of Environmental Management
2200 Main Street, Suite 175
Wailuku, Hawaii 96793

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes, Application Comment Letter Regarding Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Mr. Ginoza:

Thank you for your department's letter dated April 14, 2008, providing us with your department's comments on the subject project, as well as your time in meeting with the project team on July 8, 2011. On behalf of our client, West Maui Land Company, Inc (WMLC), we would like to offer the following responses to the comments.

1. We note your comment regarding the inclusion of a construction waste disposal, recycling, and reuse plan, which will be addressed in the project's construction plans.

2. WMLC acknowledges the comment regarding the availability of wastewater system capacity at the Lahaina Wastewater Treatment Facility (LWTF).

3. We note your comment to include a discussion to substantiate that the existing wastewater system is adequate to serve the project. The project's civil engineer noted in the engineering report, that the project's estimated wastewater flow is 23,800 gallons per day for the entire project. A sewer impact study will be provided at the time of building permit processing.

4. Wastewater contribution calculations will be provided at the time of building permit processing.

5. Thank you for the confirmation that no wastewater assessment fee is required at this time for the project area.

6. We confirm that WMLC will fund any necessary offsite improvements to the collection system and wastewater pump station for the proposed project.

7. We acknowledge your comment with regards to the construction plans indicating the existing single service lateral and advanced riser for each lot. The comment has been forwarded to the civil engineer for inclusion in the construction plans.

8. Project plans will indicate the service manhole location near the property line.

9. The project will connect to the County of Maui's wastewater system. The intent, as discussed at our meeting of July 8, 2011, is to convey the collection system to the County.

10. Project plans will indicate easement ownerships. We acknowledge your comment regarding easements on private property. However, the intent is to convey the transmission lines to the County, based on the long term plans for County ownership of Kuhua Street.

11. There are no commercial kitchen facilities proposed for the project. Residential kitchens will comply with County of Maui requirements.

12. We acknowledge your comment with regards to the disposal of non-contact cooling water and condensate. Said water will not be disposed of in the wastewater system.

13. We acknowledge your comment regarding the potential connection to the Lahaina Business Park's (LBP) private wastewater system. The connection will be made to an existing 10-inch line owned by the County. Should the applicant pursue that option for their wastewater system requirements, a letter confirming approval by LBP and confirmation of capacity will be submitted to your office.

14. Should the applicant pursue the use of a private wastewater system, a hold harmless agreement will be submitted to the DEM prior to the final subdivision approval. However, as previously mentioned, the applicant intends on connecting to the County of Maui's wastewater system for the project.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes (HRS), review process. A copy of your letter will be included in the Final Environmental Assessment.

Very truly yours,

Erin Mukai, Associate

EM:tn
cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
Kirk Tanaka, Tanaka Engineers, Inc.
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APR 2 3 2008

COUNTY COUNCIL
COUNTY OF MAUI
200 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793
www.mauicounty.gov/council

April 21, 2008

Vanessa Medeiros, Director
Department of Housing and Human Concerns
County of Maui
200 S. High Street
Wailuku, HI 96793

SUBJECT: Draft Environmental Assessment for Proposed Kahoma Residential Subdivision Lahaina, Maui, Hawaii TMK (2) 4-5-010:005

Dear Ms. Medeiros:

Thank you for the opportunity to provide comments on the Draft Environmental Assessment for the proposed Kahoma Residential Subdivision.

After review of the draft assessment, My only comment at the present time is that the developer will coordinate with the Maui County Department of Water Supply on water requirements for the project and the projected water source being planned.

Sincerely,

JOSEPH PONTANILLA,
COUNCIL MEMBER

Cc: Kyle Ginoza, Munekiyo & Hiraga, Inc.

65

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

Councilmember Joseph Pontanilla
Maui County Council
200 South High Street
Wailuku, Hawaii 96793

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes, Application Comment Letter Regarding Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Councilmember Pontanilla:

Thank you for your letter dated April 21, 2008, providing us with your comment on the subject project. On behalf of our client, West Maui Land Company, Inc. (WMLC), we would like to offer the following response to the comment. As you are aware, since receiving your letter in 2008, the Council approved Ordinance No. 3818 amending Section 14.12.030 of the Maui County Code relating to exemptions from the County's water availability policy. This ordinance exempts "Residential development projects with one hundred percent affordable housing units and are within the service area of the department's central or west Maui water system". As such, we believe the project is exempt from providing a long term reliable supply of water. Nevertheless, WMLC will continue coordination with the Department of Water Supply personnel during the planning of the proposed affordable housing project.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes (HRS), review process. A copy of the Final 201H-38, HRS, application will be submitted to you in the future. Should you have any additional questions on the project, please feel free to contact me at 244-2015.

Very truly yours,

Erin Mukai, Associate

EM:tn
cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
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MAY 0 9 2008

CHARMAINE TAVARES
Mayor

TAMARA HORCAJO
Director

ZACHARY Z. HELM
Deputy Director

(808) 270-7230
Fax (808) 270-7934

DEPARTMENT OF PARKS & RECREATION

700 Hali'a Nakoa Street, Unit 2 , Wailuku, Hawaii 96793

April 21, 2008

Vanessa Medeiros
County of Maui
Department of Housing and Human Concerns
200 South High Street, Suite 400
Wailuku, Hawaii 96793-2155

Dear Ms. Medeiros:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT AND PRELIMINARY 201H REVIEW
PROPOSED KAHOMA RESIDENTIAL SUBDIVISION
LAHAINA, MAUI, HAWAII, TMK: (2) 4-5-010:005

Thank you for the opportunity to review and comment on the subject project. We would like to receive confirmation from your Department that this project meets the criteria of an affordable housing project under Section 201H-38, HRS.

The exemption from Section 18.16.320, Maui County Code, will then be provided once the Maui County Council has approved the subject 201H-38 application.

Should there be any questions, please contact Karla Peters, of our Parks Planning and Development Division, at 270-7981.

Sincerely,

TAMARA HORCAJO
Director

c: Patrick Matsui, Chief of Parks Planning and Development
Kyle Ginoza, Munekiyo & Hiraga Inc
Project File

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MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

Glenn Correa, Director
County of Maui
Department of Parks and Recreation
700 Halia Nakoa Street, Unit 2
Wailuku, Hawaii 96793

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes, Application Comment Letter Regarding Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Mr. Correa:

Thank you for your department's letter dated April 21, 2008, providing us with comments on the subject project. On behalf of our client, West Maui Land Company, Inc., we would like to offer the following response to the comment. It is our understanding that the proposed Kahoma Residential project meets the current requirements of the County of Maui to qualify as a 201H-38, Hawaii Revised Statutes (HRS), project. As such, the Department of Housing and Human Concerns has agreed to sponsor the 201H-38, HRS, application and is the Approving Agency for the Environmental Assessment (EA). An exemption from Section 18.16.320 of the Maui County Code will be sought through the 201H-38, HRS, application.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Final EA. Should you have any additional questions on the project, please feel free to contact me at 244-2015.

Very truly yours,

Erin Mukai, Associate

EM:tn
cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
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DEPARTMENT OF
HOUSING AND HUMAN CONCERNS
COUNTY OF MAUI

CHARMAINE TAVARES
Mayor

VANESSA A. MEDEIROS
Director

LORI TSUHAKO
Deputy Director

200 SOUTH HIGH STREET • WAILUKU, HAWAII 96793 • PHONE (808) 270-7805 • FAX (808) 270-7165 • EMAIL director.hhc@mauicounty.gov

April 22, 2008

Mr. Kyle Ginoza
Project Manager
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Ginoza:

SUBJECT: KAHOMA RESIDENTIAL SUBDIVISION
DRAFT ENVIRONMENTAL ASSESSMENT
PRELIMINARY SECTION 201H-38, HRS, APPLICATION

Thank you for the opportunity to review and comment on the Draft Environmental Assessment and Preliminary Section 201H-38, HRS, application for the Kula Ridge Residential Workforce Housing Subdivision.

Based on our review, we would like to offer the following comment:

- The County's standard housing unit for a family of four is three bedroom/two bath. Lot only prices should be based on 50% of the sales price for a three bedroom/two bath housing unit.

Please call Mr. Wayde Oshiro of our Housing Division 270-7355 if you have any questions.

Sincerely,

Vanessa A Medeiros

VANESSA A. MEDEIROS
Director of Housing and Human Concerns

xc: Housing Division

MUNEKIYO HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

August 29, 2011

Jo-Ann Ridao, Director
County of Maui
Department of Housing and Human Concerns
200 South High Street
Wailuku, Hawaii 96793

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes, Application Comments For Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Ms. Ridao:

Thank you for your department's letter dated April 22, 2008, providing us with your comment on the subject project, as well as your time in meeting with the project team on July 19, 2011. We would like to thank you for serving as the approving agency for the EA. As indicated in our meeting, a draft of the Final EA will be provided to you for review.

Thank you for your comments. Should you have any additional questions on the project, please feel free to contact me at 244-2015.

Very truly yours,

Erin Mukai, Associate

EM:tn
cc: Heidi Bigelow, West Maui Land, LLC
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MAY 1 2 2008

POLICE DEPARTMENT
COUNTY OF MAUI

CHARMAINE TAVARES
MAYOR

OUR REFERENCE
YOUR REFERENCE tj

55 MAHALANI STREET
WAILUKU, HAWAII 96793
(808) 244-6400
FAX (808) 244-6411

THOMAS M. PHILLIPS
CHIEF OF POLICE

GARY A. YABUTA
DEPUTY CHIEF OF POLICE

May 5, 2008

Mr. Kyle Ginoza
Project Manager
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, HI 96793

Dear Mr. Ginoza:

SUBJECT: DEA and Preliminary 201H Review for Proposed Kahoma Residential Subdivision, Lahaina: TMK (2) 4-5-010:005

This is in response to your letter of March 19, 2008, requesting comments on the above subject.

We have reviewed the information for the above mentioned subject and offer the enclosed comment.

Thank you for giving us the opportunity to comment on this project.

Very truly yours,

AC Wayne T. Ribao

Assistant Chief Wayne T. Ribao
for: Thomas M. Phillips
Chief of Police

c: Jeffrey Hunt, Maui County Planning Department
Vanessa Medeiros, Maui County Department of Housing and Human Concerns

COPY

TO: Thomas PHILLIPS, CHIEF OF POLICE, COUNTY OF MAUI

VIA: CHANNELS 4/29/08

FROM: Lawrence N. KAUHA'AHA'A, POLICE OFFICER, DISTRICT IV

SUBJECT: PROPOSED KAHOMA RESIDENTIAL SUBDIVIION (TMK 4-5-010:005)

CONCUR:
AC D. Pittman
04/29/08

The following to/from transmittal is being submitted in response to this proposed project.

The main area of concern would be the additional traffic to the already over burdened Lahainaluna Road/Honoapiilani Highway intersection. Having three public schools already located above the Highway has created a major grid lock during normal school days.

The use of Keawe Street to ease the burden of the Lahainaluna Road traffic heading north bound hopefully will lesson the severity of the impact on traffic.

The route designated by this proposal for the traffic utilizing the Keawe Street access will be sharing the same route as the Kaanapali Railroad and will also be sharing the "old cane haul" bridge that crossed Kahoma Stream. A traffic mitigation plan should be prepared for that area especially where the train and the flow of traffic will cross each other on Keawe Street.

With the addition of several major outlet stores at the Lahaina Gateway Plaza traffic on Keawe Street, as well as at the intersection of Keawe Street and Honoapiilani Highway has already been adversely impacted.

Submitted for your perusal,

Lawrence N. KAUHA'AHA'A, E-8851
POLICE OFFICER, DISTRICT IV
04.21.08 @ 1700 HOURS

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

Chief Gary Yabuta
Maui Police Department
55 Mahalani Street
Wailuku, Hawaii 96793

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes, Application Comment Letter Regarding Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Chief Yabuta:

Thank you for your department's memorandum dated May 5, 2008, providing us with your comments on the subject project. On behalf of our client, West Maui Land Company, Inc. (WMLC), we would like to offer the following responses to the comments.

We note your comment regarding the Lahainaluna Road and Honoapiilani Highway intersection. The State Department of Transportation is moving forward with the first phase of the Lahaina Bypass Highway. Once implemented, the improvements are anticipated to significantly improve the traffic flow at the intersection. Also, the project is providing for a second ingress and egress point for the subdivision at Keawe Street. Secondly, we note your comment regarding the preparation of a traffic mitigation plan for the "old cane haul" bridge. Road improvement plans are being prepared to implement mitigation measures, ensuring the safety of any crossing of vehicle traffic in the area. The sugar cane train will not cross the cane haul road, but will instead run parallel to the cane haul road to the west. Lastly, we note your comment regarding the Keawe Street and Honoapiilani Highway intersection. It is our understanding that the State has since made improvements to Keawe Street as part of the overall Lahaina Bypass project. These improvements have helped to alleviate traffic flows at the Keawe Street/Honoapiilani Highway intersection. Further, we note that the project's Traffic Impact Assessment Report concluded that the proposed project is anticipated to generate less than a two percent (2%) increase in traffic during the AM and PM peak hours of traffic.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes (HRS), review process. A copy of your letter will be included in the Final Environmental Assessment.

Very truly yours,

Erin Mukai, Associate

EM:tn
cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
Keith Niiya, Austin Tsutsumi & Associates, Inc.
Kirk Tanaka, Tanaka Engineers, Inc.
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CHARMAINE TAVARES
Mayor

JEFFREY S. HUNT
Director

COLLEEN M. SUYAMA
Deputy Director

MAY 2 8 2008

COUNTY OF MAUI
DEPARTMENT OF PLANNING

May 22, 2008

Mr. Kyle Ginoza
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Ms. Vanessa Medeiros
County of Maui
Dept. of Housing and Human Concerns
2200 Main Street, Suite 546
Wailuku, Hawaii 96793

Dear Mr. Ginoza and Ms. Medeiros:

SUBJECT: **COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED KAHOMA RESIDENTIAL SUBDIVISION LOCATED AT LAHAINA, MAUI, HAWAII TMK: 4-5-010:005 (EAC 2008/0011)**

The Department of Planning (Department) is in receipt of the above-referenced document for the proposed Kahoma Residential Subdivision. The Department understands the proposed action includes the following:

- West Maui Land Company proposes the development of 88 residential units on approximately 16.7 acres of land.
- The project will be comprised of 63 single-family residential units and 25 multi-family units as well as a neighborhood park.
- Of the 63 single-family units, four will be self-help parcels under the direction of Habitat for Humanity, 24 will be built by Lokahi Pacific, and the remaining 35 will be sold as lots for flexible building design.

- All of the 25 multi-family units will be affordable and will be developed by Lokahi Pacific and Habitat for Humanity.

Based on the foregoing, the Department provides the following comments on the Draft EA:

1. The Maui County Department of Housing and Human Concerns will be the accepting authority for the Environmental Assessment.

2. Please provide a thorough discussion of the relationship of the proposed project with the Lahaina Town Village Drainage Master Plan developed by Maui County.

3. Please include a discussion on Environment from the West Maui Community Plan.

4. With the ongoing update of the Maui General Plan and subsequent Community Plan updates, the Department may not support the proposed Community Plan Amendment from Open Space and Bikeway at this time pending the outcome of the West Maui Community Plan Update currently scheduled for 2008.

5. County of Maui Police Department provided comments (see attached).

Thank you for the opportunity to comment. Should you require further clarification, please contact Staff Planner Joseph Prutch by email at joseph.prutch@mauicounty.gov or by phone at 270-7512.

Sincerely,

JEFFREY S. HUNT, AICP
Planning Director

Attachment
xc: Clayton I. Yoshida, AICP, Planning Program Administrator
Joseph M. Prutch, Staff Planner
EA Project File
General File
JSH:JMP:vb
K:\WP_DOCS\PLANNING\EAC\2008\0011_KahomaSubdivision\comments.wpd

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

William Spence, Director
County of Maui
Department of Planning
250 South High Street
Wailuku, Hawaii 96793

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes, Application Comment Letter Regardng Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Mr. Spence:

Thank you for your department's letter dated May 22, 2008, providing us with comments on the subject project, as well as your time in meeting with the project team on August 11, 2011. On behalf of our client, West Maui Land Company, Inc (WMLC), we would like to offer the following responses to the comments.

1. As discussed at our August 11, 2011 meeting, the 25 affordable multi-family units which were to be developed by Lokahi Pacific are no longer proposed. The revised project includes 68 single-family residential lots.

2. The proposed project does not involve the Lahaina Town Village Drainage Master Plan. Surface runoff in the vicinity of the project site flows to the Kahoma Stream Flood Control Channel.

3. We note your comment to include a discussion in the Final Environmental Assessment (EA) regarding the "Environment" section of the West Maui Community Plan. The Final EA includes a discussion on how the project conforms with the goals and objectives of the "Environment" section of the community plan.

4. We acknowledge your comment regarding the Department's position on the project's possible exemption from the Community Plan Amendment (CPA) requirements. A CPA will not be processed for the project, however, a 201H-38, Hawaii Revised Statutes (HRS), application has been prepared for the project as 100 percent of the units in the Kahoma Residential Subdivision meet the

"affordable housing" definition by the County of Maui. The Department of Housing and Human Concerns, the accepting authority for the EA, is supportive of the project and has agreed to sponsor the 201H-38, HRS, application. The 201H-38, HRS process allows for exemptions from County ordinances, rules and charter provisions to "fast-track" affordable housing projects. As such, an exemption from Chapter 2.80B of the Maui County Code will be sought.

5. Thank you for providing us with the Maui Police Department (MPD) comments on the project. We have provided the MPD with a response to their comments.

Thank you again for your participation in the Chapter 343, HRS review process. A copy of your letter will be included in the Final EA.

Very truly yours,

Erin Mukai, Associate

EM:tn
cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
Kirk Tanaka, Tanaka Engineers, Inc.
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Maui Electric Company, Ltd. • 210 West Kamehameha Avenue • PO Box 398 • Kahului, Maui, HI 96733-6898 • (808) 871-8461

APR 0 4 2008

January 10, 2008

Mr. Kyle Ginoza, Project Manager
Munekiyo & Hiraga, Inc.
305 High Street, Suite 104
Wailuku, Hawaii 96793

Dear Mr. Ginoza,

Subject: Draft Environmental Assessment for Proposed Kahoma Residential Subdivision
Lahaina, Maui, Hawaii
TMK: (2) 4-5-010:005

Thank you for allowing us to comment on the Draft Environmental Assessment for the proposed above subject project, which was received on March 24, 2007.

In reviewing our records and the information received, Maui Electric Company (MECO) has no objection to the project at this time. However, we continue to encourage the developer's electrical consultant to submit the electrical demand requirements and project time schedule as soon as practical so that any upgrades to our system and service can be carried out on a timely basis.

In addition, may we suggest that the developer and/or their consultant make contact with Sage Kiyonaga of our Demand Side Management (DSM) group at 872-3283 to review potential energy conservation and efficiency opportunities for their project.

Should you have any other questions or concerns, please call Kimberly Kawahara at 871-2345.

Sincerely,

Greggorysenn Kauhi

Greggorysenn Kauhi
Customer Operations Manager

GK/kk:lh

cc: Vanessa Medeiros
Sage Kiyonaga – MECO DSM

8D

MUNEKIYO HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

Dan Takahata, Manager – Engineering
Maui Electric Company, Ltd.
P.O. Box 398
Kahului, Hawaii 96733

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes Application Comment Letter Regarding Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Mr. Takahata:

Thank you for your company's letter dated January 10, 2008, providing us with comments on the proposed project. On behalf of our client, West Maui Land Company, Inc., we would like to offer the following response to the comment. The project's electrical consultant, when selected, will submit the electrical demand requirements and estimated project time frame to your division for review and comment. Further, your suggestion to contact the Demand Side Management Group for review of potential energy conservation and efficiency opportunities for the project has been forwarded to the applicant for consideration.

Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes (HRS), review process. A copy of your letter will be included in the Final Environmental Assessment.

Very truly yours,

Erin Mukai, Associate

EM:tn
cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
K:\DATA\Kahoma\EmpeeHsg\mecoresponse.ltr.doc

Mr. Peter Martin
West Maui Land Company
33 Lono Ave., Ste 450
Kahului, HI 96732

April 20, 2008

Dear Mr. Martin,

RE: Proposed Kahoma Residential Subdivision

As direct descendants of the Pali and Puholopu families of Kahoma, we are disturbed by the proposed sub-division and especially the fast track approval of this project.

There are too many unanswered questions as to the locations of the iwi that are scattered throughout this cultural and historical site. How was ownership obtained? Was it by quitclaim or was the property sold by its descendents? As stewards of these lands, we are entrusted to protect and preserve this scared area for future generations.

The proposed development being so close to Kahoma Stream may cause serious muddy runoffs during construction resulting in grave consequences to the ocean and reefs at the mouth of the stream. The sewer system will be so close to the stream, that accidental overflows may cause disastrous results.

We are not against affordable housing, only the proposed site. A more feasible location, if you really want to help people in need, would be the Launiupoko area. They could get their water from the Launiupoko Water Co. which would relieve our water system in Lahaina.

Sincerely,

Lillian Suter

Lillian Suter
Letitia II
22 Kekai Rd.
Lahaina, HI 96761

cc: Office of Environmental Quality Control
cc Department of Housing & Human Concerns
cc: Munekiyo & Hiraga, Inc.
cc: Office of Conservation and Coastal Lands

MUNEKIYO & HIRAGA, INC.

MICHAEL T. MUNEKIYO
GWEN OHASHI HIRAGA
MITSURU "MICH" HIRANO
KARLYNN FUKUDA

MARK ALEXANDER ROY

September 12, 2011

Ms. Lilian Suter
22 Kekai Road
Lahaina, Hawaii 96761

SUBJECT: Response to Draft Environmental Assessment and Preliminary 201H-38, Hawaii Revised Statutes, Application Comment Letter Regarding Proposed Kahoma Residential Subdivision, Located at TMK 4-5-010:005, Lahaina, Maui, Hawaii

Dear Ms. Suter:

Thank you for your letter of April 20, 2008, providing comments on the subject project. We offer the following information to address the comments raised.

1. Cultural Resources

The potential for iwi being found at the site was considered as part of the project planning phase. In this regard, an archaeological assessment for the 16.7-acre parcel was prepared and accepted by the State Historic Preservation Division (SHPD). The SHPD also determined that the development of the project will have "no effect" on significant historic sites. The assessment included a total of 15 backhoe test trenches. The results of the archaeological investigations indicate that the project area has been previously disturbed with negative findings with regard to archaeological resources. However, in the event unanticipated archaeological finds are encountered during construction, appropriate mitigative measures, including the stoppage of work, will be implemented in accordance with protocols established by the SHPD.

2. Land Acquisition Background

The subject property was acquired by Kahoma Land LLC in 2000. The property was acquired from Pioneer Mill Company, Limited , as reflected in two (2) recorded deed documents dated August 28, 2000, document numbers 2000-118777 (Deed) and 2000-118776 (Deed and Reservation of Rights and Easements). Subsequently, Kahoma Residential LLC acquired the parcel from Kahoma Land LLC, as reflected in a warranty deed dated March 15, 2011, document number 2011-048539.

3. Impacts to Kahoma Stream

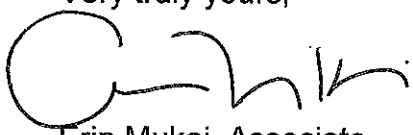
The proposed project will incorporate Best Management Practices to ensure that adverse drainage-related impacts to Kahoma Stream do not occur. A National Pollutant Discharge Elimination System Permit will also be obtained, as applicable, from the State Department of Health to further protect the stream during the construction phase of work. The project's sewer system will be designed and constructed to meet County of Maui standards to eliminate the potential for wastewater discharge into the stream.

4. Alternative Site Locations

The project site is considered ideal as an urban infill location which is in close proximity to infrastructure systems. As an affordable housing project, proximity to infrastructure is considered an important factor in keeping system extension costs manageable. The project site is also suitable from a land use compatibility standpoint, with proximity to employment centers and urban service.

We very much appreciate the comments provided. Thank you again for your participation in the Chapter 343, Hawaii Revised Statutes (HRS), review process. A copy of your letter will be included in the Final Environmental Assessment.

Very truly yours,



Erin Mukai, Associate

EM:tn
cc: Jo-Ann Ridao, Director, Department of Housing and Human Concerns
Heidi Bigelow, West Maui Land Company, Inc.
K:\DATA\Kahoma\EmpeeHsg\suterresponse.ltr.doc

XI. REFERENCES

XI. REFERENCES

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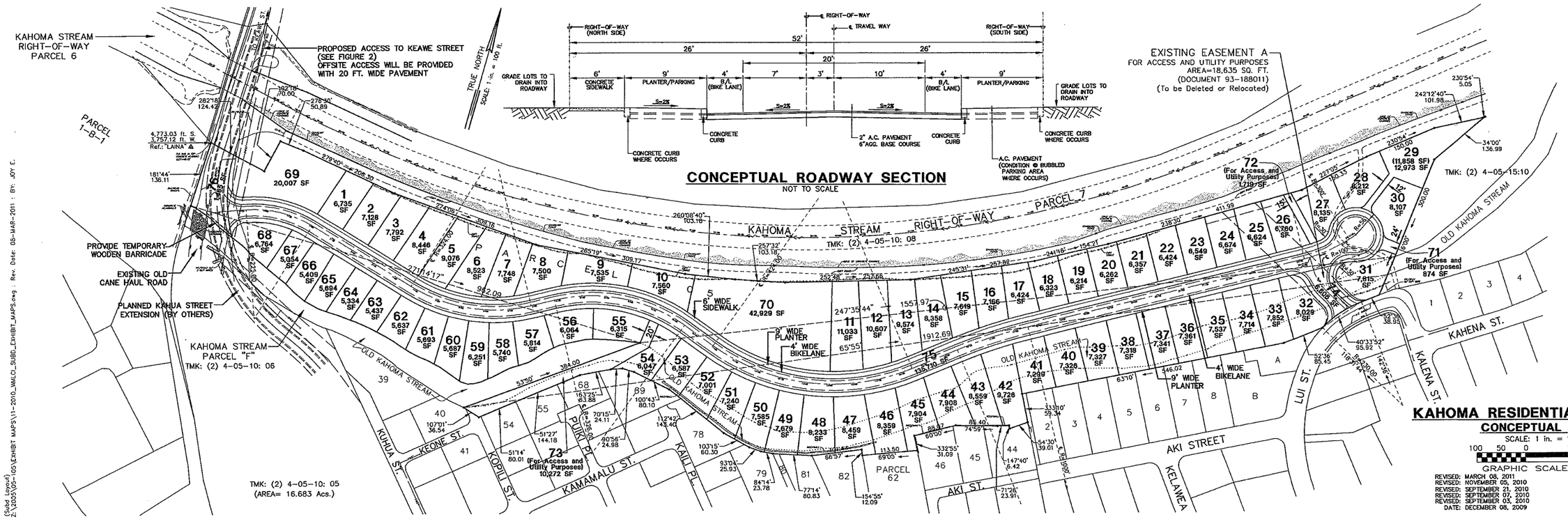
APPENDIX A.

Preliminary Development Plans



KAHOMA RESIDENTIAL SUBDIVISION

CONCEPTUAL LAYOUT

SCALE: 1 in. = 100 ft.

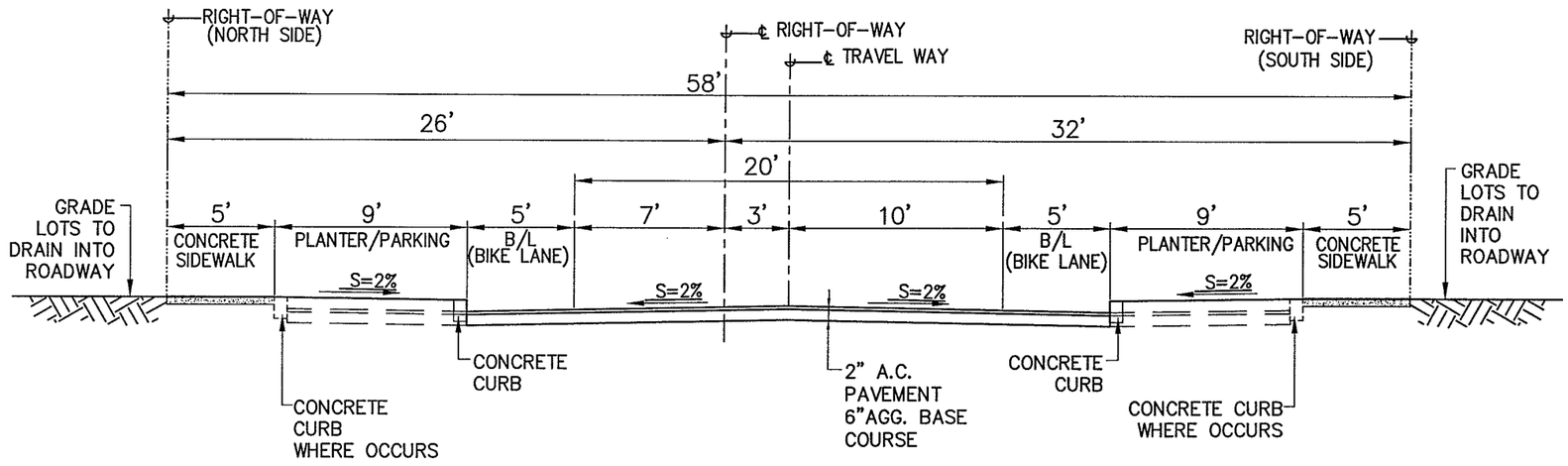
100 50 0 100 200

GRAPHIC SCALE IN FEET

REVISED: MARCH 08, 2011
REVISED: NOVEMBER 05, 2010
REVISED: SEPTEMBER 21, 2010
REVISED: SEPTEMBER 07, 2010
REVISED: SEPTEMBER 03, 2010
DATE: DECEMBER 08, 2009

FIGURE 8

(Subd Layout) Z:\2005\05-105\EXHIBIT MAPS\11-2010_WMLCI_SUBD_EXHIBIT_MAPS.dwg Rev. Date: 08-MAR-2011 : BY: JOY E.



58' RIGHT-OF-WAY
CONCEPTUAL ROADWAY SECTION

(Subd Layout 58FT)
Z:\2005\05-105\EXHIBIT MAPS\08-2011_WMLCI_SUBD_EXHIBIT_MAPS.dwg : Rev. Date: 04-AUG-2011 : BY: JOY E.

KAHOMA STREAM

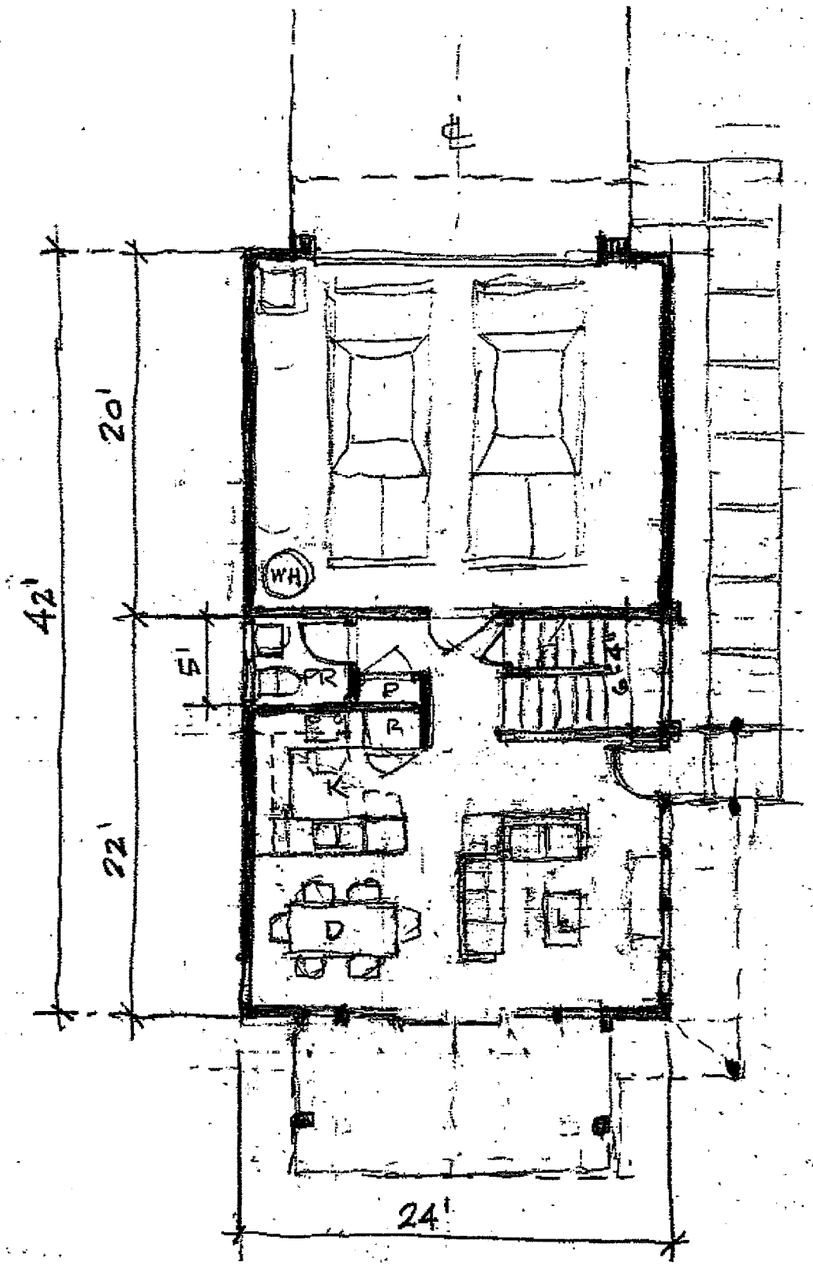
PARK

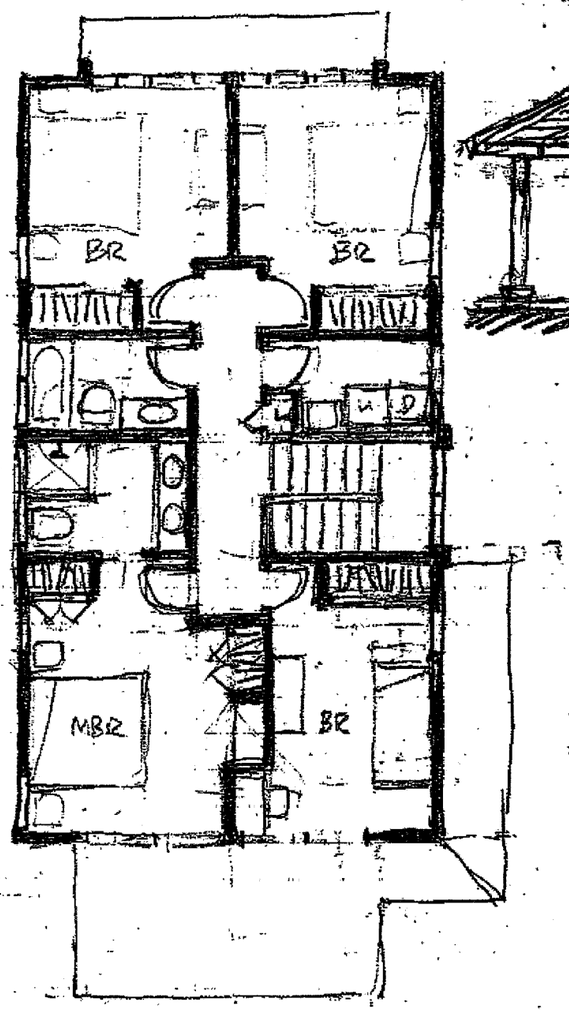
NORTH

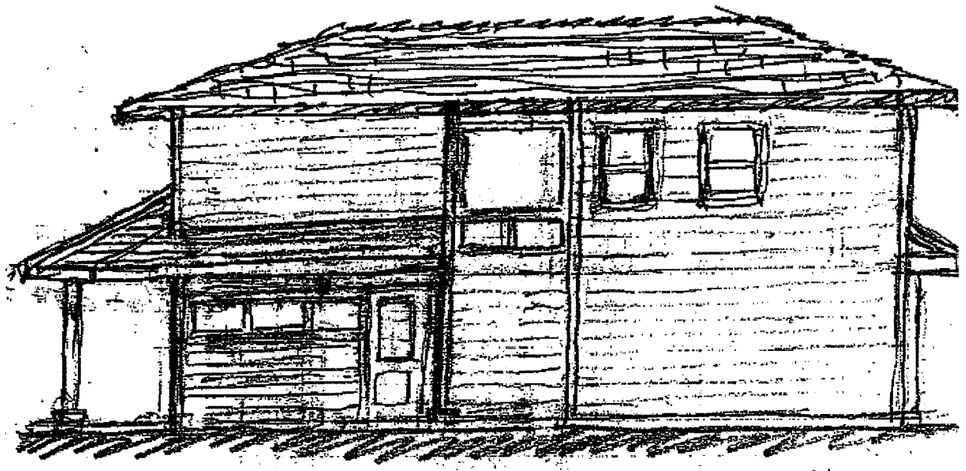
KAHOMA RESIDENTIAL SUBDIVISION

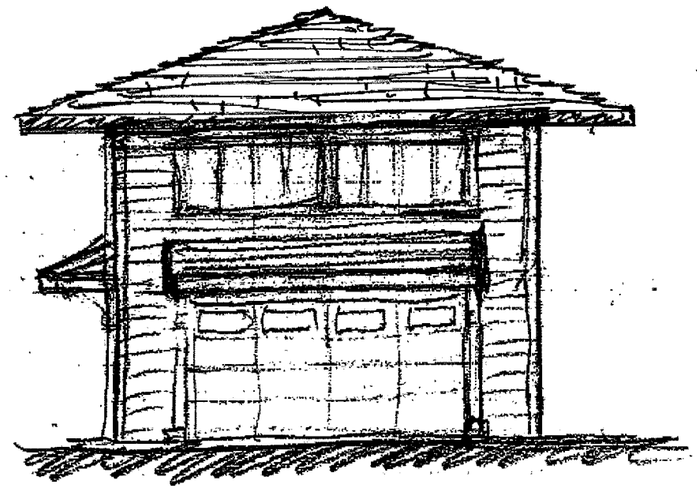
PARTIAL PRELIMINARY SITE PLAN 1"=40' 8/12/11 WD

WEST MAUI LAND COMPANY
PRELIMINARY DEVELOPMENT PLANS





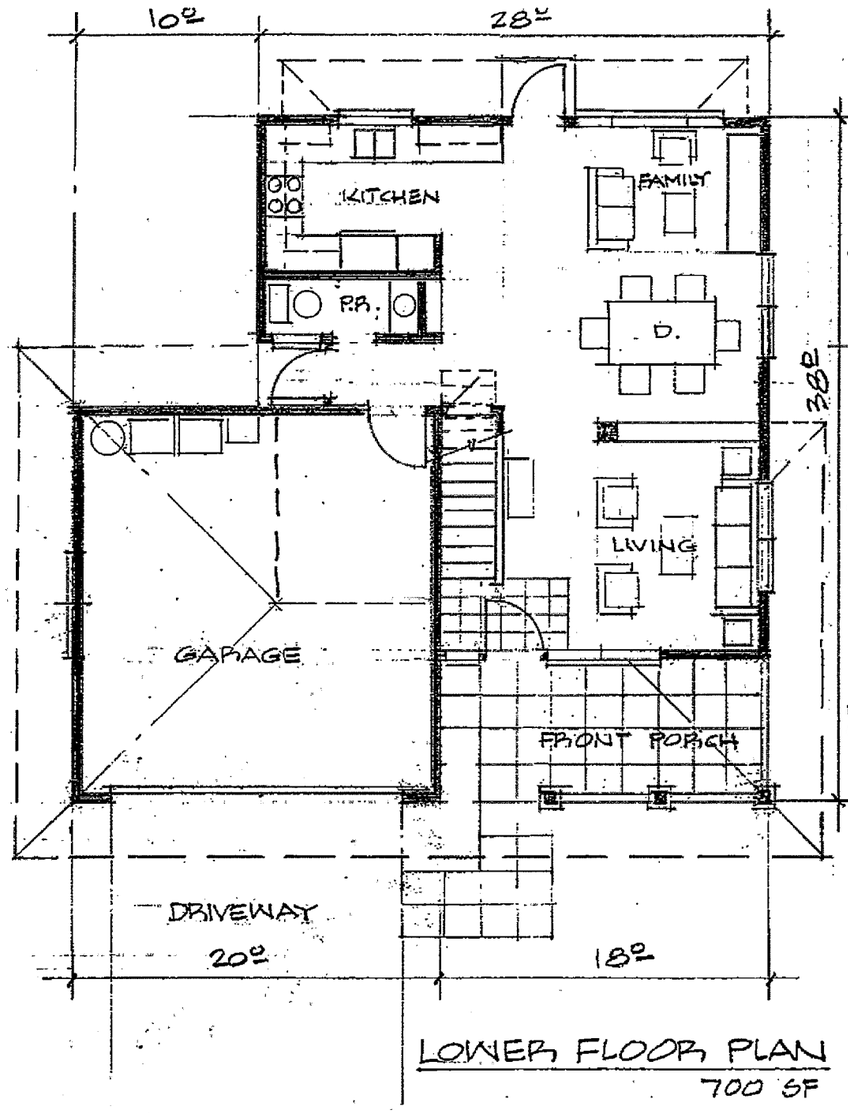




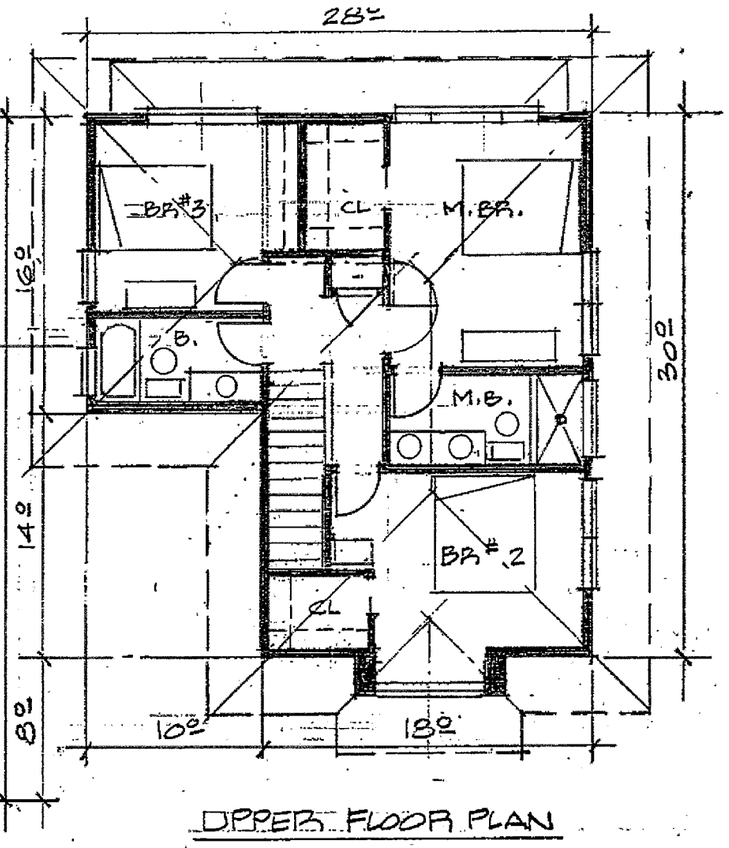
FLOOR AREAS	
LOWER FLOOR:	528 SF
UPPER FLOOR:	948 SF
COVERED LANAI:	108 SF
GARAGE:	480 SF
TOTAL:	2,064 SF

KAHOMA RESIDENTIAL (WML) A

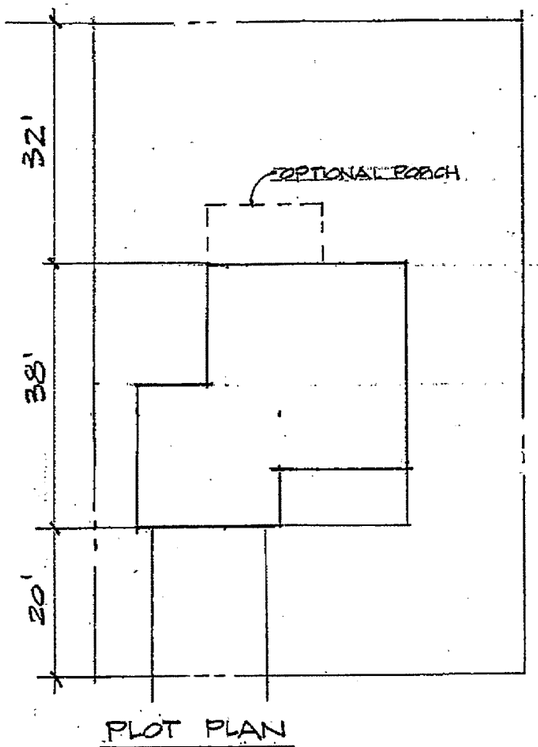
4 BEDROOM 2 STORIES
1/8" = 1'-0" 11/04/09 KR



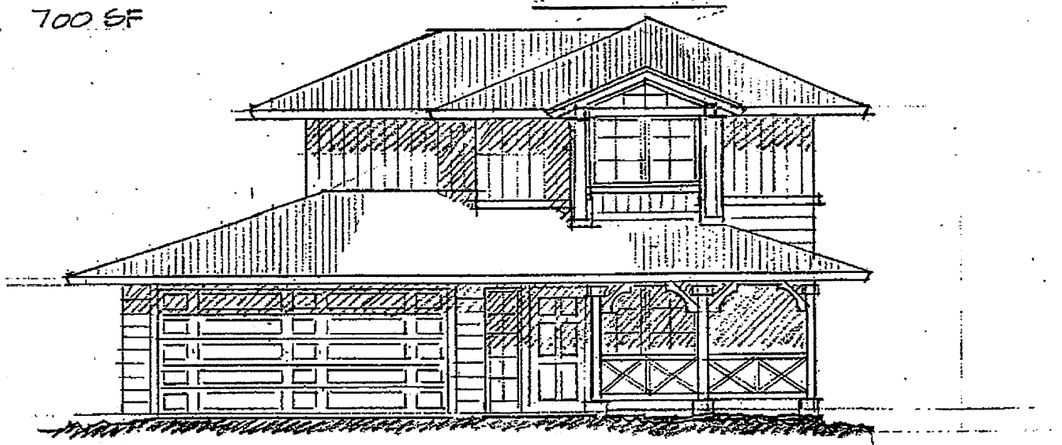
LOWER FLOOR PLAN
700 SF



UPPER FLOOR PLAN
700 SF



PLOT PLAN



FRONT ELEVATION

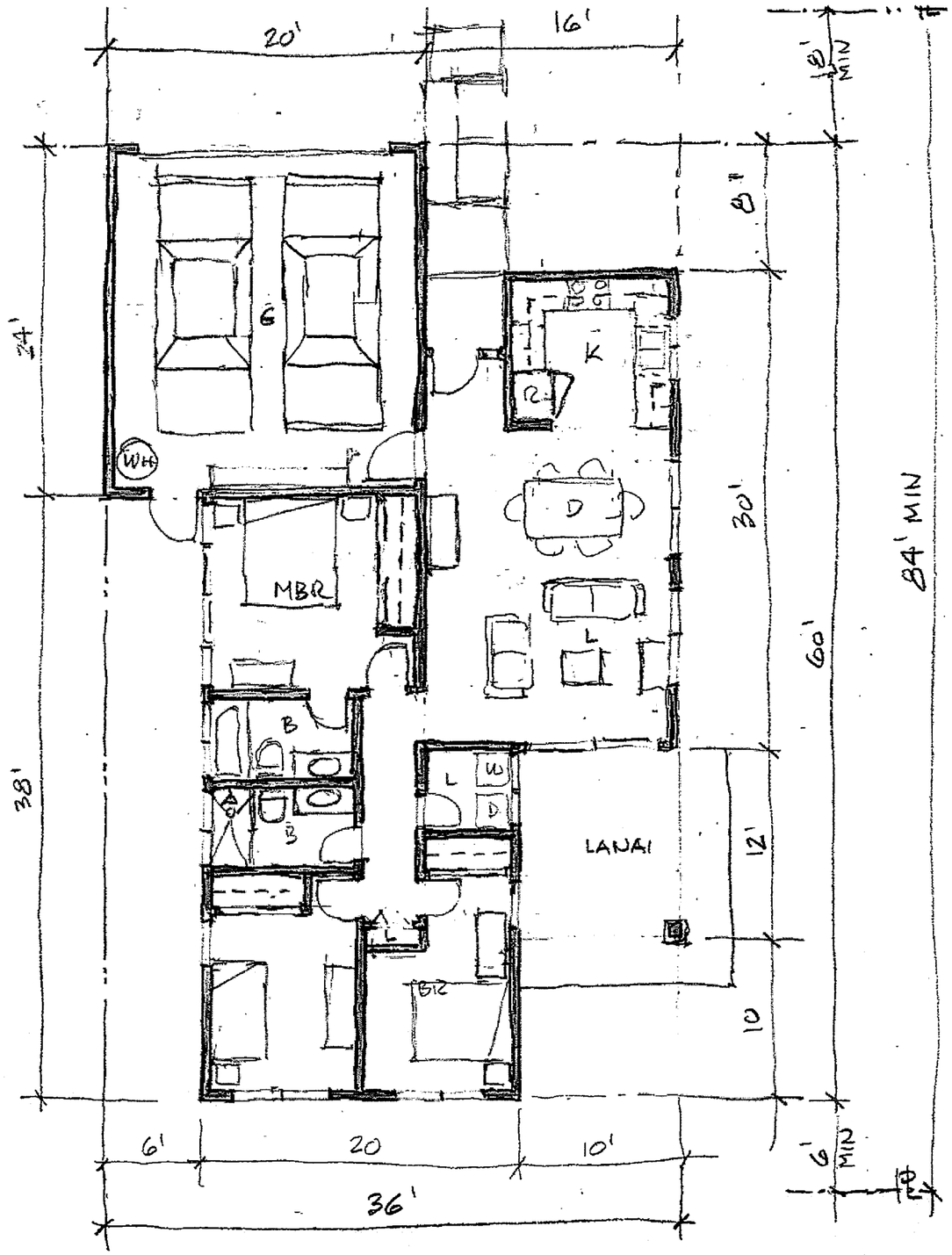
FLOOR AREAS	
ENCLOSED	1400 SF
PORCH (COVERED)	144 SF
GARAGE	440 SF
TOTAL	1,984 SF

KAHOMA RESIDENTIAL (WML)

B

3 BEDROOM - TWO STORIES

1/8" = 1'-0" 11/04/09 HΩ



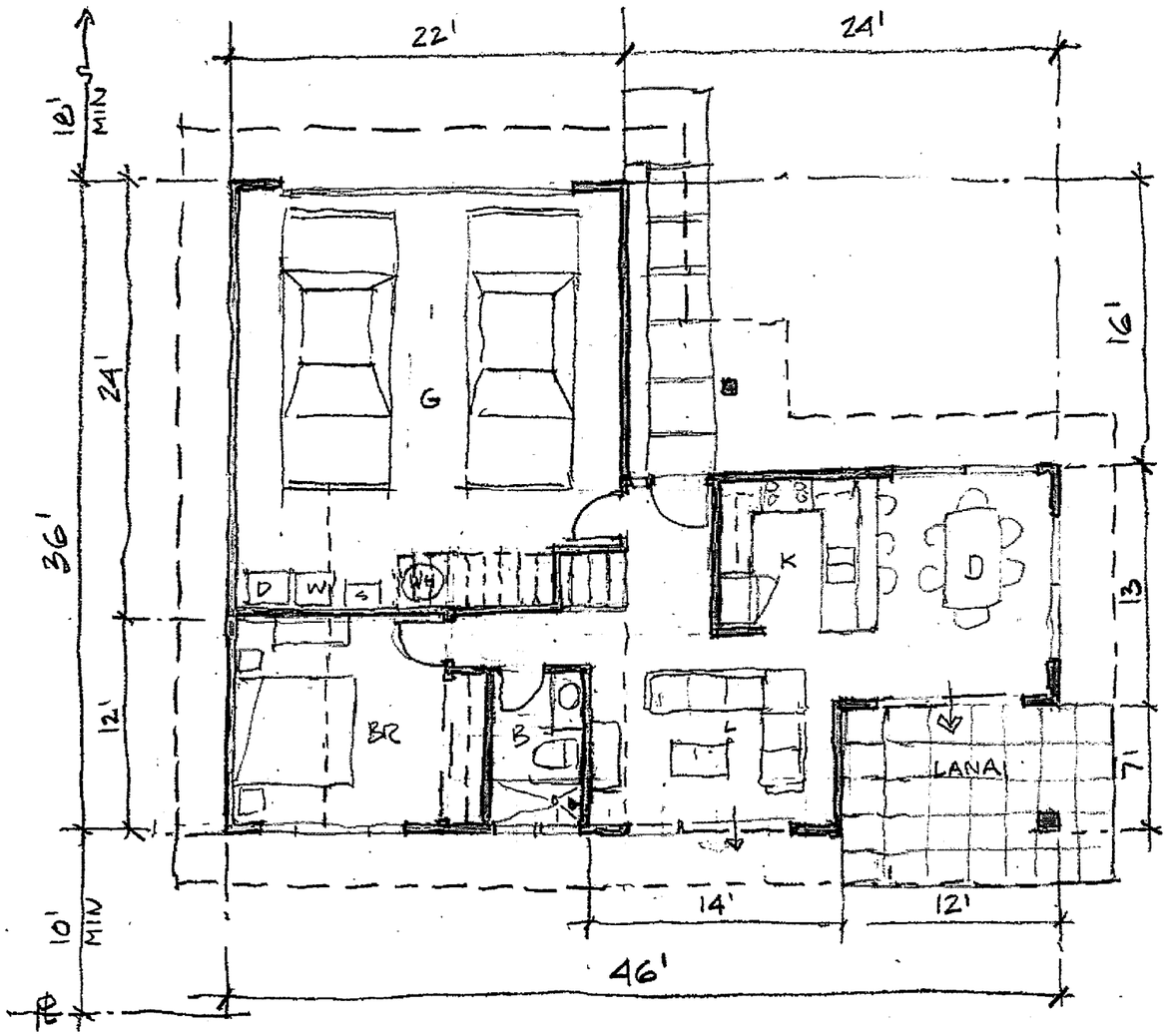
FLOOR AREAS	
ENCLOSED:	1,119 SF
COVERED LANAI/ENTRY:	145 SF
GARAGE:	480 SF
TOTAL	1,744 SF

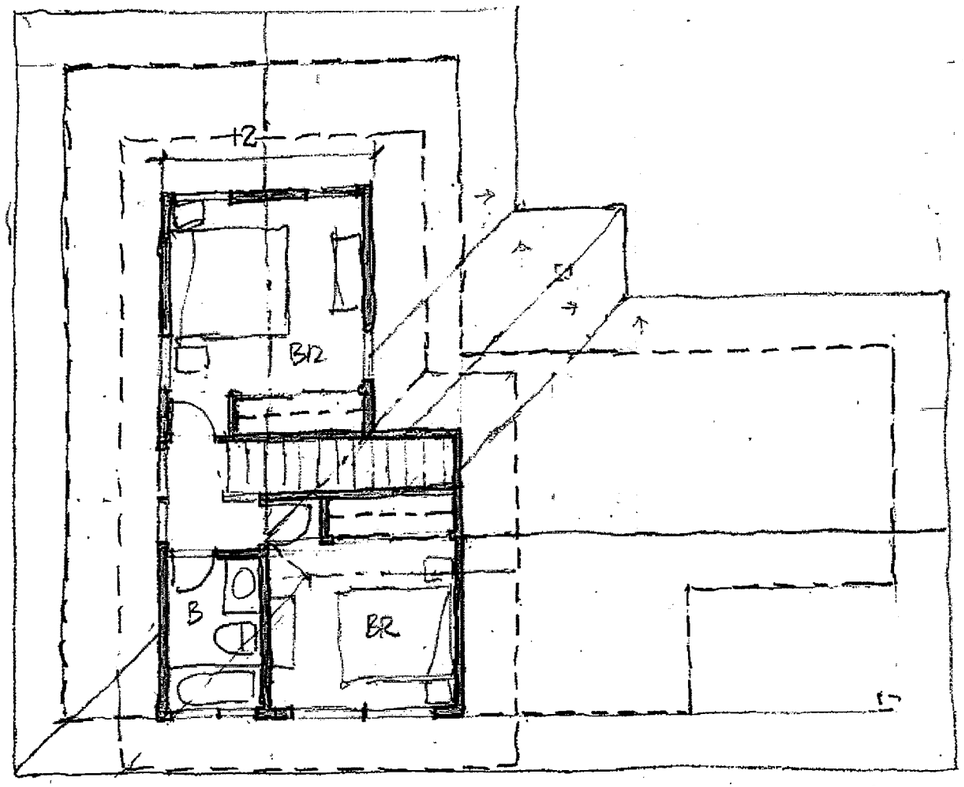
C

KAHOMA RESIDENTIAL (WML)

3 BEDROOM SINGLE STORY

1/8" = 1'-0" 11/04/09 MR





FLOOR AREAS

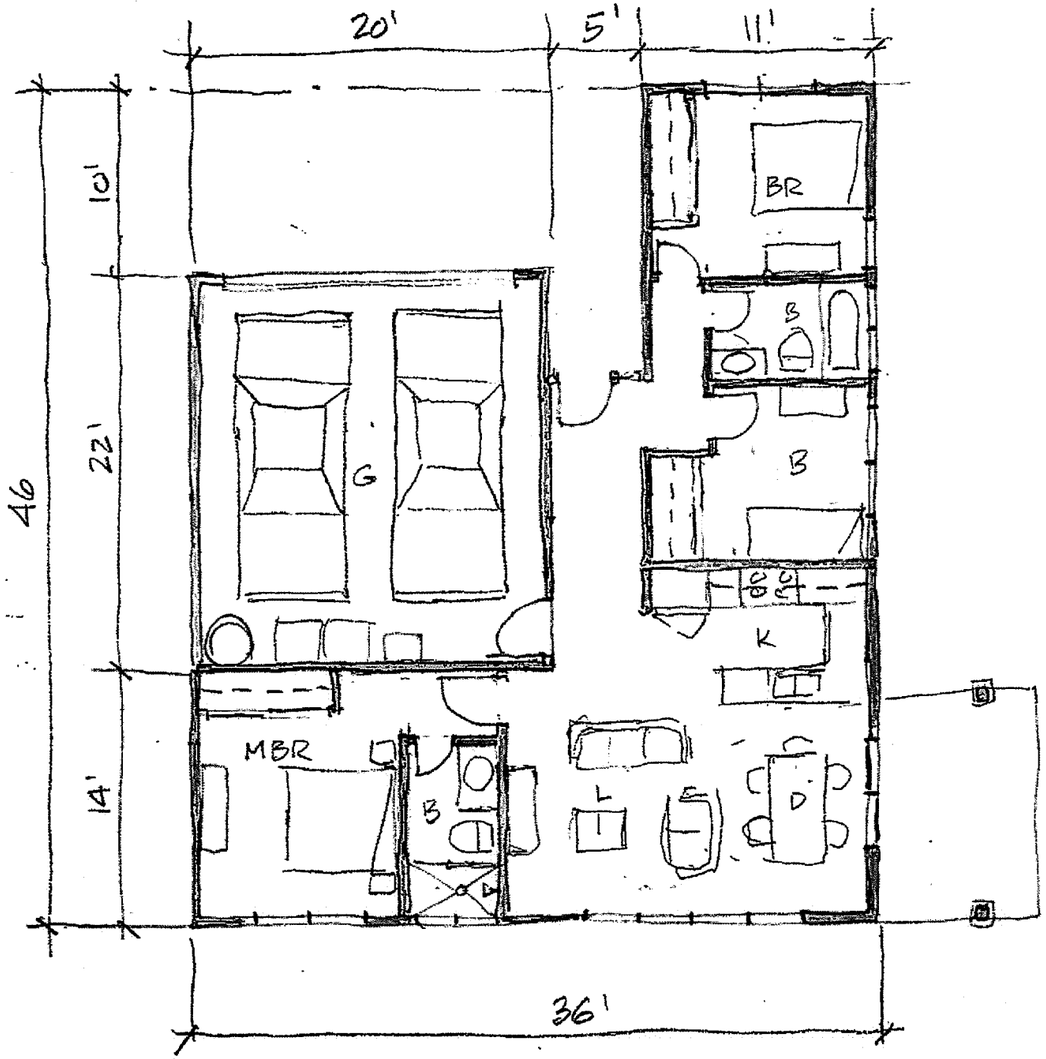
LOWER FLOOR	674 SF
UPPER FLOOR	440 SF
COVERED LANAI/ENTRY	114 SF
GARAGE	528 SF
TOTA	1,756 SF

D

KAHOMA RESIDENTIAL (WML)

3 BEDROOM 2 STORIES

1/8" = 1'-0" 11/04/09 LKQ



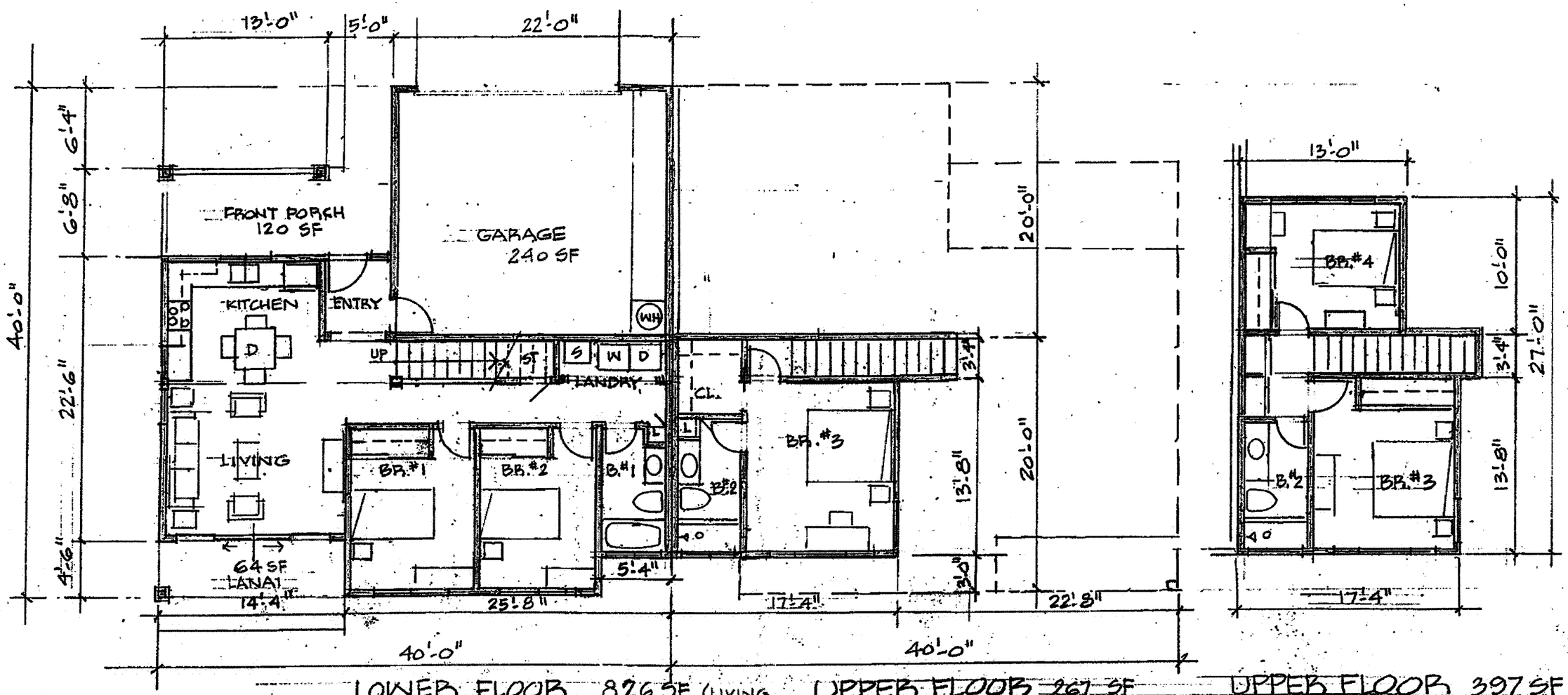
FLOOR AREAS

ENCLOSED	936 SF
COVERED LANAI / ENTRY	102 SF
GARAGE	440 SF
TOTAL	1,478 SF

KAHOMA RESIDENTIAL (WML)

3 BEDROOM 1 STORY
1/8" = 1'-0" 11/05/09 KR

E



LOWER FLOOR 826 SF (LIVING AREA)
PORCH, COVERED LANAI 184 SF
GARAGE 440 SF
1450 SF

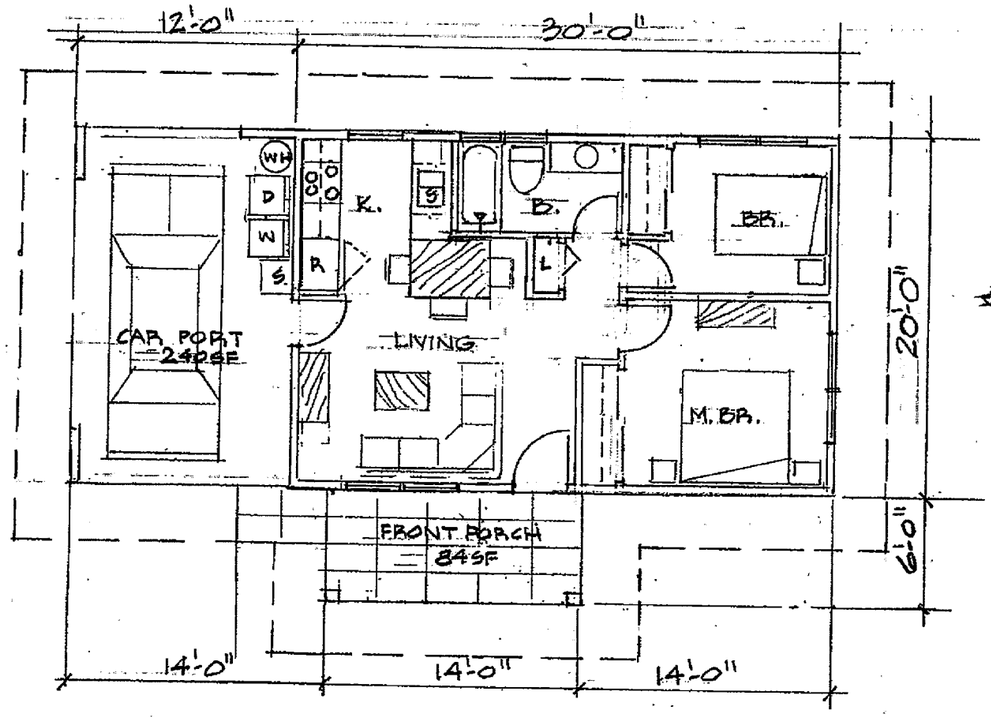
UPPER FLOOR 267 SF
3 BEDROOM UNIT

UPPER FLOOR 397 SF
4 BEDROOM UNIT

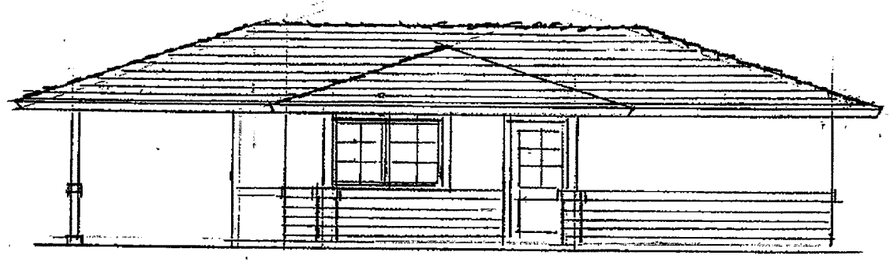
KAHOMA RESIDENTIAL (WML)

1/8" = 1'-0" AUG. 13, 2007 KH

F



FLOOR PLAN 1/8"=1'-0"



FRONT ELEVATION 1/8"=1'-0"

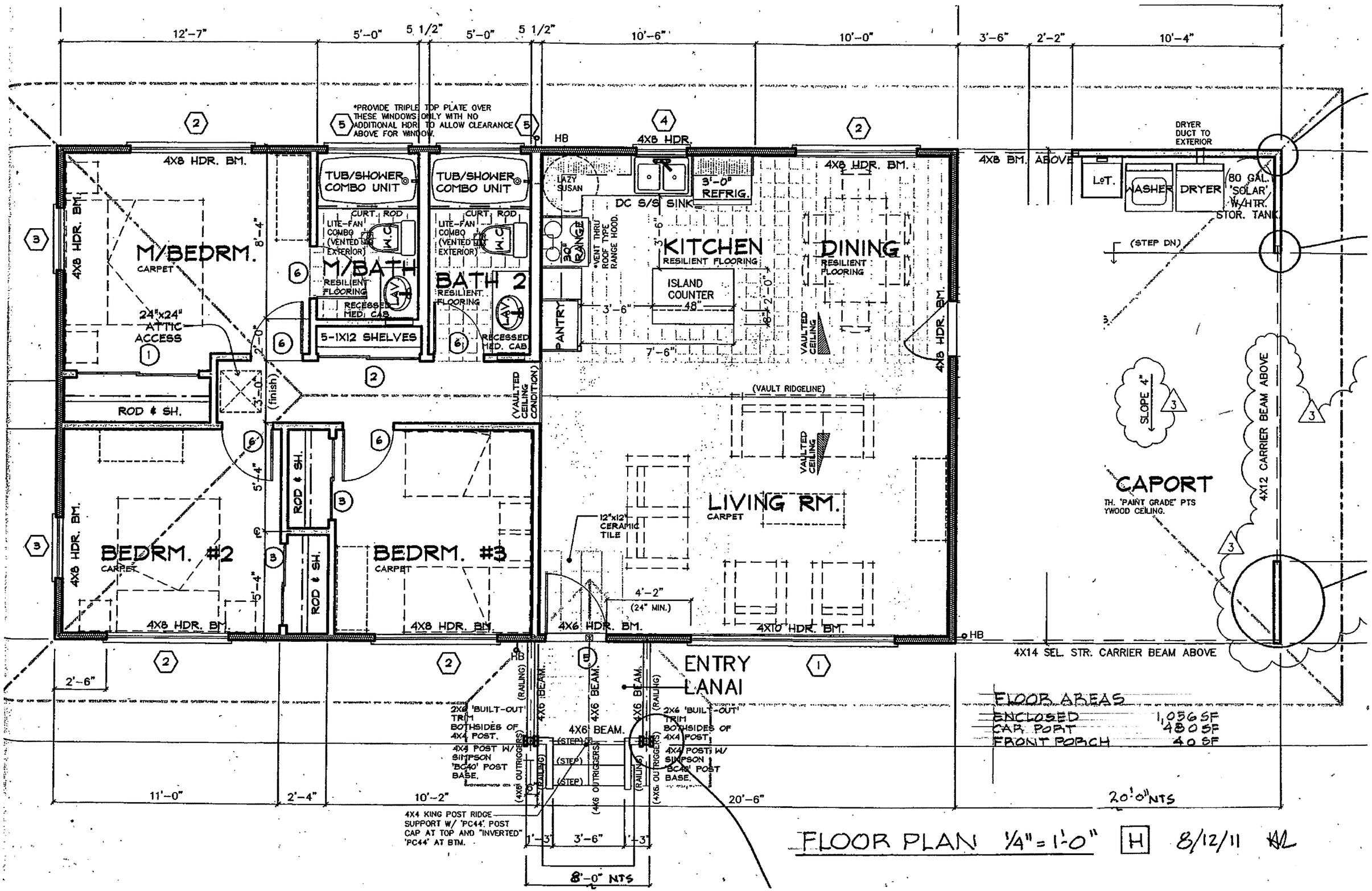
FLOOR AREAS

ENCLOSED	600 SF
CAR PORT	280 SF
FRONT PORCH	84 SF

600 SF OHANA G

KAHOMA RESIDENTIAL SUBDIVISION

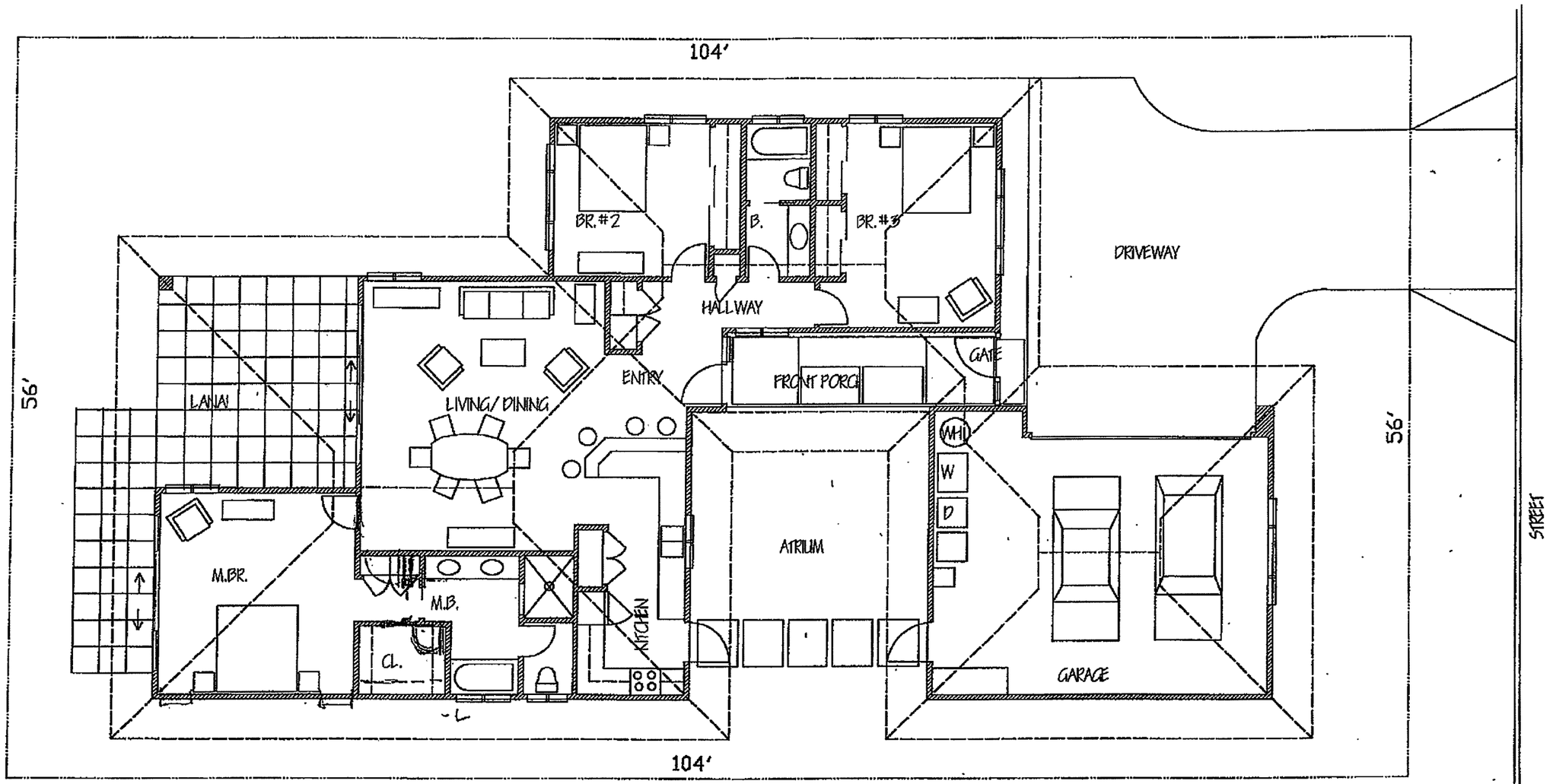
8/6/11 K42



FLOOR AREAS

ENCLOSED	1,056 SF
CAR. PORT	480 SF
FRONT PORCH	40 SF

FLOOR PLAN 1/4"=1'-0" H 8/12/11 KL



KAHOMA RESIDENTIAL (WML)

FLOOR PLAN

1/8" = 1'-0"

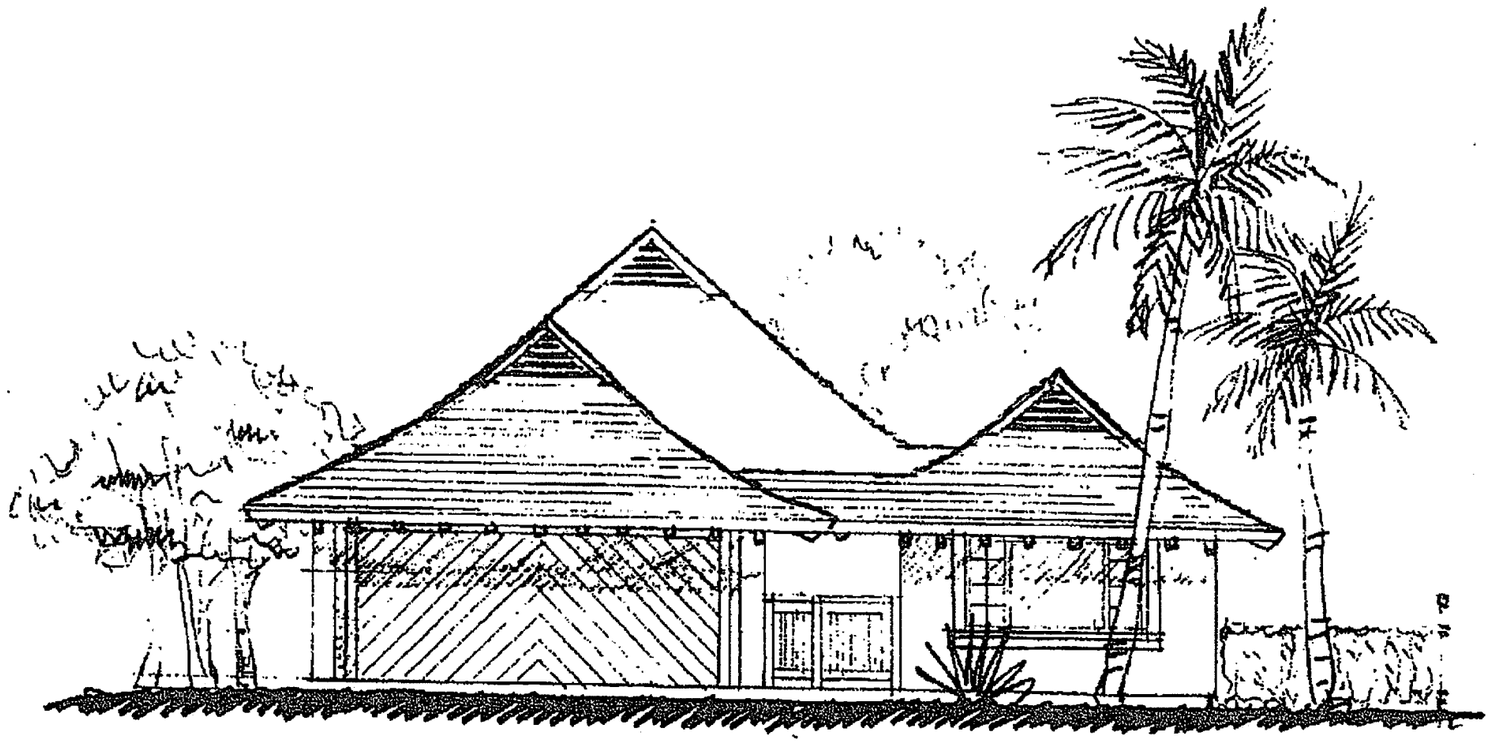
I

2,038 SF ENCL. LIVING SPACE

architecture:

Hans Riecke, FAIA
77 Apalapani Lane, Maui, Hawaii 96708
Telephone (808) 575-2025, Facsimile (808) 575-2077

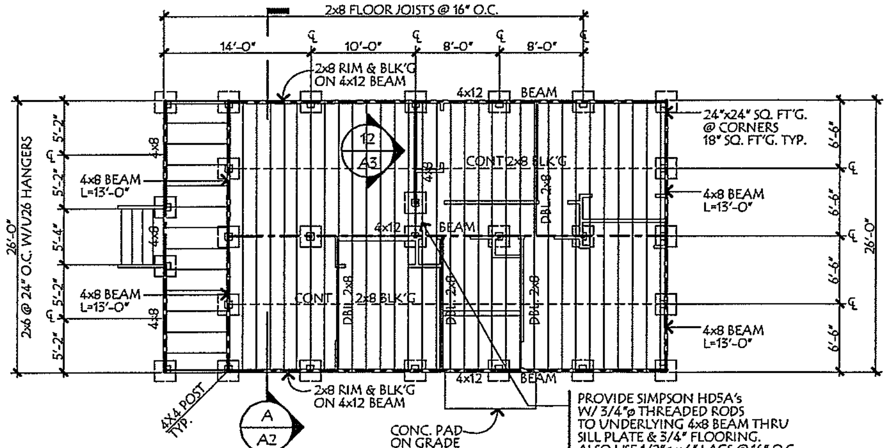
7/20/00



KAHOMA RESIDENTIAL (WML)
Plan 'I' Front

I

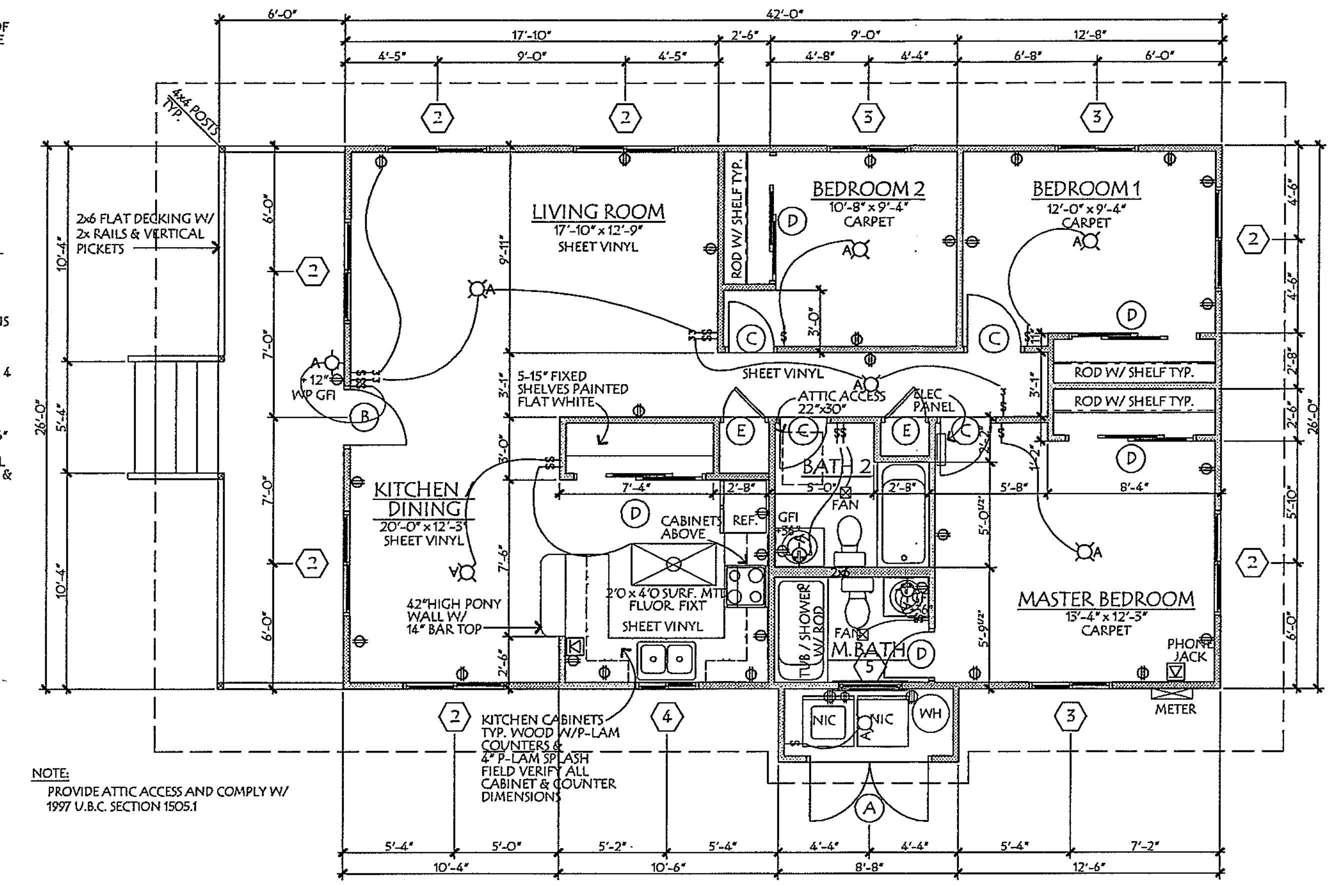
HABITAT FOR HUMANITY
PRELIMINARY DEVELOPMENT PLANS



4/A1 FOUNDATION & FLOOR FRAMING PLAN
Scale : 1/4" = 1'-0"

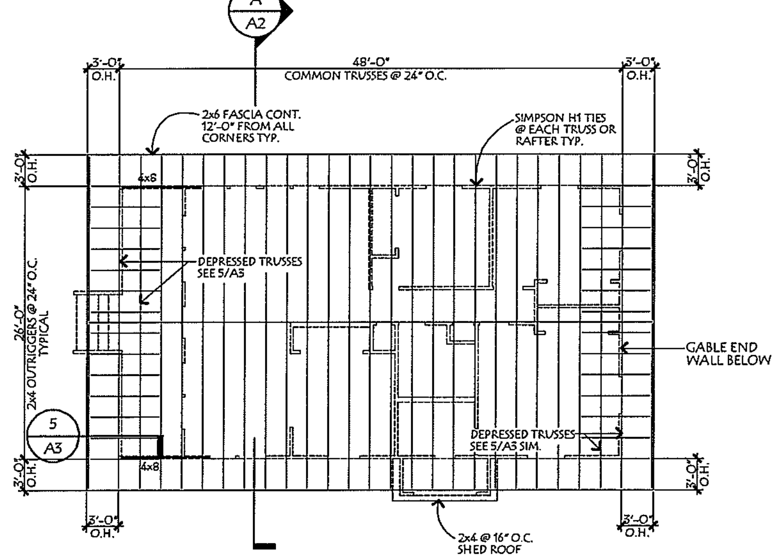
NOTES

1. ALL WORK SHALL CONFORM TO CURRENT EDITIONS OF THE UBC , UMC, UPC, UFC AND ALL OTHER APPLICABLE CODES AND ORDINANCES ADOPTED BY THE LOCAL BUILDING DEPARTMENT.
2. ALL RECEPTICALS SHOWN ON PLANS ARE 110V +18" A.F.F. BATH SAME AS KITCHEN: GFI RECEPTICALS PER N.E.C.
3. ALL STAIRS, HANDRAILS & GUARDRAILS TO COMPLY W/UBC SECTION 10.
4. FLOOR DIAPHRAM: 3/4" T&G STRUCTURAL PLYWOOD SHEATHING ON WOOD JOISTS TO BE GLUED & NAILED W/8d @ 6" O.C. EDGE /12" O.C. @ FIELD
5. LANAI FLOOR DECK TO BE: 2x6 TREATED LUMBER FLAT ON 2x6 JOISTS @ 24" O.C.
6. FOOTING TO BE MIN. 2500 PSI CONC. SEE DETAIL 4/A2
7. PROVIDE INSECT SCREEN @ ALL ROOF VENT LOCATIONS
8. ROOF: ASPHALT SHINGLES W/ #30 FELT ON 5/8" PLYWOOD NAILED W/8d BOX @ 6"O.C. EDGES 6" O.C. FIELD ON 2 X 4 WD TRUSSES @ 24" O.C.
9. EXTERIOR WALLS: 5/8" ROUGH SAWN EXT SIDING W/ 1x2 BATTENS @ 16"O.C. ON ASPHALTIC BLD'G PAPER ON 2x4 STUDS @ 16" O.C ALL EXTERIOR WALLS NAIL W/8d's BOX @ 6" O.C. EDGE /12" O.C. FIELD. USE 18 GA. STRAPPING SEE DETAIL 8/A1 ON FULL HEIGHT STUDS ADJACENT TO ALL DOOR & WINDOW OPENINGS

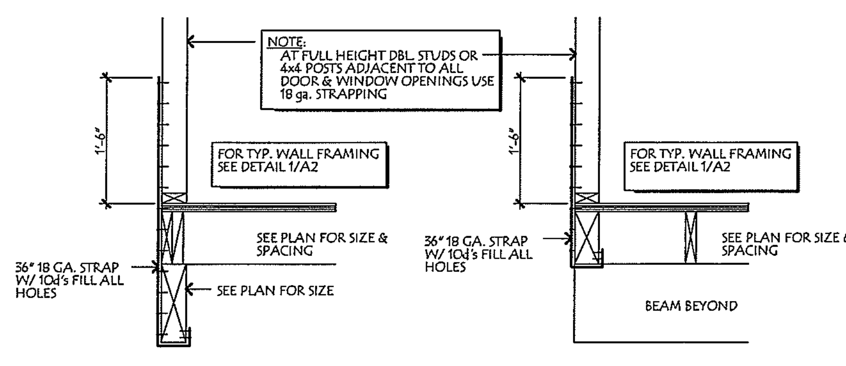


NOTE:
PROVIDE ATTIC ACCESS AND COMPLY W/ 1997 U.B.C. SECTION 1505.1

2/A1 FLOOR PLAN
Scale : 1/4" = 1'-0"



3/A1 ROOF FRAMING PLAN
Scale : 1/8" = 1'-0"



8/A1 FLOOR TO BEAM CONN. (@ SHEARWALL)
Scale : 1" = 1'-0"

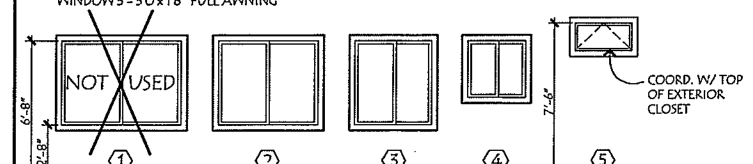
DOOR & WINDOW SCHEDULE

WINDOWS TO BE: CERTAINTEED SLIMLINE SERIES
WHITE VINYL, NAIL ON FRAMES
SINGLE GLAZE, CLEAR GLASS

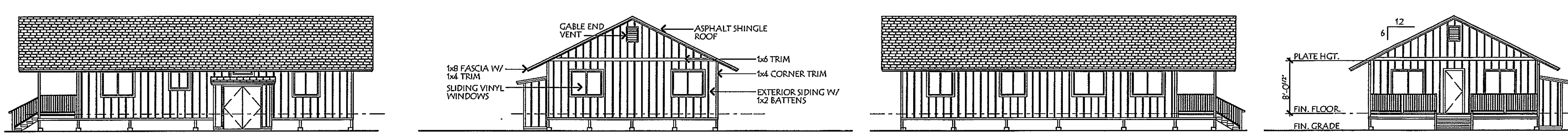
~~WINDOW 1 - 6'0 x 4'0 HORIZ. SLIDER~~
WINDOW 2 - 5'0 x 4'0 HORIZ. SLIDER
WINDOW 3 - 4'0 x 4'0 HORIZ. SLIDER
WINDOW 4 - 3'0 x 3'0 HORIZ. SLIDER
WINDOW 5 - 3'0 x 1'6 FULL AWNING

NOTE:
INSTALL WINDOWS PER DETAIL 7 / A2

INTERIOR / EXTERIOR WINDOWS SUBJECT TO HUMAN IMPACT SHALL COMPLY W/ 1997 U.B.C. CHAPTER 24.



DOORS:
DOOR A - 6'-0" x 6'-8" EXT. PAIR,
DOOR B - 3'-0" x 6'-8" EXT.
DOOR C - 2'-6" x 6'-8" INT., HC
DOOR D - 6'-0" x 6'-8" BI-PASS, HC
DOOR E - 2'-0" x 6'-8" INT., HC



RIGHT   REAR   LEFT   FRONT

1/A1 EXTERIOR ELEVATIONS
Scale : 1/8" = 1'-0"

Habitat for Humanity Maui
P.O. BOX 5034
Kahului, HI 96733
Phone: (808) 893-0334
FAX: (808) 877-9462
maui_habitat@habitat-hawaii.org

DRAWINGS PREPARED & DONATED BY:
CASTLE AND COOKE
MAUI ARCHITECTURAL GROUP
LARRY GLAUM AND ASSOCIATES

STAMPS:
DAVID LINDQUIST, LICENSED PROFESSIONAL ARCHITECT, NO. 6901, HAWAII U.S.A.

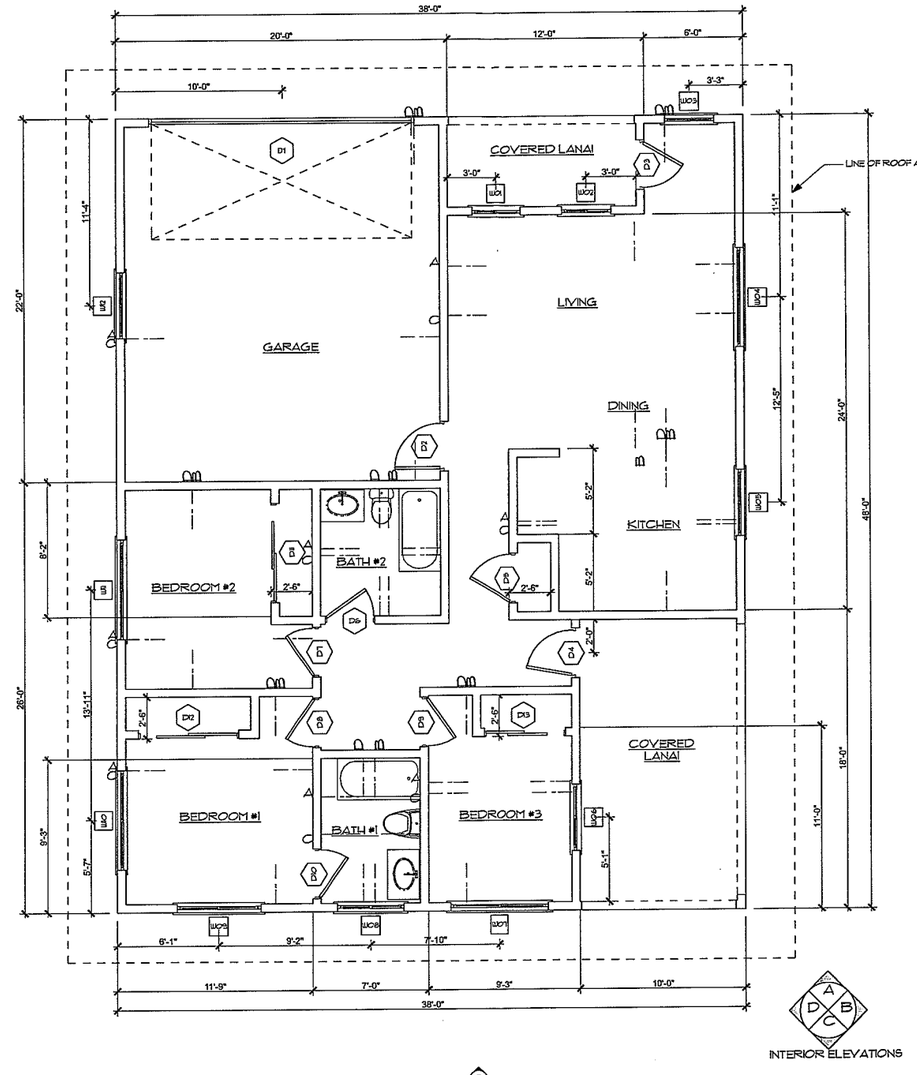
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

3 Bedroom / 2 Bath
Habitat for Humanity, Maui, Inc.
P.O. Box 5034
Kahului, HI 96733

Revisions:	By:
1 GENERAL REVISION 11-18-03	LY
2 STRUCT CLARIF. 3-18-04	LY

Floor Plan
Exterior Elevations
Floor Framing Plan
Roof Framing Plan
Door & Window Schedule

Date: 10 JUN 03
Scale: As Noted
File Name: A1 Floor Plan CEILLAY
Job:
Sheet Number: A1
Sheet: Of:



1 FLOOR PLAN

Scale : 1/4" = 1'-0"

PHILIP WHITE ARCHITECTS

PHILIP K. WHITE
LICENSED PROFESSIONAL ARCHITECT
No. 5337
HAWAII, U.S.A.

License Expires 4-30-08

This work was prepared by me or under my supervision, and construction of this project will be under my observation. Observation of construction as defined in Hawaii Administrative Rules Title 16 Chapter 115.

Project Name:
PROJECT NAME
SUB-PROJECT NAME

T.M.K. Number:
1-23-45 : 678

Address:
123 ANY STREET,
CITY HI 96123

Sheet Content
FLOOR PLAN

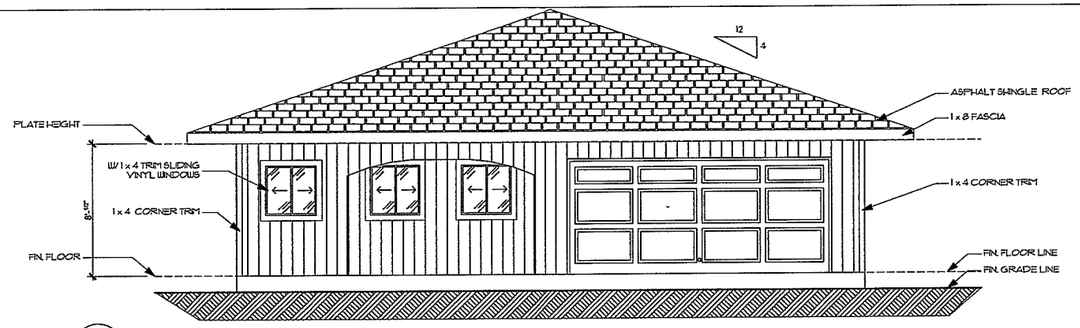
Project Number: ##-XXX

PHILIP K. WHITE ASSOCIATES, LTD.
ARCHITECTS AND PLANNERS
851 POHUKAINA STREET, SUITE C-1
HONOLULU, HAWAII 96813-5327
TEL: 808-596-0260
FAX: 808-591-6661

Sheet Number

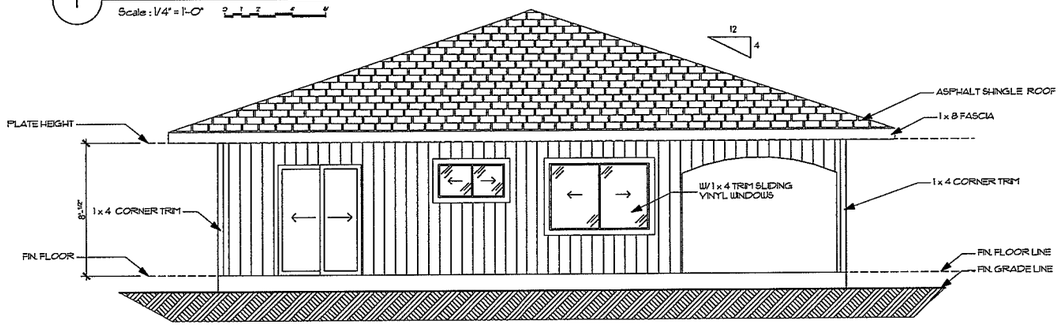
Date: Jan 01, 2007
Phase: XXXXXXXXXX

Total Sheets: ##



1 FRONT ELEVATION

Scale : 1/4" = 1'-0"



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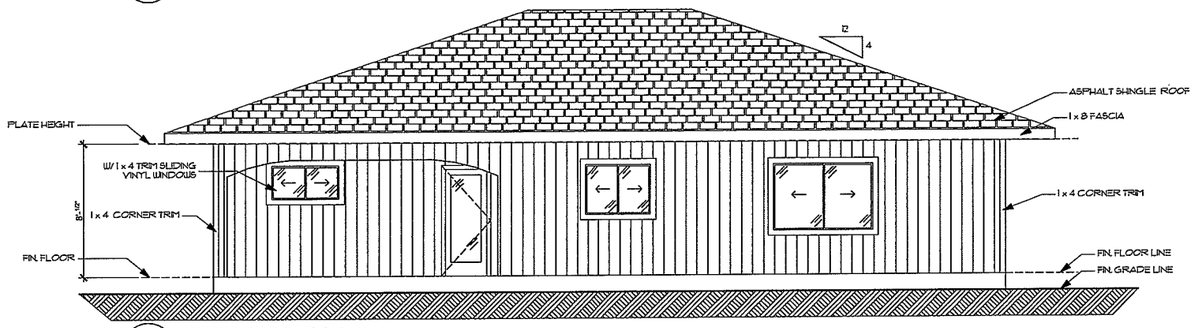

3 LEFT ELEVATION

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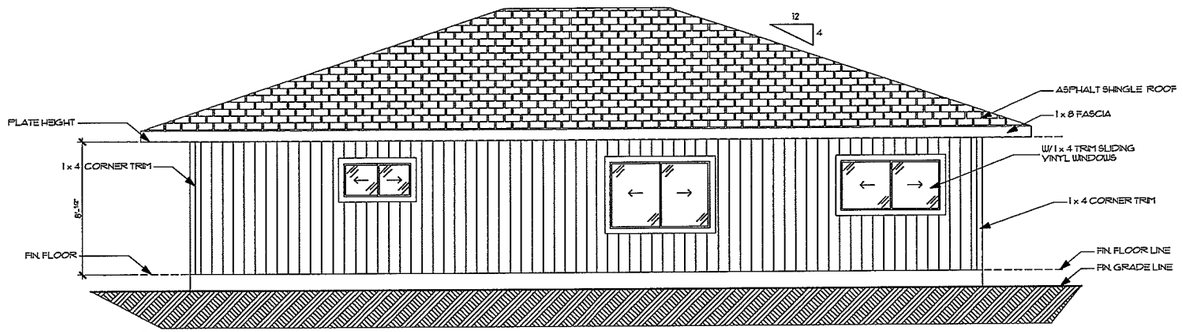

4 RIGHT ELEVATION

Scale : 1/4" = 1'-0"

PHILIP WHITE ARCHITECTS

PHILIP K. WHITE
LICENSED PROFESSIONAL ARCHITECT
No. 5337
HAWAII, U.S.A.

License Expires 4-30-08

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Project Name:
PROJECT NAME
SUB-PROJECT NAME

T.M.K. Number:
1-23-45 : 678

Address:
123 ANY STREET,
CITY HI 96123

Sheet Content
EXTERIOR ELEVATIONS

Project Number: ##-XXX

PHILIP K. WHITE ASSOCIATES, LTD.
ARCHITECTS AND PLANNERS
851 POHUKAINA STREET, SUITE C-1
HONOLULU, HAWAII 96813-5327
TEL: 808-595-0250
FAX: 808-591-8681

Sheet Number

Date: Jan 01 2007
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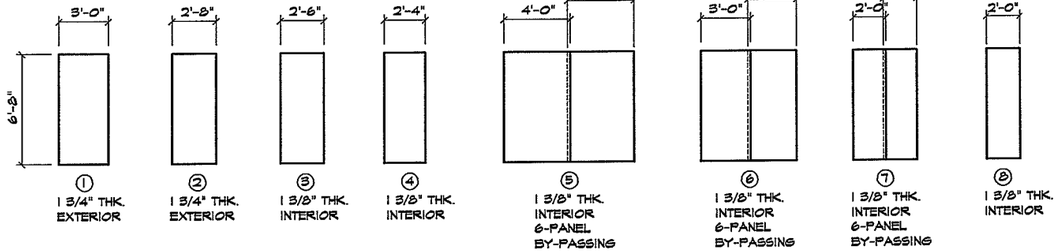
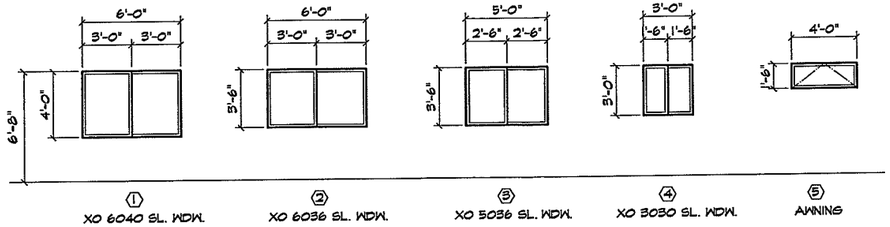
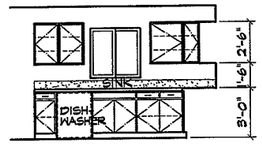




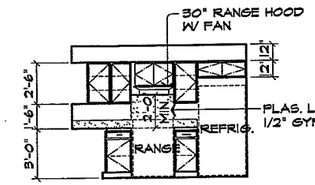
DOOR & WINDOW SCHEDULES

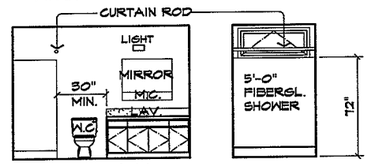
NOTE: SEE SPEC/MATERIAL LIST FOR DOOR TYPE

All exterior sliding glass doors and windows shall have a glazed fenestration maximum SHGC=0.40, except; up to 15 square feet of glazed fenestration per dwelling, north facing sliding glass windows and doors and sliding glass windows and doors with a minimum projection factor of 1.0.

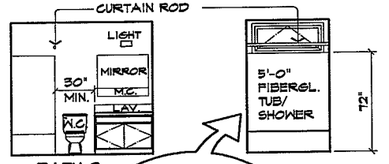


KITCHEN



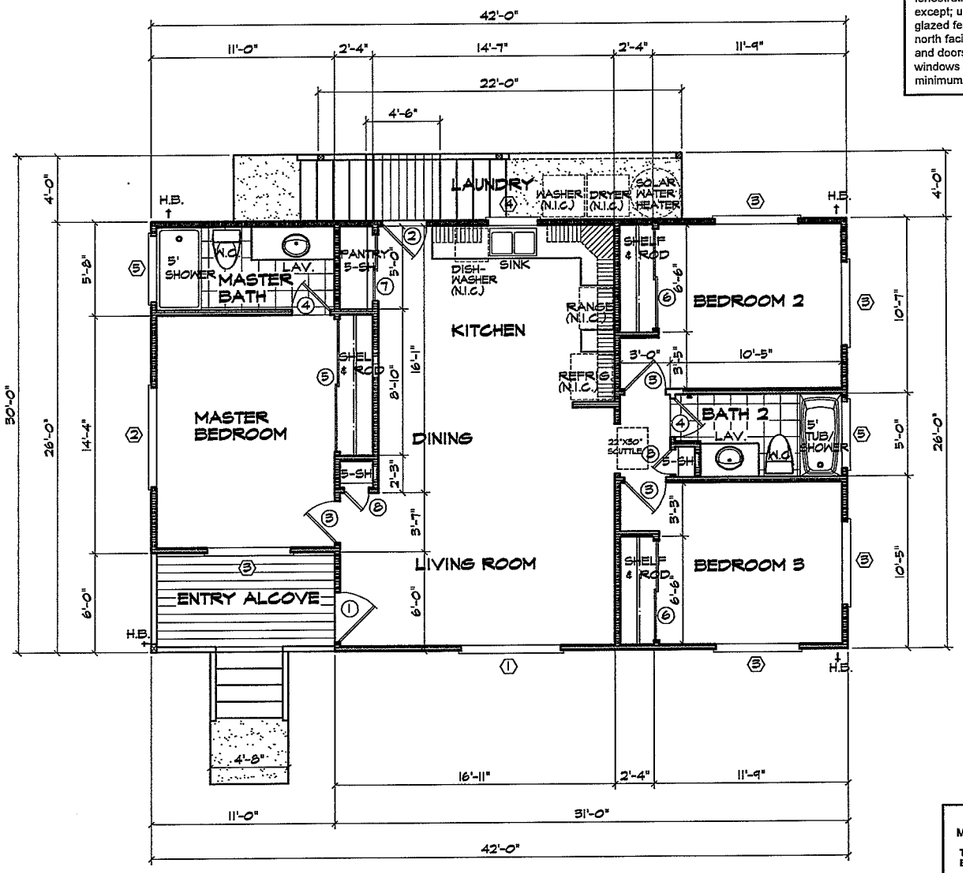


MASTER BATH



BATH 2

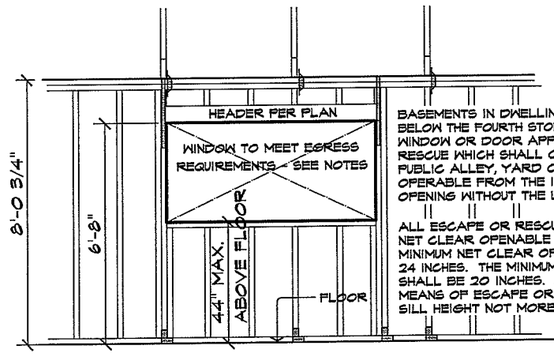
INTERIOR ELEVATIONS
SCALE: 1/4"=1'-0"



FLOOR PLAN
SCALE: 1/4"=1'-0"

AREA TABULATIONS

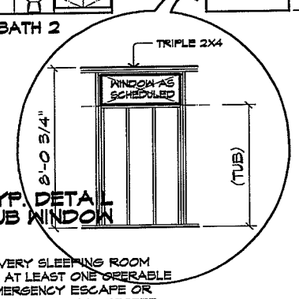
LIVING	1026 SQ. FT.
ENTRY ALCOVE	66 SQ. FT.
COVERED LANAI	88 SQ. FT.
TOTAL AREA	1180 SQ. FT.



BASEMENTS IN DWELLING UNITS AND EVERY SLEEPING ROOM BELOW THE FOURTH STORY SHALL HAVE AT LEAST ONE OPERABLE WINDOW OR DOOR APPROVED FOR EMERGENCY ESCAPE OR RESCUE WHICH SHALL OPEN DIRECTLY INTO A PUBLIC STREET, PUBLIC ALLEY, YARD OR EXIT COURT. THE UNITS SHALL BE OPERABLE FROM THE INSIDE TO PROVIDE A FULL CLEAR OPENING WITHOUT THE USE OF SEPARATE TOOLS.

ALL ESCAPE OR RESCUE WINDOWS SHALL HAVE A MINIMUM NET CLEAR OPENABLE AREA OF 5.7 SQUARE FEET. THE MINIMUM NET CLEAR OPENABLE HEIGHT DIMENSION SHALL BE 24 INCHES. THE MINIMUM NET CLEAR OPENABLE WIDTH DIMENSION SHALL BE 20 INCHES. WHEN WINDOWS ARE PROVIDED AS A MEANS OF ESCAPE OR RESCUE THEY SHALL HAVE A FINISHED SILL HEIGHT NOT MORE THAN 44 INCHES ABOVE THE FLOOR.

EGRESS WINDOW DETAIL



TYP. DETAIL TUB WINDOW

COUNTY OF MAUI
MAUI COUNTY CODE, CHAPTER 16.16A ENERGY CODE

To the best of my knowledge, this project's design substantially conforms to the Energy Code for:

_____ Building Component Systems
_____ Electrical Component Systems
_____ Mechanical Component Systems

Signature: _____ Date: _____
Name: _____
Title: _____
License No. _____

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MODI 1000 OHANA HABITAT

ROBERT C. SMELKER LICENSED PROFESSIONAL ARCHITECT No. 3560 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

SHEET NO. 1 OF FIVE

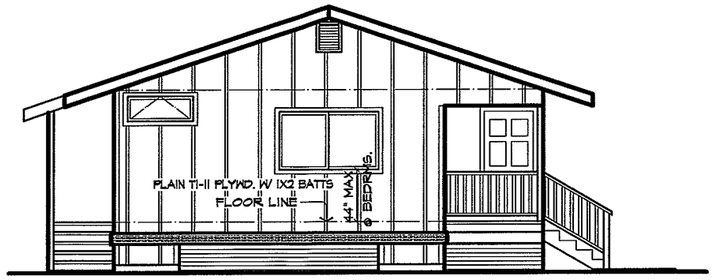
Honsador Lumber
Building Solutions for Hawaii
250 Lalo Place
Kahului, Hawaii 96732

REVISIONS

DATE
APRIL 2011

PROPOSED NEW DWELLING FOR:

MODI 1000 OHANA HABITAT



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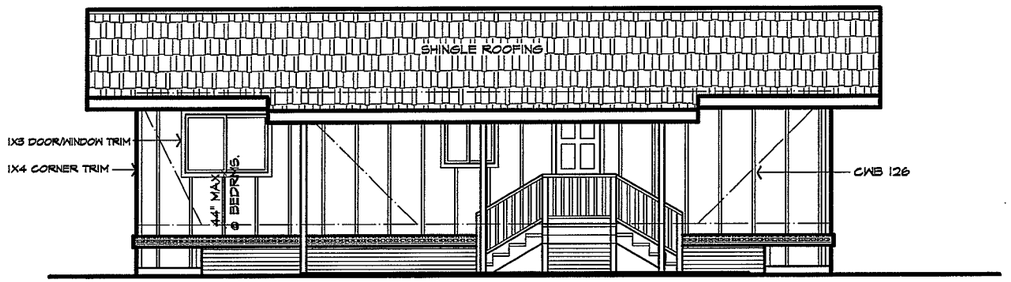

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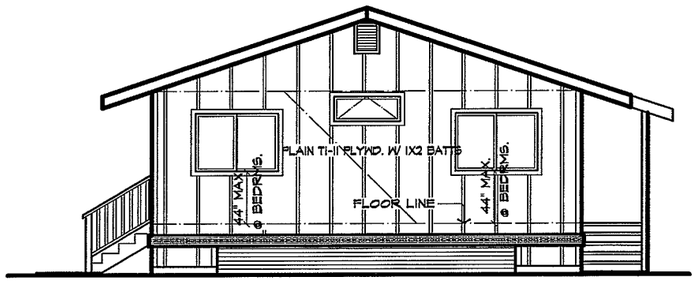

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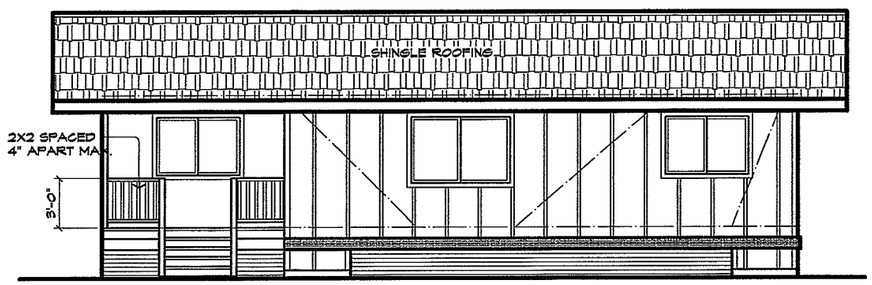
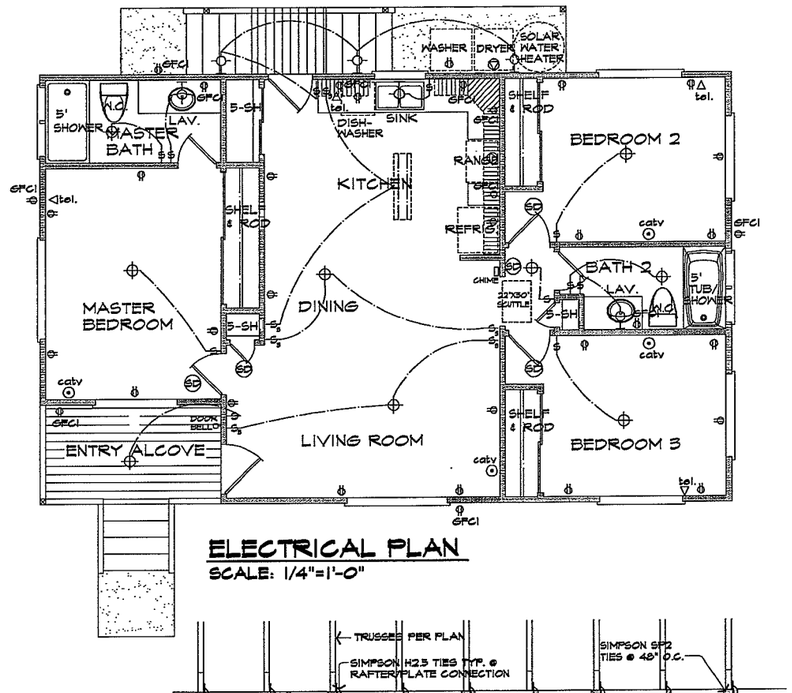
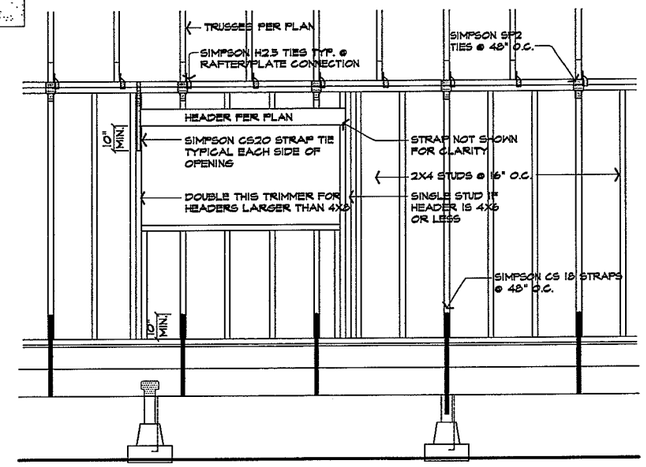


FRONT

EXTERIOR ELEVATIONS
SCALE: 1/4"=1'-0"



ELECTRICAL PLAN
SCALE: 1/4"=1'-0"



LOAD PATH DETAIL

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MODI 1000 OHANA HABITAT

ROBERT C. SMELKER LICENSED PROFESSIONAL ARCHITECT No. 3560 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

SHEET NO. 2 OF FIVE

Honsador Lumber
250 Lalo Place
Kahului, Hawaii 96732
Building Solutions for Hawaii

REVISIONS

DATE
APRIL 2011

MODI 1000 OHANA HABITAT

APPENDIX B.

Soils Investigation Report

REPORT
SOILS INVESTIGATION

KAHOMA RESIDENTIAL SUBDIVISION

LAHAINA, MAUI, HAWAII
TMK: (2) 4-5-10: 5

for

WEST MAUI LAND COMPANY, INC.

Project No. 101386-FM
May 5, 2010

ISLAND GEOTECHNICAL ENGINEERING, INC.
Geotechnical Consultants

330 Ohukai Road, Suite 119
Kihei, Maui, Hawaii 96753
Phone: (808) 875-7355
Fax: (808) 875-7122

May 5, 2010
Project No. 101386-FM

West Maui Land Company, Inc.
33 Lono Avenue, Suite 450
Kahului, Hawaii 96732

The attached report presents the results of a soils investigation at the site of the proposed Kahoma Residential Subdivision to be located in Lahaina, Maui, Hawaii.

A summary of the findings is as follows:

1) The subsurface conditions at the site were explored by excavating nineteen (19) test pits to depths of 2 to 8 feet below existing grade and drilling three (3) test borings to depths of 13.75 to 17.75 feet below existing grade.

   In general, the explorations disclosed the site to be overlain with moderately dense to very dense GRANULAR SOILS which rest on top of moderately hard to hard BASALT ROCK. The GRANULAR SOILS generally consist of GRAVELS, SANDS, COBBLES and BOULDERS in varying proportions. Low plasticity fine-grained soils (silts and clays) were encountered in 10 of the 22 explorations and when encountered, were usually mixed with some granular soils. Loose material was encountered in 2 of the explorations; TP-3 and TP-6 at 0 to 2.5' and 0 to 3' below existing grade, respectively.

2) No groundwater was encountered in any of the explorations at the time of the investigation.

3) Based on the findings and observations, it is concluded that the site may be developed for the intended use.

4) BASALT ROCK was encountered in 18 of the 22 explorations at depths of 1.5 to 8.5 feet below existing grade. Heavy equipment or hoeramming will likely be required for removal of the ROCK.

5) The existing moisture content of some of the on-site soils was found to be dry to moderately moist. Dust control measures will be required during clearing, grubbing and grading of the site. In addition, use of the on-site soil as fill will require moisture conditioning in order to obtain optimum moisture content (ASTM D 1557) for compaction purposes.

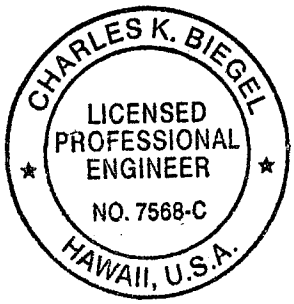
Details of the findings and recommendations are presented in the attached report.

This investigation was made in accordance with generally accepted engineering procedures and included such field and laboratory tests considered necessary for the project. In the opinion of the undersigned, the accompanying report has been substantiated by mathematical data in conformity with generally accepted engineering principles and presents fairly the design information requested by your organization. No other warranty is either expressed or given.

Respectfully submitted,

ISLAND GEOTECHNICAL ENGINEERING, INC.

Charles K. Biegel, P.E.
President



This work was prepared by
me or under my supervision.

TABLE OF CONTENTS

INTRODUCTION

This investigation was made for the purpose of obtaining information on the subsurface conditions from which to base recommendations for site development for the proposed Kahoma Residential Subdivision to be located in Lahaina, Maui, Hawaii. The location of the site, relative to the existing streets and landmarks, is shown on the Vicinity Map, Plate 1.

SCOPE OF WORK

The services included excavating 19 test pits to depths of 2 to 8 feet below existing grade, drilling 3 test borings to depths of 13.75 to 17.75 feet below existing grade, obtaining samples of the underlying soils, performing laboratory tests on the samples, and performing an engineering analysis from the data gathered. In general, the following information is provided for use by the Architect and/or Engineer:

1. General subsurface conditions, as disclosed by the explorations.
2. Physical characteristics of the soils encountered.
3. Recommendations for foundation design, including bearing values, embedment depth and estimated settlement.
4. Recommendations for placement of fill and backfill.
5. Special considerations.

PLANNED DEVELOPMENT

From the information provided, the proposed development will include subdividing the 16.683 acre site into a 65 lot residential subdivision. One of the lots will be a 25 unit multi-family project. Footing loads were not available at the time this report was written.

SITE CONDITIONS

Surface

The property, designated by Tax Map Key (2) 4-5-10: 5, is located on the south side of the Kahoma Stream in Lahaina, Maui, Hawaii. At the time of the field investigation, no permanent structures were present on the site. The ground cover at the site consisted of weeds, boulders, bare soil and some occasional man-made debris.

Subsurface

Nine-teen (19) test pits were excavated to depths of 2 to 8 feet below existing grade and three (3) test borings were drilled to depths of 13.75 to 17.75 feet below existing grade to determine the subsurface conditions at the site. The locations of the explorations are shown on the Plot Plan, Plate 2. Detailed logs of the explorations are presented in the Appendix to this report.

In general, the explorations disclosed the site to be overlain with moderately dense to very dense GRANULAR SOILS which rest on top of moderately hard to hard BASALT

ROCK. The GRANULAR SOILS generally consist of GRAVELS, SANDS, COBBLES and BOULDERS in varying proportions. Low plasticity fine-grained soils (silts and clays) were encountered in 10 of the 22 explorations and when encountered, were usually mixed with some granular soils. Loose material was encountered in 2 of the explorations; TP-3 and TP-6 at 0 to 2.5' and 0 to 3' below existing grade, respectively.

No groundwater was encountered in any of the explorations.

From the USDA Soil Conservation Service "Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii", the site is located in an area designated as Wahikuli silty clay, 3 to 7 percent slopes (WdB) and Ewa silty clay loam, 0 to 3 percent slopes (EaA) and Rock land (rRK).

The Wahikuli series consist of well-drained soils on uplands on the island of Maui. These soils developed in material weathered from basic igneous rock. Elevations range from nearly sea level to 600 feet. Shrink-swell potential is low. Depth to bedrock is 1.5 to 3.5 feet. Unified soil classification is ML-CL (USDA, 1972, pp. 125-126, 166-167 and Plate 94).

The Ewa series consist of well-drained soils in basins and on alluvial fans on the islands of Maui and Oahu. These soils developed in alluvium derived from basic igneous rock.

Elevations range from near sea level to 150 feet. The depth to bedrock is greater than 5 feet. Unified soil classification is ML-CL (USDA, 1972, Plate 94 and pp. 29-30, 156-157, 168-169).

Rock land is made up of areas where exposed rock covers 25 to 90 percent of the surface. It occurs on all 5 islands. The rock outcrops and very shallow soils are the main characteristics. Elevations range from nearly sea level to more than 6,000 feet. (USDA, 1972, pg. 119 and Plate 94).

Geology

The site is located on the west flank of the West Maui Mountains. The island of Maui is a volcanic doublet believed to have formed during the late Tertiary (between 1 and 12 million years ago).

The West Maui Mountains were built by lavas flowing from rift zones trending north and south and a central vent. The lava flows which form the mountain have been separated into three groups: Wailuku, Honolua, and Lahaina Volcanic Series (Stearns and MacDonald, 1942). The main lava mass that makes up the West Maui Mountains is known as the Wailuku Volcanic Series which consist of primitive olivine basalts and associated pyroclastic and intrusive rock.

CONCLUSIONS AND RECOMMENDATIONS

General

Based on the findings and observations of this investigation, it is concluded that the proposed structures may be supported on spread footings bearing on firm on-site soil or properly compacted fill.

Special Considerations

1) Some of the near-surface soils were found to be loose at Test Pit 3 and Test Pit 6 at 0 to 2.5' & 0 to 3' respectively. These loose soils should be removed and re-placed in structural areas.

   In addition, the old route of the Kahoma Stream is said to have passed through a portion of this site and loose soils may be present on the site from that old stream route or the filling of that old stream route. In structural areas (and to 1' beyond the edge of the structure), it is recommended that following clearing and grubbing, each house pad should be moisture conditioned and compacted with a roller weighing not less than 20,000 pounds. Compaction shall continue until a firm/unyielding surface has been achieved as determined by the project geotechnical engineer. If soft or loose spots are encountered that cannot be properly compacted, the loose/soft areas shall be removed to firm material and the resulting depression shall be filled with properly compacted structural fill. Following

compaction of the exposed ground, in areas to receive fill, fill the building pad with properly compacted fill in accordance with the site preparation and grading section of this report.

2) The existing moisture content of some of the on-site soils was found to be dry to moderately moist. Dust control measures will be required during clearing, grubbing and grading of the site. In addition, use of the on-site soil as fill will require moisture conditioning in order to obtain optimum moisture content (ASTM D 1557) for compaction purposes.

3) BASALT ROCK was encountered in 18 of the 22 explorations at depths of 1.5 to 8.5 feet below existing grade. Heavy equipment or hoeramming will likely be required for removal of the ROCK. It should be noted that often times in this geographical area large boulders are encountered that "pose" as rock. These large boulders can be excavated in large open areas but require hoe-ramming in confined areas such as utility trench excavation.

Foundations

An allowable bearing value of 2,000 pounds per square foot may be used for footings bearing on firm on-site soil or properly compacted fill and embedded at least 18 inches below the lowest adjacent finished grade.

For footings located adjacent to new or existing utility trenches, the bottom of the footing shall be deepened below a 1 horizontal to 1 vertical plane projected upwards from the edge of the utility trench.

For footings located on or adjacent to slopes, the footing shall be deepened such that there is a minimum horizontal distance of 5 feet from the edge of the footing to the slope face.

The bearing values are for dead plus live loads and may be increased by one-third for momentary loads due to wind or seismic forces. If any footing is eccentrically loaded, the maximum edge pressure shall not exceed the bearing pressure for permanent or for momentary loads.

All loose and disturbed soil at the bottom of footing excavations shall be removed to firm soil or the disturbed soil shall be compacted prior to laying of steel or placing of concrete.

The bottom of all footings should be mechanically compacted to produce a firm/unyielding surface.

Backfill around the perimeter of all foundations should be mechanically compacted to produce a firm/unyielding surface.

Site grading should be designed to prevent ponding of water adjacent to slab and footing areas.

Settlement

Under the fully applied recommended bearing pressure, it is estimated that settlement of square or continuous footings bearing on firm on-site soils or properly compacted fill will be less than 3/4 inch.

Differential settlement between footings will vary according to the size, bearing pressure and bearing material of the footing.

Lateral Resistance

For resistance of lateral loads, such as wind or seismic forces, an allowable passive resistance equivalent to that exerted by a fluid weighing 250 pounds per cubic foot may be used for footings, or other structural elements, provided the vertical surface is in direct contact with undisturbed soil or properly compacted fill.

Frictional resistance between footings and the underlying materials may be assumed as 0.4 times the dead load for the CLAY/SILT soils. Frictional resistance between footings and the onsite granular soils may be assumed as 0.5 times the dead load. Lateral resistance and friction may be combined.

Retaining Walls

Foundations for retaining walls shall be designed as per the foundation section of this report.

Depending on the type of backfill material within a 1H:2V plane projected upwards from the bottom edge of the retaining wall footing, the following active earth pressures may be used for design of free-standing retaining walls:

3" minus on-site or imported granular soil (less than 25% fines) as retaining wall backfill material:

Backfill Slope	Horizontal Component	Vertical Component
Level Backfill	30 pcf	0
3H:1V Backfill	35 pcf	10 pcf
2H:1V Backfill	40 pcf	20 pcf

Free-standing walls are defined as walls that are allowed to rotate between 0.005 to 0.01 times the wall height. The rotation of the wall away from the backfill develops "active earth pressures". If the wall is not allowed to move as in the case of basement walls or walls that are restrained at the top, the soil pressure that will develop is known as an "at rest" pressure; for restrained walls, the above active earth pressures shall be increased by 50 percent for "at-rest" conditions.

For granular retaining wall backfill, the top 1 foot of the backfill shall be "capped" with fine-grained clay or silt type soil, or capped by an impervious surface such as concrete or asphaltic concrete.

Drainage for the retaining wall backfill shall be accomplished by providing 4-inch diameter weepholes spaced 8-feet on-center (horizontally as well as vertically) or by using a minimum 4-inch diameter perforated PVC footing drain pipe. A 2-foot thick layer of crushed gravel, which is wrapped with geotextile filter fabric, shall be placed above the pipe; the crushed gravel shall be continuous from weephole to weephole, or in the case of a footing drain pipe, laid throughout the full length of the pipe. Geotextile fabric shall be Propex Geotex 601 or similar.

The backfill for the retaining wall shall be properly compacted in accordance with the Site Preparation and Grading section to this report. Site grading should be designed to drain surface water away from the backfill area.

The above active pressures do not include surcharge loads such as footings located within a 45 degree plane projected upwards from the heel of the footing, fine-grained soil as backfill and/or from hydrostatic pressures. If such conditions occur, the active pressure shall be increased accordingly.

Slab-on-Grade

Slab-on-grade construction shall be in accordance with Plate A of this report. The subgrade soil shall be moisture conditioned to within 0 & 3 percent of optimum moisture content and compacted to a minimum of 90% of the maximum dry density (as determined by the ASTM D 1557 test procedure) if the material is fine-grained or 95% of the maximum dry density (as determined by the ASTM D 1557 test procedure) if the material is granular.

Site grading should be designed to prevent ponding of water adjacent to slab and footing areas.

Slopes

Cut and fill slopes into soil materials shall not exceed 2 horizontal to 1 vertical. Fill slopes shall be constructed by overfilling and cutting back to compacted soil. Exposed slopes shall be covered as soon as practical after construction to minimize erosion.

Pavement Design

For the subdivision roadways, it is recommended that flexible pavements consist of one of the following two pavement sections depending on the type of subgrade soil:

Subgrade Soil	A.C.	Base Course (UTB)	Select Borrow
On-site silt/clay	2"	6"	6"
On-site granular soil	2"	6"	none

Prior to placing the select borrow or base course gravel, the subgrade soil should be observed and compaction tested by the project geotechnical engineer.

The subgrade soil shall be moisture conditioned to between 0 & 3 percent of the wet side of optimum moisture content and compacted to at least 95 percent of the maximum dry density as determined by the ASTM D 1557 test procedure.

The base course gravel shall be compacted to at least 95 percent of the maximum dry density as determined by the ASTM D 1557 test procedure.

Site Preparation and Grading

It is recommended that the site be prepared in the following manner:

1. All vegetation, weeds, brush, roots, stumps, rubbish, debris, and other deleterious material shall be removed and disposed of off-site. See Special Considerations section of this report for more information on Site Preparation and Grading.

2. In areas to receive fill and at finished subgrade in cut areas, the exposed surface

shall then be scarified to a depth of 6 inches, moisture conditioned to near optimum moisture and then compacted with a roller weighing not less than 20,000 pounds to at least 90 percent of the maximum dry density (ASTM D1557). If soft or loose spots are encountered that cannot be re-compacted, the loose/soft areas shall be removed to firm material and the resulting depression shall be filled with properly compacted fill.

3. Where fill is placed on existing ground that is steeper than 5 horizontal to 1 vertical, the existing ground surface shall be benched into firm soil as the fill is placed.

4. Mass Fill for the Subdivision Soils used in the mass fills should be in accordance with the following: From Finished Grade to 3' Below Finished Grade Material shall be 3 inch minus, non-expansive material. Placed in 6" thick (or less) compacted lifts and compacted to 95 percent of the maximum dry density (ASTM D1557). From 3' Below Finished Grade to 6' Below Finished Grade Material shall be 6 inch minus material. Placed in 9" thick (or less) compacted lifts and compacted to 90 percent of the maximum dry density (ASTM D1557). Below 6' From Finished Grade Material shall be 12 inch minus material. Placed in 15" thick (or less) compacted lifts and compacted to 90 percent of the maximum dry density (ASTM D1557).

Note A) All material should be well blended (no gap-graded material) in the mass

fill.

Note B) The above lift thicknesses assume the compaction equipment being used can achieve the minimum degree of compaction at those thicknesses; in the event the compaction equipment cannot achieve the minimum degree of compaction, the lift thicknesses should be reduced accordingly.

5. Fill and Backfill in Non-Structural Areas Non-structural areas shall be defined as A) areas beyond 3 feet from the edge of any building and B) non-pavement areas.

Non-structural fill and backfill material shall consist of material which is free of organics and debris. In the upper 3 feet from finished grade, the material shall be less than 6 inches in greatest dimension. Below 3 feet from finished grade, the material shall be less than 24 inches in greatest dimension, provided there are sufficient fines to fill the interstices.

Each layer shall be placed in lifts not exceeding the maximum particle size contained within the lift. Prior to compacting the soil, the soil's moisture content shall be adjusted to near optimum moisture content. Each layer shall be thoroughly compacted prior to placing of any subsequent lifts to at least 85 percent of the maximum dry density as determined by the ASTM D 1557 test procedure.

6. Backfill Behind Retaining Walls Retaining wall backfill shall be defined as backfill that extends from the stem of the retaining wall to 6 inches beyond the heel of the wall footing or the footing excavation line, whichever is greater.

All retaining wall backfill material shall consist of material that is in accordance with the project plans and specifications and meets the design criteria of the structural engineer. Granular backfill is recommended.

Each layer of backfill shall be placed in layers not exceeding 6 inches in compacted thickness. Each layer of backfill shall be thoroughly compacted prior to placing of any subsequent lifts. All retaining wall backfill shall be compacted to at least 90 percent of the maximum dry density as determined by the ASTM D 1557 test procedure.

7. During construction, drainage shall be provided to prevent ponding of water adjacent to or on foundation and pavement areas. Ponded areas shall be drained immediately or water pumped out without damaging adjacent structures and property. If water accumulation softens the subgrade materials, the affected soils shall be removed and replaced with properly compacted fill.

It is particularly important to see that all fill and backfill soils are properly compacted in

order to maintain the recommended design parameters provided in this report.

ON-SITE OBSERVATION

During the progress of construction, so as to evaluate general compliance with the design concepts, specifications and recommendations contained herein, a representative from this office should be present to observe the following operations:

1. Site preparation.
2. Placement of fill and backfill.
3. Footing excavations and slab subgrade moisture conditioning and compaction.

REMARKS

The conclusions and recommendations contained herein are based on the findings and observations made at the exploration locations. If conditions are encountered during construction which appear to differ from those disclosed by the explorations, this office shall be notified so as to consider the need for modifications.

This report has been prepared for the exclusive use of West Maui Land Company, Inc. and their respective design consultants. It shall not be used by or transferred to any other party or to another project without the consent and/or thorough review by this facility. Should the project be delayed beyond the period of one year from the date of this report,

the report shall be reviewed relative to possible changed conditions.

Samples obtained in this investigation will deteriorate with time and will be unsuitable for further laboratory tests within one (1) month from the date of this report. Unless otherwise advised, the samples will be discarded at that time.

The following are included and complete this report:

Slab-On-Grade Detail ---------- Plate A

Vicinity Map ---------- Plate 1

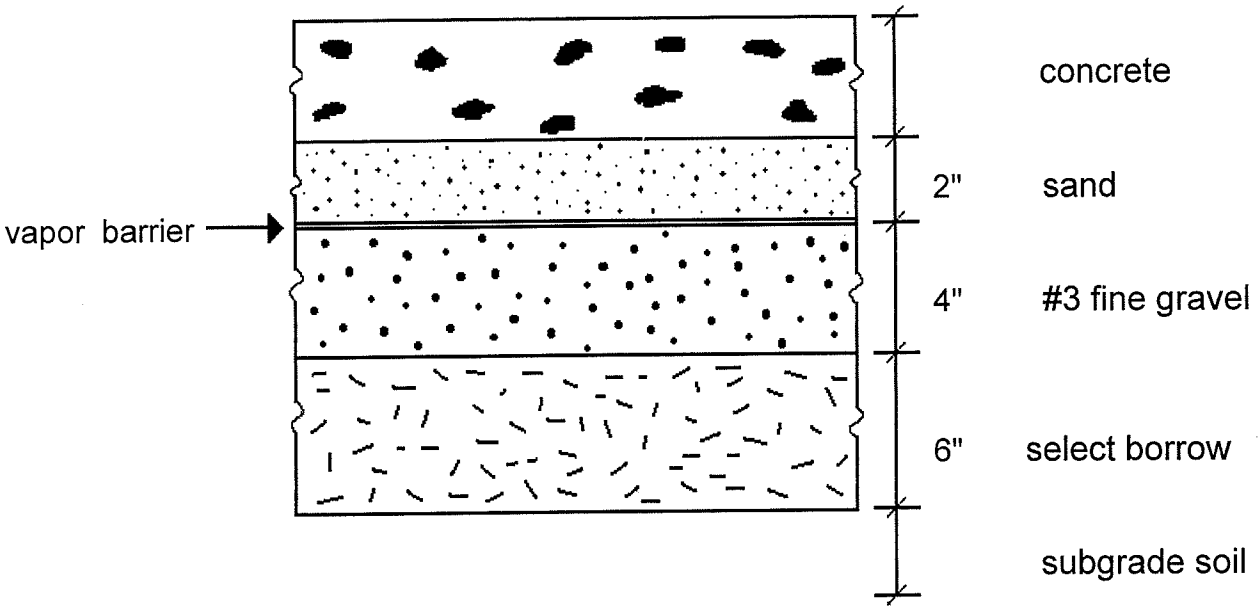
Plot Plan ---------- Plate 2

Appendix: Field Investigation and Laboratory Testing

Logs of Test Pits and Test Borings

Laboratory Test Results

SLAB-ON-GRADE DETAIL



Notes:

1. The subgrade soil should be moisture conditioned to within 3 percent of optimum moisture content, and compacted to a minimum of 95% of the maximum dry density as determined by the ASTM D 1557 test procedure if the material is granular or a minimum of 90% of the maximum dry density as determined by the ASTM D 1557 test procedure if the material is fine-grained.

2. The select borrow shall be compacted to a minimum of 95% of the maximum dry density as determined by the ASTM D 1557 test procedure.

3. The #3 fine gravel shall be compacted by means of a vibratory plate compactor making a minimum of 4 passes.

4. The SAND shown above is for concrete curing purposes and should be moist prior to placement of the concrete. If the slab designer chooses to eliminate the 2 inches of SAND, it is recommended that the select borrow thickness be increased to 8 inches.

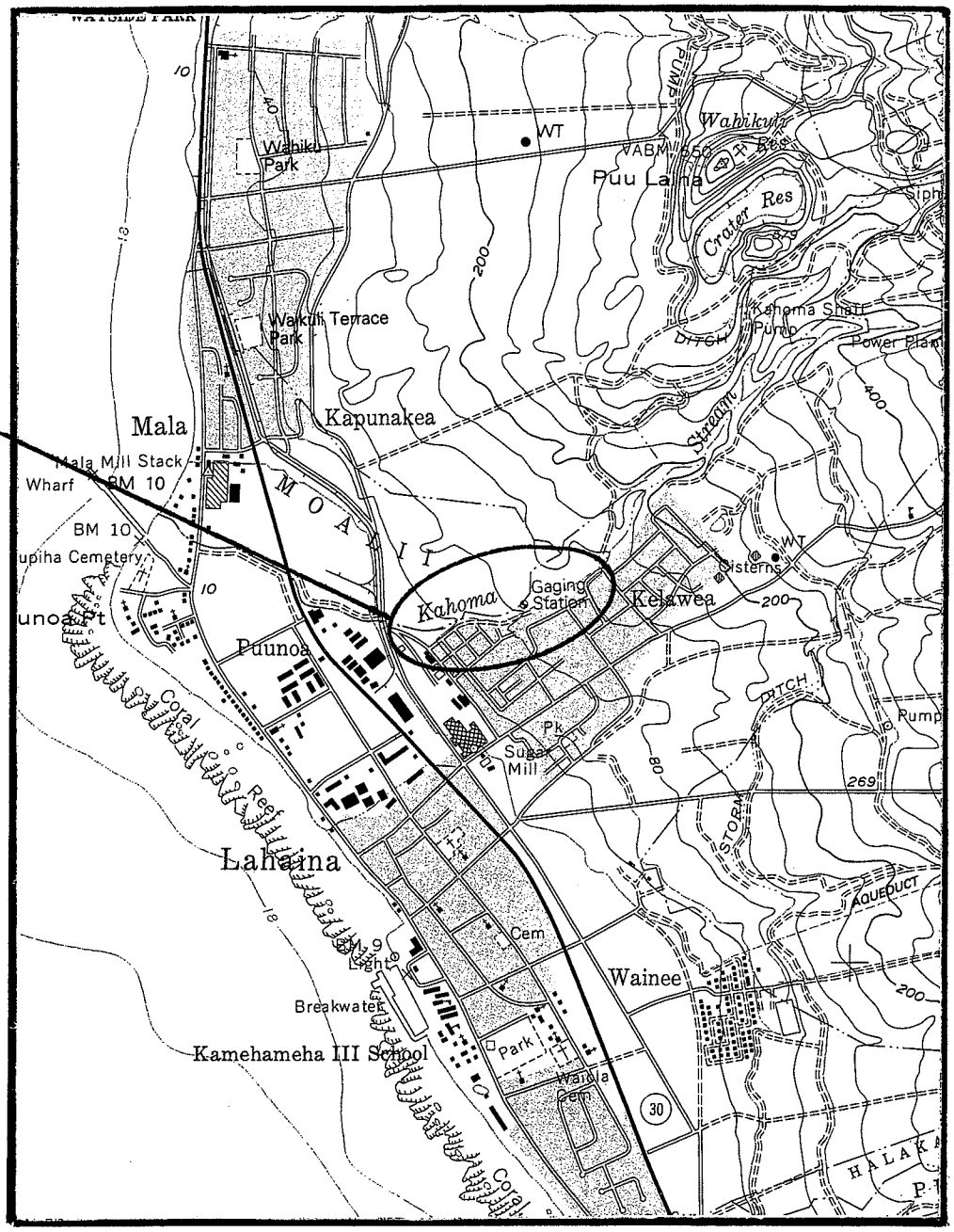
5. The concrete thickness, reinforcing and curing compound recommendations are to be provided by others.

6. Exterior slabs may eliminate the #3 fine gravel, vapor barrier and sand; concrete may be placed on 6 inches of select borrow.

Project : KAHOMA RESIDENTIAL SUBDIVISION — Project No. : 101386-FM

ISLAND GEOTECHNICAL ENGINEERING, INC. — PLATE A

VICINITY MAP



REFERENCE:

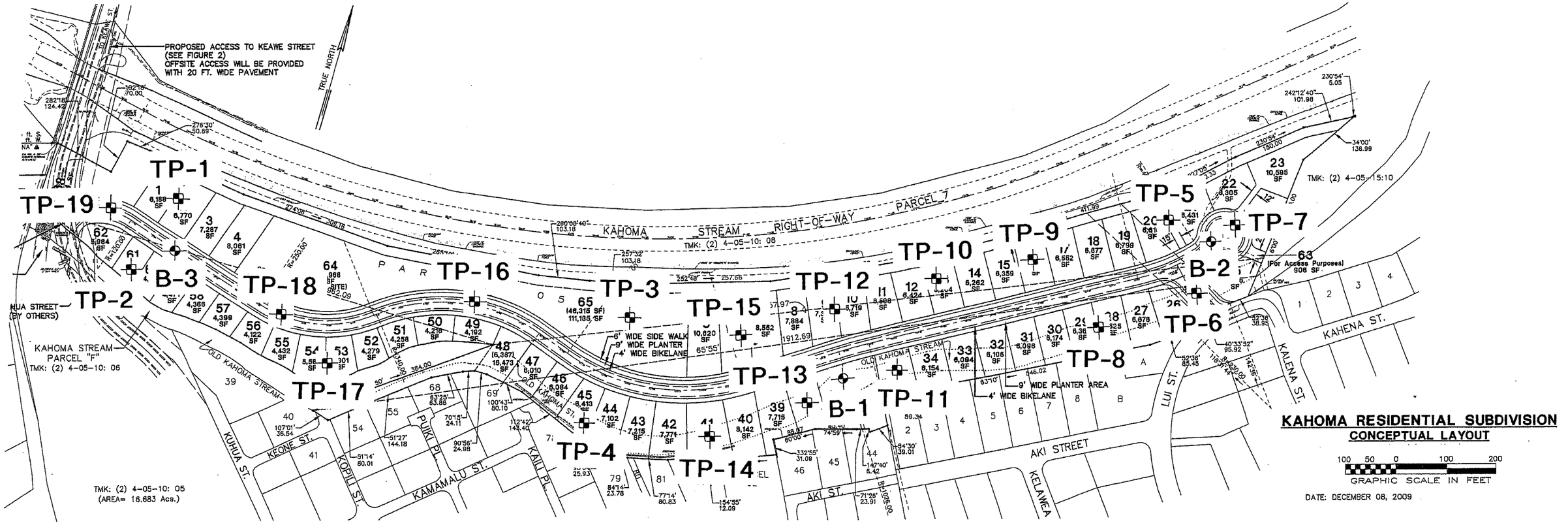
USGS TOPOGRAPHIC MAP
LAHAINA QUADRANGLE

Dated: 1983

KAHOMA RESIDENTIAL SUBDIVISION

ISLAND GEOTECHNICAL ENGINEERING, INC.
Geotechnical Consultants

PROJECT NO.	101386-FM
DATE	May. 2010
SCALE	1" = 2000'
PLATE	1



KAHOMA RESIDENTIAL SUBDIVISION
CONCEPTUAL LAYOUT

100 50 0 100 200
GRAPHIC SCALE IN FEET

DATE: DECEMBER 08, 2009

PLOT PLAN

SCALE:	APPROVED BY:	DRAWN BY
DATE: APRIL, 2010		REVISED

KAHOMA RESIDENTIAL SUBDIVISION

ISLAND GEOTECHNICAL PROJECT # 101386-FM | PLATE 2

APPENDIX

FIELD INVESTIGATION AND LABORATORY TESTING

FIELD INVESTIGATION

General

The field investigation consisted of performing explorations at the locations shown on the Plot Plan. The method used for the exploratory work on this project is shown on the respective exploration log. A description of the various methods are presented below.

Test Borings Using Truck-Mounted Drilling Equipment

Truck-mounted borings are drilled using a gas-powered drilling rig. The hole is advanced using continuous flight augers, wash boring and/or NX coring.

Auger drilling is used in soils where caving does not occur. The augers are 4-1/2 inch diameter continuous helical flight augers with the lead auger having a head equipped with changeable cutting teeth. Soil cuttings are brought to the surface by the continuous flights. After the bore hole is advanced to the required depth and cleaned of cuttings by additional rotation of the augers, the augers are retracted for soil sampling or in-situ testing.

In soils where caving of the bore hole occurs, the hole is advanced by wash boring or hollow-stem augering. Wash boring consists of advancing steel casing by rotary action and water pressure to flush the soil from the casing. The lead section of the casing is equipped with a carbide or diamond casing bit. After the casing has been advanced to the required depth, soil samples are obtained through the inside of the casing. Hollow-stem drilling consists of advancing the hole with 7-5/8 inch outside diameter and 4-1/4 inch inside diameter augers. The leading drill bit is connected to drilling rods through the central portion of the auger. At the required sampling depth, the interior drill rods and lead bit are removed, and the soil sample is taken by driving a sampler through the "hollow"

section of the augers.

Coring is used for hard formations such as rock, coral or boulders. The core barrel, consisting of a 5-foot long double tube, hardened steel barrel with either a carbide or diamond bit, is attached to drilling rods and set on the hard formation. The core barrel is advanced through the formation by rotation of the core barrel. Water is used to flush out the cuttings. Upon completion of the core run, the sample is removed from the core barrel and inspected. The total core recovery length and the sum of all intact pieces over 4-inches in length are measured. The length of core recovery divided by the length of the core run is the recovery ratio. The combined length of the 4-inch or longer pieces divided by the length of core run is the Rock Quality Designation (RQD). The values provide an indication of the quality of the formation.

Test Borings Using Portable Drilling Equipment

In areas inaccessible to truck-mounted equipment, portable drilling equipment is used to drill the test boring. The boring is advanced by either (1) continuous drive sampling, or by (2) using a small gas-powered drill rig with continuous flight augers, wash boring or NX coring.

Soil samples are obtained with a tripod and cathead assembly using soil sampling methods described below.

Test Pits Using Excavators / Backhoes

Test pits are excavated using an excavator or backhoe. Material excavated from the pit and the sides and bottom of the pit are visually inspected and a continuous log of the hole is kept.

Explorations Using Hand Tools

In inaccessible areas requiring only shallow explorations, borings and test pits are made using hand equipment. Borings are drilled using hand augers. Test pits are excavated using hand tools. Cuttings from the boring and/or pit are inspected and visually classified.

Soil Sampling

Relatively undisturbed samples of the underlying soils are obtained from borings by driving a sampling tube into the subsurface material using a 140-pound safety hammer falling from a height of 30 inches. Ring samples are obtained using a 3-inch outside diameter, 2.5-inch inside diameter steel sampling tube with an interior lining of one-inch long, thin brass rings. The tube is driven approximately 18 inches into the soil and a section of the central portion is placed in a close fitting waterproof container in order to retain field conditions until completion of the laboratory tests. Standard Penetration Test (SPT) values and disturbed soil samples are obtained with a 2-inch (outside diameter) split-barrel sampler instead of the 3-inch sampler. The number of blows required to drive the sampler into the ground is recorded at 6-inch intervals. The blow count for the last 12 inches is shown on the boring logs.

From test pit excavations, relatively undisturbed soil samples are obtained by pushing the 3-inch outside diameter sampling tube (mentioned above) into the ground with the backhoe bucket. In addition, undisturbed bulk samples are retained from cohesive type soil formations and disturbed bulk samples are retained from friable and cohesionless soil formations.

The soil samples are visually classified in the field using the Unified Soil Classification System.

Samples are packed in moisture-proof containers and transported to the laboratory for testing.

Dynamic Cone Penetrometer (DCP)

There are two types of DCP tests used in the field. One test is generally used for pavement design and the other test is generally used for foundation design.

The DCP test for pavement design is an in-place test generally performed on the near surface soils. The DCP consists of a steel rod with a steel cone attached to one end which is driven into the soil by means of a sliding hammer. The angle of the cone is 60 degrees. The depth of the cone penetration is recorded at selected penetration or hammer drop intervals. The standard DCP test is designed to penetrate soils to a total depth of 1 meter (39.4 inches), however, extension rods may be used to reach greater depths. The recorded data from the DCP test can be converted to CBR values for use in pavement design.

The DCP test for foundation design (aka Wildcat DCP) is used to evaluate the consistency of the subsurface soils to depths of 25 feet. The test is performed by driving a 1.4-inch diameter (10 square centimeter area) steel cone (cone is connected to 1.1-inch diameter steel rods) into the ground using a 35-pound slide hammer that is dropped from a height of 15 inches. The number of blows required to drive the steel cone 10 centimeters is recorded and the process is continued until the desired depth is reached. Blowcounts from this test can be converted to Standard Penetration Test (SPT) values.

LABORATORY TESTING

General

Laboratory tests are performed on various soil samples to determine their engineering properties. Laboratory tests results performed for this project are generally shown on the exploration logs or attached as stand alone documents. Descriptions of some of the various tests (that may or may not have been performed for this project) are listed below.

Unit Weight and Moisture Content

The in-place moisture content and unit weight of the samples are used to correlate similar soils at various depths. The sample is weighed, the volume determined, and a portion of the sample is placed in the oven. After oven-drying, the sample is again weighed to determine the moisture loss. The data is used to determine the wet-density, dry-density and in-place moisture content.

Direct Shear

Direct shear tests are performed to determine the strength characteristics of the representative soil samples. The test consists of placing the sample into a shear box, applying a normal load and then shearing the sample at a constant rate of strain. The shearing resistance is recorded at various rates of strain. By varying the normal load, the angle of internal friction and cohesion can be determined.

Consolidation Test

Consolidation tests are performed to obtain data from which time rates of consolidation and amounts of settlement may be estimated. The test is performed by placing a specimen in a

consolidation apparatus. Loads are applied in increments to the circular face of a one-inch (1") high sample. Deformation or changes in thickness of the specimen are recorded at selected time intervals. Water is introduced to or allowed to drain from the sample through porous disks placed against the top and bottom faces of the specimen. The data is then used to plot a stress-volume strain curve which is used in estimating settlement.

Expansion Index Test

Expansion Index of fine-grained soils is determined in accordance with ASTM D 4829 test procedure. The soil specimen is compacted into a metal ring so that the degree of saturation is between 40 and 60 percent. The specimen and the ring are placed in a consolidometer. A vertical confining pressure of 1 psi is applied to the specimen and then the specimen is inundated with water. The deformation of the specimen is recorded for 24 hours. The data is used to determine the expansion potential of the soil.

One-Dimensional Swell Test

Another procedure for determining the expansion of fine-grained soils is ASTM D 4546 (Method B) test procedure. The soil specimen is compacted into a 2.5-inch diameter (1-inch height) metal ring using a 10-pound hammer. The specimen and the ring are placed in an expansion apparatus. A vertical pressure of 155 psi is applied to the specimen and then the specimen is inundated with water. The deformation of the specimen is recorded for 24 hours.

The test is similar in principle to the Expansion Index Test (see above) with the primary difference being the soil specimen in the One-Dimensional Swell Test is usually compacted to a higher dry

density than the Expansion Index and, therefore, generally produces a higher degree of expansion.

Classification Tests

The soil samples are classified using the Unified Soil Classification System. Classification tests include sieve and hydrometer analysis to determine grain size distribution, and Atterberg Limits to determine the liquid limit, plastic limit and plasticity index.

California Bearing Ratio Test

California Bearing Ratio (CBR) tests are performed on materials to determine the bearing strength of the soil for determination of pavement sections. The sample is compacted into a 6-inch diameter mold in 5 equal layers. Each layer is compacted with a 10-pound hammer falling from a height of 18 inches, with each layer receiving 56 blows. The mold is then placed in a water bath for 4 days and the vertical swell is measured under a surcharge weight of 10 pounds. After the soaking period, the sample is placed in a CBR apparatus that has a 3-square inch penetrometer. The penetrometer is pressed vertically into the soil at constant strain and the loads required to press the penetrometer are recorded. A plot of the load-strain relationship is made to determine the CBR value.

Maximum Dry Density / Optimum Moisture Content

The maximum dry density and optimum moisture content of the material is determined in accordance with the ASTM D1557 test procedure. The sample is compacted into a mold in 5 equal layers using a 10-pound hammer falling from a height of 18 inches. The diameter of the mold is either 4 inches or 6 inches, depending on the proportion of gravel in the sample. The sample is

compacted at various moisture contents to develop a compaction curve for the soil. The curve is usually bell-shaped with a peak indicating the maximum dry density and optimum moisture content.

Penetrometer Test

Penetrometer tests are performed on clayey soils to determine the consistency of the material and an approximate value of the unconfined compressive strength.

Torvane

Torvane tests are used to determine the approximate undrained shear strength of clayey soils. The torvane apparatus consists of a torque device with a small diameter plate that has vanes situated perpendicular to the plate. The vanes are pushed into the soil and torque is applied until failure occurs. The torque required to cause failure is converted to approximate undrained strength of the soil.

LOG OF TEST PIT NO. 1

ELEVATION: see Plate 2

EQUIPMENT USED: Backhoe: CAT 420 D

DEPTH OF TEST PIT (FT.): 4.75

DATE EXCAVATED: February 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		ML	sandy SILT with gravel, few cobbles		dark yellowish brown	dry to mod. moist	stiff to very stiff	119.1	8.8 10.0	4.5			
2.5		ML	SILT		brown		very stiff		10.4	4.5			
5		rock	END OF TEST PIT BASALT ROCK: REFUSAL				mod. hard to hard rock						
7.5													
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

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PLATE 3

LOG OF TEST PIT NO. 2

ELEVATION: see Plate 2

EQUIPMENT USED: Backhoe: CAT 420 D

DEPTH OF TEST PIT (FT.): 2.5

DATE EXCAVATED: February 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		GM	silty GRAVEL with sand and cobbles		dark yellowish brown	dry to mod. moist	mod. dense to dense	102.9	8.3 8.6				
2.5		rock	END OF TEST PIT BASALT ROCK: REFUSAL				mod. hard to hard rock						
5													
7.5													
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

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PLATE 4

LOG OF TEST PIT NO. 3

ELEVATION: see Plate 2

EQUIPMENT USED: Backhoe: CAT 420 D

DEPTH OF TEST PIT (FT.): 3.5

DATE EXCAVATED: February 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		cob	COBBLES with boulders (to 1.5' dia.) and gravel ---with metal debris & black plastic		reddish brown	dry to mod. moist	loose to mod. dense	72.4	14.7 12.5				
2.5		GP-GM	GRAVEL with silt and sand		brown		dense to very dense		7.2				
		rock	END OF TEST PIT BASALT ROCK: REFUSAL				mod. hard to hard rock						
5													
7.5													
10													
12.5													
15													
17.5													

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PROJECT NO.: 101386-FM

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PLATE 5

LOG OF TEST PIT NO. 4

EQUIPMENT USED: Backhoe: CAT 420 D

DATE EXCAVATED: February 16, 2010

ELEVATION: see Plate 2

DEPTH OF TEST PIT (FT.): 6

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		GM	silty GRAVEL with sand, cobbles and boulders (to 1.5' diameter)		dark yellowish brown	dry to mod. moist	dense to very dense	107.0	6.9 7.8				
2.5		bldr	silty BOULDERS (to 2' diameter) ---some metal debris ---one 3' diameter boulder										
5		rock	END OF TEST PIT BASALT ROCK: REFUSAL				mod. hard to hard rock						
7.5													
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

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PLATE 6

LOG OF TEST PIT NO. 5

ELEVATION: see Plate 2

EQUIPMENT USED: Backhoe: CAT 420 D

DEPTH OF TEST PIT (FT.): 8

DATE EXCAVATED: February 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		CL	sandy CLAY with gravel, with cobbles and boulders (to 1.5' diameter)		brown	dry to mod. moist	mod. stiff to stiff	106.4	7.9 12.9				
2.5		bldr	silty BOULDERS (to 2.5' diameter) with gravel and cobbles				dense to very dense						
5		GM	silty GRAVEL sand and cobbles (to 12" diameter)				mod. dense to dense		7.3				
7.5			END OF TEST PIT										
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

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PLATE 7

LOG OF TEST PIT NO. 6

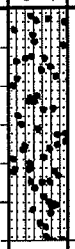
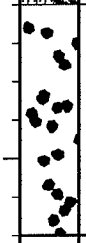
ELEVATION: see Plate 2

EQUIPMENT USED: Backhoe: CAT 420 D

DEPTH OF TEST PIT (FT.): 6

DATE EXCAVATED: February 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		GP-GM	GRAVEL with silt, sand, cobbles and boulders (to 3' diameter)		pale brown	dry to mod. moist	loose to mod. dense	88.6	6.1 12.7				
2.5					reddish brown to brown								
		cob	silty COBBLES with gravel		brown		dense to very dense		9.2				
5													
		rock	END OF TEST PIT BASALT ROCK: REFUSAL				mod. hard to hard rock						
7.5													
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

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PLATE 8

LOG OF TEST PIT NO. 7

EQUIPMENT USED: Excavator: CAT 312 C

DATE EXCAVATED: March 16, 2010

ELEVATION: see Plate 2

DEPTH OF TEST PIT (FT.): 3.25

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		GP-GM	GRAVEL with silt and sand, cobbles and boulders (to 2' diameter)		brown	dry	dense to very dense		7.1 5.7				
2.5		rock	END OF TEST PIT BASALT ROCK: REFUSAL				mod. hard to hard rock						
5													
7.5													
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

ISLAND GEOTECHNICAL ENGINEERING, INC.

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PLATE 9

LOG OF TEST PIT NO. 8

ELEVATION: see Plate 2

EQUIPMENT USED: Excavator: CAT 312 C

DEPTH OF TEST PIT (FT.): 2.5

DATE EXCAVATED: March 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		GM	silty GRAVEL with sand, cobbles and boulders (to 2' diameter)		brown	dry	dense to very dense		7.9				
2.5		rock	END OF TEST PIT BASALT ROCK: REFUSAL				mod. hard to hard rock						
5													
7.5													
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

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PLATE

10

LOG OF TEST PIT NO. 9

ELEVATION: see Plate 2

EQUIPMENT USED: Excavator: CAT 312 C

DEPTH OF TEST PIT (FT.): 6.5

DATE EXCAVATED: March 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		ML	sandy SILT with gravel		brown	dry to mod. moist	very stiff		6.7	4.5 4.5			
2.5		GP-GM	GRAVEL with silt, sand, cobbles and boulders (to 1.5' diameter)				dense to very dense		8.5				
5													
		rock	END OF TEST PIT BASALT ROCK: REFUSAL				mod. hard to hard rock						
7.5													
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

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PLATE 11

LOG OF TEST PIT NO. 10

ELEVATION: see Plate 2

EQUIPMENT USED: Excavator: CAT 312 C

DEPTH OF TEST PIT (FT.): 5.5

DATE EXCAVATED: March 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		SM-ML	sandy SILT with gravel		brown	dry to mod. moist	very stiff		6.3				
2.5		GM	silty GRAVEL with sand, cobbles and boulders (to 1.5' diameter)				dense to very dense		7.5				
5		rock	END OF TEST PIT BASALT ROCK: REFUSAL				mod. hard to hard rock						
7.5													
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

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PLATE

12

LOG OF TEST PIT NO. 11

ELEVATION: see Plate 2

EQUIPMENT USED: Excavator: CAT 312 C

DEPTH OF TEST PIT (FT.): 3.5

DATE EXCAVATED: March 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		ML	sandy SILT with gravel		brown	dry to mod. moist	stiff						
		GM	silty GRAVEL with sand				dense to very dense		6.8				
2.5									9.4				
		rock	END OF TEST PIT BASALT ROCK: REFUSAL				mod. hard to hard rock						
5													
7.5													
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

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PLATE

13

LOG OF TEST PIT NO. 12

ELEVATION: see Plate 2

EQUIPMENT USED: Excavator: CAT 312 C

DEPTH OF TEST PIT (FT.): 3.5

DATE EXCAVATED: March 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		GM	silty GRAVEL with sand		reddish brown to brown	dry to mod. moist	mod. dense to dense		7.0				
		GP-GM	GRAVEL with silt and sand		dark brown		dense to very dense		12.3				
2.5		rock	END OF TEST PIT BASALT ROCK: REFUSAL				mod. hard to hard rock						
5													
7.5													
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

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PLATE 14

LOG OF TEST PIT NO. 13

ELEVATION: see Plate 2

EQUIPMENT USED: Excavator: CAT 312 C

DEPTH OF TEST PIT (FT.): 2.25

DATE EXCAVATED: March 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		GM	silty GRAVEL with sand, cobbles and boulders (to 1.5' diameter)		brown	dry to mod. moist	dense to very dense		6.9				
		GP-GM	GRAVEL with silt, sand, cobbles & boulders (to 1.5' diameter)										
2.5		rock	END OF TEST PIT BASALT ROCK: REFUSAL				mod. hard to hard rock						
5													
7.5													
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

ISLAND GEOTECHNICAL ENGINEERING, INC.

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PLATE 15

LOG OF TEST PIT NO. 14

ELEVATION: see Plate 2

EQUIPMENT USED: Excavator: CAT 312 C

DEPTH OF TEST PIT (FT.): 2

DATE EXCAVATED: March 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		GM	silty GRAVEL with sand, cobbles and boulders (to 1.5' diameter)		dark yellowish brown	dry to mod. moist	dense to very dense		5.5				
2.5		rock	END OF TEST PIT BASALT ROCK: REFUSAL				mod. hard to hard rock						
5													
7.5													
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

ISLAND GEOTECHNICAL ENGINEERING, INC.

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PLATE 16

LOG OF TEST PIT NO. 15

ELEVATION: see Plate 2

EQUIPMENT USED: Excavator: CAT 312 C

DEPTH OF TEST PIT (FT.): 3

DATE EXCAVATED: March 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		ML	sandy SILT with gravel, few cobbles (to 1' diameter)		dark yellowish brown	dry to mod. moist	stiff to very stiff		19.0	4.5			
2.5		GP-GM	GRAVEL with silt, sand and cobbles (to 1' diameter)				dense to very dense		11.5				
		rock	END OF TEST PIT BASALT ROCK: REFUSAL				mod. hard to hard rock						
5													
7.5													
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

ISLAND GEOTECHNICAL ENGINEERING, INC.

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PLATE 17

LOG OF TEST PIT NO. 16

ELEVATION: see Plate 2

EQUIPMENT USED: Excavator: CAT 312 C

DEPTH OF TEST PIT (FT.): 8

DATE EXCAVATED: March 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		GM	silty GRAVEL with sand, cobbles and boulders (to 1.5' diameter)		brown	dry to mod. moist	dense to very dense		12.1				
2.5													
					dark brown	mod. moist to moist							
5									14.3				
7.5			END OF TEST PIT										
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

ISLAND GEOTECHNICAL ENGINEERING, INC.

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PLATE 18

LOG OF TEST PIT NO. 17

ELEVATION: see Plate 2

EQUIPMENT USED: Excavator: CAT 312 C

DEPTH OF TEST PIT (FT.): 8

DATE EXCAVATED: March 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		SM-ML	sandy SILT with gravel, cobbles and boulders (to 2' diameter)		dark yellowish brown	dry to mod. moist	very stiff		11.3	4.5			
2.5		GM	silty GRAVEL with sand, cobbles and boulders (to 2' diameter)				dense to very dense						
5			---3' diameter boulder										
7.5							very dense						
			END OF TEST PIT										
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

ISLAND GEOTECHNICAL ENGINEERING, INC.

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PLATE 19

LOG OF TEST PIT NO. 18

ELEVATION: see Plate 2

EQUIPMENT USED: Excavator: CAT 312 C

DEPTH OF TEST PIT (FT.): 6.25

DATE EXCAVATED: March 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		CL	sandy CLAY with gravel		dark yellowish brown	dry to mod. moist	very stiff		12.4	4.5			
2.5													
5		GM	silty GRAVEL with sand, cobbles & boulders (to 2' diameter)				dense to very dense						
7.5		rock	END OF TEST PIT BASALT ROCK: REFUSAL				mod. hard to hard rock						
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

ISLAND GEOTECHNICAL ENGINEERING, INC.

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PLATE 20

LOG OF TEST PIT NO. 19

ELEVATION: see Plate 2

EQUIPMENT USED: Excavator: CAT 312 C

DEPTH OF TEST PIT (FT.): 8

DATE EXCAVATED: March 16, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX
0		GM	silty GRAVEL with sand, cobbles & boulders (to 1.5' diameter)		dark yellowish brown	dry to mod. moist	dense to very dense		7.3				
2.5		ML	sandy SILT with gravel				very stiff		14.9	4.5 4.5			
5		SM	silty SAND with gravel, with cobbles and boulders (to 2' diameter)		brown		dense to very dense		15.1				
7.5			END OF TEST PIT										
10													
12.5													
15													
17.5													

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISION

PROJECT NO.: 101386-FM

ISLAND GEOTECHNICAL ENGINEERING, INC.

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PLATE 21

LOG OF BORING NO. 1

ELEVATION: see Plate 2

EQUIPMENT USED: B-53 Drill Rig

DEPTH OF BORING (feet): 17.75

DATE DRILLED: April 12, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	UNIFIED SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	BLOWS/FOOT	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)
0		GM	silty GRAVEL with sand		58	brown	dry to mod. moist	dense to very dense		5.6	
			refusal---------->		29/ 3"						
2.5		rock	BASALT ROCK			gray		mod. hard to hard rock			
			Core Run #1: 2.5' to 7.5' Rec. = 42% RQD = 35%								
5											
7.5			refusal---------->		26/ 4"						
			Core Run #2: 8.33' to 12.67' Rec. = 65% RQD = 45%								
10											
12.5			refusal---------->		34/ 3"						
			Core Run #3: 12.75' to 17.75' Rec. = 55% RQD = 52%								
15											
17.5			END OF TEST BORING								

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISIONS

PROJECT NO.: 101386-FM

ISLAND GEOTECHNICAL ENGINEERING, INC.

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PLATE 22

LOG OF BORING NO. 2

ELEVATION: see Plate 2

EQUIPMENT USED: B-53 Drill Rig

DEPTH OF BORING (feet): 16

DATE DRILLED: April 13, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	UNIFIED SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	BLOWS/FOOT	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)
0		GM	silty GRAVEL with sand		37	brown	dry to mod. moist	mod. dense		5.2	
					30/ 4"			very dense		3.6	
		rock	BASALT ROCK with seams of gravel/sand/silt Core Run #1: 2' to 6' Rec. = 19% RQD = 0			gray		mod. hard rock			
2.5											
5			refusal---------->		20/ 1"						
		rock	BASALT ROCK					mod. hard to hard rock			
7.5			Core Run #2: 7' to 11' Rec. = 85% RQD = 81%								
10											
			Core Run #3: 11' to 16' Rec. = 48% RQD = 28%								
12.5											
15											
			END OF TEST BORING								
17.5											

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISIONS

PROJECT NO.: 101386-FM

ISLAND GEOTECHNICAL ENGINEERING, INC.

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PLATE 23

LOG OF BORING NO. 3

ELEVATION: see Plate 2

EQUIPMENT USED: B-53 Drill Rig

DEPTH OF BORING (feet): 13.75

DATE DRILLED: April 13, 2010

DEPTH OF GROUNDWATER: unknown

DEPTH (FT.)	GRAPHIC SYMBOL	UNIFIED SOIL CLASSIFICATION	DESCRIPTION	SAMPLE	BLOWS/FOOT	COLOR	MOISTURE	CONSISTENCY	DRY DENSITY (PCF)	MOISTURE CONTENT (% OF DRY WT.)	PENETROMETER (TSF)
0		ML	sandy SILT with gravel and cobbles			brown	dry to mod. moist	mod. stiff to stiff		5.3	
			---12" diameter boulder		15	reddish brown				16.9	
2.5						brown				10.9	
					16						
5					21					11.1	
7.5		GM	silty GRAVEL with sand		64	light gray to gray		very dense		3.2	
		rock	BASALT ROCK		18/1"			mod. hard to hard rock		2.4	
10			Core Run #1: 9.25' to 13.75' Rec. = 43% RQD = 0								
12.5			END OF TEST BORING								
15											
17.5											

PROJECT NAME: KAHOMA RESIDENTIAL SUBDIVISIONS

PROJECT NO.: 101386-FM

ISLAND GEOTECHNICAL ENGINEERING, INC.

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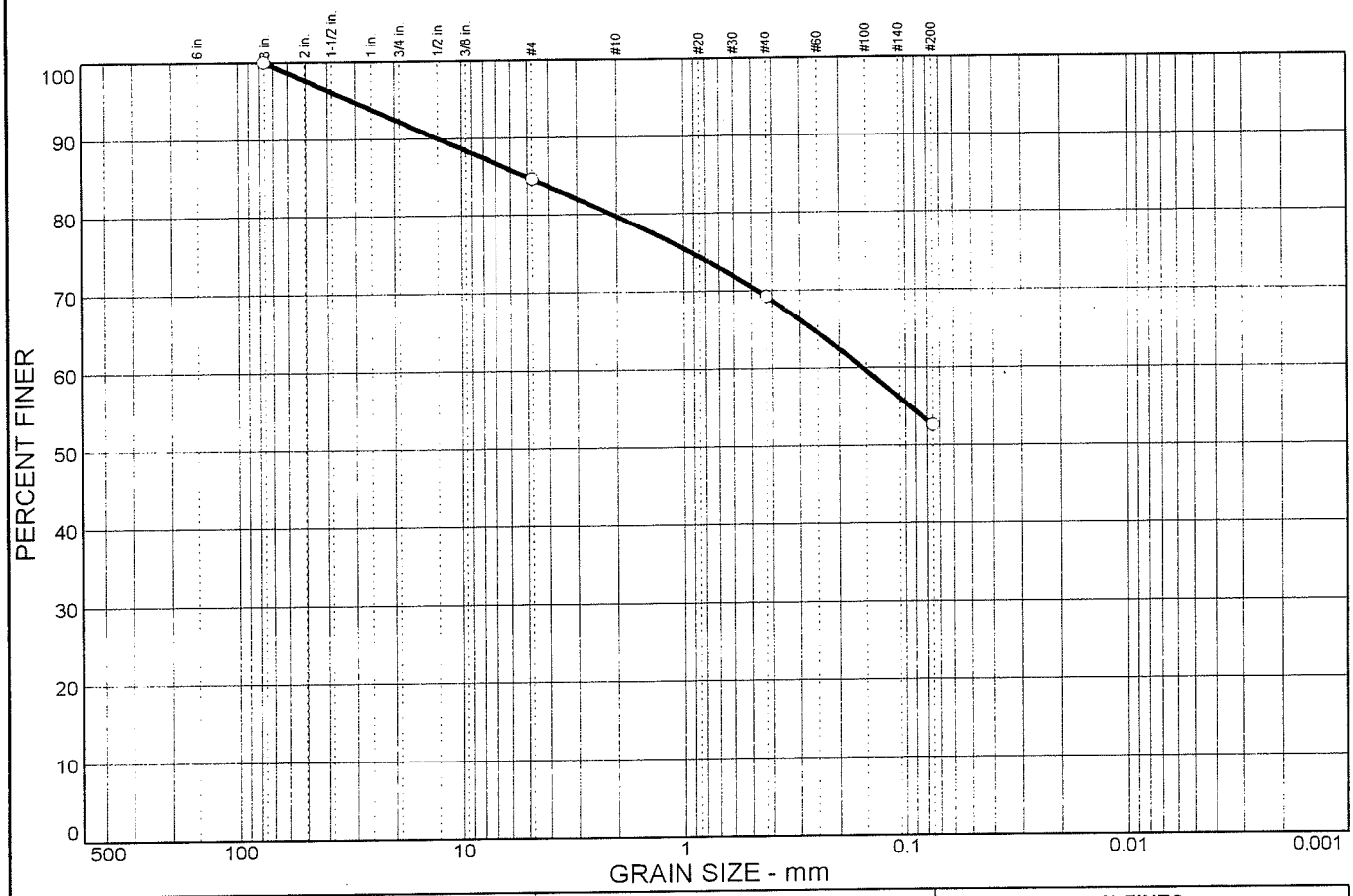
PLATE 24

SIEVE ANALYSIS



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	7.7	7.7	4.8	10.6	16.6	52.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3 in.	100.0		
#4	84.6		
#40	69.2		
#200	52.6		

* (no specification provided)

Material Description

brown sandy CLAY with gravel

Atterberg Limits

PL= 25 LL= 39 PI= 14

Coefficients

D_{85}= 5.11 D_{60}= 0.156 D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CL AASHTO=

Remarks

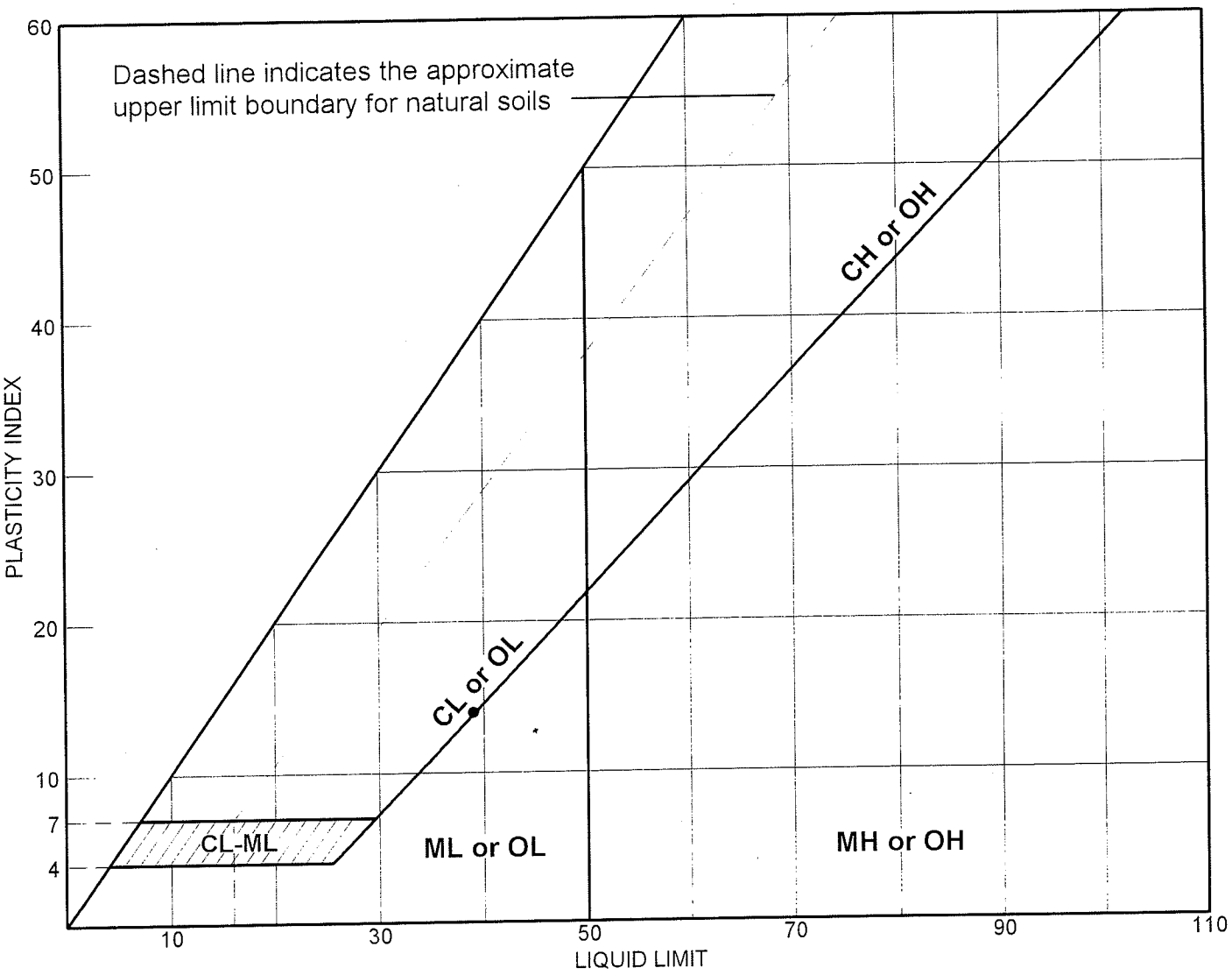
F.M.=0.15

Sample No.: 1 **Source of Sample:** TP-5 **Date:** March, 2010
Location: TP-5 **Elev./Depth:** 0.5'-1.0'

Island Geotechnical Engineering, Inc.
Wailuku, Hawaii

Client:
Project: Kahoma Residential Subdivision
Project No: 101386-FM **Plate** 25

LIQUID AND PLASTIC LIMITS TEST REPORT

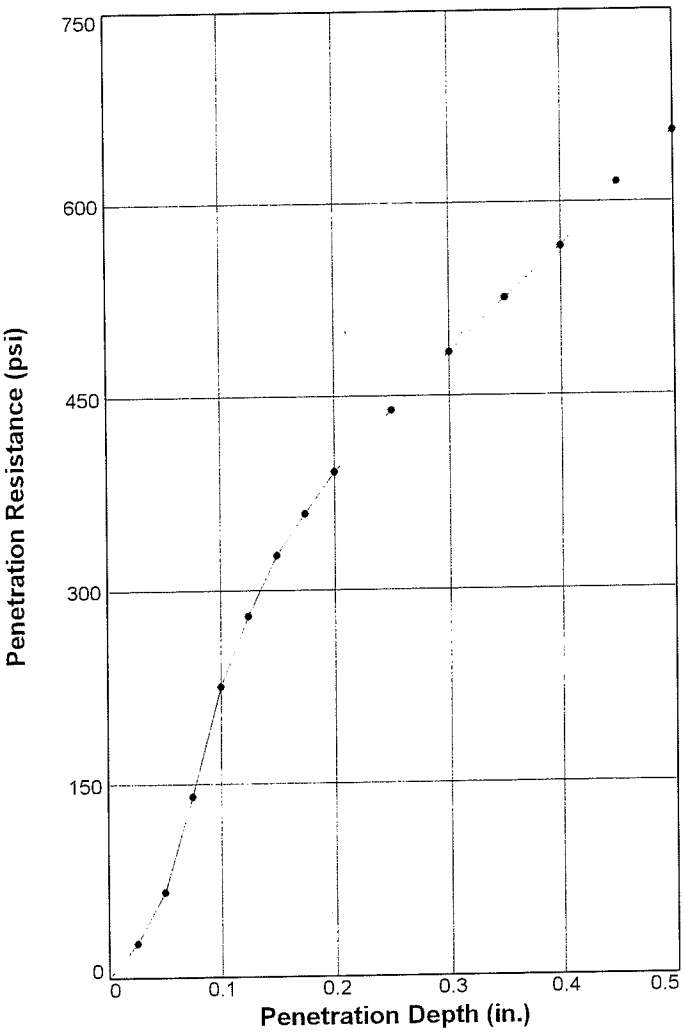


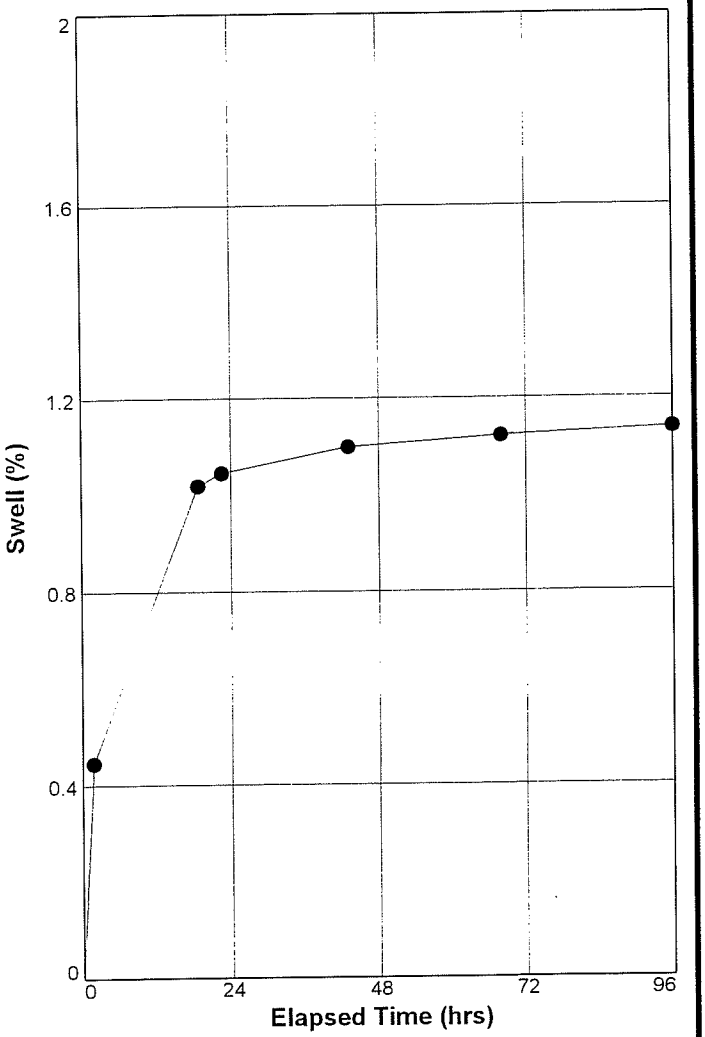
SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	TP-5	1	0.5'-1.0'	12.9	25	39	14	CL

LIQUID AND PLASTIC LIMITS TEST REPORT **Island Geotechnical Engineering, Inc.** **Wailuku, Hawaii**	**Client:** **Project:** Kahoma Residential Subdivision **Project No.:** 101386-FM **Plate** 26

BEARING RATIO TEST REPORT
ASTM D 1883-05





	Molded		Soaked		CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Dry Density (pcf)	Moisture (%)	Dry Density (pcf)	Moisture (%)	0.10 in.	0.20 in.			
1 ○	112.3	13.0	111.0	20.4	28.7	27.9	0.029	10.00	1.1
2 △									
3 □									

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
brown GRAVEL with silt and sand	GP-GM				

Project No: 101386-FM
Project: Kahoma Residential Subdivision
Location: TP-7
Sample Number: 2 **Depth:** 0.5'-1.5'
Date: March, 2010

BEARING RATIO TEST REPORT

Island Geotechnical Engineering, Inc.

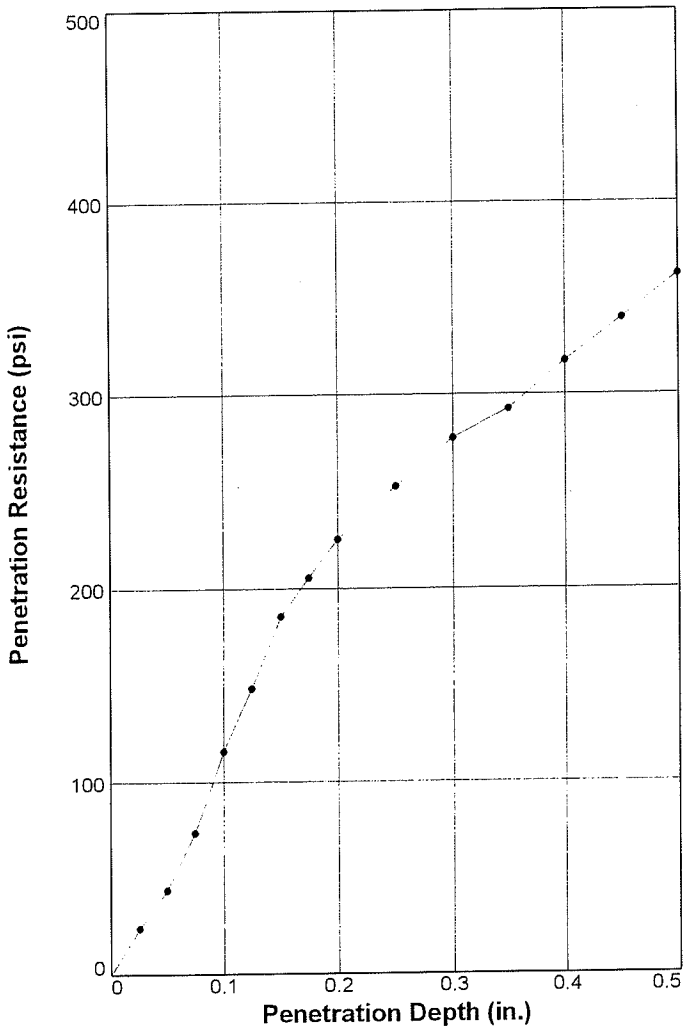
Test Description/Remarks:

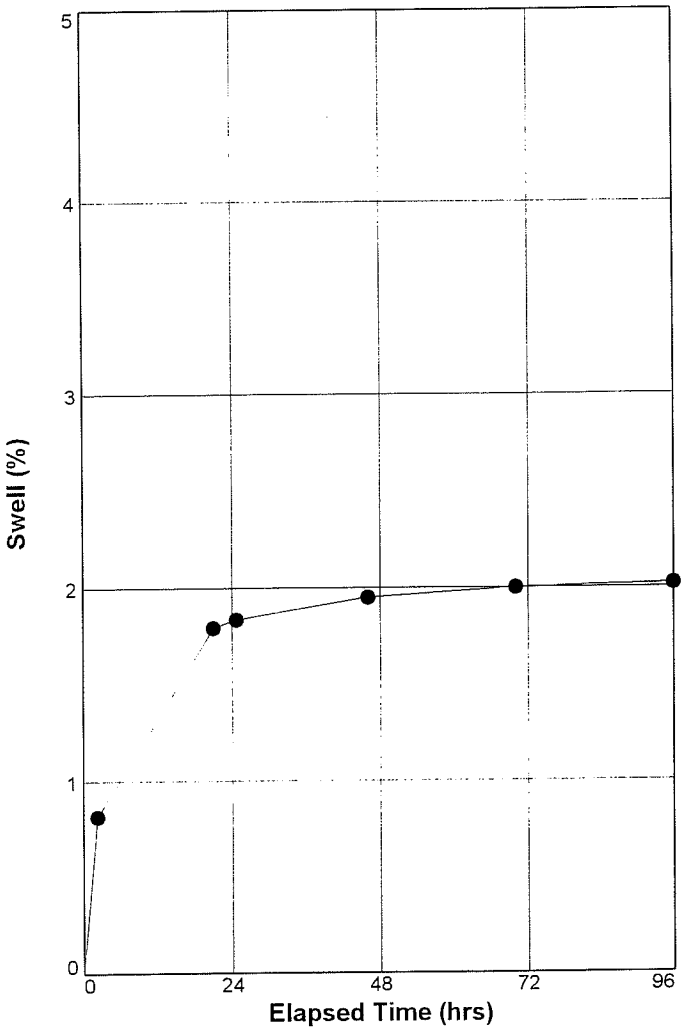
1. Test performed on portion passing the 3/4" sieve; 84.0% of sample passed the 3/4" sieve.

2. Material was compacted in the mold in 5 layers; each layer received 56 blows with the 10 lb. hammer.

Plate 27

BEARING RATIO TEST REPORT
ASTM D 1883-05





	Molded		Soaked		CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Dry Density (pcf)	Moisture (%)	Dry Density (pcf)	Moisture (%)	0.10 in.	0.20 in.			
1 ○	106.6	16.1	104.5	23.5	15.5	16.1	0.029	10.00	2
2 △									
3 □									

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
dark yellowish brown sandy CLAY with gravel	CL (est.)				

Project No: 101386-FM

Project: Kahoma Residential Subdivision

Location: TP-18

Sample Number: 1 **Depth:** 0-1.5'

Date: March, 2010

BEARING RATIO TEST REPORT

Island Geotechnical Engineering, Inc.

Test Description/Remarks:

1. Test performed on portion passing the 3/4" sieve; 98.0% of sample passed the 3/4" sieve.

2. Material was compacted in the mold in 5 layers; each layer received 56 blows with the 10 lb. hammer.

Plate 28