EXHIBIT A

WAIMEA TRAFFIC CIRCULATION STUDY
SCOPE OF WORK

BACKGROUND

Waimea Town in the County of Hawaii (County) is currently the focus of several transportation improvement efforts. These efforts are meant to address several issues:

- Regional traffic passing through Waimea contributes to congestion on Kawaihae Road and Mamalahoa Highway within Waimea town;
- Existing traffic congestion in Waimea town is a concern to the residents;
- Population growth in the Waimea area will require improvements in traffic carrying capacity within Waimea town; and
- The Waimea community has expressed a desire to maintain a sense of place while implementing transportation improvements.

To address the regional traffic issues, there are three studies currently underway:

- Waimea Bypass Study – State of Hawaii Department of Transportation;
- Kawaihae Road Bypass Study – State of Hawaii Department of Transportation;
- Mamalahoa Highway-Kawaihae Road Connector Project – County of Hawaii Department of Public Works;

These studies are working to identify and environmentally clear new roadway alignments that would provide more appropriate routes for regional access and regional through traffic. These regional routes would allow the Waimea town roadways to better serve local traffic and potentially provide more opportunities for alternative transportation modes such as biking and walking.

To address the local traffic issues within Waimea town, the following studies are underway:

- Waimea Urban Design Study - conducted by Nino Walker, a graduate student at the University of California-Berkeley, Department of Landscape Architecture and Environmental Planning. This study is being coordinated with the Waimea Community Development Plan Committee (WCDPC) to identify needs and priorities of the residents of Waimea to guide the future course of Waimea town.

- Parker Ranch 2020 Plan – Parker Ranch, a major landowner in Waimea is continuing to update its development plan that includes recommendations for new local roadway connections within Waimea town;
- Waimea Traffic Circulation Study – County of Hawaii Department of Planning in consultation with Department of Public Works is undertaking a study of local traffic circulation as part of the South Kohala CDP process.

These studies of local traffic circulation focus on how traffic circulation within Waimea town could be improved and how the local roadway network interfaces with the proposed regional roadway improvements. They also examine how local traffic improvements can incorporate community desires for alternative modes and "sense of place."

This Scope of Services addresses the work elements associated with the Waimea Traffic Circulation Study. Its primary emphasis is to identify short-term improvements that would address existing traffic congestion issues within Waimea town. It will also evaluate how the short-term improvements and other local roadway improvements would work with the proposed regional roadway improvements and planned future development within the Waimea area.

PB will perform the following items of work:

1 Review Plans and Interview Stakeholders

Working with the County staff, PB will collect and review readily available background information including:

- Hawaii County General Plan
- Hawaii County Long-Range Transportation Plan
- Northwest Hawaii Regional Plan
- Waimea Bypass Plan
- Kawaihae Road Bypass Plan
- Mamalahoa Highway-Kawaihae Road Connector Plan
- Plans of Major Land Owners
- Waimea Urban Design Study
- Other relevant studies

PB will work with the County staff to refine this list of background information. Other helpful information, not noted above, will also be identified and collected.

PB will interview major stakeholders in Waimea including Parker Ranch, Parker Ranch Shopping Center, Waimea Community Development Plan Committee, Waimea Schools, Hawaii Preparatory Academy, North Hawaii Community Hospital, State of Hawaii Department of Hawaiian Home Lands, etc. The purpose of these meetings will be to more precisely define the current traffic

problems, concerns and issues. PB will attend one public meeting to inform the project and get feedback from the community.

2 Data Collection

2.1 Data Collection Plan

PB will develop a data collection plan after research of the issues and field reconnaissance. The plan will specify the type of data collected and the time periods involved. The plan is designed to focus the data collection effort on items that will address the key issues.

2.2 Intersection Inventory

PB will collect existing traffic data for 6 intersections: Mamalahoa Highway and Lindsey Road, Mamalahoa Highway and Pukalani Road, Mamalahoa Highway and Kamamalu Road, and 3 other intersections to be identified.

PB will prepare an inventory of intersection physical conditions for each location. This inventory will include assessments of intersection configuration and traffic control, intersection spacing, prevailing cruise speeds, and other traffic data. Examples of intersection configuration data include existence of turn lanes, turn bay lengths, lane widths, sidewalk location, pavement markings, etc.

2.3 Existing Traffic Signal Plans

PB will collect the existing traffic signal plans for the signalized intersections in Waimea. These plans would provide information on signal head and detector location. PB will acquire traffic signal data in BiTran format from the County Department of Public Works (DPW). The information collected would include Time of Day plan, phasing diagram, cycle length, offset, min green, max limit, vehicle extension, pedestrian timing, and crossing street coordination plans if applicable.

2.4 24-hour Volumes

State of Hawaii Department of Transportation (HDOT) has various Traffic Count Stations in Waimea that can provide biennial 24-hour volumes going back to year 1996. The stations include Mamalahoa Highway North of Saddle Road, Kawaihae Road West of Waiaka, Kawaihae Road East of Waiaka, Kawaihae Road West of Lindsey Road, Mamalahoa Highway East of Lindsey Road, Mamalahoa Highway at Puu Nani Drive, Mamalahoa Highway West of Mud Lane. PB will review and summarize the available data from the State DOT database. Supplementary 24-hour volume can be collected upon request by the County:

2.5 Turning Movement Counts

PB will collect vehicle turning movement counts at six study-identified locations in the data collection plan. Turning movement counts will be conducted during weekday (Tuesday, Wednesday, or Thursday) AM, PM, and mid-afternoon peak periods. Counts will be performed at 15-min interval for 2-hour period during each study period.

2.6 Queue Survey

At signalized intersections that have the potential for detailed micro-simulation analysis, PB will identify the critical approaches for each intersection and collect traffic queue information at those critical approaches during weekday AM, PM, and mid-afternoon peaks periods. Queue information will be collected during each traffic signal cycle for a 2-hour period during each study period. The queue survey will be conducted concurrently with the turning movement counts.

2.7 Travel Time Survey

PB will perform travel time survey during AM, PM, and mid-afternoon weekday peak periods. An off-peak period will also be surveyed. These data will be important to establish a baseline measure of traffic mobility within Waimea that would be used to evaluate the effectiveness of proposed traffic improvements. The routes will include:

1. Honokaa-bound and Kawaihae-bound along Kawaihae Road and Mamalahoa Highway (Route 19)
2. Honokaa-bound and Kailua-Kona-bound along Mamalahoa Highway (Route 190 and 19)

PB will determine the terminus of the travel time routes in consultation with the County. At least two runs will be conducted during each time period. PB will conduct surveys for the weekend upon the request by the County.

3 Evaluate Baseline Conditions

PB will evaluate the existing traffic conditions for use as a baseline to which proposed improvements will be compared. Appropriate traffic evaluation tools will be used for this evaluation, including methods documented in the 2000 Highway Capacity Manual and microscopic simulation models using software such as SimTraffic. The evaluations will include weekday AM, PM, and, where applicable, mid-afternoon peak periods.

As part of this evaluation, existing deficiencies in traffic operation will be identified.

4 Alternatives and Evaluations

4.1 Propose Alternatives

In consultation with the County, PB will propose a list of potential alternatives to address the deficiencies identified in the evaluation of baseline conditions. This list will be divided into two sections.

The first will identify relatively inexpensive alternatives that could be implemented within a short-term time frame. These could include:

- traffic signal optimization;
- traffic signal coordination;
- selective roadway widening;
- intersection channelization; and
- restriction of selected turn movements.

The second will identify local roadway circulation improvements that would be longer-term and could potentially be tied to future development. These could include:

- new local roadways that would improve circulation;
- reconfiguration of existing roadway connections;
- bicycle and pedestrian improvements that would increase safety while encouraging use of non-motorized modes of transportation;

4.2 Future Conditions

The future traffic conditions, at an agreed upon short and long-term future planning years, will be developed based on the Hawaii County General Plan, Northwest Hawaii Regional Plan, Waimea Community Development Plan, Hawaii County Long-Range Transportation Plan, Parker Ranch 2020 Plan, and other development plans by area stakeholders. The Hawaii County Long-Range Transportation Plan forecasts Hawaii County's regional transportation framework and will be used as a basis of future regional travel. PB will adjust the forecasts to be consistent with the projected localized conditions.

4.3 Evaluations

PB will evaluate the alternatives for the appropriate time frame. As in the baseline evaluation, the appropriate analysis tool will be applied. PB will conduct a preliminary cost-effective analysis for each alternative. The alternatives with most cost-effectiveness will be converted to a list of prioritized projects. The projects that are able to be implemented quickly, are relatively inexpensive, and produce positive effect will receive top priority for implementation.

5 Implementation Plan

In consultation with the County, PB will develop a phased implementation plan based on projected availability of funding.

6 Community Meetings

PB will hold several meetings with the Waimea community to solicit their input and to keep them apprised of the study findings and recommendations. The meeting schedule is as follows:

- PB will participate in one community meeting to present the results of the baseline conditions evaluation. The purpose of this meeting will be to determine if the community concurs with the issues identified and to determine if the community is aware of additional issues. This meeting will occur after the completion of the evaluation of baseline conditions task.
- PB will participate in one community meeting to present proposed traffic circulation alternatives and stimulate community feedback. The community feedback will be used to refine the proposed alternatives if appropriate. This meeting will occur after the completion of the proposed alternatives sub-task.
- PB will participate in one community meeting to present the results of the future conditions forecast and the evaluation of the proposed alternatives. Community feedback will be used to help prioritize alternative projects. This meeting would occur after the completion of the future conditions and evaluation of alternatives sub-tasks.
- PB will participate in one meeting with the major stakeholders in Waimea to introduce the implementation plan. PB will also participate in one public meeting to get the community's feedback on the implementation plan. Comments received will be addressed in the final report. This meeting will occur after completion of the implementation plan task.

7 Deliverables

After each major phase of the study (1 Review Plans, 2 Data Collection, 3 Evaluate Baseline Conditions, 4 Alternatives and Evaluations, 5 Implementation Plan), PB will submit to the County a summary of data collected, evaluation results, and recommendations. Five summaries will be submitted.

PB will prepare Draft and Final versions of the Waimea Traffic Circulation Plan. The report will document the study process, data collected, analysis results, study findings, and recommendations.

PB will provide the County with the following quantities of each report:

Reports:	5 bound hard copies 1 electronic version on CD-ROM
CAD files:	1 copy on CD ROM

8 Additional Miscellaneous Tasks

When directed by the County of Hawaii, PB will conduct additional traffic counts and traffic data and conduct intersection analyses. PB will be compensated on a Time and Materials basis for these additional tasks through a reimbursable budget separate from this scope of services budget. In such an agreement, PB is compensated at the following hourly labor rates (including overhead and margin):

Vice President	$230.00
Senior Supervising Transportation Engineer	$150.00
Supervising Transportation Engineer	$145.00
Senior Transportation Engineer	$100.00
Lead Transportation Engineer	$ 90.00
Transportation Engineer I	$ 60.00
Assistant Transportation Engineer	$ 57.00
Graphics Technician	$ 72.00
Project Administrator	$107.00
Administrative Support	$ 65.00

Direct expenses will be billed at cost. The State of Hawaii General Excise Tax (4.166%) will be added to total charges.

Approximate estimates of cost for the following types of activities are included for informational purposes. When directed by the County of Hawaii to proceed on a specific additional task, PB will submit a proposed fee prior to conducting the additional task.

Community Meeting including Presentation	$4,600.00
Intersection Analysis (1) without Data Collection but including up to three time periods	$1,400.00
Additional Data Collection (up to 2 sites) and up to three time periods	$3,130.00

Time of Performance

PB will complete this Project within EIGHT (8) MONTHS from the execution date of the contract with the County of Hawaii, unless extended by written agreement by the County and PB.