



Antigua Guatemala - May 2011

Jarrood Nelson
March 15, 2012



Project Abstract

This project augmented education work being done in rural Guatemala by providing an engineering assessment of village structures, practices and infrastructure in the Antigua region. We worked closely with Avivara, an education-focused non-profit organization based in Guatemala, to help us pinpoint exactly which communities we should best focus upon. Utilizing our education in Civil Engineering and our project work in Engineers Without Borders (EWB), we filled a much-needed role that complements Avivara's progress in improving life in rural villages.

Student Accomplishments

Kris Homerding and I both had a variety of personal scheduling conflicts last summer, so we chose to travel to Guatemala as soon as both of us were free of our UAA Finals duties last April. After vigorous email activity, we met up with Gary from Avivara and Jesus (*our driver*) right outside Customs at the airport. It was very helpful to already have this set up and once we had our bags loaded into the truck, off we went to Antigua, about an hour's drive away. While we were a bit jet-lagged, we were also very excited to experience everything Guatemala had to offer us, and do it all from a working somewhat-local perspective.

The first morning in Antigua, Kris and I met Gary and walked about the town, getting very familiar with the layout. It was amazing how easily we were mobile and set-up with just a few stops with the right person, and it was also a great transition into the local Guatemalan lifestyle.



San Jose Pacul Original School Building

San Jose Pacul

It was a gorgeous day to wind our way up into the regional hills, arriving in San Jose Pacul after approximately an hour's drive through the Guatemalan countryside. As we pulled up to the school, we unloaded the boxes of supplies that Avivara had gathered for the school's uses, and brought them into the principal's office which is where we met Ephraim, the principal and director of the school. We discussed with Ephraim (*through Gustavo*) what the school and community was looking for and what we were able to assist with, and we promised very strongly that we were mainly looking for information at this point.

At first I felt very much like “*we are here to look at your school but not give anything*” but this feeling faded very quickly as we walked around the school and got a better feel for



Digging a test hole for soil sample

what exactly he felt the school needed. I was amazed at several things -- the first being the dramatic conditions that they all live in, secondly how amazed they were seeing a few *gringos* walking around their school, and third how friendly and open everyone seemed to be. This feeling was enhanced even further during our second visit to the school approximately a week later, and that visit was very beneficial to everyone that took part.

It was great to have Gustavo, Dario, Ephraim and several other

community leaders present during the second visit, and we were able to show them how to do a rudimentary Station and Offset for the hilled back-portion of the property. I was awed when Gustavo said “Oh!! This is Pythagoras -- so easy!”, finally getting that he was following what we were trying to accomplish. This is a huge yet basic underpinning of Engineers Without Borders - the transfer of technology to others, and we left San Pacul that day with a greater understanding of the layout of the back-portion of the facility.

Impressions

I had spent some time in the Caribbean and in Mexico and I thought I was prepared for daily Guatemalan life, and in a certain sense I was correct. Day-to-day life in Antigua was relatively normal and peaceful, and Kris and I got along very well there. However once we transitioned outwards to the periphery of Antigua and were hit headlong with the realities of the more normal Guatemalan life, the harsh realities of third-world existence were very obvious. The disposal of refuse was easily the most visible aspect of life that was always visible, regardless of where you were at in the country. While areas like the center of town were swept daily and kept clean, it was the routine practice of the individual to just drop things when they were finished with them that did not mesh with my litter-conscious brain. This disregard or ignorance for



Collection of refuse behind a dwelling

the full life cycle of a product, past that of purchase-to-completion-of-use, was quite the shock and I wasn't sure where to even begin with such a cultural condition. The city landfill in Guatemala City was an extreme of refuse gathering, yet one that people often choose risk of potential injury or death to try and prosper from their findings.

In contrast to Guatemalans fighting for themselves, we stumbled upon the Earth Lodge on a hill overlooking Antigua, owned by a Canadian and an American couple, and staffed by a variety of nationalities. The Lodge was a fantastically peaceful location, and the Lodge's owners were helping out



at the school located approximately a mile away by assisting them build a new classroom. A friend of theirs utilized the standard corrugated sheeting available in the area but he used it for the walls

of the facility as well, anchoring it into the footings and riveting it to itself. Once fixed top and bottom, the walls were amazingly strong to lateral loads and I imagine they will stand up very well to the conditions at the site.

Conclusions

I found Guatemala and especially Antigua relatively similar to other portions of Mexico and the Caribbean, but also vastly different since it was connected to South America by major highway. This viaduct of culture going back hundreds and perhaps even thousands of years dramatically affected the development of Guatemalan culture, and is still affecting how people live their lives there. While we were very aware that by initiating an EWB project there we would be changing a very small portion of the population, it is an immensely powerful thought to know that we would be helping things move in the correct direction, and it is these feelings that continue to motivate me. I am extremely thankful for the opportunity that the Dr. Alex Hills award provided for me, and I hope that the future recipients of the award have as powerful an experience as Kris and I did.