

# Indigenous Peoples Community Building Initiative



Project sponsored and directed by  
**Fox Maple School of Traditional Building**



**The Indigenous Peoples  
Community Building Initiative**

Director  
Steve Chappell

The IPCBI is an educational program founded and directed by Fox Maple School of Traditional Building. The primary mission is to expand creativity, develop employment opportunities and a self sufficient housing industry within impoverished indigenous and 3rd world communities through educational programs in traditional and natural building arts.

Project Sponsor

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*Cover: School children learning the finer points of cutting a dovetail in San Luis, Costa Rica, Workshop Winter 2001*

**Director's Note**

Fox Maple's *Indigenous Peoples Community Building Initiative* is a natural outgrowth of our educational program, which began in 1983. Hands-on workshops by their nature, produce a structure every time. As our program and number of course offerings grew the question became, "What do we do with them?" One option was to take our program on the road and have the class project become a barn, cottage or small house for a course sponsor. As a result, Fox Maple's *Traveling Workshop Program* was initiated in the late 80s, allowing workshop graduates and community-based groups the opportunity to sponsor a workshop in their area. These workshops were often in small, rural communities and truly became community events. It was through these workshop experiences that I realized the power of the process—the almost magical quality that seemed to bind communities into a single, unified force.

My lifelong commitment to building actually took root in South Dakota on the Rosebud Reservation in 1972. By some strange twist of fate I landed on the reservation after spending a year building condos in the booming eastern slope economy of Colorado. I left disillusioned with mainstream building and thought, perhaps, I would leave building behind in my tracks and look for a more inspiring livelihood. As if plucked from the roadside, I landed at Crow Dog's place on the Rosebud in July of 1972, where I worked for the next 5 months building an addition, repairing roofs, repairing old additions, replacing windows, rethinking the old man's (Henry Crow Dog) log cabin. It was not so much the quality of the work that inspired me, but rather the desperate need. The poverty ran so deep, and the rez at that time was entrenched in political turmoil. Beatings issued by the authorities—many resulting in death—were a common occurrence. School children were not allowed to speak their native language in school, and were often severely punished if they were caught speaking Lakota. In February of 1973, a short two months after I left, the rez erupted with the takeover of the church at Wounded Knee. The standoff and engagement that ensued is now a part of our American history. My experiences on the Rez resonated within me for many years. In some way, I knew that one day I would return.

This day came in September of 2000, when I returned to Slim Buttes on the Pine Ridge to develop a training program to help rebuild in the wake of a serious tornado that came through earlier that spring. I had been invited by the *Lakota Village Fund* (a German nonprofit relief group). I had returned home, as it were, to find that very little had changed on the rez—poverty and despair remained intact. This was the perfect opportunity to put my philosophies and knowledge about community building to work.

In the interim, the IPCBI has successfully completed 7 projects. We're looking forward to many many more in the future. We hope you can join us as a participant.

—Steve Chappell



*Tom Cook nailing roof tree to frame built in the summer 2002 workshop in Slim Buttes.*

## Indigenous Peoples Community Building Initiative

Fox Maple School of Traditional Building began developing its training program with indigenous peoples on the Pine Ridge Indian Reservation in the Fall of 2000. In the interim, the program has expanded to include projects in the mountains of Costa Rica and Kauai, Hawaii. Future projects in Ecuador and Nicaragua are currently under study.

The principal goal of the *Indigenous Peoples Community Building Initiative* (IPCBI), is to develop a sustainable building infrastructure within impoverished communities utilizing local natural materials and traditional systems and methods of construction. Initially, we go into a community and analyze the natural resource base, traditional building patterns, traditional cultural life-style, current life patterns and economic conditions. Through this we are able to develop a training program that uniquely embraces the communities environmental, cultural and architectural identity.

After completing a thorough survey, we then organize a formal workshop in which a community building is built for and with the people in the community. This includes active participation of from 10 to 12 community members (though a much greater number participate), coupled with 8 to 10 students from outside the community. Primary funding for the project is generated directly through the tuition paid by outside students. There is no cost to the local community. A unique, multi-cultural educational exchange results, training people in not only the craft of timber framing, but also a variety of natural and traditional building approaches that readily uses their local resources. Through the process a needed structure that embraces these cultural elements evolves.

The communities with whom we work are extremely poor, so they have little option to buying manufactured building products. Our program is designed to teach community members the necessary skills that will enable them to transform their local natural resources into viable building materials and components with which they can build durable, high quality dwellings and community buildings that embrace their cultural sense



*Raising the rafters on the greenhouse frame, summer 2001.*

of architecture and design. Instilling a sense of craftsmanship is fundamental to our approach. The long-term goal is to create employment and economy by developing a core group of craftsmen who can offer both materials and services within the community and also to more affluent regional communities (in the case with Pine Ridge, where unemployment is over 75%, Rapid City has a booming economy with high end mountain homes being built in the nearby Black Hills).

### Developing New Building Patterns

When working with economically handicapped communities, the challenge is to develop alternative patterns of building that focus not on the limitations, but on the underlying natural wealth of the community. Fox Maple's community building program operates on the fundamental premise that the universe consists only of wealth and abundance. The first order of business is to identify the intrinsic assets of the community. The second is to find ways to utilize these assets to transform their built environment in a way that is practical, while at the same time embraces their cultural patterns and traditions.

Societies are defined by their architecture. Those that do not have a vibrant vernacular architecture (i.e., those striving to embrace the western model with no infrastructure to obtain



*Wes Hawking (foreground) and Johnson Bear Robe cutting joinery inside a tipi.*



*The Base farm in Slim Buttes. The greenhouse (left) was the 2001 course project. The north wall is finished with hemp/clay wattle & daub. This is one of two greenhouses built by Fox Maple in 2001. The completed timber frame built in the summer 2002 project (right).*



*Tom Cook, regional Field Coordinator for Running Strong, milling timber on the old Belsaw sawmill.*

it) tend to be the most impoverished. It is more evident in what they are lacking than what they have. Developing new vernacular architectural patterns that define the traditional ways and beliefs of the people, while at the same time embracing our modern needs, is essential to creating healthy and vibrant communities.

### **Human Resources**

The number one asset of any economically handicapped community is people. Because indigenous communities tend to place a high value on the extended family, which in many cases includes the whole community, involving the people in constructive community efforts is a rather simple matter, once the spark and vision is ignited. Dwellings are the most highly valued commodity in any community, rich or poor. Securing a suitable place to dwell is the most costly of all our human needs. By engaging unemployed, or under employed, people in the direct course of building dwellings as a community effort, value is realized directly, and in essence, a positive, alternative economy is quite naturally developed.

The key to success is in awakening the creative spirit within. The most debilitating aspect of impoverished communities is the lack of self esteem. The opportunity for a child to feel creative, to be able to put it to direct use in a way that not only satisfies and fulfills their own sense of being, but also benefits their family and greater community, is priceless. In all IPCBI projects we attempt to include children and youth directly, as these are the ones who will be building the future.

### **Natural Resources**

In order to successfully develop a micro, community-based dwelling industry, a thorough survey of the local natural resources is required. Studying the traditional and indigenous building style of the region prior to the onset of the industrial revolution will lend insight as to which materials will work successfully in the specific climate and environment. Most often these materials can be acquired and transformed into viable building components with little more than labor output by community members. Understanding that life-style patterns evolve over time requires an assessment of the current life patterns. From this, systems, designs and practical approaches can be created to develop new vernacular architectural patterns appropriate for the community, and within their capacity to carry out.

Once a new pattern is developed, resources identified, and once there becomes a core group of community members fluent in the various aspects of the construction process, then this can be extended throughout the community, and eventually to other communities. This can create income directly by offering products and services to more affluent communities, or by creating additional training programs in surrounding communities. When there is little or no money in an economy, then barter and trade for services and material resources become de facto money. After all, money is only a means of exchange to acquire the physical and material things we need.

### **Lakota Timber Framing Program**

The community of Slim Buttes lies in the southwestern corner of the Pine Ridge Reservation, within the boundary of the poorest county in the U.S. Slim Buttes is *the* poorest community in the U.S. Unemployment stands at over 75%. This area is the traditional home of Red Cloud, American Horse and Afraid of Bear, three of the Lakota's most notable warriors. It is with their descendants with whom we are working today.

Though poverty and despair runs deep on the reservation, their connection to the old ways, to the traditional spirit of their people, is quite alive within this community. The spirit that made them such great warriors over a century ago is still intact. It is through this deep connection to their past that the Lakota People will blossom once again in this century. I'm convinced, however, this will happen only after they develop a new architecture that evokes the spirit of the People today. The Government housing and dilapidated trailers only help to breed a sense of despair. The reservation is rich in natural resources. Our efforts on the reservation are focused on developing systems and approaches that will allow

these resources to be utilized to provide dwellings and community buildings directly, while at the same helping to create long-term employment opportunities.

### **Lakota Projects**

Fox Maple's program on the Pine Ridge Reservation began in September of 2000 with the construction of a greenhouse. The following year, we returned to construct another greenhouse. In the summer of 2002, we again returned to Slim Buttes to build a 24' x 32' foot timber frame workshop building that will provide space to work throughout the year on both timber frames and tractors (gardening and farming is their primary employ-



*Above: Johnson Bear Robe and Steve Chappell, director FMSTB, lift rafter into place during Fall 2000 workshop.*



*Right: Tom Chief Eagle planing cedar brace.*



*The timber frame was cut in a 10 day period with the help of 7 students from off rez, and 10 Lakota students.*

ment). The entire project, from cutting the timber frame to roofing, took place during a 5 week period from July 22-August 28, 2002. The frame was cut and raised during a 10 day period with a crew comprising of 10 community members and 8 students from off the reservation.

This project was funded in large part through a grant from Running Strong for American Indian Youth®. Additional product donations were secured from Foard Panel Corp., Pella Windows and Great Brook Lumber. While we have been working with hemp/clay systems to enclose the previous structures, stress skin panels were used to enclose this frame due in part to their rapid installation, allowing us to use it by early fall to begin work on a more significant project—the Lakota Ceremonial Lodge.

The Ceremonial Lodge will be constructed for the Ancient Native American Church. The ANAC holds to and practices traditional Lakota spiritual beliefs, and is the primary church of the community within Pine Ridge with whom we have been working the past 3 years. Fund-raising for the Lodge project is ongoing.

*Al Weasel Bear trying out the chain mortiser for the first time during the 2002 frame cutting process.*



*Volunteers from Landmark Volunteers, a Massachusetts based organization, apply hemp clay daubing to the wattles of the greenhouse built in IPCBI's 2001 project.*



*Diane Crow Dog and her son, Frank Running, in front of the completed frame.*

## **A mini Cermonial Lodge**

The class project in the fall 2001 Advanced Timber Framing workshop in Maine was a scale model of the Ceremonial Lodge we're planning to build on the Pine Ridge. Two Lakota students from Pine Ridge, Abraham He Crow and Alton Eagle Louse, made the long trip to Maine to take part (as did Olivier Garro, one of our students from Costa Rica). The 'mini lodge' is a 16 foot diameter octagon, and includes the essential design details of the larger version, including a smoke hole.

The lodge was built as a gift for Diane Crow Dog. This summer, over a long weekend, a group of students traveled to the Rosebud Reservation and raised it near the spot of her old house, next to her daughter Christine's grave, on the banks of the Little White River. The frame was set on large stones we collected in the Black Hills, and while the plan is to roof it with slate and infill the walls with hemp/clay, this year we managed to roof it with asphalt roofing and wrap it in hemp canvas. We plan to return next summer to complete the final details.



*Raising crew in front of nearly completed lodge..*

## Costa Rica Community Building Projects

The Community Building projects Fox Maple has been involved with in the past year—Finca la Bella, in Costa Rica, and Slim Buttes on the Pine Ridge Reservation in SD—have in a way, allowed us to step back in time. While these two areas are worlds apart geographically, they share one very common thing, poverty. Perhaps I should qualify this. As viewed from the mount of material abundance, it is poverty indeed, however, when this veil is lifted, when the barometer that gauges wealth and poverty as purely economic conditions is lifted, then one begins to recognize a universe consisting only of wealth and abundance.

To put it into a building context, the common new house in Costa Rica is built of masonry block, set upon a concrete slab, steel framed trusses and steel roofing—all commodity building products for the most part imported from the outside. These houses are modeled and constructed very much after the style prevalent in low to middle income houses built in Florida. A modern building icon set before the 3rd world. To put this in perspective, the wage for skilled labor in Costa Rica ranges from \$1 to \$2 per hour. However, the cost of concrete blocks, steel roofing and virtually all manufactured building products are set at international commodity rates, and therefore at par with the same materials if purchased in Florida. Gasoline costs 50% more than in the U.S. A circular saw costs twice the amount than in the States, as do vehicles. It doesn't take much to realize that the cost of building a new home is far out of the reach of the average family. However, due to the icon a house of this style represents, most people strive for this type of home. Alternatives are not overly apparent nor promoted, so the majority accept the fact that a new home is simply out of reach and make do with ramshackle shacks. Instilling a new vision is our primary objective.

### Finca la Bella 2001

The project at Finca la Bella, 'the beautiful farm', in the winter of 2001 proved to be a model for this type of development. Finca la Bella is a rural mountain farming community located in the shadows of the Monteverde Cloud Forest, near the village of San Luis, Costa Rica. The core group of 10 students were from the community of Finca la Bella, with an additional 10 students from outside the community joining the process (students from the States and afar). For the frame raising and enclosure nearly the whole community took part, young and old alike. A significant portion of the clay infill was carried out by the schoolchildren from the community elementary school, 8 to 12 years old.

All the materials came from within 3 kilometers of the building site. The timber was harvested locally from stands of Honduran Pine (similar to ponderosa pine) that were planted as windbreaks over the



*The Finca la bella community building frame, 2001*

past 50 years. The pines are not indigenous and have proven to have an adverse affect on the ecosystem. The policy nationwide is to eradicate this species and replace them with native species. This provided a ready (and long-term) supply of sustainably sourced timber. The majority of logs were milled into timbers 'freehand' with chain saws. Wood-Mizer Corporation graciously donated the use of a mill to the project that was used to mill boards and to resize some of the timbers.

The wall infill was made up of clay and coffee husks. Coffee is the primary cash crop for the community and the husks were a plentiful waste product transformed into a valuable resource. Clay is abundant, and came right from the site. The wattles were made by splitting bamboo into thin strips. Perhaps one of the greatest successes of the project was in the way in which the community embraced the process so completely.

### Children's Park Pavilion, Playa Tamarindo, Costa Rica 2001

In addition to the community hall project in Finca la Bella, we also found time to travel to the coastal town of Tamarindo to build a park pavilion in the new Children's Park. Land had been donated for the park two years prior, but the park committee were having difficulty raising money to develop the land. By building a pavilion, it was felt that more community input would be spurred. This in fact was the case. When we arrived, the 1 acre site was a barren plot of land, nearly treeless, and not very inviting. Plans for a swings and jungle jims, a skateboard park, community garden and more were all envisioned. We staked out a site in the middle of the plot, and set out to build a very modest 8'x12' structure. First we needed logs and timber. Thanks to



*Community members of Finca la Bella chopping joints, young and old alike.*



our connections with Wood-Mizer, they connected us with Jesus Hernandez Robles, a mill owner in nearby Santa Cruz, and he was willing to bring his mill to Tamarindo to mill logs. A few logs had been scrounged up, but more were needed. These were secured by pure luck from a local man who stopped by to see just who was in the park. He owned a small tree farm a few miles from town and offered to donate what we needed to the cause. He had children, and he hoped someday the park would be completed. The timber was melena, a hard wood common to the arid Quanaacaste peninsula. We traveled to the site and returned with enough logs to mill timbers for the frame. Jesus came out the following day, and by days end we had just enough timbers to complete the frame.

Three of the local students from finca la bella and 4 students from the states, traveled to Tamarindo for the project. Four days later, in the intense heat, we raised the frame. The goal was achieved, and the pavilion proved to be just what was needed to incite community involvement. Upon returning the following year, the park was alive with children. The frame had a palm thatch roof, the swings and jungle jim were in, a community garden was producing flowers and vegetables, and most impressive, an in-ground skate board park was completed and in use. No fewer than 10 kids were skating away. But perhaps most rewarding was the fact that the Pavilion was filled with mamacitas, relaxing in the shade of the thatched roof, comfortably watching their children play.

**Monteverde, Costa Rica 2002**

The foundation of IPCBI is follow-up and commitment. While one project may be successful, it is important that this success is built upon. To fully develop the process and system within a community, and to cultivate a solid and talented core group of craftsman who can

continue on their own, requires at least three projects. In the first project, there pervades a sense of wonder and even doubt. With the second project, wonder may still remain, but doubt is vanquished. The development of talent increases, and with it enthusiasm and excitement pervades.

We returned to Costa Rica in the winter of 2002 to build a bodega on the campus of Monteverde Institute. The Nearly 15 students from the states and Canada worked with 15 community members, many from the previous years project and many new as well. The frame was a 24'x32' high post frame following the pattern of a New England barn. The timbers were milled with chain saws, and hauled by hand to the site. It was another great success. Plans to return in February 2003 are set. This time we will be building a pavilion for the coope de Santa Elena. This is a coop of farmers and coffee growers from seven communities in the Monteverde area.



*Top) Kids hand planing timbers in Finca la bella, 2001. Bot) Childrens Park Pavillion frame, Tamarindo.*

In February 2003 we returned to Monteverde to continuing developing our program. The project was a 16 foot diameter octagonal pavilion that was raised at the Bell Bird Reasearch Station in Los Llanos, Costa Rica. It will be used as an open air classrom.

We'll return to Santa Elena in February 2004 to construct a similar pavilion for the Coope de Santa Elena in addition to a permanent workshop space in San Luis.



*Top) Milling timbers with a chain saw at Finca la bella. Bottom) Milling melina logs in Tamarindo with a WoodMizer*



*Raising the first bent of the octagonal pavilion built in the Winter 2003 project in Los Llanos, Cosa Rica.*

## Wainiha Valley, Kauai, Hawaii



IPCBI's program on Kauai began in the fall of 2001. The first project was a 16'x20' structure following a traditional Japanese construction form. This is appropriate to the island due to the timber supply and the environment. In the interim we have secured a property in the Wainiha Valley for our long-term use as a campus and work area, complete with a six bedroom house and large open area. In the fall of 2002 we returned to develop the program further. In this workshop we constructed a 20'x30' structure on the Wainiha Valley property that used a combination of round and square timber, also following the Japanese style. This structure will be used as workshop in which to conduct future workshop projects.

While there is much wealth on the island of Kauai, the indigenous native population remain on the lower economic strata, relegated to low wage service industry jobs. It is extremely difficult for this population to even think about building a new home. This is hampered even more due to the high cost of building materials, of which, 99% are imported from the mainland or Japan. Our efforts on Kauai are geared toward developing a system to harvest and utilize local natural resources with which to build. The two projects to date exemplify the practicality of this approach. There is an abundance of timber resources that currently go to waste each year that can be transformed into valuable building materials.

### Waipa Garden Project 2003

Our next project on Kauai will take place in December of 2003. The project will be an emu pit roof structure at the Waipa Gardens in Hanalei. Emu pits are the traditional cooking pits

used by native Hawaiians for ceremonies and luau's. The Waipa Gardens are on the grounds of the last remaining land grant from the King (granted hundreds of years ago) in all the Hawaiian Islands. The 1,400 acre pie shaped parcel ranges from the mountain peaks to the sea. Today, the property is controlled by the Waipa Foundation (a non-profit cultural group dedicated to preserving and protecting traditional Hawaiian arts, culture, language and lifestyle). Waipa's long-term goals are to construct a cultural center on the property. The emu pit roof structure will be a demonstration project that will allow the board members first hand experience with our philosophy and approach to building. IPCBI has been asked to help in developing building design concepts for the cultural center under consideration. This is a unique opportunity to develop a new vernacular Hawaiian architecture that is in keeping with the King's original edict. The following is an excerpt from Waipa's Mission Statement.

*"The Waipa Foundation has an opportunity to restore the 1400+ acre ahupua`a of Waipa as a Native Hawaiian learning center and community center; as a place where Hawaiians can renew their ties to the `aina, the culture and a more traditional lifestyle; a place to build assets and opportunities for more culturally relevant teaching, sharing, learning and living; and to restore the health of the natural resources and the native ecosystems of the ahupua`a.*

*The vision of the Waipa Foundation is to restore the Waipa watershed as a Hawaiian community center and learning center. To create a sustainable, culturally and community-based model for land use and management, inspired in part by the traditional values of ahupua`a. In ancient times, ahupua`a were communities that originated in the interdependence between the land and the people. Such was a mutuality in which use of land, water and economic, social and cultural choices flourished in balance."*

### Funding

Funding for IPCBI projects have come primarily through tuitions paid by outside students. There is no cost to the community, however, they are responsible for supplying meals and housing for all outside participants. As the scope of our projects expand, the need for additional funding has become increasingly necessary. This has led to partnerships with foundations such as Running Strong, Onaway Trust and Plenty International.

We are currently seeking additional monetary, product and professional services for future projects. For information about how you can make a donation, please contact us.—Steve Chappell, Director



*The frame used round and square timbers harvest from the site.*



*The completed workshop frame project, Wainiha Valley.*

## ANAC Lakota Ceremonial Lodge Project Pine Ridge Reservation, SD

Plans are currently underway for the construction of an Ancient Native American Church (ANAC) Ceremonial Lodge on the Pine Ridge Reservation (the ANAC is independent of the Native American Church). The ANAC was chartered in the 1920's in Slim Butte as a way to protect their freedom to practice traditional Lakota religious beliefs under the U.S. Constitution. Today, their ancient ceremonies have been preserved.

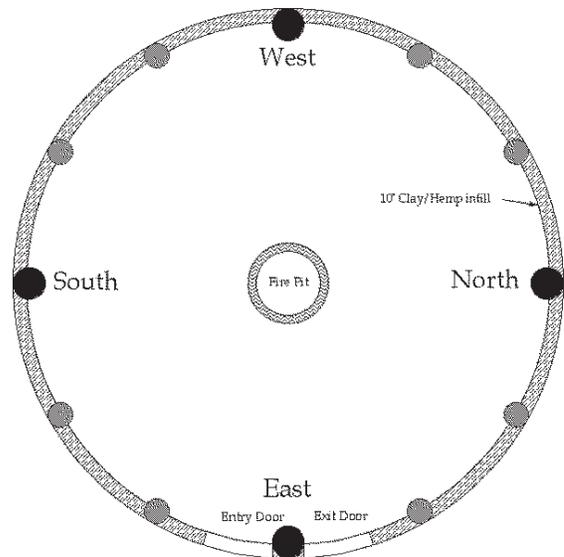
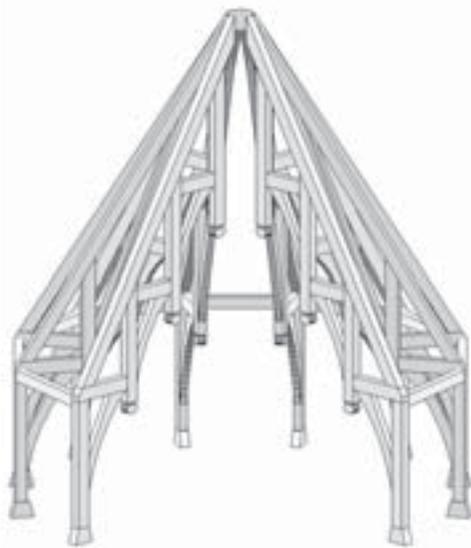
The Lodge will be a 34 foot diameter, 12 sided timber frame, enclosed with hemp/clay infill. It will be the first permanent ANAC prayer house on the reservation. Heretofore, ceremonies have been held in a tipi in summer month's, and relegated to government housing units in the winter. It's time for a permanent Lodge.

The timber frame will be cut with a core group of students from Pine Ridge who have taken part in our workshops on the reservation in fall 2000, and summer 2001. Three students have traveled on scholarship to work and

further study timber framing at our campus in Maine. The course project in the fall 2001 Advanced TF Workshop at FMSTB in Maine, was a mini version of the lodge (a 15 foot diameter octagon). This frame will be shipped back to the Rosebud Reservation as a gift to Diane Crow Dog.

The Lodge project is a major undertaking and will require over 3 month's work and a large community effort in conjunction with a formal workshop. We hope to begin the project in the Fall of 2002. Aside from the fact that the Lodge will become a highly visible architectural icon in the heart of Pine Ridge Village, it will also provide employment for many people, while at the same time increasing community self-esteem.

For more information about this project, or to find out how you can make product or monetary donations, please contact Fox Maple. Fund-raising is ongoing.



### ANAC Ceremonial Lodge

*The footprint of the Lodge is in the pattern of the Medicine Wheel. The dominant stones are to the North, South, West and East, signifying the four directions. The 8 intermediate stones represent nature and all living things in groups of four which are the foundation of Lakota belief: the four things above the world; the sun, the moon, the sky and the stars; the four divisions of time; the day, the night, the moon and the year, etc.*

*The twelve main posts are resting on rocks, Inyan, which represent the primal source of all things—all that springs forth from the earth. And also, the twelve moons that make up a year. Each quarter represents the four seasons.*

*The frame is made of wood which represents all that grows upon the earth. The wall infill is made of clay and hemp. Clay signifies the earth, Maka, and all that comes from it.*

*Hemp signifies abundance and the future of the Lakota People. Its blossom may well signify the fulfillment of the prophecy of the Seventh Fire, a time when a new Red Nation will emerge, a nation that would retrace its steps to find what it left by the trail, and flower once again.*

*From the Seventh Fire, there is the hope that an Eighth Fire would be kindled, an eternal fire of peace, love and brotherhood between the Indian People and the light-skinned people. The totality of the lodge, from the way it is constructed to the way it will be used, for many generations to come, represents the hope of the fulfillment of the Eighth Fire. It is Wakan Tanka. May this lodge be the spark that kindles this flame!*