Phase I & II Value Analysis Study

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The United States Department of Health and Human Services has been working closely with the Navajo Nation to provide education and health care to this large area of the Southwest. In providing state-of-the-art facilities, DHHS has recognized the strength of value analysis as a means to not only improve value and quality, but also as a means to reconcile the planning issues that may have conflicting design, community, agency, cultural and technical criteria.

John Pucetas wrote in the 1995 SAVE Proceedings about a study for the Pinon Community School. He discussed some of the special cultural symbols expressed in the design, and the need to consider them in the value analysis process. I will share here a study which I led for the new health care center in Pinon. Pinon is a town located in the heart of the Navajo Reservation in Arizona. This facility is a 5,000 sq. meter ambulatory health care center budgeted at approximately $10 million.

Our study was hosted by the design architect, Mike Coppedge, who introduced us to Navajo country during our day-long, 300-mile drive from Albuquerque. Along the way we stopped at a beautiful, similar facility, just completed by his firm, Weller Architects. This facility , called Chinle, served as a good base for both planning and cost-modeling throughout the study. The beauty and drama of this landscape took our breath away, and Mike delighted in showing us the back roads, canyons, and historical sites along the route. This trip also illustrated the challenge faced by a medical facility of this type in serving such an expansive area.

The VE kick-off meeting was conducted as a design presentation and discussion at the Pinon monthly Council meeting. The meeting was well-attended by a good cross-section of the community. These local community meetings are conducted in Navajo and translated to English, and are the heart of the Navajo nation system of self-government and justice. This discussion gave us an opportunity to list project criteria and concerns, which were then formally prioritized by the DHHS project manager, community representatives, and representatives from the service agencies such as the Chinle Indian Health Service, the National Indian Health Services Center, and the Navajo Indian Health Services. The following prioritized criteria were defined as the most important for making design decisions: program functionality, exterior image, interior image, community and cultural acceptance, DHHS acceptance, amount of program space, ease of maintenance, energy cost, first cost, staffing, and indoor comfort.

Cost-loaded function models were completed for the Pinon Facility, the comparative facility, and for a “worth model”. This modeling illustrated immediately

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some imbalance in the amount of space devoted to redundant mechanical and electrical systems, and a lack of space for some special local needs that were not adequately covered by the DHHS Standards developed for a wider population. The value analysis team medical planner reviewed demographic and mortality trends for this population, and noted an increased need for services such as physical therapy, home infusion cancer treatment, and community health education. Additional area was also desired for alternative Indian cultural health treatment modalities.

Tough issues, such as the desire for more after-hours emergency services, became clear from the cost-versus-importance functional models. The project is not funded for this level of after-hours services, indicating the need for a life-cycle cost review of issues such as transportation costs to the larger regional centers. Acknowledging the difficulty in changing DHHS criteria, the VA team offered a prioritized list of more subtle arrangement and size trade-offs that may be negotiated as the project goes through further program revisions. This was the first phase in a two-phase value analysis study, so the focus was on program and site issues. The cultural importance of the east entrance had been addressed well in the concept design, but at a high price in site development costs. The study produced several lower-cost alternatives that still acknowledged the culturally-significant solar orientation of the building entries.

Roof forms and materials in the schematic design were also significant to local and Navajo cultural traditions. The value analysis team here respected the outstanding design response to the “why” side of the function diagram, and accordingly focused on the “how” issues: namely the intersection details and constructability of the non-traditional roofing systems.

Finally, other major proposals focused on the type of construction for the facilities with an emphasis on maximizing the use of local trades and materials. The Phase II study will focus on specifications, and constructability issues.

In conclusion, if you are in the Southwest, it is well worth your time to visit the communities in the Navajo nation. You will be welcomed beyond your expectations by warm communities eager to show you their strong traditions, but also their state-of-the-art facilities and services, such as the Pinon School and Medical Center. Here you will also witness the strength and the extent of value analysis applications. Finally, you will see some outstanding examples of architectural design developed jointly by native and non-native design professionals and by both Federal and Indian-Nation agencies.