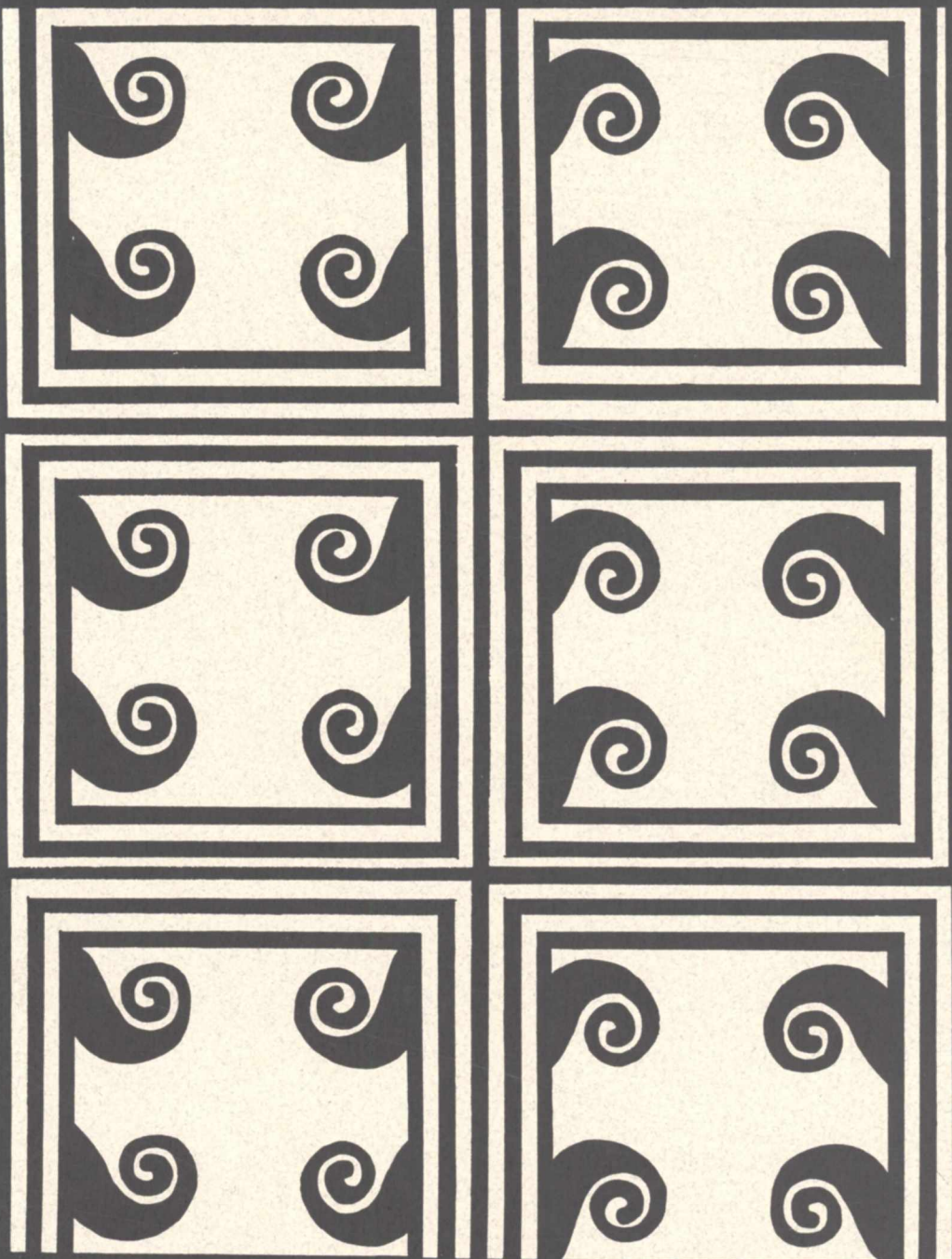
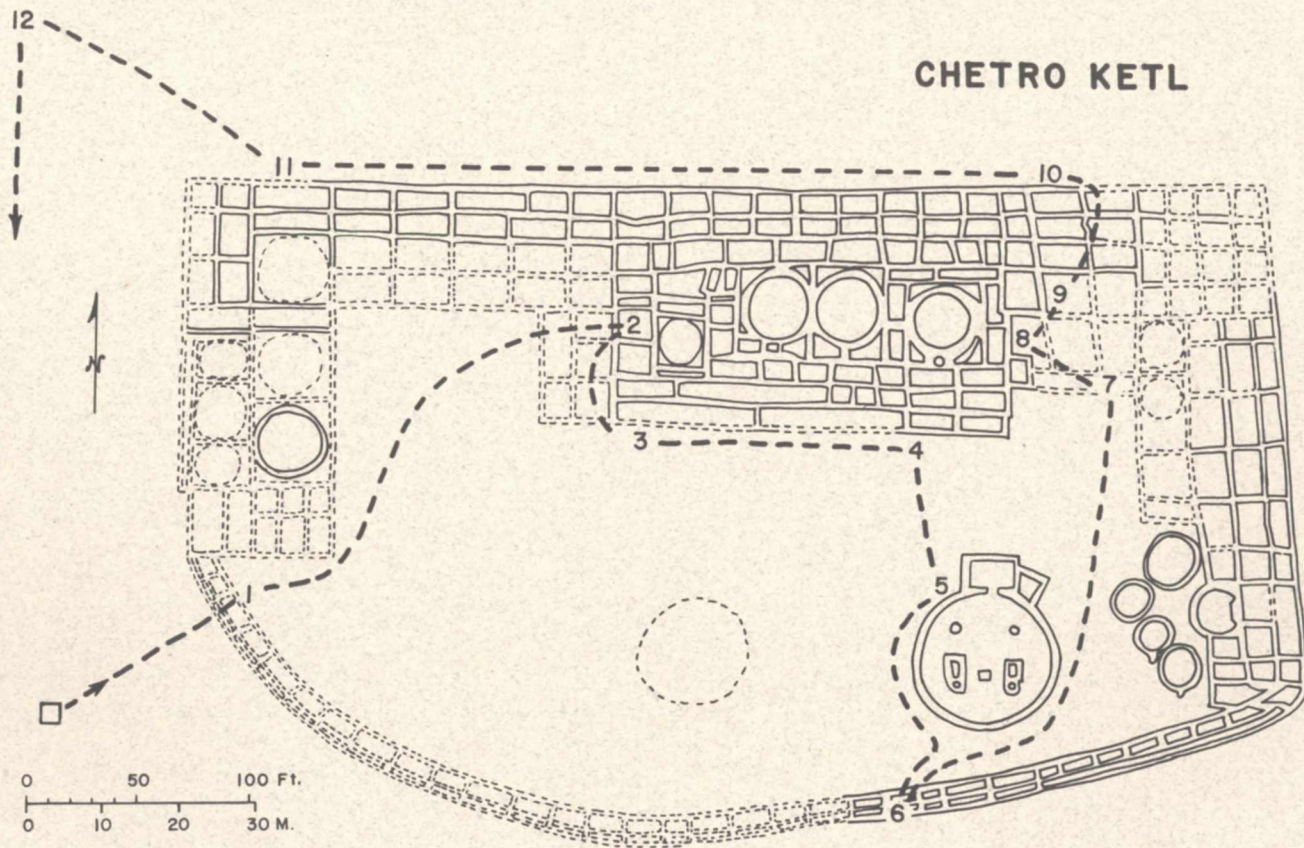


Chetro Ketl



CHETRO KETL



Welcome to Chetro Ketl

To use this trail guide, follow the numbered stops along the trail which correspond to the numbered items in the text. While exploring Chetro Ketl, this guide will help you recognize several characteristics of the prehistoric architecture that is found here.

The trail through Chetro Ketl is 0.6 mile long. This is a gravel trail with some short steep portions. Assistance is recommended for those in wheelchairs.

The archeological resources in Chaco Culture National Historical Park are fragile, irreplaceable, and a significant part of our cultural heritage. The park received international recognition for the cultural resources it contains when it was designated a World Heritage Site in 1987. You can help us protect and preserve this part of our global cultural heritage by following these basic rules. Stay on the designated trails. Do not walk, climb, stand, sit, or lean on the walls. Do not deface, add to, or alter the rock carvings and paintings. Do not collect pottery or other artifacts anywhere in the park. If we all take responsibility for these resources, they will be here for the education and enjoyment of future generations.

For your safety, do not climb canyon walls, or onto the mesas except where designated by a trail. Children should remain with the guardian responsible for their safety.

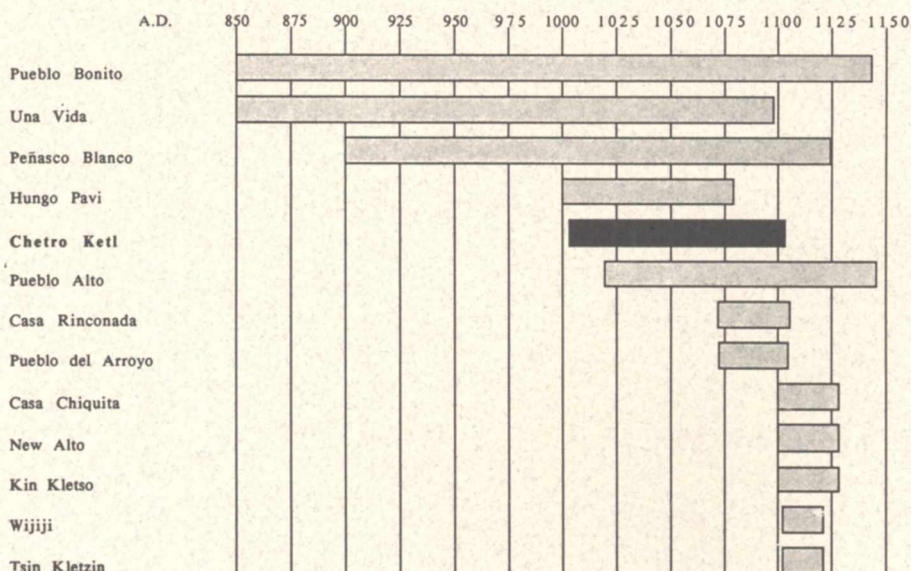
Pets are **not** allowed in the ruins.

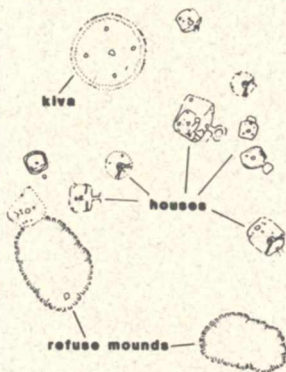
The origin and meaning of the name Chetro Ketl are not known. There are at least two Navajo names for this ruin, *tsebida't'ini'ani*, “covered hole,” referring to the sealed concavities that were found in the cliff behind the pueblo; and *nastl'a kin*, “house in the corner”, referring to the location of the ruin near a small rincon (box canyon). William Henry Jackson, a photographer and explorer who came through Chaco in 1877, translated Chetro Ketl as “Rain Pueblo,” but he did not identify his source.

Chaco Canyon is known for its large-scale, multi-storied masonry buildings that were planned and constructed over a thousand years ago by people archeologists refer to as “Ana-

sazi.” However, these “great houses” were not the first structures to be built at Chaco Canyon. Long before Chetro Ketl was begun, hunters and gatherers lived in the canyon area. They used temporary campsites as they moved to seasonal food source areas. With the exception of stone tools, the bones of game animals, and heat-cracked rock from their fires, very little remains at these Paleo-Indian and Archaic sites.

By 1000 B.C., these people were cultivating varieties of beans, corn, and squash which were used along with wild plant foods. This transition brought an increase in the size of the population as people adopted these more dependable food sources. A growing population and in-



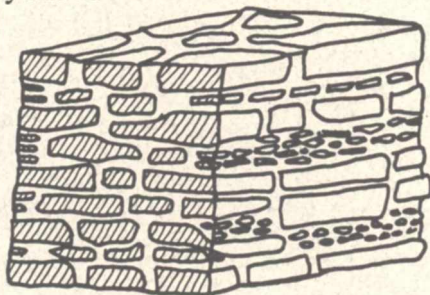


Pit house village

creased agricultural production led to a more sedentary way of life in small villages. People lived in circular subterranean pit houses with above ground storage rooms, often clustered in small villages. They continued to live in this way for several centuries, but by A.D. 700 another transition occurred.

Pit house villages were replaced with small masonry pueblos built on the ground surface, and circular subterranean chambers (called *kivas*) evolved in place of pit houses. These same basic developments were occurring throughout the Four Corners region of the Colorado Plateau, including Chaco Canyon. However, beginning around the middle of the ninth century and continuing through the eleventh, developments took place in Chaco that set it apart from other areas.

The Chaco region was unique because the structures being built were immense, some covering up to three acres. Room-blocks were more extensive and multi-storied. A distinctive core-and-veneer masonry was developed that added to the immensity and stability of the structures, and roadways, stairways, and ramps were connecting sites together within the canyon and beyond it.



Core-and-veneer

The public or communal structures that were built in Chaco from about A.D. 850 through 1100 are referred to as great houses. They are easily identified from other prehistoric architecture by the excellent masonry, massive scale, pre-planned design, and geometry they exhibit. Chetro Keti is a Chacoan great house, and as with most of the other great houses in the canyon, original construction was modest. Beginning with a single-story roomblock around A.D. 1010, it became a monumental struc-

ture that covered almost three acres by the early 1100s.

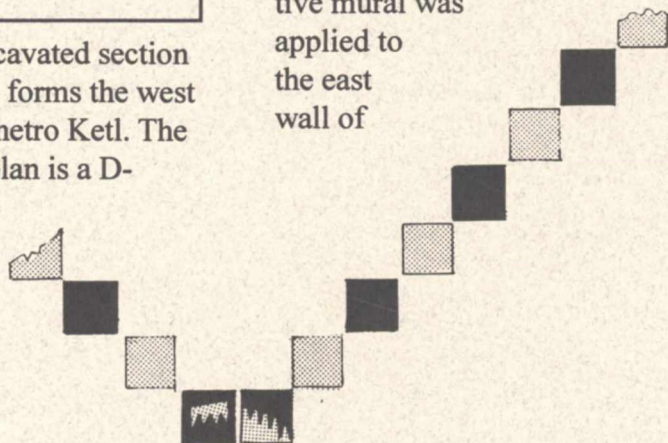
Before reaching the first stop, the trail goes through an unexcavated portion of the ruin and crosses a side trail leading to a kiva. The masonry walls of this kiva have a deep red cast to them because they were burnt. The fire which discolored them took place before Chetro Ketl fell into disuse. Along the top portion of these walls, a protective capping of modern masonry is evident by the lighter colored stones. Because the prehistoric masonry is extremely fragile, a course of capping stones has been added to all of the exposed walls in the canyon ruins.

Please return to the
main trail.

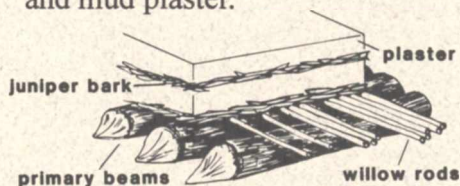
1 This unexcavated section of the ruin forms the west wing of Chetro Ketl. The overall ground plan is a D-

shape, with the front wall of the plaza forming the arc of the D. There are between 200 and 225 ground floor rooms, and an estimated 500 rooms total for all stories. The site covers almost three acres, with nearly half of that area taken up by the enclosed plaza. The plaza of Chetro Ketl is unique in that it was intentionally elevated above its natural level by the original builders. Notice the height of the plaza over the level of the nearby canyon floor.

2 Behind the glass-fronted door is a two-story room which was built around A.D. 1030. This is the upper story section of a multi-storied room-block that contains both original plaster and floor or roofing elements. A decorative mural was applied to the east wall of



this room consisting of geometric designs in shades of blue and green. In cross-section, the construction details of the floor consist of the following; primary beams (called *vigas* in Spanish), willow rods laid perpendicularly on top of these, followed by sequential layers of juniper bark and mud plaster.



Roof construction

The exposed logs you see in the unprotected room are the *vigas* used in roof and floor construction. In the construction and maintenance of Chetro Ketl, an estimated 26,000 trees from forests dozens of miles away were used. Before being used, they were carefully trimmed and peeled, and the ends were cut flush and sanded with stone tools. Several thousand of the *vigas* used in great house construction have been dated by the science of tree-ring dating (dendrochronology).

Before leaving this area, look down into the room behind the protective rails. This perspective illustrates the height to which the plaza was elevated. You are standing in one of the oldest sec-

tions of the ruin. Construction on Chetro Ketl began around A.D. 1010 and continued through the early 1100s. During this hundred-year period, there were over 15 stages of construction.

Please return
to the main trail
in the plaza.

3 Some archeologists suggested that influences from Mexico were primarily responsible for the architectural developments in Chaco. Supporting evidence for this theory include what remains of the Chetro Ketl colonnade before you. The colonnade was originally built as a row of square masonry pillars that formed the plaza-facing wall of a long narrow room. When the original builders renovated this room, the spaces between the columns were filled and the long narrow room was divided into several smaller rooms. Although original construction of the colonnade cannot be dated with precision, the relationship of architectural elements suggests it may be as late as 1100.

The late construction date for the colonnade is at least 50 years after the main portion of Chetro Ketl was designed and built. If

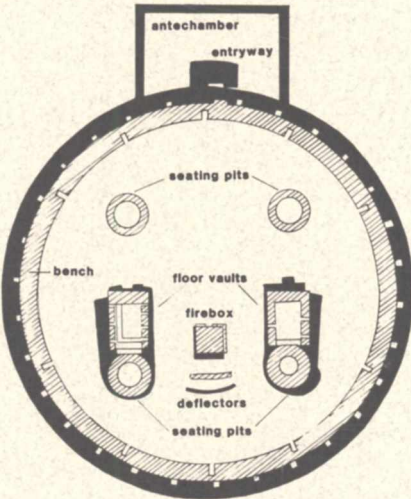
the colonnade itself was inspired through contact with Mexico, it was long after the original design and construction of this great house had been completed.

4 This cross section of broken wall demonstrates how walls are constructed.

Chacoan walls are commonly referred to as core-and-veneer. The core consists of roughly-shaped stones or rubble laid flat in mud mortar. The core was faced with carefully selected shaped stones to make a veneer on both sides of the wall. Although veneer is used to describe these facing stones, they were more than decorative overlays. The facing stones (veneer) were important structural elements of the wall. In other cross sections, you will see the lower story wall is wider than those in the upper stories. Very wide walls in the first story created a strong and stable base

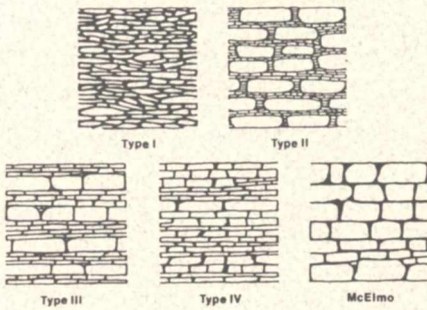
on which to build. The decrease in wall width in each additional story lightened the load of the upper stories on the massive base. Decreasing wall widths also demonstrated that the second and third stories were planned before the first story was built.

5 This very large, round, subterranean room is a great kiva and is a classic element of great house construction. It was built on an earlier



Great Kiva

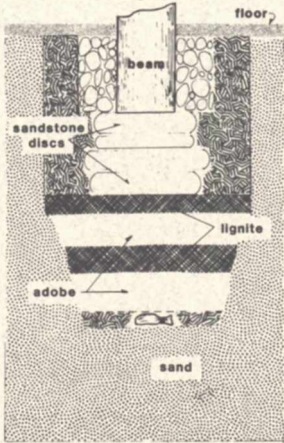
structure of the same form that is revealed in the cut-away section of the floor. Great kivas contain a set of highly formalized features: an entryway and antechamber on the plaza level, a low masonry bench encircling the base of the room, a raised masonry fire box and deflector,



Wall facings

four seating pits (for roof supports), and raised floor vaults between the seating pits.

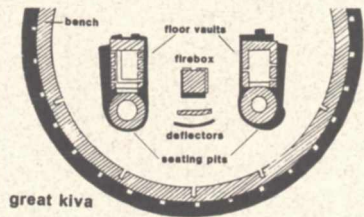
Located in the four quadrants of the circle, the seating pits are the circular well-like depressions that you see in the kiva floor. These pits were elaborately constructed and formed the foundation for the large upright roof beams. When the pit in the



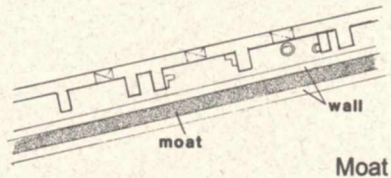
Seating pit

northeast corner was excavated, four sandstone discs were found layered beneath the floor, and were separated from one another by layers of adobe. Beneath the fourth disc, two alternating layers of lignite and adobe were found. Beneath the layers of adobe and lignite, in the center of the circle, a suede leather bag containing powdered turquoise was found.

6 The plaza of Chetro Ketl was enclosed by two closely spaced parallel walls that early excavators referred to as a “moat.” Although the moat never held water, a more appropriate term has not been found for this structure. The two parallel walls were finished on all four faces and a well-plastered floor was laid between them. The plastered floor and a wall vent suggest the structure was roofed. No evidence of cross walls were found in the section that was excavated. When it was first constructed, the walls were probably free-standing. However, as the plaza filled with soil and rubble from construction, the structure became a retaining wall.



great kiva



Moat

7 You have just passed several excavated plaza kivas. The double-kiva, in the shape of a figure eight, is actual-

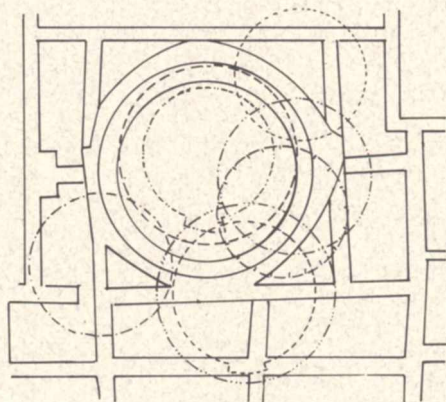
ly two kivas representing different construction periods. In the process of building the more recent kiva, the one closest to the trail, the western third of the earlier kiva was destroyed.

Nearly half of the precipitation in Chaco occurs in the summer months and comes in the form of intense and sudden showers. These heavy summer rains produce a flash runoff of water from the slick rock areas of the canyon walls. The runoff is particularly abundant in the small side canyons along the north side of the canyon. The Chacoans took advantage of these brief floods by capturing the runoff in a system of stone-lined irrigation ditches that channeled it to their fields on the canyon floor. Evidence of irrigation ditches has been found in the small rincón behind Chetro Ketl, the one in front of you, and in the canyon floor east of its plaza.

8 The curved wall below you is the outer wall of a kiva. In this area, a series of kivas were built, razed, remodelled, and replaced during the long construction history of Chetro Ketl. Referred to by archaeologists as the “Kiva G Complex,” the remodelling of

the round and rectangular rooms in this section of the structure created an architectural maze of curved and straight walls. This maze provides an excellent illustration of reuse and renovation of a site through time.

Some of the rooms that were created served no apparent function; while others provided a form of structural buttressing.



Kiva G complex

9 In this section of the roomblock, you can see an example of an elevated kiva. Built into an above-ground rectangular room, it gives the appearance of being multi-storied. Elevated kivas are single-story structures. There are also multi-storied kivas which are referred to as tower kivas.

The numerous stones projecting from the exterior wall of this kiva may have been used as

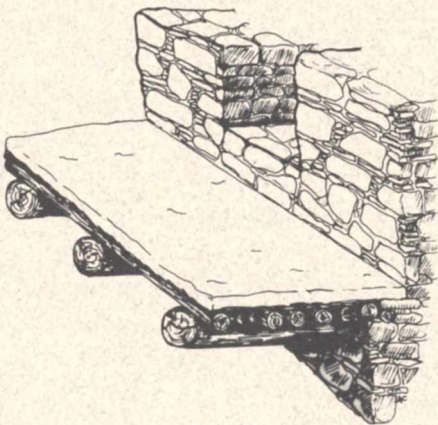
steps or scaffolding during construction. Another suggested use is they tied the kiva wall into the fill (building debris, trash, and soil) that could have been placed between the exterior wall of this kiva and the interior walls of the enclosing rectangular room. When these triangular spaces were filled, they provided support to the circular wall of the kiva.

10 Early accounts of Chetro Ketl mention balconies along the second and third story of the back wall. Although the third story sections of the wall have collapsed, evidence of the lower floor balcony can still be seen. Looking up along the second story floor level, there is a narrow ledge or groove extending along the length of the wall. This groove seated the closing material (up-

per layer) of the balcony floor. Beneath the groove are sockets from which the primary beams (vigas) would have extended. Above the groove are doorways that would have led out to the balcony. According to historical chronicles, portions of the balconies were still intact in 1901. Within two decades, they were gone because the wood from which they were built had been scavenged for campfires and other purposes.

As you walk along the long back wall of Chetro Ketl and look over at the canyon wall, you will see distinct circular depressions of various sizes carved into it. These were beam supports for the roofs and floors of the smaller structures that were built here. The canyon served as a back wall for numerous structures and along with Chetro Ketl, these structures would have created an architectural complex.

11 Looking at the long and elegant back wall of Chetro Ketl, we can well imagine how it may have looked when it was occupied. The archaeological record and historical chronicles provide us with a great deal of information about the architecture. We know the back wall was at least three stories high,



Balcony

with balconies extending from the upper stories; we know there were multi-storied structures along the canyon wall that would have extended towards Chetro Ketl creating a small architectural complex behind it; we know the plaza was artificially elevated and enclosed by a moat; and we know there was a small pouch of turquoise placed far beneath the floor of the northeast seating pit in the great kiva. We even know that it took an estimated 50 million pieces of sandstone to build this great house.

We know a great deal about the architecture in Chaco but there is much more that we don't know, and may never know, because the archeological record and historical accounts cannot furnish that knowledge. The celebrations, rituals and ceremonies, and socio-political make-up of this ancient culture cannot be determined by gathering data. This knowledge lies with the ancient people of the canyon, and will always be a magnificent mystery to us, luring us back to the canyon time and again.

12 This is the Talus Unit, named after its location at the foot of the talus slope at the base of the canyon wall. The site consists of two distinct

room blocks. The western block contained 30 to 35 ground floor rooms. It was multi-storied, and the plaza includes a large kiva. The later eastern block included eight ground-floor rooms and two kivas. The east and west blocks were joined by two rooms.

The two rooms before you were really one large room divided by an unusual low partition or stairway. Additional research has demonstrated that this room was a stepped platform associated with the prehistoric road system.

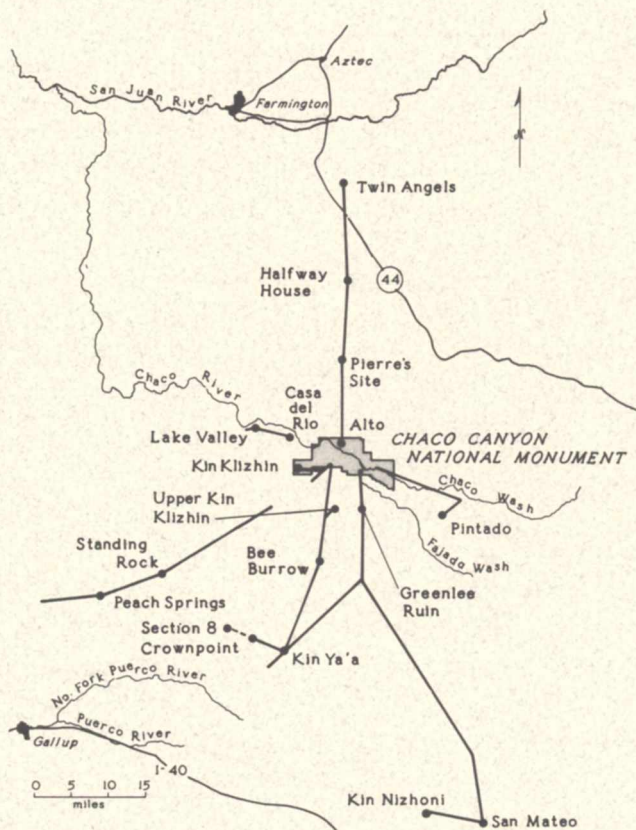
The platform was actually a landing for the base of a ladder or stairs (probably of wood) rising up to the base of a stairway pecked in the canyon wall. If you look very carefully in the crevice behind the structure and along the upper portion of the canyon cliff, you can see the depressions of the stairs carved into the sandstone. You will also see several small, circular depressions to the sides of these stairs. These holes provided the climbers with hand holds and were part of the elaborate stairway that connected the Talus Unit to the road above leading to Pueblo Alto, about 0.75 mile away on the mesa.

The prehistoric road network

radiating out from the great houses in Chaco Canyon extends for miles throughout the San Juan Basin. These roads were carefully engineered. The roadbeds are often below ground surface, particularly in areas of uneven topography. Although the width of the roads can vary, they can be as wide as 30 feet.

The roads are sometimes flanked by mounds of dirt called berms,

or by low masonry walls. What we know about the roads is similar to what we know about the architecture, quantifiable and measurable facts. Combining what is known about the architecture and the roads has led some archeologists to conclude that Chaco Canyon was the ceremonial center and hub of a vast regional network. Looking at the imposing architecture that remains, it is easy to believe that it was.



Chacoan road system

Read More About It!

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