

# THE PERRY LITHGOW PARTNERSHIP

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15th July 1985

## ROCHESTER CATHEDRAL

### WALLPAINTINGS IN THE CRYPT

Work on the paintings which are situated on the north side of the crypt was started on 22nd October 1984.

This area of painting was selected as the first phase of conservation to prevent any further loss of colour.

On close inspection it was agreed by all concerned that the painting and its plaster support was in an imminent state of collapse and had reached a stage of deterioration which was almost beyond redemption in certain areas.

It was obvious that the initial work would have to be carried out without delay.

Having decided that transferring the painting to a fresh support was the only viable course of action, cleaning tests which would normally be the first stage of work, had to be foregone; the relevant and suitable areas for these tests proved too friable to touch.

We originally intended to treat one segment of the vault and take it through to a conclusion, but decided that the many processes and time factor involved to achieve this would have put the other segments in jeopardy. It was therefore considered safer to protectively 'face up' the whole vault and arch soffits as the first stage in the detachment process.

This was carried out by attaching rectangles of silk and tissue paper approximately 35cm x 24cm to the surface with a viscous water soluble glue in three layers, taking four weeks to complete. During this delicate operation, it was necessary to secure several sections with presses between each layer until the glue had dried to ensure that the plaster would not collapse even under the minimal weight of silk, tissue and glue. 250m of silk and an equivalent amount of fine tissue paper was used during the above process.

After each layer was applied, predetermined lines were drawn on the surface indicating precisely where hairline cuts would be made to facilitate the removal and subsequent re-attachment of the painting. Across these lines and onto the stonework of the ribs, further key mark lines were drawn to ensure that the painting was replaced precisely in its original position.

When the first section of painting was removed, it became immediately apparent that the mortar of the vault had deteriorated to the extent that it could no longer support the painted layer which consisted of a skim coat of almost pure lime. This mortar was therefore removed, in some areas, to a depth of 14cm, well into the rubble structure of the vault, till a firm basis was achieved. Some dressed and worked stones were found at this time revealing the rubble construction of the vault, but the most interesting discoveries were made in the soffit of the south arch on the west side.

Here two areas of painted plaster in fresco were uncovered. Subsequent investigation revealed that this plaster was on stones re-used in the vault filling buried deep in the arch. When these stones were eventually excavated it was found that the larger one had painted plaster on two sides shewing both decorative and figurative work.

The technique and style of this painting must date it no later than the 12th century; the decorative motif is almost identical to that on the arch over the painting of St. Lawrence at Berzella-Ville circa late 11th century to early 12th century, and is the earliest known painting in the cathedral.

To once again achieve a firm support for the painting the vault sections and the arch soffits were re-plastered. Firstly the uncovered rubble area was brought to a level with a coarse, washed sand and lime mortar with added high temperature insulation granules (H.T.I.) Further layers of this mixture were then applied allowing time between each application for hardening to occur and finally a graded aggregate mortar was applied to provide a suitably toothed surface for the re-attachment of the painting.

It was deemed necessary at this point to allow this large amount of fresh mortar, 2 cubic metres in all, to settle down and thoroughly dry before the next stage, for approximately 3 months.

During this time, the 96 sections of removed painting were transported to our studios in Chipping Norton. Here the painstaking and time absorbing work of removing all degenerated and extrinsic material from the reverse side of the painting was begun. Although the paint was applied to a lime ground on a skim of lime base we found that the thicker lime had also deteriorated through the action of salts and most of this had to be removed as well as the coarser mortar of the vault. This became a two-fold process with the final layer being pared down to paint level with scalpels. Finally, lacunae were treated with a lime ground to prevent the seepage of glue into the mortar during a later process.

Returning to the cathedral in February 1985, we were pleased to find that the mortar had dried exceptionally well with no evidence even of hairline cracking, and preparations were made for the replacement of the paintings. One of these was the meticulous washing and grading of an extremely fine sand found locally at Snodland which falls easily through a 60 sieve. This sand, mixed with equally finely sieved lime in a 1 x 1 ratio, forms the adhesive mortar with which the painting is re-attached, and much attention was paid to its colour and texture. The smoothness of this mortar is essential in creating adhesion when pressed to the rougher supporting plaster.

Each section of painting is carefully prepared and adhesive tapes which protrude beyond the edge are applied to the faced-up side for ease of handling. With the aid of a cardboard template, cut slightly smaller than the section, the painting is offered up to the vault when the previously drawn key lines are aligned and others transferred to the plaster. The painting is then softened to a precise degree and a thin layer of limewash is applied. When this has lost its superficial moisture, the adhesive mortar is laid on with a trowel approximately 3mm thick, transferred to the vault, pressed and thoroughly rolled, creating a firm bond and dispelling extraneous moisture.

The silk, tissue and water soluble glue are removed, after 1 day, with steam.

Timing and speed are critical factors in these operations.

Having replaced all the sections in this manner, many tests were made to evolve a mortar which would harmonize texturally and tonally with the painting, for superficial repairs.

During this time, which spanned a period of 12 weeks, it was considered possible to begin cleaning tests as sections of the painting were now firmly re-affixed. To appreciate this problem it is perhaps necessary to consider a little of the recent history of the painting.

Prior to Professor Tristram's recording and remedial work in 19 , considerable physical damage had occurred to the painting as can be ascertained by the sketchiness of parts of his drawings. It appears that the painting was deliberately defaced, probably in the Reformation when the many scratches and scrapes may have been inflicted, and it is possible that loose areas of plaster fell at this time. However, although it was customary to obliterate paintings with coats of limewash in this period, for some reason this was not done.

A much later cause of damage was the use of the crypt as a coal store; sooty accretions are evident on the painting, especially on the eastern side. Analysis through X-ray diffraction by Susan Bradley at the British Museum confirms this and also identifies the presence of gypsum  $C_aSO_4 \cdot 2H_2O$ , as being part of the superficial layer. This may have been caused in some part, by the propinquity of a gypsum producing factory.

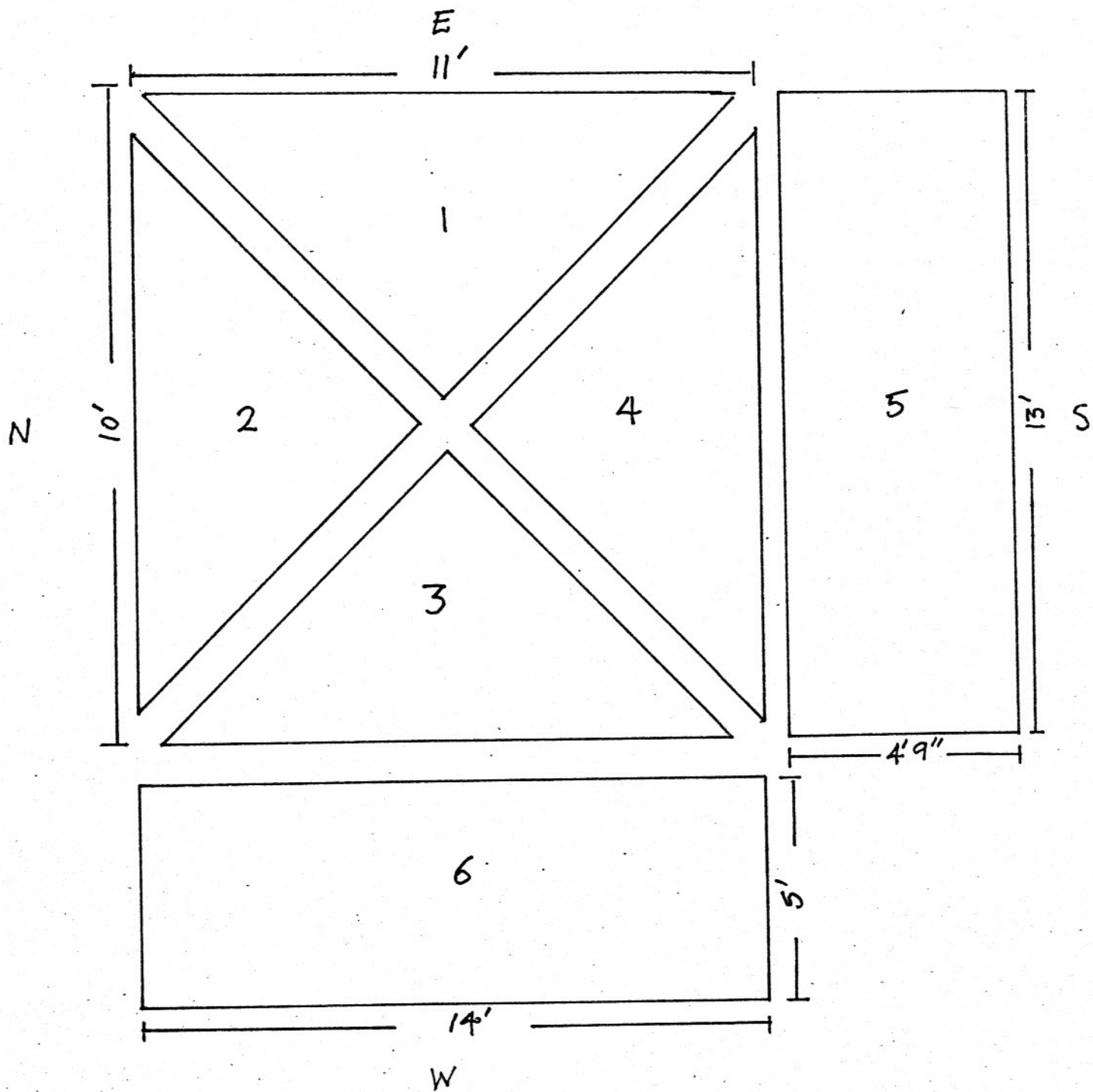
The primary cause for concern however, is the entrapment of these particles by a crystalline layer which has gradually built up on the surface through the years. Caused by the percolation of lime crystals and soluble salts through atmospheric conditions, this layer resists, to a large extent, removal by chemical means.

Further analysis is presently being undertaken by Joyce Pleisters of the National Gallery and the final cleaning of the painting has been postponed till these tests have been completed.

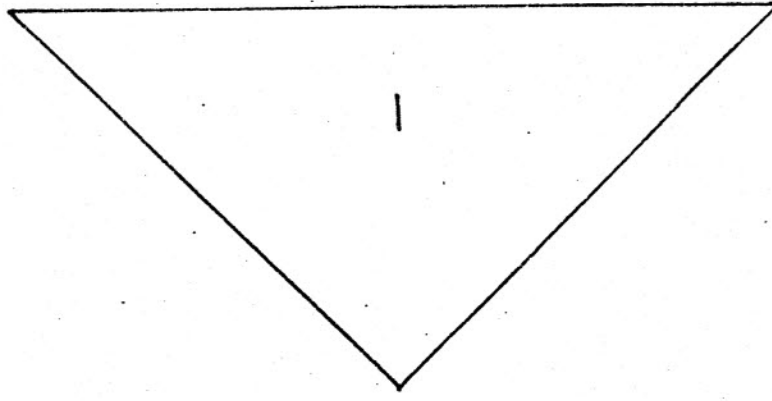
After centuries of neglect, we feel that having fixed and stabilized the painting so that no further physical damage can occur, all possible means of successfully cleaning this important example of 14th century English wallpainting, should be thoroughly explored to achieve the best possible results. The conservation of all the remaining painting in the crypt will be dependent on finding a successful solution to this problem.

D. A. Perry  
July 1985

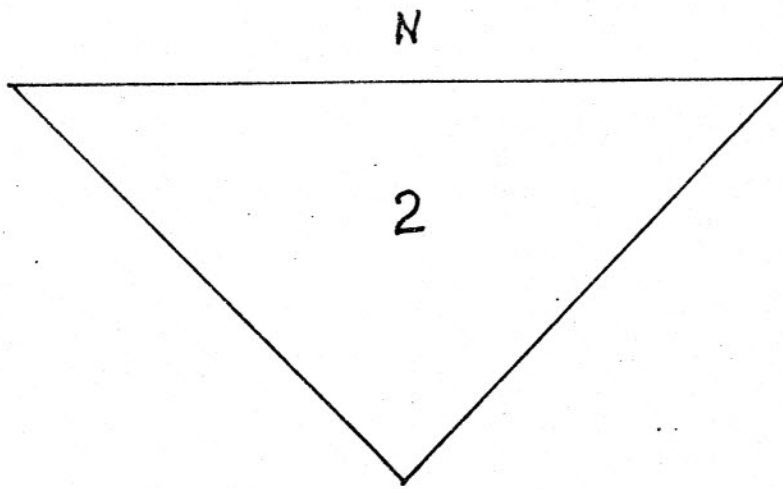
Sectional diagram of the vaulted bay bearing the painting of the Life of St. Paulinus on the north side of the Crypt with approximate measurements.



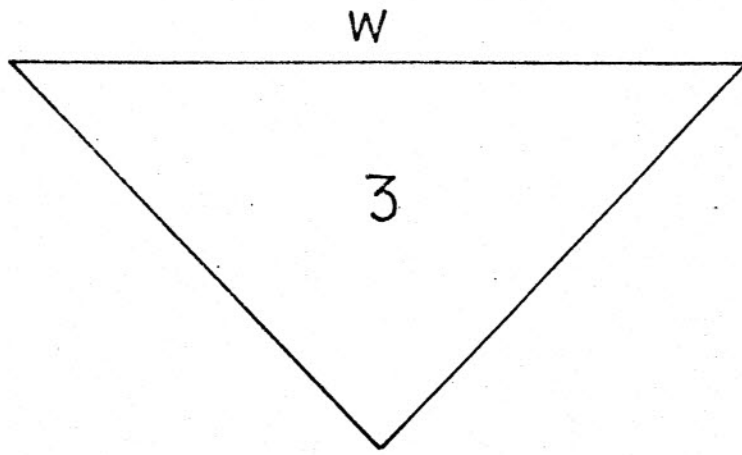
13



Within this section, centrally placed, is a large cement repair approximately 2'3" x 1'6". Below this and to the south an area of original plaster approximately half the above size is completely missing to a depth of 1½". Other areas, especially around the cement repair and the lower conjunction of the ribs on the north side, have lost their painted plaster. Evidence of recent falls can also be detected on this side.

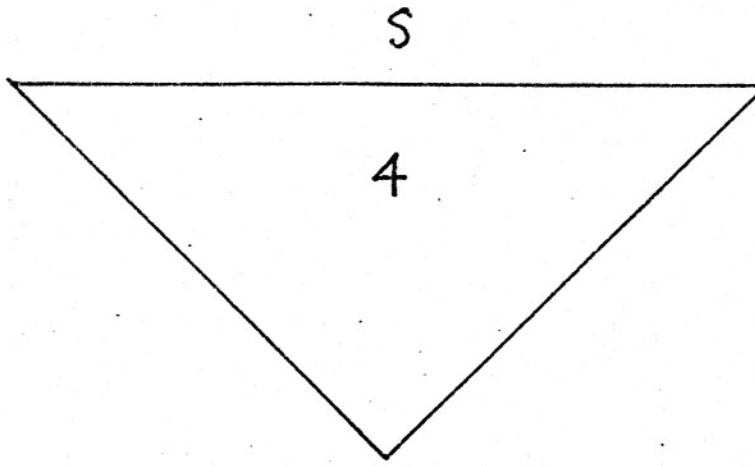


The west side of this section retains 70% of its original paint, but the east side only 5%. At the apex of the vault is a linear crack which appears to be structural and two deep holes where the intonaco plaster is missing. Here to evidence of recent deterioration can be seen on the west side.

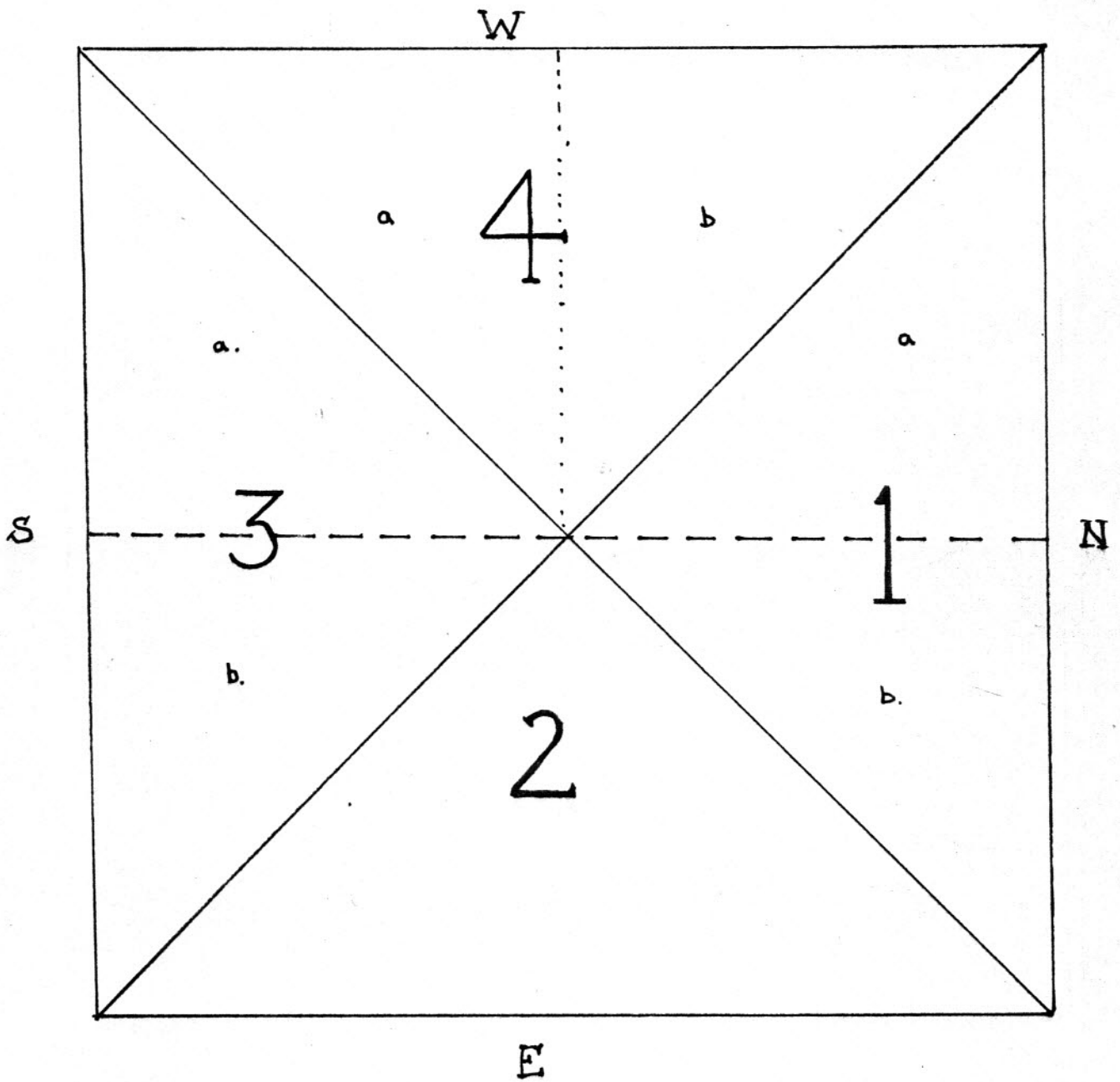


Although a large area at the apex of this vault has lost its paint surface, the sinopia for the roundel can be seen superimposed on the masonry pattern. This effect can also be seen on the lower south side which bears the shield. Lacuna of various depths exist on the upper area and yet more recent deterioration is evident.

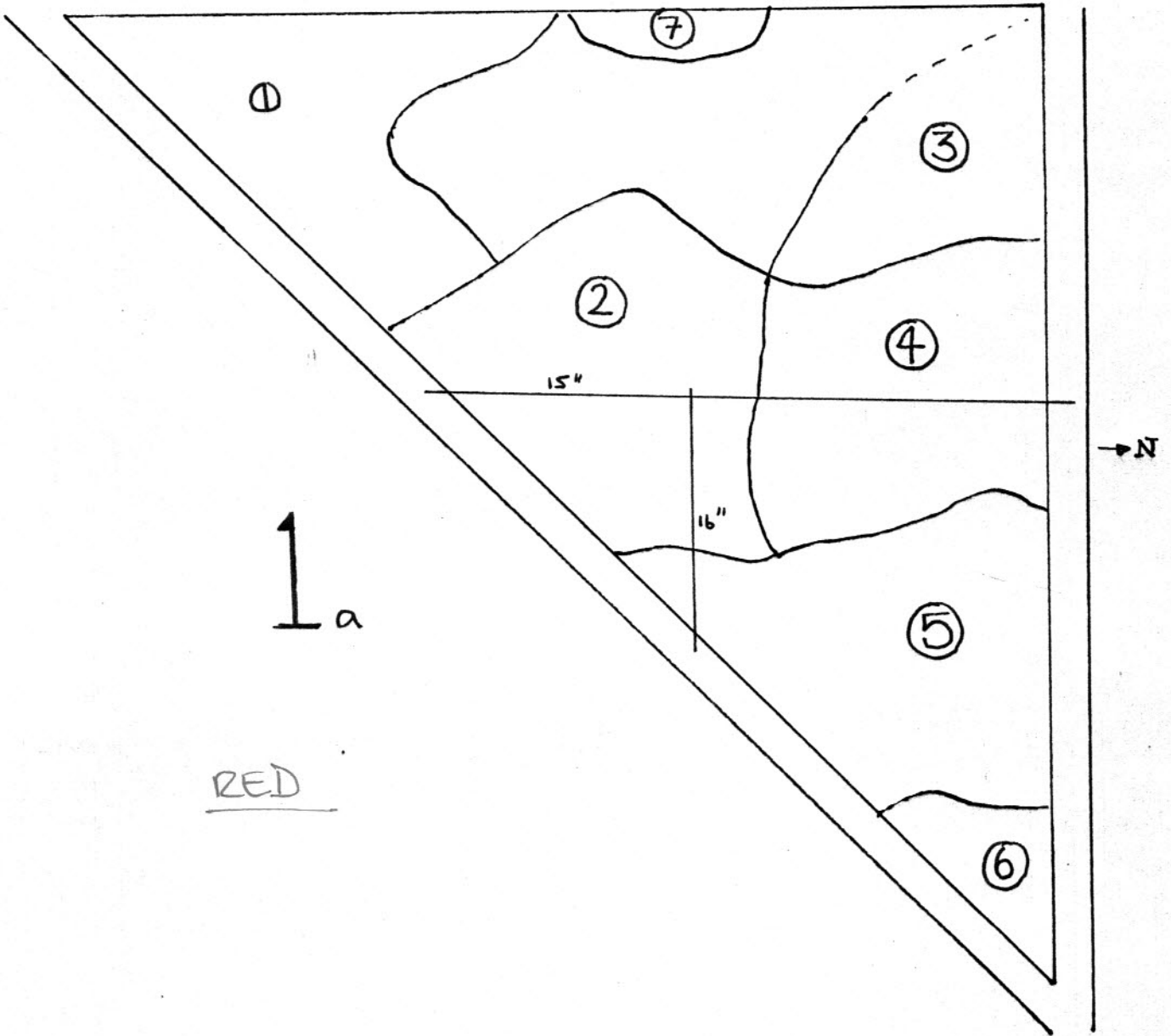


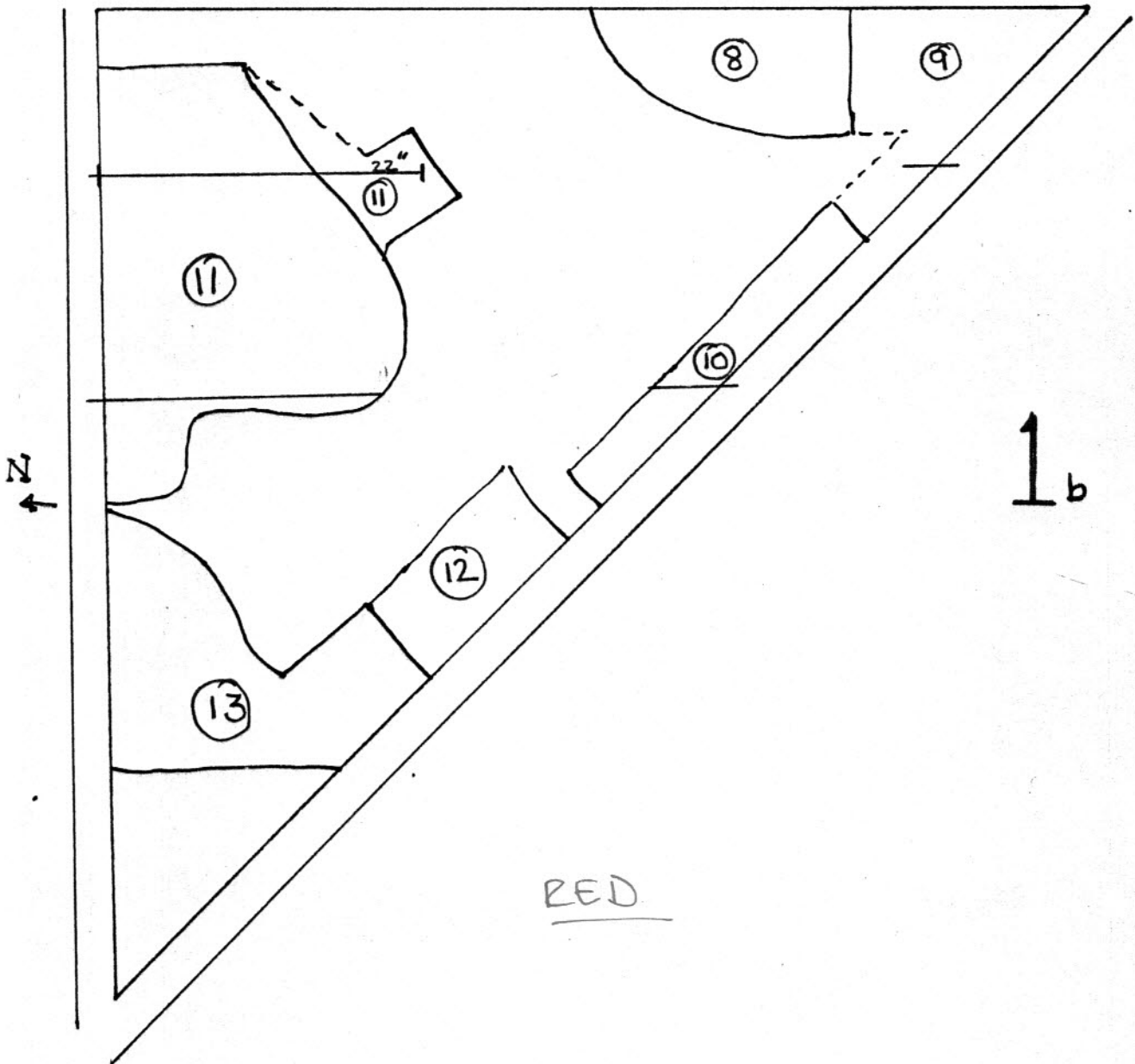


This segment has suffered much damage with 70% of the intonaco plaster lost on the east side and considerable paint loss on the west side. The plaster at the apex has exfoliated in a highly dangerous manner and must be considered to be in immediate peril.



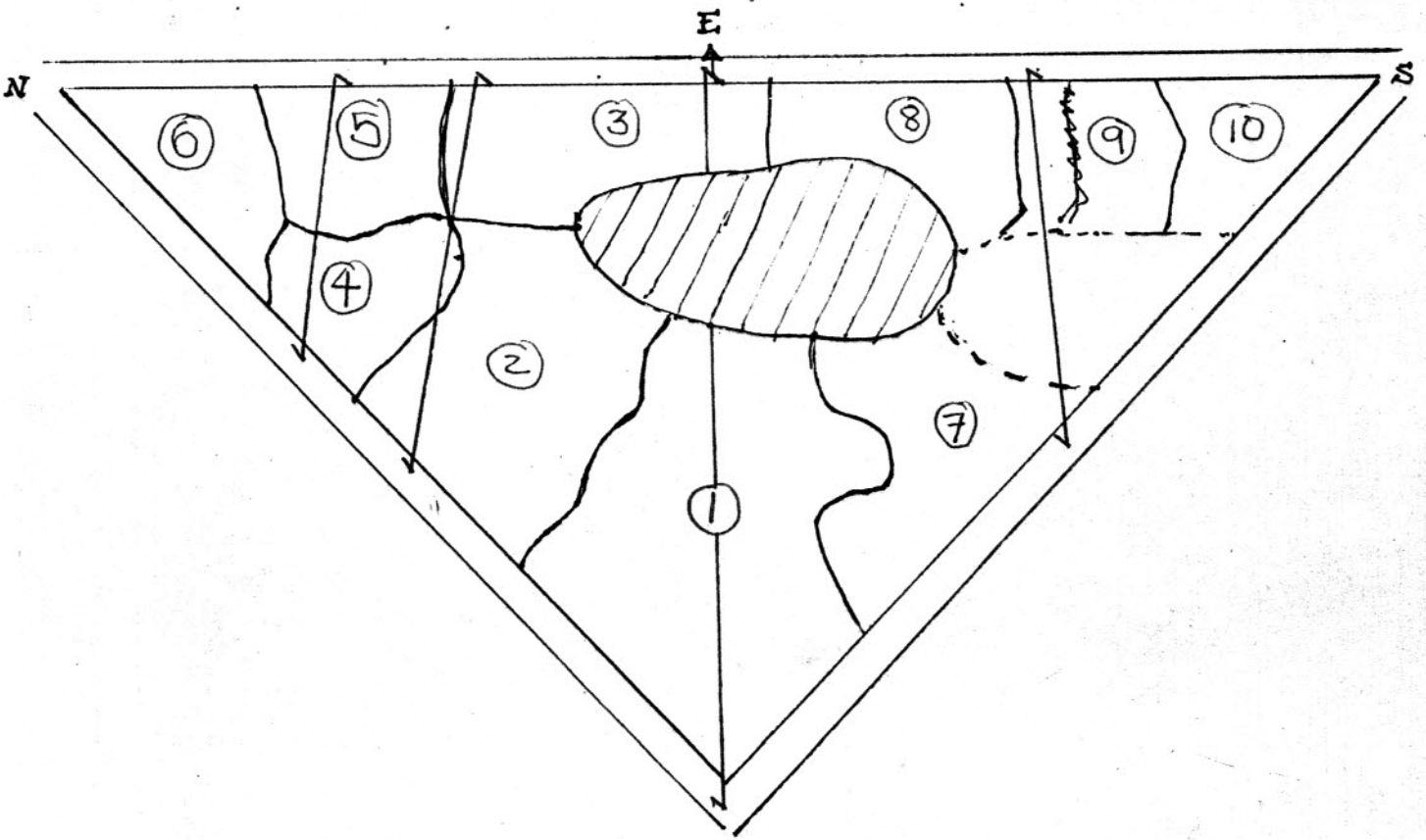
~~2a.~~





RED

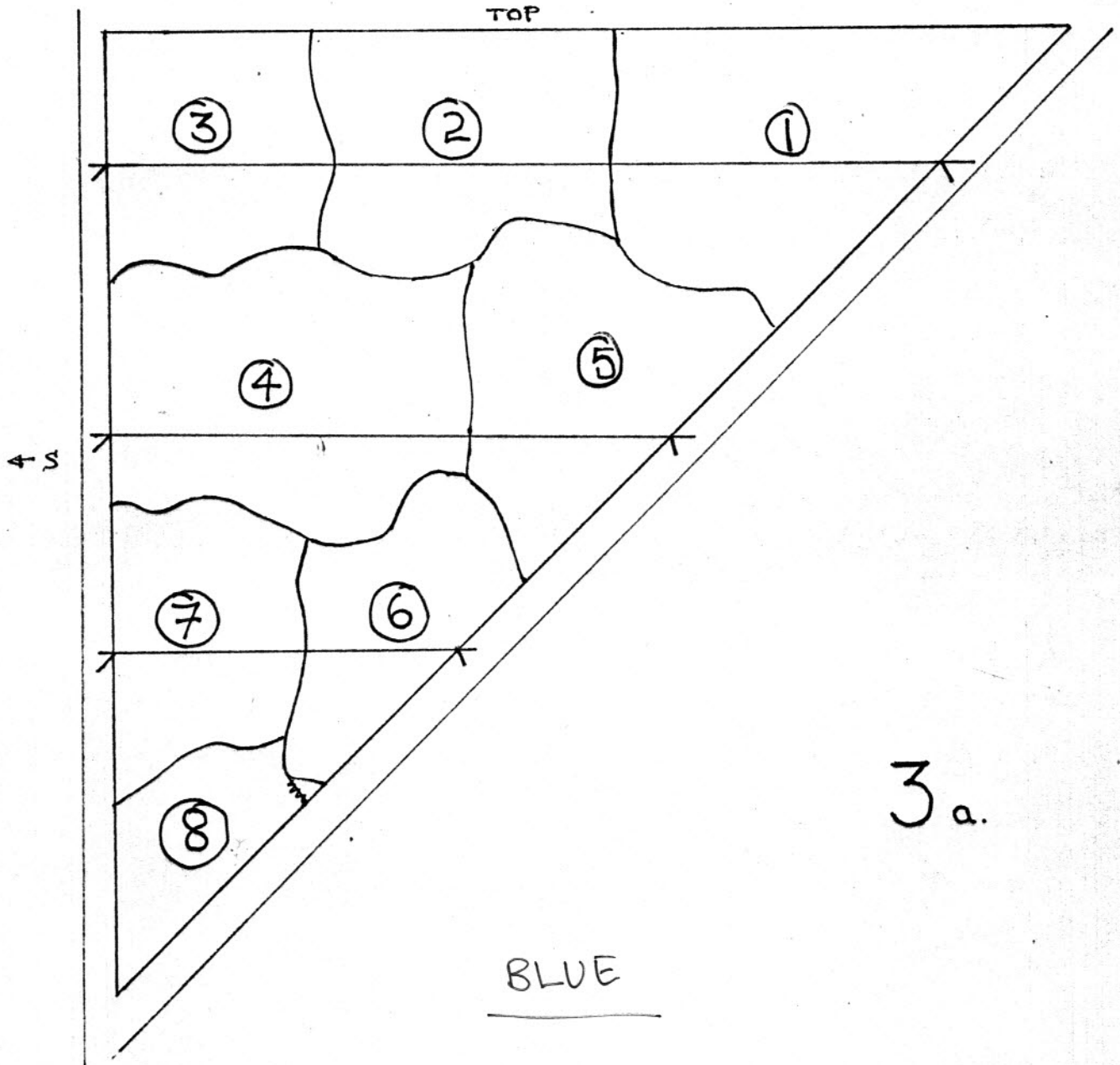
1<sub>b</sub>



2

GREEN

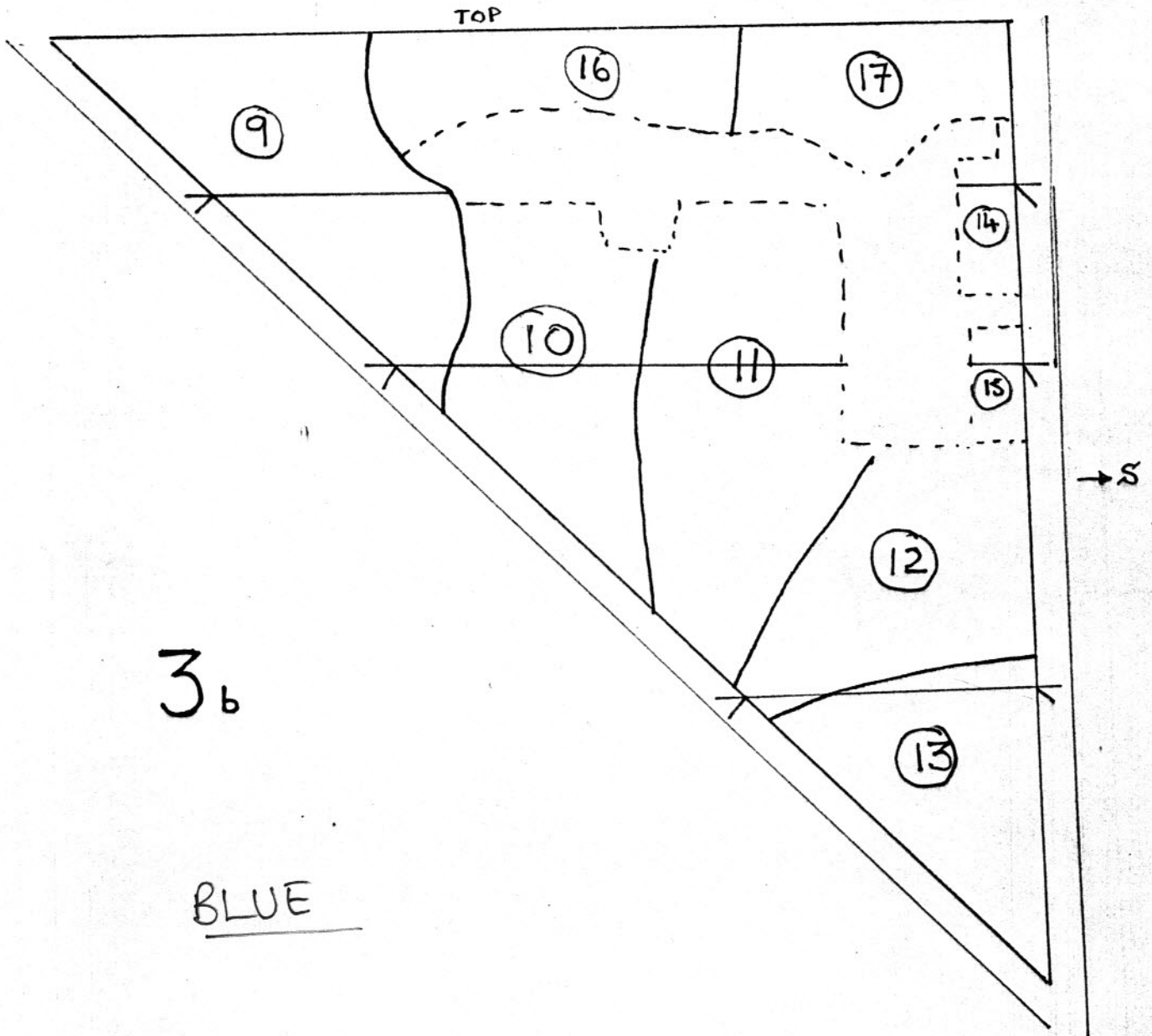
3a.



3a.

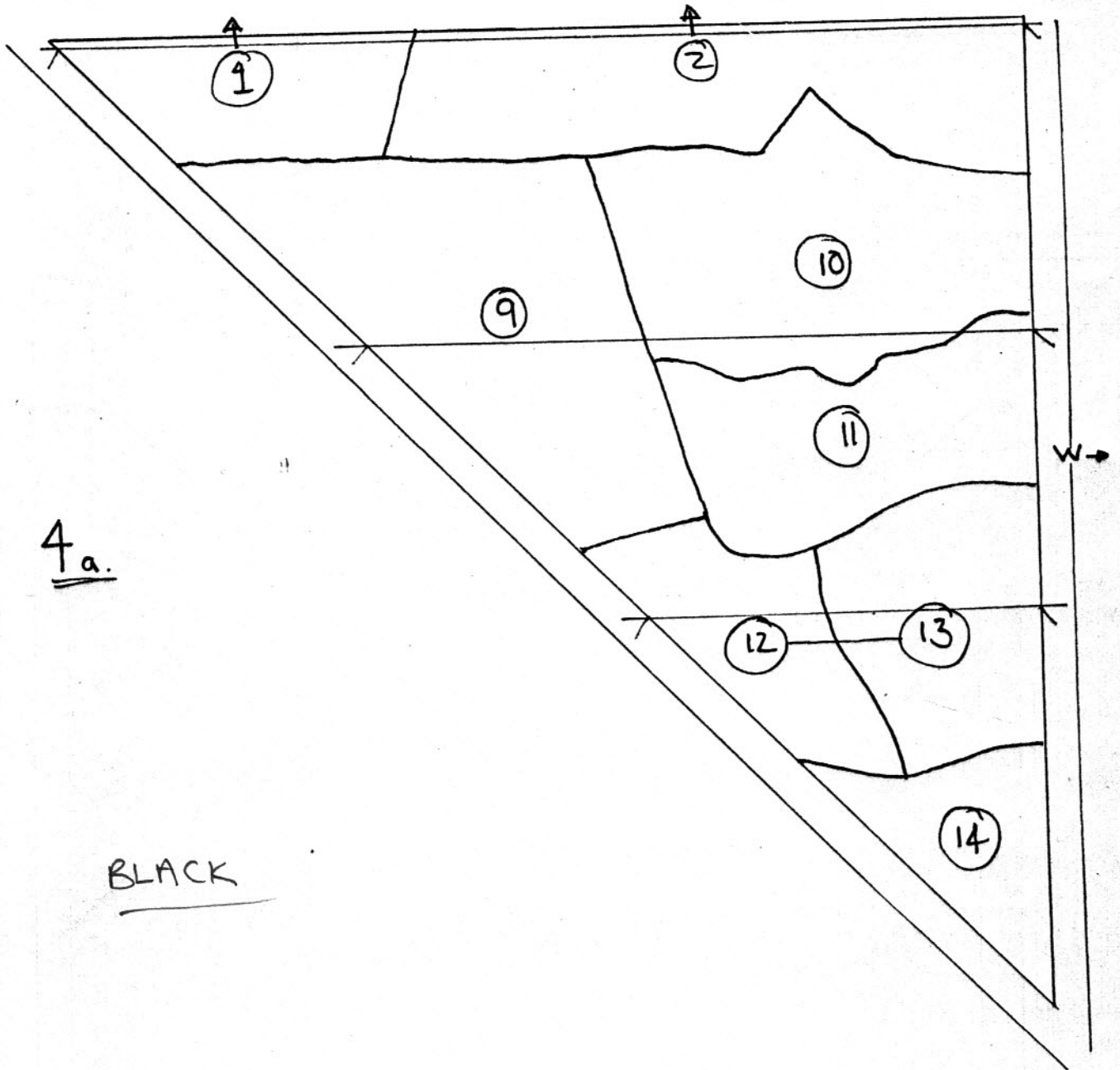
BLUE

3<sub>b</sub>



3<sub>b</sub>

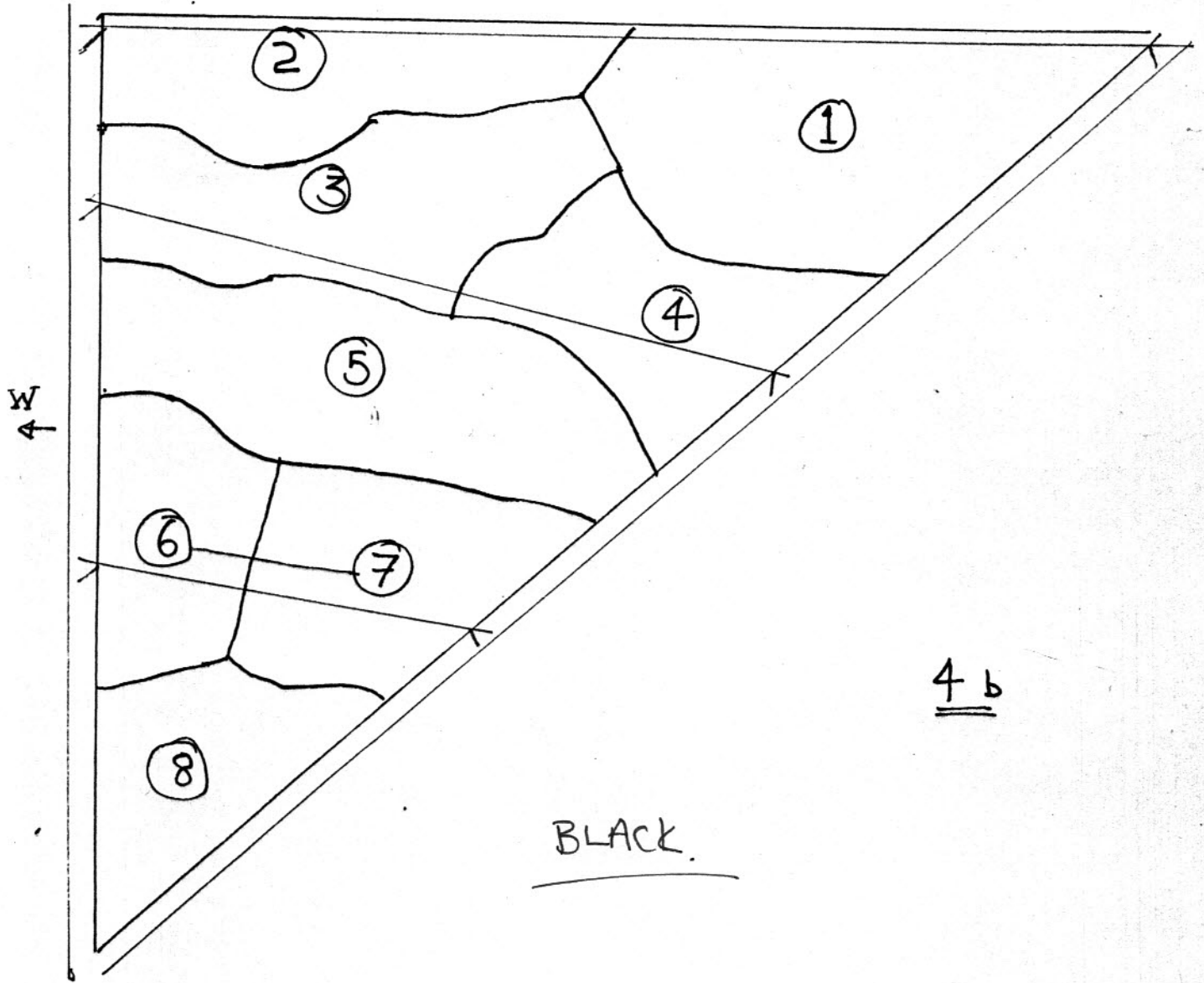
BLUE



4a.

BLACK

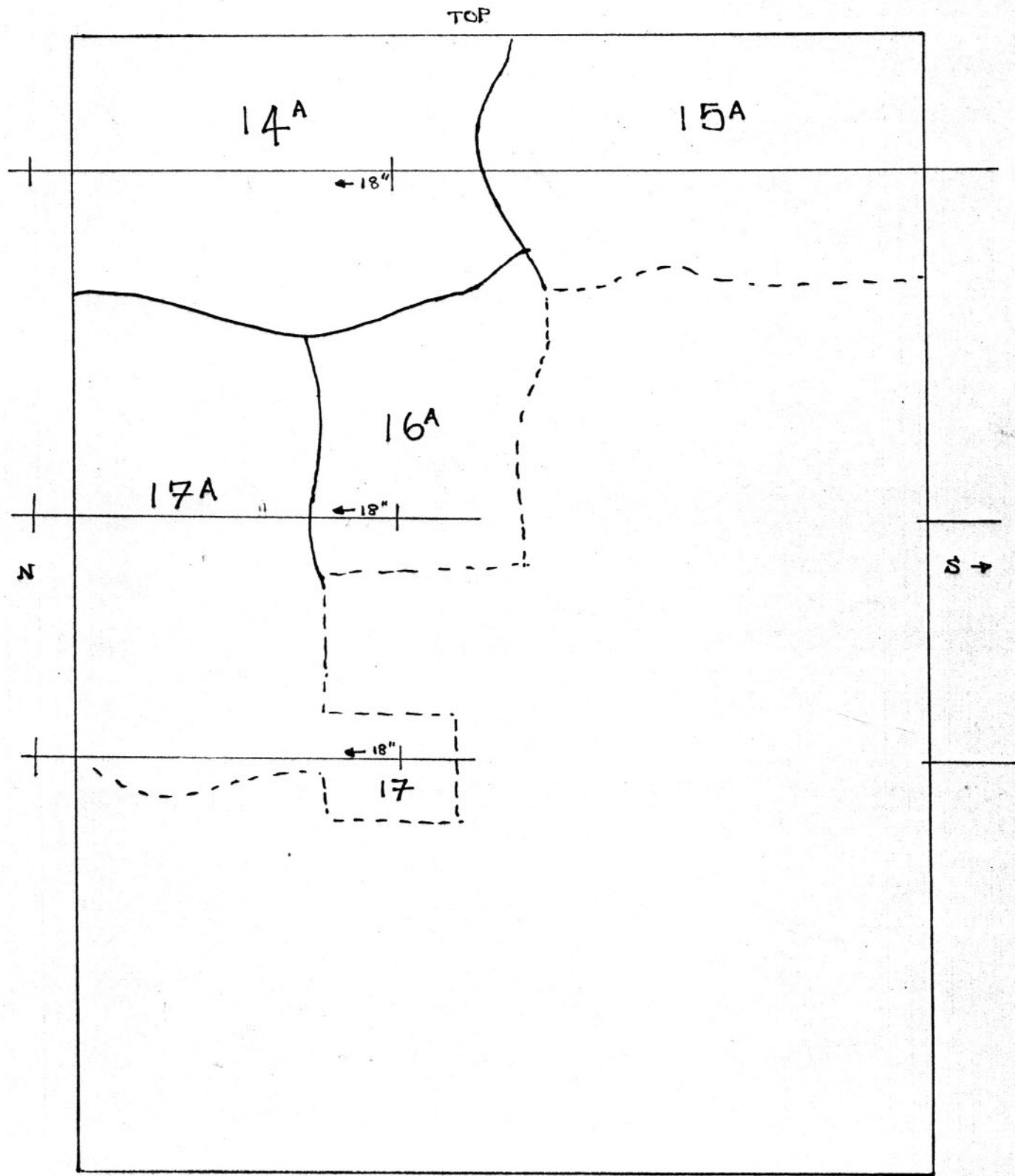




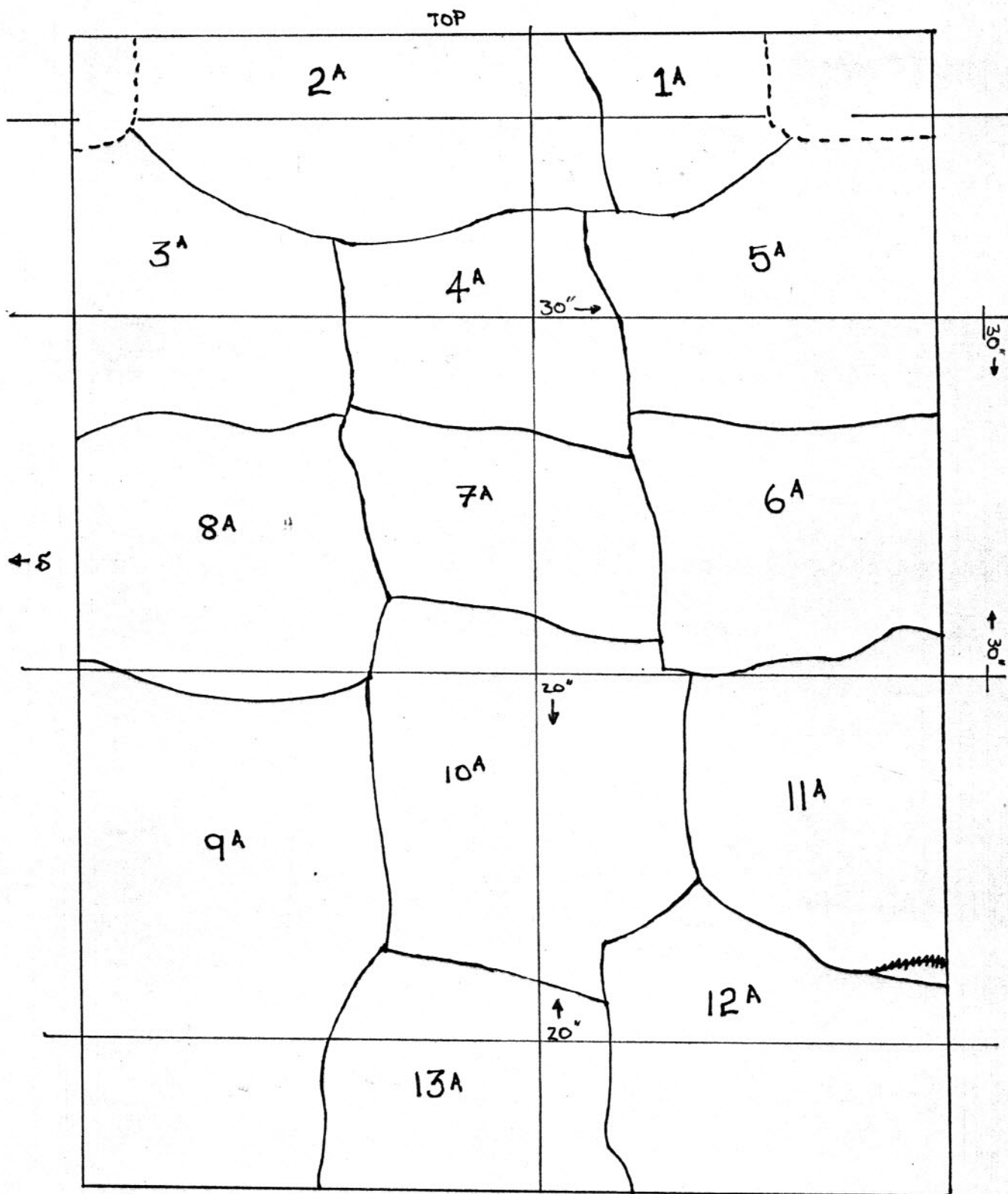
BLACK.

4 b

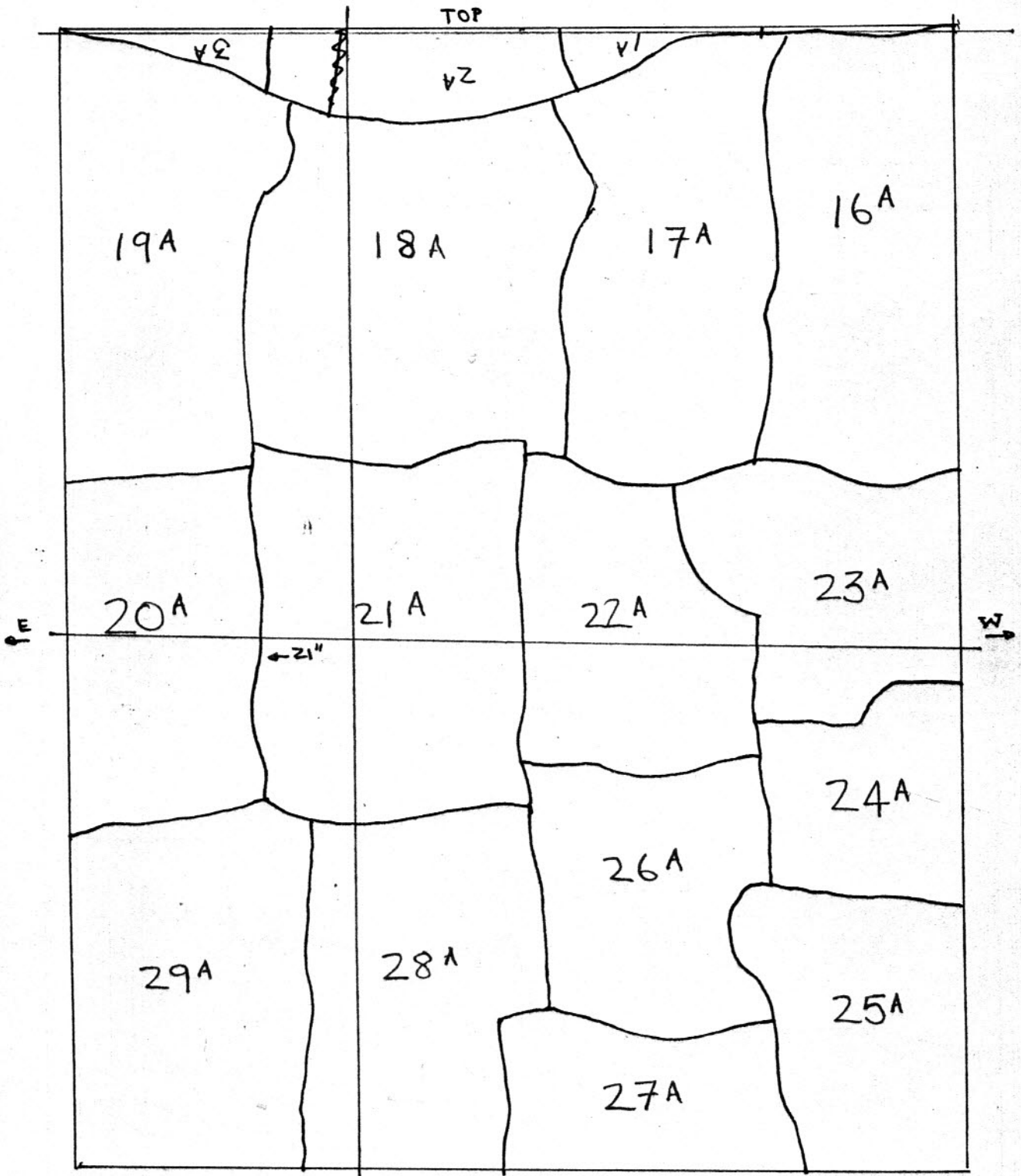
JB. The mortar is about 1/4" thick over the stones on the edges of the arches. EAST HALF OF SOUTH ARCH (BLACK A)



WEST HALF OF SOUTH ARCH (BLACK A)



SOUTH HALF OF WEST ARCH (RED A)



NORTH HALF OF WEST ARCH (RED A)

