

$$A = \begin{bmatrix}
 \boxed{A_{1,1}} & \boxed{A_{1,2}} & \cdots & \boxed{A_{1,n/k}} \\
 & \ddots & & \vdots \\
 \boxed{A_{2,1}} & & \boxed{A_{i,j}} & \\
 & & \underbrace{\hspace{1.5cm}}_k & \vdots \\
 & & & \vdots \\
 \boxed{A_{n/k,1}} & \cdots & \cdots & \boxed{A_{n/k,n/k}}
 \end{bmatrix}$$

The diagram illustrates a block matrix A of size $n \times n$, partitioned into blocks of size $k \times k$. The matrix is represented as a large square bracket containing several blocks. The blocks are labeled $A_{i,j}$ where i and j range from 1 to n/k . The central block $A_{i,j}$ is highlighted with a white background and a black border. Braces indicate that the width of the block $A_{i,j}$ is k and the height is k . Ellipses (\cdots) indicate the continuation of the matrix structure.