$$\sum_{i,j\in-1,0,1} A^{i,j}_{G,0,0} U^h_{i,j} = 0 \tag{1}$$

Setting $2h_\xi = h_\xi^- + h_\xi^+$ with ξ being x or y.
The values of the nonzero entries are the following:
Four corner nodes ($i,j \in \{-,+\}$):

$$A^{i,j}_{G,0,0} = \frac{k^2 h_x^i h_y^j}{36} + \frac{h_x^i}{6h_y^j} + \frac{h_y^j}{6h_x^i}$$

Four side nodes:

$$A^{\pm,0}_{G,0,0} = \frac{k^2 h_x^\pm h_y}{9} + \frac{2h_y}{3h_x^\pm} - \frac{h_x^\pm}{3} \frac{h_y}{h_y^- h_y^+}$$

$$A^{0,\pm}_{G,0,0} = \frac{k^2 h_x h_y^\pm}{9} + \frac{2h_x}{3h_y^\pm} - \frac{h_y^\pm}{3} \frac{h_x}{h_x^- h_x^+}$$

Center node:

$$A^{0,0}_{G,0,0} = \frac{4k^2 h_x h_y}{9} - \frac{4h_x}{3} \frac{h_y}{h_y^- h_y^+} - \frac{4h_y}{3} \frac{h_x}{h_x^- h_x^+}$$

Setting $\alpha_\xi^\pm h_\xi = h_\xi^\pm$ with ξ being x or y.
Four side nodes:

$$A^{\pm,0}_{G,0,0} = \frac{k^2 h_x^\pm h_y}{9} + \frac{2h_y}{3h_x^\pm} - \frac{h_x^\pm}{3\alpha_y^- \alpha_y^+ h_y}$$

$$A^{0,\pm}_{G,0,0} = \frac{k^2 h_x h_y^\pm}{9} + \frac{2h_x}{3h_y^\pm} - \frac{h_y^\pm}{3\alpha_x^- \alpha_x^+ h_x}$$

Center node:

$$A^{0,0}_{G,0,0} = \frac{4k^2 h_x h_y}{9} - \frac{4h_x}{3\alpha_y^- \alpha_y^+ h_y} - \frac{4h_y}{3\alpha_x^- \alpha_x^+ h_x}$$

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