$u = -x$

$u' = +1$

$v = -\sqrt{y-x^2}$

$v' = -\frac{1}{2}(y-x^2)^{-\frac{1}{2}} \cdot (-2x)$

$$\left(\frac{u}{v}\right)' = \frac{u'v - uv'}{v^2}$$

$$f_{xx} = \frac{+\sqrt{y-x^2} - \frac{-x \cdot (-2x)}{2\sqrt{y-x^2}}}{y-x^2}$$

$$f_{xx} = \frac{\sqrt{y-x^2} - \frac{x^2}{\sqrt{y-x^2}}}{y-x^2}$$

$$f_{yy} = \left[\frac{1}{2}(y-x^2)^{-\frac{1}{2}}\right]'$$

$$= -\frac{1}{4}(y-x^2)^{-\frac{3}{2}} \cdot 1$$

$$= -\frac{1}{4 \cdot \sqrt{(y-x^2)^3}}$$