Corrected derivation for $\frac{\partial b}{\partial B}$, Dec 31, 2021

$$B = \frac{3b}{\left(2\left[1-b^2\right]\right)^{\frac{1}{2}}}$$

$$\frac{\partial B}{\partial B} = 1 = \frac{3}{\sqrt{2(1-b^2)}}\frac{\partial b}{\partial B} - \frac{3}{2}b\left[2(1-b^2)\right]^{-3/2}\left[-4b\frac{\partial b}{\partial B}\right]$$

$$1 = \frac{\partial b}{\partial B}\left[\frac{3}{\sqrt{2(1-b^2)}}\left(1 + \frac{2b^2}{2(1-b^2)}\right)\right]$$

$$\frac{\sqrt{2(1-b^2)}}{3} = \frac{\partial b}{\partial B}\left(1 + \frac{b^2}{1-b^2}\right)$$

$$= \frac{\partial b}{\partial B}\left(\frac{1-b^2+b^2}{1-b^2}\right)$$

$$\frac{\sqrt{2}}{3}(1-b^2)\sqrt{1-b^2} = \frac{\partial b}{\partial B}$$

$$\frac{\partial b}{\partial B} = \frac{\sqrt{2}}{3}\left(1-b^2\right)^{3/2}$$