The difference of the wave equation (7) and (13) arises from the equation of continuity (the other first order differential equations are the same). The exact continuity equation is

$$\rho \frac{\partial s}{\partial t} + \nabla \cdot (\rho \boldsymbol{u}) = 0 \tag{1}$$

where ρ is the instantaneous density, which is a function of both time and space. However, if we write $\rho = \rho_0(1 + s)$, require ρ_0 to be a sufficiently weak function of time, and assume that s is very small, (1) becomes

$$\rho_0 \frac{\partial s}{\partial t} + \nabla \cdot (\rho_0 \boldsymbol{u}) = 0 \tag{2}$$

which is the equation of continuity assumed by wave equation (7).

Furthermore, if ρ_0 is a weak function of space, (2) becomes

$$\frac{\partial s}{\partial t} + \nabla \cdot \boldsymbol{u} = 0$$

which is the equation of continuity assumed by wave equation (13).