$$\mathit{invLhs} = \begin{bmatrix} \mathit{TTT} & (\mathit{constraints})^T \\ \mathit{constraints} & 0 \end{bmatrix}^{-1}$$

where

$$TTT \in \mathbb{R}^{n \times n}$$
 $constraints \in \mathbb{R}^{m \times n}$