***All the input variables:***

|  |  |
| --- | --- |
| N\_SedTanks | Number of sedimentation tanks |
| W\_Sed | Width of sedimentation tanks |
| T\_SedWall | Thickness of sedimentation wall |
| T\_SedDividingWall | Thickness of dividing wall |
| Q\_Plant | Flow rate of the plant |
| HL\_SedLaunderBod | The headloss for which the launders were designed to ensure uniform flow between sed tanks |
| HL\_SedDiffuser | The headloss of sedimentation diffuser |
| S\_Fitting | Minimum spacing between the outside of a pipe coupling that is embedded in concrete and the nearest wall or weir. |
| HW\_SedInletChannelMax | Height of water in sed inlet channel |
| E\_concrete | Roughness coefficient |
| W\_ChannelMin | The minimum width of the exit channel to allow person to cap launder |
| ND\_SedLaunder | Nominal diameter of sed launder |
| H\_PlantFreeboard | The height of plant free board |
| ND\_SedToFiPipe | The nominal diameter of the sed tank to filter pipe |
| ND\_SedChannelDrain | The nominal diameter of the sed tann drain pipe |
| H\_SedExitFree | The height of exit channel free board |
| K\_PipeExit | The minor loss coefficient for the exit pipe |

***Variable name changes***

|  |  |  |
| --- | --- | --- |
| MathCAD | Python | Meaning |
| W\_SedInletChannelPreWeirMinPlumbing | Min\_W\_SedInletChannelWeir\_Plumbing | Minimum width required for sed inlet channel weir |
| W\_SedInletChannelPreWeirMinHL | Min\_W\_SedInletChannelWeir\_HL | Minimum width calculated based on headloss |
| Q\_Train | Q\_Plant | The flowrate of the plant |