

CT_DetentionTimes - 1

Option Explicit

Public Function Sequence1(Opt As Integer, Numberof_Floc_inlet As Integer, Numberof_floc_basins As Integer, _
Numberof_Filters, Total_Plant_Flow As Double)

' Make note about how to calculate this constant number.

' TracerT10 Constants based on 1 MGD.

Const MV3_to_floc_inlet As Double = 61.301592
Const Floc_inlet_structure As Double = 64.7524152
Const floc_inlet_to_old_floc As Double = 13.69773504
'Const floc_inlet_to_old_floc As Double = 56.78253504
Const old_floc_channel_to_floc_basins As Double = 17.664768
Const floc_basin As Double = 129.862542
Const filter_influent_channel As Double = 230.5252224
Const Filter As Double = 47.177856
Const Filter_influent_from_c12 As Double = 145.734336
Const VV2_to_inlet_structure As Double = 132.1155
Const MV2_to_floc_inlet As Double = 132.5129034

Const Numberof_MV3 As Integer = 1
Const Numberof_to_old_floc As Integer = 1
Const Numberof_old_floc As Integer = 1
Const Numberof_filter_influent As Integer = 1
Const Numberof_MV2 As Integer = 1
Const Numberof_VV2 As Integer = 1
Const Numberof_from_c12 As Integer = 1

Dim Result As Double

Select Case Opt

Case 1

' Sequence 1 Option 1 (Prechlorination at MV3)
Result = (MV3_to_floc_inlet * Numberof_MV3) _
+ (Floc_inlet_structure * Numberof_Floc_inlet) _
+ (floc_inlet_to_old_floc * Numberof_to_old_floc) _
+ (old_floc_channel_to_floc_basins * Numberof_old_floc) _
+ (floc_basin * Numberof_floc_basins) _
+ (filter_influent_channel * Numberof_filter_influent) _
+ (Filter * Numberof_Filters)
Result = Result / Total_Plant_Flow

Case 2

' Sequence 1 Option 2 (Prechlorination at Flocculation Inlet Structure)
Result = (Floc_inlet_structure * Numberof_Floc_inlet) _
+ (floc_inlet_to_old_floc * Numberof_to_old_floc) _
+ (old_floc_channel_to_floc_basins * Numberof_old_floc) _
+ (floc_basin * Numberof_floc_basins) _
+ (filter_influent_channel * Numberof_filter_influent) _
+ (Filter * Numberof_Filters)
Result = Result / Total_Plant_Flow

Case 3

' Sequence 1 Option 3 (Prechlorination of SL Aqueduct Water at MV2)
Result = (MV2_to_floc_inlet * Numberof_MV2) _
+ (Floc_inlet_structure * Numberof_Floc_inlet) _
+ (floc_inlet_to_old_floc * Numberof_to_old_floc) _
+ (floc_basin * Numberof_floc_basins) _
+ (filter_influent_channel * Numberof_filter_influent) _
+ (Filter * Numberof_Filters)

```
Result = Result / Total_Plant_Flow
```

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Case 4
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```
' Sequence 1 Option 4 (Prechlorination at VV2)
Result = (VV2_to_inlet_structure * Numberof_MV2) _
+ (Floc_inlet_structure * Numberof_Floc_inlet) _
+ (floc_inlet_to_old_floc * Numberof_to_old_floc) _
+ (floc_basin * Numberof_floc_basins) _
+ (filter_influent_channel * Numberof_filter_influent) _
+ (Filter * Numberof_Filters)
Result = Result / Total_Plant_Flow
```

```
Case 5
```

```
' Sequence 1 Option 5 (Prechlorination Filter Inlet)
Result = (Filter_influent_from_c12 * Numberof_from_c12) _
+ (Filter * Numberof_Filters)
Result = Result / Total_Plant_Flow
```

```
Case Else
```

```
' Program Error
Result = 0
```

```
End Select
```

```
Sequencel = Result
```

```
End Function
```

```
Public Function Sequence2(Opt As Integer, Total_Plant_Flow As Double)
```

```
' TracerT10 Constants based on 1 MGD.
Const To_inlet_structure As Double = 76.7771136
Const Clearwell_inlet_stucture As Double = 17.6432256
Const TwoMG_reservoir As Double = 432.0005154
Const Sixty_inch_pipe_to_VV3 As Double = 27.0572544
Const Bypass_to_VV3 As Double = 24.3213696
```

```
Dim Result As Double
```

```
Select Case Opt
```

```
Case 1
```

```
' Sequence 2 Option 1 (Postchlorination to VV3)
Result = (To_inlet_structure + Clearwell_inlet_structure + TwoMG_reservoir _
+ Sixty_inch_pipe_to_VV3) / Total_Plant_Flow
```

```
Case 2
```

```
' Sequence 2 Option 2 (Bypass)
Result = Bypass_to_VV3 / Total_Plant_Flow
```

```
Case Else
```

```
' Program Error
Result = 0
```

```
End Select
```

```
Sequence2 = Result
```

```
End Function
```

```
Public Function Sequence3(Opt As Integer, Total_Plant_Flow As Double)
```

```
' TracerT10 Constants based on 1 MGD.
Const VV3_to_15MG_reservoir As Double = 252.9400896
Const FifteenMG_reservoir As Double = 6480.001313
Const FifteenMG_eff_to_Reach2 As Double = 104.441002
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Const Reach2_to_Alpine2A As Double = 180.8101025

Const Bypass_60_VV3_to_Orem_24 As Double = 151.2168768

Dim Result As Double

Select Case Opt

Case 1

' Sequence 3 Option 1 (VV3 to Alpine 2A)

Result = (VV3_to_15MG_reservoir + FifteenMG_reservoir + FifteenMG_eff_to_Reach2 _
+ Reach2_to_Alpine2A) / Total_Plant_Flow

Case 2

' Sequence 3 Option 2 (Bypass)

Result = Bypass_60_VV3_to_Orem_24 / Total_Plant_Flow

Case Else

' Program Error

Result = 0

End Select

Sequence3 = Result

End Function