Crude sewage coagulant mixing point Example scenarios

Scenario 3:

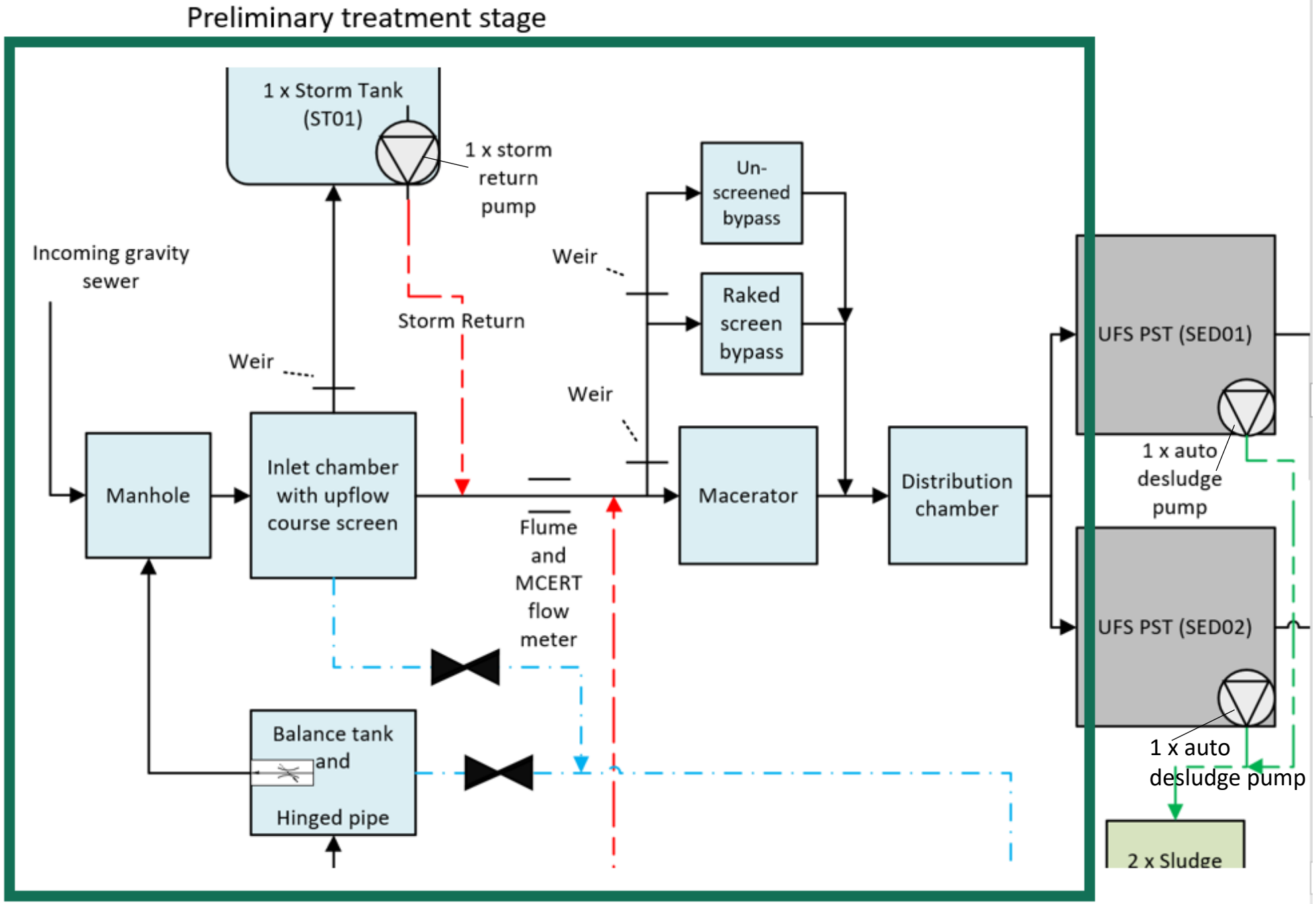
Site description:

- A small/medium biological filtration treatment works
- Gravity and pumped incoming flows
- Inlet works:
  - Inlet balance tank
  - Inlet chamber with upflow course screen and storm weir
  - Inlet flow control flume and MCERTS flow meter
  - Macerator
  - PST distribution chamber

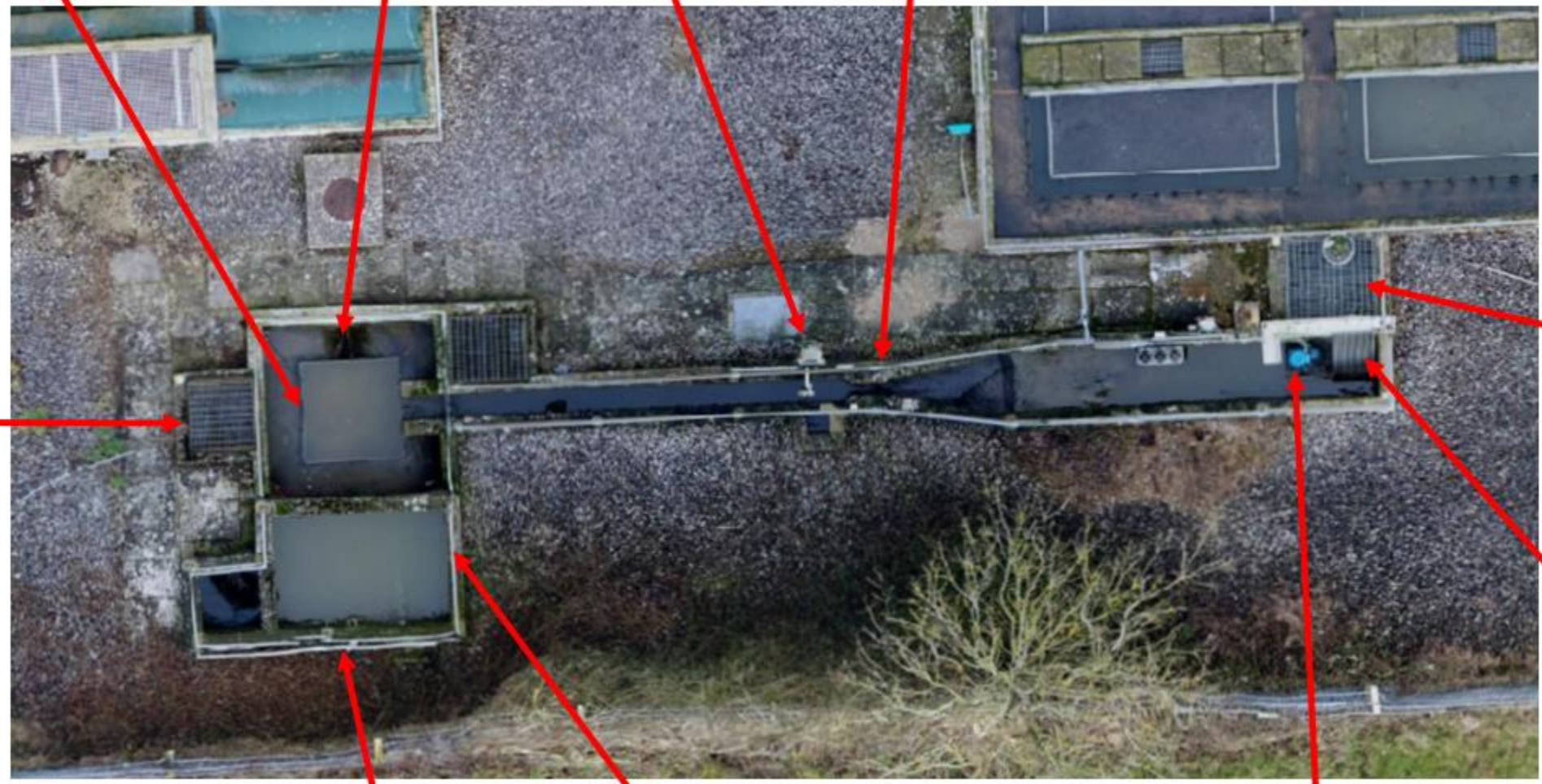
Scenario 3:

Site Name	Example 3 STW
Population equivalent	1356
FFT (l/s) FFT (m3/d) DWF (m3/d)	14.0 1209.6 435
Iron permit (95%ile) (mg/l)	4
Iron permit (Absolute) (mg/l)	8
Annual average phosphorus permit (mg/l)	2.5

Scenario 3:


Preliminary treatment stage
1 x Storm Tank (ST01)
1 x storm return pump
Storm Return
Incoming gravity sewer
Weir
Weir
Weir
Un-screened bypass
Raked screen bypass
Manhole
Inlet chamber with upflow course screen
Flume and MCERT flow meter
Macerator
Distribution chamber
UFS PST (SED01)
1 x auto desludge pump
UFS PST (SED02)
1 x auto desludge pump
Balance tank and
Hinged pipe
2 x Sludge

Scenario 3:


Storm weir
To storm tanks
MCERTs flow meter
Flow control flume
Incoming flow
PST distribution chamber
Hand raked screen for macerator bypass
Incoming flow
Balance tank
Macerator

Scenario 3:

Storm weir

MCERTS and flume

Macerator

Scenario 3:

Macerator

PST distribution chamber

Challenges:

- Limited space after macerator which leads direct into PST distribution chamber
- No 150mm minimum gravity drop for coagulant dosing at all flow conditions