Red boundary denotes lowered area of main bund that contains spillages and leakage under normal operating conditions

Catastrophic failure retention bund

Blue lines denote rainwater drainage channel integrated into bund wall

Purple lines denote direction of fall of the concrete

Drainage channel running between the two rows of tanks

Lowered Area (accounting for tanks)	= (29.5m * 14.75m) - (7 * π * (1.75m)²) = 435.125m² - 67.347m² = 367.778m²
Lowered Volume (accounting for tanks)	= 367.778m² * 0.15m = 55.1667m³
Main Bunded area (accounting for tanks and gas dome)	= (40.2m * 18.93m) - (7 * π * (1.75m)²) - (π * (4m)²) = 760.986m² - 67.347m² - 50.265m² = 643.374m²
Main Bunded Volume (accounting for tanks	= 643.374m² * 0.25m = 160.8435m³
Total Bunded Volume	= 55.1667m³ + 160.8435m³ = 216m³ NB(This total does not include the volume of either sump)
Individual Tank Volume Individual Tank Volume (110%)	= 140m³ (Max Fill) 135m³ (Operating Fill) = 154m³ (Max Fill) 148.5m³ (Operating Fill)

Given these calculations there is a margin of 62m³ in the case of a catastrophic failure.

Drainage channel running alongside pumps

Drainage channel connecting to grit sump

Channel for pipe containing condesate from gas holder, terminates in grit sump

In the event of a catastrophic failure the grit sump will fill first and activate a float switch which will cut power to the rainwater sump pump, preventing process liquid from being pumped out of the bund.

Grit sump containing process effluent, liquid is periodically pumped back into the front of the process and solids are dug out for disposal

Rainwater sump with sump pump for pumping rainwater to Haworth drain system