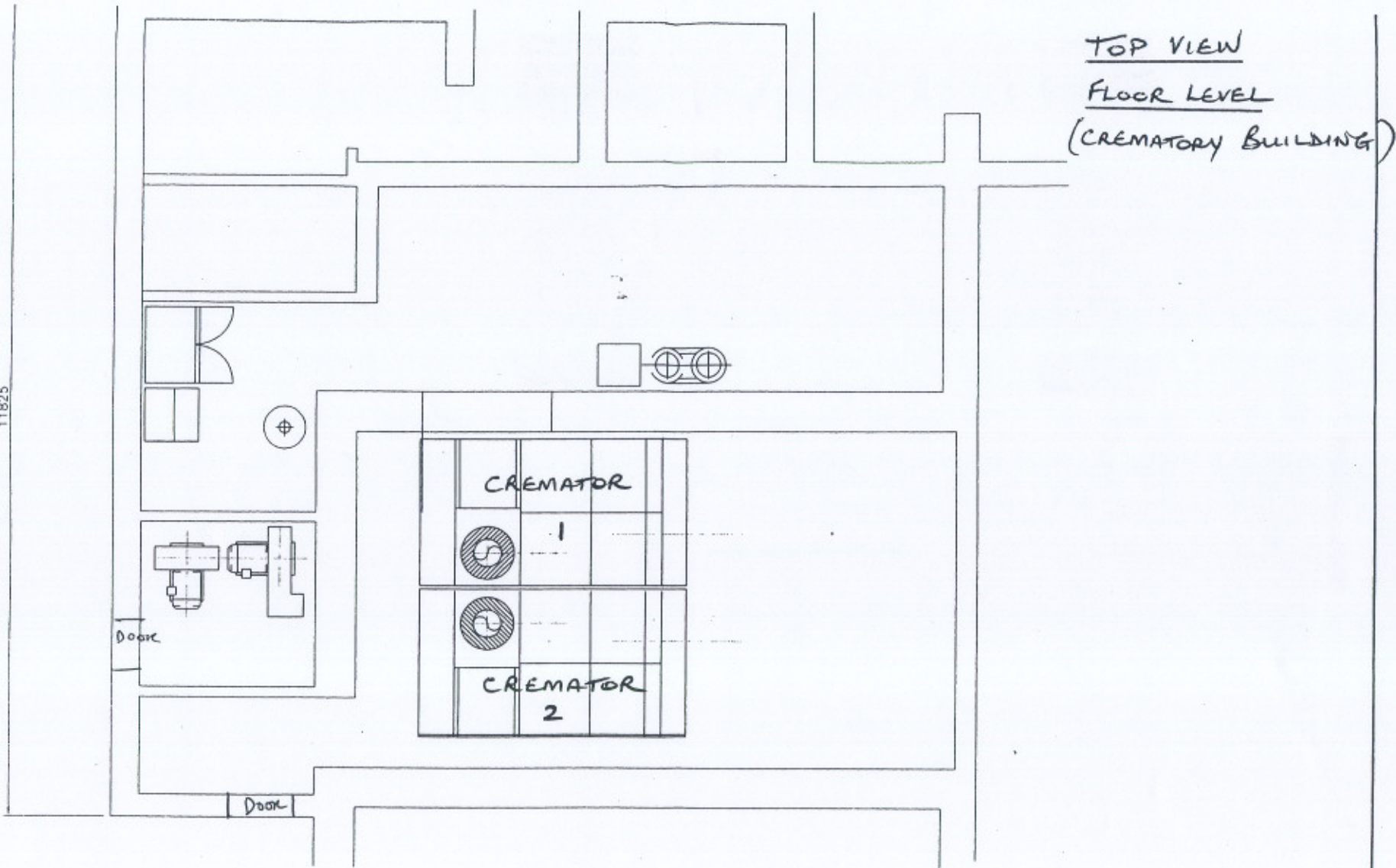


Description	Facultatieve	DFW	Shelton	Furnace Construction
Filter System	Powder Injection (Pre filter dosing) – Definitely deals with mercury, dioxins and acid gases. Additional maintenance requirements for staff in handling reagent on regular basis	Filter Bed – Definitely deals with mercury & dioxins and acid gases. No major additional maintenance requirements from staff. Reagent handled by contractor every 2000 cremations.	Powder Injection (Pre filter dosing) – Definitely deals with acid gases as well as mercury and dioxins. Additional maintenance requirements for staff in handling reagent on regular basis	Filter Bed – Definitely deals with mercury & dioxins. No major additional maintenance requirements from staff. Reagent handled by contractor on infrequent basis (4000 cremations)
Elements of System				
Analysis Hardware	#	#	#	#
Heat exchanger/Boiler	#	#	#	#
Hot water recirculation unit (optional)	#	#	#	#
Air blast cooler	#	#	#	#
Dust Filter (cyclone)		#	#	#
Reagent Station	#		#	
Bag Filter Unit	#	#	#	#
Fluidised Reagent Bed		#		#
Approx. Space Requirements (air blast units - external)	Order Time – approx 3mths Installation – 2 to 6 wks	Order Time – approx 3mths Installation – 2 to 6 wks	Order Time – approx 3mths Installation – 2 to 6 wks	Order Time – approx 3mths Installation – 2 to 6 wks
Single Unit (length x width x height)	8550x5000x3700	6500x5000x4500	8550x5000x3700	4500x4500x3500
Double Unit (length x width x height)	Double single size or where roof space is 5m+ 9300x5000x5000	Double single size or where roof space is 5m+ 9300x5000x5000	Double single size or where roof space is 5m+ 9300x5000x5000	Prefer to install one unit per cremator. Will discuss other requirements
Triple Unit (length x width x height)	Treble single size or where roof space is 4.5m+ 11700x6000x4500	Treble single size or where roof space is 4.5m+ 11700x6000x4500	Treble single size or where roof space is 4.5m+ 11700x6000x4500	Prefer to install one unit per cremator. Will discuss other requirements
Approx. Capital Cost of Units (budget cost)				
Single Unit	£250k	£250k	£250k	£250k
Double Unit	£380k	£380k	£380k	£380k
Triple Unit	£425k	£425k	£425k	£425k
Maintenance Costs				
Assume 2000 cremations p.a.	£10-15 per cremation	£10-15 per cremation	£10-15 per cremation	£10-15 per cremation

11825



TOP VIEW
FLOOR LEVEL
(CREMATORY BUILDING)

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Facultatieve Technologies

Cremation & Incineration Equipment
Moor Road
Leeds, LS10 2DD
Phone : +44 (0) 113 276 8888
FAX : +44 (0) 113 271 8188

Drawn : DTuckwood

Date : 9/08/05

Chk'd :

Date :

App'v'd :

Date :

Scale :

Dir : TSALES

Project : HARROGATE

Title :

PROPOSED FTII ARR &
GAS CLEANING FOR
2 x CREMATORS

Drg No : 6068TS0001

Issue

P1

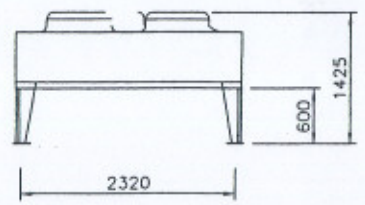
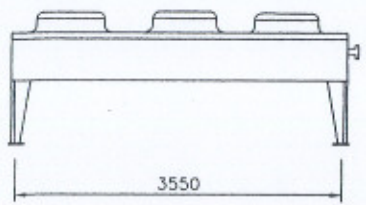
NOT SCALE

D

REMOVE ALL SHARP EDGES

E

F

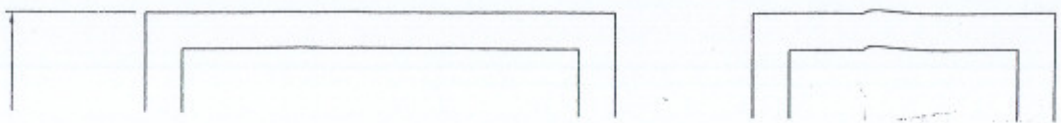
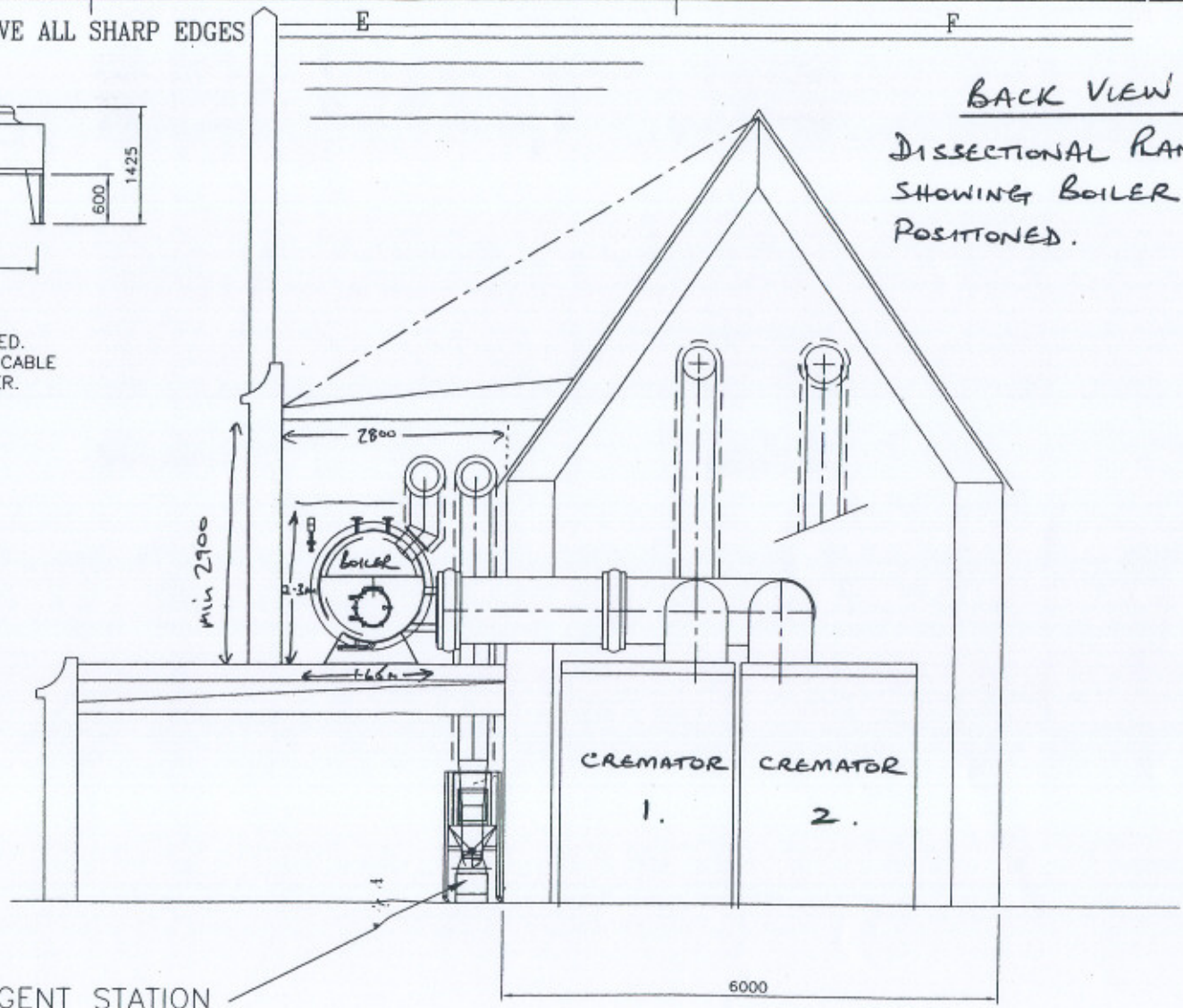


AIR BLAST COOLER.

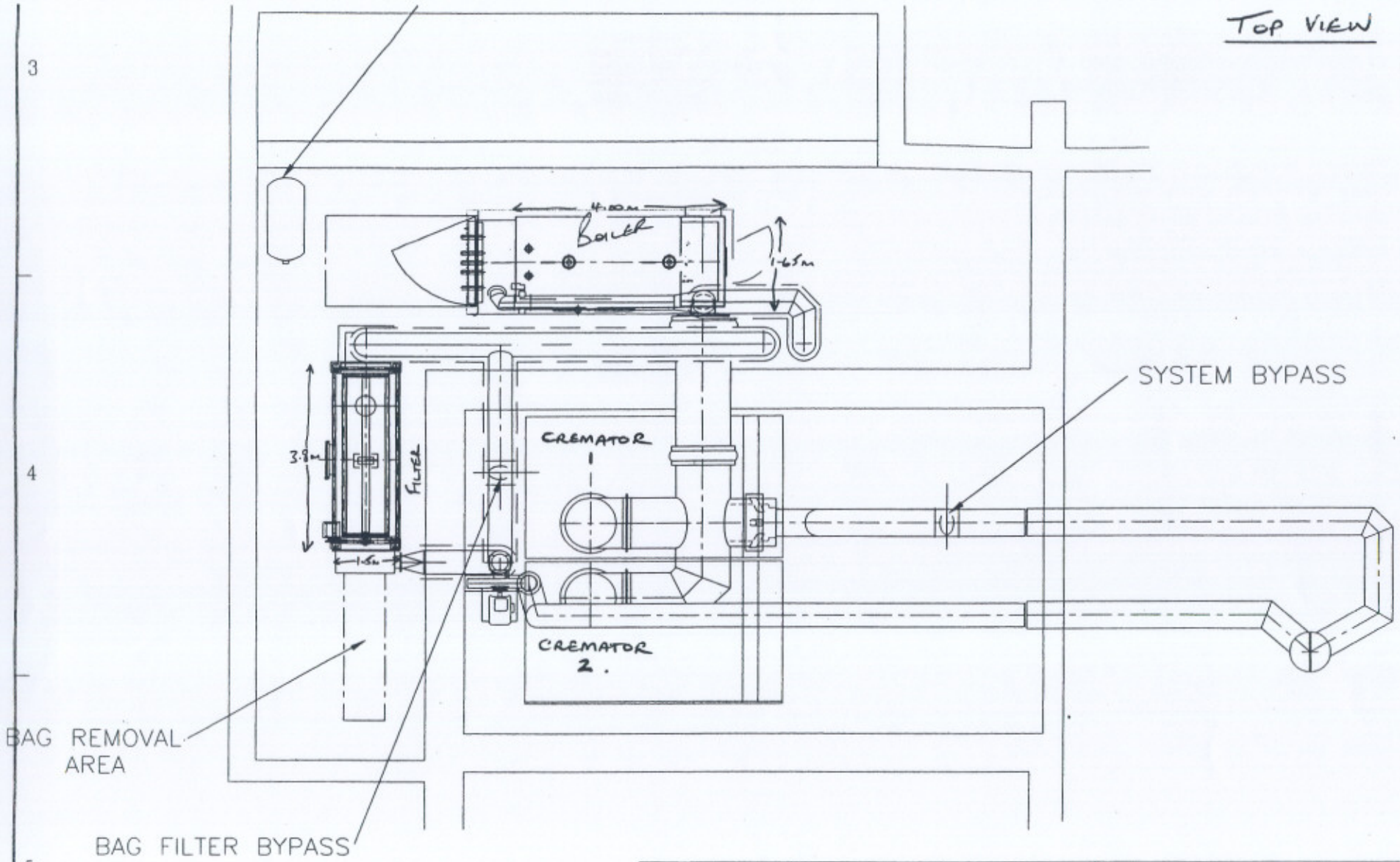
A SUITABLE DISCREET LOCAL POSITION IS REQUIRED. TWO INSULATED WATER PIPES AND AN ELECTRICAL CABLE WILL RUN FROM THE PLANT ROOM TO THE COOLER.

filter : ~~1350~~^{2,600} kg weight
 boiler : 5000 kg weight.

BACK VIEW
 DISSECTIONAL PLAN
 SHOWING BOILER
 POSITIONED.



TOP VIEW



BAG REMOVAL AREA

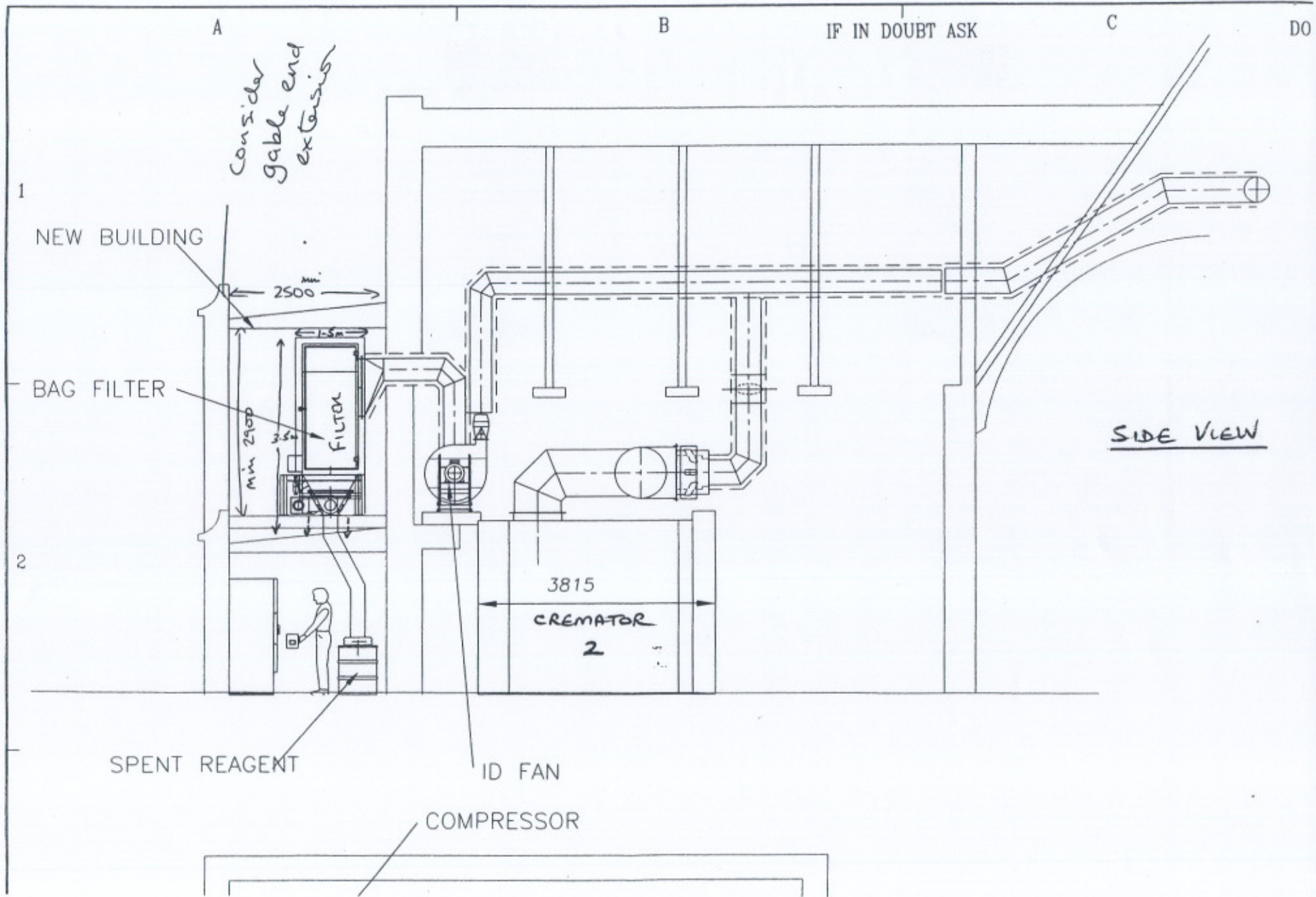
BAG FILTER BYPASS

SYSTEM BYPASS

Issue No	Issue No	Issue No
Mod By:	Mod By:	Mod By:
Date:	Date:	Date:
Chk'd:	Chk'd:	Chk'd:

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Consider
gable end
extension

IF IN DOUBT ASK

NEW BUILDING

BAG FILTER

SPENT REAGENT

ID FAN

COMPRESSOR

3815
CREMATOR
2

SIDE VIEW

UPGRADING COSTS FOR ONE CREMATOR

The estimated costs for one cremator are:

Capital Costs:

□ **Initial Provision for gas cleaning system:**

Filtration equipment for one cremator	=	£250,000
Civil / building costs	=	£ 86,940
Further contingencies	=	£ 13,060
<u>Estimated Total Initial Provision</u>	=	<u>£350,000</u>

Note:

It is impossible at this stage to include all the possible contingencies of such a major project. There are issues with building options and plans which at this stage need to be sought, architectural fees, disruption of service, liabilities for the continuation of the service and other contingencies that will have a bearing on the financial costs, as well as price inflation should this work be done in 2009. The above civil/building costs and contingencies have been calculated as follows:

Building accommodation for new equipment	=	£63,000
Contingencies at 20%	=	<u>£12,600</u>
		£75,600
Fees (Architect, Engineer, Planning Sup. etc)	=	<u>£11,300</u>
Total project cost	=	<u>£86,940</u>
Other Contingencies		
(as advised by Building Management)	=	£13,060

* * * * *

Revenue Costs:

□ **Additional Maintenance costs (cremators/ new equipment Agreements)**

Routine, planned maintenance is required every 6 months or 500 cremations. These procedures take 2 working days per service visit. The maintenance is carried out by our usual Service engineer. The approximate cost is £1000 per site visit or £2000 per year.

□ **Additional Operational Costs per year:**

Power	=	£1.40
Reagent	=	£1.00
Disposal	=	£0.80
Maintenance	=	£2.00
Replacement		
Filter Bags	=	£1.00
Other spares and Refractory	=	£2.00
Total per cremation:	=	<u>£8.20</u>
For 800 cremations x £8.20	=	<u>£6,569</u>
Additional Maintenance Costs	=	<u>£2,000</u>
Total Revenue Costs	=	£8,570

UPGRADING COSTS FOR TWO CREMATORS

The estimated costs for two cremators are:

Capital Costs:

□ **Initial Provision for gas cleaning system:**

filtration equipment for two cremators	=	£350,000
civil / building costs	=	£ 86,940
contingencies	=	£ 13,060
<u>Estimated Total Initial Provision</u>	=	<u>£450,000</u>

Note:

It is impossible at this stage to include all the possible contingencies of such a major project. There are issues with building options and plans which at this stage needs to be sought, architectural fees, disruption of service, liabilities for the continuation of the service and other contingencies that will have a bearing on the financial costs, as well as price inflation should this work be done in 2009. The above civil/building costs and contingencies have been calculated as follows:

Building accommodation for new equipment	=	£63,000
Contingencies at 20%	=	<u>£12,600</u>
		£75,600
Fees (Architect, Engineer, Planning Sup. etc)	=	<u>£11,300</u>
Total project cost	=	<u>£86,940</u>
Other Contingencies	=	£13,060

* * * * *

Revenue Costs:

□ **Additional Maintenance costs (cremators/ new equipment Agreements)**

Routine, planned maintenance is required every 6 months or 500 cremations. These procedures take 2 working days per service visit. The maintenance is carried out by our usual Service engineer. The approximate cost is £1000 per site visit or £2000 per year.

□ **Additional Operational Costs per year**

Power	=	£1.20
Reagent	=	£1.00
Disposal	=	£0.80
Maintenance	=	£1.00
Replacement		
Filter Bags	=	£0.80
Other spares and		
Refractory	=	<u>£1.50</u>
Total per cremation	=	£6.30
For 1450 cremations x £6.30	=	£9,135
Additional Maintenance Costs	=	<u>£2,000</u>

Total Revenue Costs = £11,130

Bereavement Income projected for the next 5 years

	2005 2005/6 Crematorium current budget (£380 per cremation fee) is					£524,060
	2006/07	2007/08	2008/09	2009/10	2010/11	
Normal increase 5%	550263 (£399 per crem.)	577776 (£419 per crem.)	606665 (£440 per crem.)	636998 (£462 per crem.)	668848 (£485 per crem.)	
Increase 10%				876733 (£636 per crem.)	964406 (£609 per crem.)	
Difference				239735	295558	Total = 535,293
Normal increase 5%	550263 (£399 per crem.)	577776 (£419 per crem.)	606665 (£440 per crem.)	636998 (£462 per crem.)	668848 (£440 per crem.)	
Increase 15%	602669 (£437 per crem.)	693069 (£503 per crem.)	797030 (£578 per crem.)			
Difference	52406	115293	190365			Total = 358,064

APPENDIX 4

PROJECT NAME: Mercury Abatement at Stonefall Cemetery

Condition		Reasons/Comments
Consents <ul style="list-style-type: none"> • Planning • Other Statutory Approvals 	<p>No</p> <p>No</p>	<p>Not at this stage. It is not required to make the decisions proposed in the report but it will be required at a later date if the scheme as tabled is to go ahead.</p> <p>Building regs. will be required when a scheme is pulled together and ready for delivery. There may be other statutory requirements which would be identified by Building Management</p>
Law/Regulation <ul style="list-style-type: none"> • Requirement to provide 	Yes	<p>There is a legal requirement to make a decision as outlined in the report. However there are options. If the decision is to provide the abatement required through legislation by building the mercury abatement filtration system then it can be argued that there is a requirement to provide.</p>
Capital/Revenue Implications <ul style="list-style-type: none"> • Prudential Code 	Yes/No	<p>The scheme may be financed in part by additional revenue generated from increased fees in the next 3 years.</p> <p>I am not aware that there is any grant aid available for this scheme. However there is an opportunity to accrue revenue over several years by increasing fees towards the capital costs.</p>
Statutory <ul style="list-style-type: none"> • Stated statutory priority 	Yes/No	<p>If we continue to provide a cremation service there is a statutory duty to do so legally. However, there is nothing to prevent crematoria from closing but we would still be under obligation to provide the grounds where there are graves and commemoration in force. The service could also be externalised and some companies may be interested.</p>

Condition		Reasons/Comments
Corporate Priority Assessment <ul style="list-style-type: none"> • Link to service strategy • Link to corporate objectives • Link to community plan 	<p>Yes</p> <p>Yes</p> <p>Yes</p>	<p>This does link to all of these. It is a legal requirement and to provide mercury abatement equipment ensures we are doing everything we can towards minimising pollution. Consequently, it means we are contributing towards the "Caring for the environment" corporate objective. In addition it appears as though it is the most cost effective option in the long term and consequently to go down the line as recommended would mean the Council was meeting its "Value for Money" corporate objective.</p>
Scoring Criteria	Score (see below)	Reasons/Comments
Objectives <ul style="list-style-type: none"> • Revenue efficiency • Additional revenue budget 	<p>2</p> <p>2</p>	<p>No revenue is generated by the scheme itself however additional revenue could be generated to compensate for the capital costs of the scheme by increasing prices. In addition it may be possible to generate revenue through the 'sharing scheme' with other authorities as outlined in the report.</p> <p>There will be future revenue requirements. Indications of this are identified in the report but at this time and taking into account the decision being taken there is not sufficient information available to determine accurately what the annual revenue costs will be.</p>

Scoring Criteria	Score (see below)	Reasons/Comments
Risk <ul style="list-style-type: none"> <li data-bbox="270 343 645 376">• Increase in capital cost <li data-bbox="270 888 668 921">• Possible revenue impact 	<p data-bbox="759 343 782 376">3</p> <p data-bbox="759 888 782 921">4</p>	<p data-bbox="856 310 2061 525">The risks of the scheme costs escalating are minimal. This is technically an upgrade of an existing facility and the inclusion of new purpose built equipment. The only real risk is through a significant increase in inflation or market saturation on demand resulting in prices increasing higher than expected. This will only apply to the works prior to tendering and it is considered highly unlikely that the costs would increase by any margin once a contract for the works were entered into.</p> <p data-bbox="856 563 2073 773">When taking the issue of VAT this is more problematic. Based on the Council's current VAT activity, the scheme would breach the Council's partial exemption limit. This could cost the Council £200-£300k in lost tax, but this would be dependent upon other capital schemes being undertaken in the same year. (If, for example, a large car park scheme was being built in the same year, this could significantly alleviate this tax burden.)</p> <p data-bbox="856 811 1391 844">There is no option to secure grant aid.</p> <p data-bbox="856 888 1947 954">The degree of risk for commercial failure is extremely low as there is no other crematorium in the area.</p>

Total Score:**11**

Objectives Scoring
Is project revenue efficient – score range 0 to 4 where 0 is 'not' and 4 is 'very'
If 'not', what additional revenue budget would be available – scoring range 0 to 4 where 0 is 'major' and 4 is 'marginal'
Risk Scoring
Likelihood of increase in capital cost – score range 0 to 4 where 0 is 'high' and 4 is 'very low'
Likelihood of revenue loss – score range 0 to 4 where 0 is 'high' and 4 is 'very low'