Appendix 2

TCBGC Financial Viability

Detailed comments on the Gerald Eve appraisal

The appraisal approach (and the need for a phase 1 appraisal)

The viability evidence relies entirely on a 35 year development appraisal. Gerald Eve talks about "the market" and suggests that such projects are regularly undertaken and that their approach is in some way "normal".

In truth a 35 year development appraisal is a theoretical construct – interesting but not a practical plan. There is no "market" for bank funding for speculative development over 35 years. It is possible to obtain long term funding for an investment property already built with a good tenant in place. But from a bank's viewpoint TCBGC is high risk, and lenders would want opportunities to recycle their money after no more than 5-10 years.

This statement is based on my career as finance director for big organisations. I have been constantly talking to banks and investors about development finance since my first position as finance director of a listed company in 1989.

I back it up with a list of new town projects at appendix 4 – few have succeeded and those that have are clearly developed in phases of no more than 10years[1]. Despite the hype they have also been slow to deliver significant numbers of dwellings. My reg 19 subsmission also included an analyst's report explaining how Urban and Civic is funded, a master developer with real credibility and track record which is now owned by the Welcome Foundation.

We desperately need a phase 1 appraisal to bring the project down to earth over the plan period. This is in addition to the overarching 35 year appraisal, not in its place. Colchester's Councillors asked for a phase 1 appraisal in a formal resolution by the full Council – Appendix 3 is a note to officers and Gerald Eve explaining the resolution. Unfortunately their paper in response shows many misunderstandings and I have not had an opportunity to talk to them to find common ground.

We also need a further MOU with the developer agreeing the appraisal methodology. Residents cannot understand why the Councils are spending time and money on planning for someone else's land. And are incredulous when they hear that there is nothing in writing – no contract, no agreed mechanism for the sharing of land value uplift.

House prices

GE assume that houses can be sold for £400psf with social housing discounted by 50% and shared ownership by 30%. GE's own evidence about the local market shows that the average selling price is £338psf. Only one development has exceeded £400psf and that is Chesterwell at £410.

I would expect TCBGC to be slightly above the average but not as high as £400: it will sell better than the developments to the South of Colchester where the infrastructure is particularly poor, but we shouldn't forget that Tendring prices are in general lower than Colchester. Also that house prices have probably been unusually high in recent years due to the government's Quantitative Easing policy[2]. It is too optimistic to rely entirely on one comparator especially when house prices are clearly falling.

The land registry statistics quoted by GE are already showing a significant nationwide decline and a smaller one in Colchester. House prices have been unusually high over recent years due to Quantitative Easing and low interest rates. It will be important to re-look at the figures just before the Inspection.

House price indices

English House prices

Period	Sales volume	House price index All property types	Averag
2022-03	65344	144.02	
2022-04	58036	145.42	
2022-05	58327	147.44	
2022-06	57980	148.51	
2022-07	64804	151.63	
2022-08	66704	153.1	
2022-09	64656	153.69	
2022-10	61383	153.59	
2022-11	58456	153.96	
2022-12	49424	153.66	
2023-01	36038	152.37	
2023-02		152.29	
2023-03		149.96	
Decline 2023 year to date		-2.4%	

Colchester House prices from Land Registry

Period	Sales volume	House price index All property types	Avera
2022-03	239	148.85	
2022-04	221	148.53	
2022-05	258	149.77	
2022-06	222	151.85	
2022-07	238	154.12	
2022-08	284	155.49	
2022-09	223	155.95	
2022-10	252	157.67	
2022-11	226	158.62	
2022-12	175	159.93	
2023-01	136	160.75	
2023-02		159.82	
2023-03		158.49	
Decline 2023 year to date		-0.9%	

The viability model is super-sensitive to house prices because the operational leverage is high. A 10% reduction in house prices creates a 26% reduction in plot values and reduces the master developer IRR from 9.8% to 0%. See the sensitivities table below.

Residential plot prices.

The model assumes that residential plots can be sold to housebuilders at £104,000 per plot. This is supported by the housebuilder appraisal presented on page 94.

£104,000 looks high. Urban & Civic were selling serviced plots in 2022 at £89,000 apiece[3], much less than is proposed for TCBGC. And many of them will have been at Alconbury which is a stronger housing market in the Cambridge area.

[2] Under Quantitative Easing the Bank of England supports the gilt market to artificially drive down interest rates. It buys government debt and is compensated for any losses under an indemnity from the government.

[3] Page 20 of the Urban & Civic 2022 annual report (which is available online) reveals that they generated £109m from the sale of 1221 plots giving an average of £89,271 per plot.

Gerald Eve needs to provide supporting evidence from Alconbury or elsewhere that housebuilders are prepared to pay £104k per plot in practice, especially with 30% social housing and demanding build requirements. The housebuilder appraisal shows it can be done in theory, but are they paying that much in practice?

Commercial plot sales (B2/B8)
GE have assumed rents of £16psf based on one transaction in Wyncolls Road (page 132). The Developer will be able to demonstrate a significantly lower figure when negotiating s106. Reducing it to £14psf would reduce the IRR from 0.4%[4].

Contingency
The GE appraisal provides contingency of just 12.7%[5]. This is a blend of four tiers of contingency –

- 0% for cash contributions e.g. to stewardship or the Link Road,
- 10% for Education, open space and scheme wide enabling works
- 20% for many of the transport schemes
- 40% for utility connections

The 2020 Inspector's report pointed out that the Treasury Green book requires 44% contingency for optimism bias on civil engineering items (para 217). He also warned about cost over-runs on the RTS (para 218) and advised that it would be reasonable to expect a contingency allowance of at least 40%. "Any lower figure would, in my view, provide insufficient reassurance that the necessary infrastructure requirements of the proposed GCs would be met."

TCBGC's infrastructure is still poorly defined. The one item where we have real pricing data (the RTS and Link Road) has produced substantial over-runs – the exact figures have been withheld but they are rumoured to be around 42%. They go to the soundness of the plan so I would expect the Inspector to ask for them.

I believe, on the basis of good evidence, that it would be imprudent to provide less than 40% which reduces the IRR from 9.8% to 3.11%.

The table below shows the contingency applied by Gerald Eve alongside my figures. 40% needs to be provided on the £21.25m Link Road cost now that the developer is taking responsibility for phase 2, by far the most complex and expensive part. I could also justify adding 40% to professional fees and planning costs but haven't done so.

[4] Note that my model is throwing up a very slightly higher IRR than Gerald Eve's 9.65%. The difference is small - not worth chasing. It may relate to assumptions on the timing of cash flows within each year.
[5] £62m contingency / £485m infrastructure cost = 12.7%. In addition there is a 3% contingency at housebuilder level. Some would treat developer profit as a further contingency but the Inspector advised against that in his 2020 report para 76.

Construction Costs	My view	GE Contingency	
Con. - SCHEME WIDE ENABLING WOR	40%	10%	-179,139,999
Con. - Education	40%	10%	-92,875,000
Con. - Community, Health & Well Beir	40%	10%	-14,820,000
Con. - Open Space	40%	10%	-27,210,000
Con. - Environmental / sustainability /	40%	10%	-4,300,000
Con. - Library contribution	40%	0%	-1,829,999
Con. - RAMS Mitigation	40%	0%	-1,032,824
Con. - Utilities:Energy -Connection to	40%	40%	-11,889,999
Con. - Utilities: Energy - Electricity div	40%	40%	-1,900,000
Con. - Utilities: Potable Water - conne	40%	40%	-5,300,000
Con. - Utilities: Potable Water - lower	40%	40%	-300,000
Con. - Utilities: Waste Water - upgrad	40%	40%	-1,300,000
Con. - Utilities: Waste Water - conne	40%	40%	-6,800,000
Con. - Utilities: Telecoms - Access cha	40%	40%	-3,099,999
Con. - Transport: Public Transport Sul	40%	0%	-11,999,999
Con. - Transport: A133 Improvements	40%	40%	-29,300,000
Con. - Transport: Bromley Road Impro	40%	40%	-3,900,000
Con. - Transport: University - Hythe -	40%	20%	-1,700,000
Con. - Transport: Ipswich Road Impro	40%	20%	-2,100,000
Con. - Transport: City Centre Improve	40%	20%	-6,700,000
Con. - Transport: Greenstead Improve	40%	20%	-2,900,000
Con. - Transport: Parsons Heath and I	40%	20%	-2,900,000
Con. - Transport: Wivenhoe	40%	20%	-4,200,000
Con. - Transport: A133 Tendring	40%	20%	-1,700,000
Con. - Transport: A12/120	40%	0%	-10,000,000
Con. - Transport: Travel Plan & Wider	40%	0%	-11,700,000
Con. - Transport: Gap Funding for A12	40%	0%	-21,250,000
Con. - Other: Long term stewardship (	0%	0%	-15,700,000
Con. - Other: Funding for employmen	0%	0%	-7,500,000
Contingency total	-184,859,128		-61,790,499
Professional Fees			
Professional Fees	0%	0%	-35,179,782
Strategic Planning Costs	0%	0%	-1,899,999

The finance rate

GE use a finance rate of 7.5% for both the housebuilder and the master developer appraisals. They mention WACC (the weighted average cost of capital) but don't explain how the (much higher) cost of equity is factored in. It isn't clear exactly what they are trying to measure.

Clarion lend to Latimer at SONIA + 5.5%[6] = 9.5% a much more appropriate cost of debt especially when arrangement and exit fees of 1-2% each are included.

Latimer's s106 consultants should be able to demonstrate that 9.5% is a reasonable finance rate for appraisal purposes in the current lending market. 9.5% would adversely affect the profit on GDV and residual land value metrics, but not the IRR.

The best solution is to concentrate on IRR for the master developer model, a figure that is unaffected by the choice of finance rate.

The interest calculation

[6] Please see the appendix 6 to my reg 19 submission which includes relevant passages from Latimers 2022 accounts.

The Gerald Eve appraisal generates an interest charge which is £37m less than the Hyas equivalent – a very significant amount.

By way of background Hyas did the viability for both section 1 Inspections and their methodology stood up to scrutiny well in the January 2020 sessions. The interest charge in their most realistic case (TCB2C Grant 40% contingency) was £120m compared to £83m in the Gerald Eve appraisal which supports the DPD.

I looked into the difference and found that it arises from different assumptions about the timing of developer profit distributions, which are of course treated as a cost in calculating residual land values. GE assume that the profit is taken out at the end of the project whereas Hyas charge it as a cost over the project period.

I am not aware of any developer who would wait 35 years before receiving any profit distribution from a development subsidiary which it had financed, so I think that the GE approach is unrealistic. Gerald Eve will argue that they use industry standard software and that their approach is in line with market practice. But the Argus Developer software is a tool which can be adapted either way: and they present no evidence that there is such a "market". No reliance can be put on their interest calculation for the real world.

Once again the best solution is to concentrate on IRR in order to bypass the problem.

The metrics – IRR / residual land value / profit on GDV

Gerald Eve base their conclusions on three metrics :

1. IRR or internal rate of return is a valid measure for a 35 year project
2. Residual land value v. benchmark
3. Developer profit / GDV is suitable for a housebuilder project of 5-10 years but seriously misleading for any number of reasons.
    - it commits the cardinal sin: it compares future profits to current costs
    - It deducts developer profit only at the end the project period rather than during it as in the Hyas 2020 appraisal.

I believe that the IRR figures are the only ones we should rely on for the master developer appraisal. Developer profit / GDV is appropriate for the much shorter housebuilder appraisals.

Growth modelling

Growth modelling has been suggested as a way out of the viability constraints. But if done correctly it will produce exactly the same results and real world providers of finance won't be convinced by it.

Growth modelling attempts to include inflation and is useful for calculating peak cash requirements. But it is often done badly and thus it isn't trusted. We saw growth modelling at the 2020 inspection producing wild figures over 50 years and drawing erroneous conclusions. Inflated future values were compared to current values, some items were inflated and not others (such as deferred land acquisition costs) and most significantly the

benchmark IRR was not adjusted for the impact of inflation. My critique of these appraisals is available to anyone who is interested.

If growth modelling is to be attempted it must be done properly.

- All figures must be inflated, not just revenue
- The benchmark IRR must be adjusted upwards[7]
- The tax consequences of inflation must be considered[8]
- Future values must NEVER be compared to current ones

Sensitivities

I have adapted the underlying Gerald Eve cash flow (kindly provided) to calculate sensitivities. Each sensitivity refers back to the base case.

Sensitivities to Housebuilder and Master developer models

Sensitivities - calculated from WS model based on Gerald Eve figures

	Base case	3% fall in house prices	5% fall in house prices	Reduce social housing to 25%	Reduce social housing to 20%	Remove cost of Part L&F	Remove external transport infrastructure	Contingency 40% on everything	Live calculator
		Sensitivity 1	Sensitivity 2	Sensitivity 3	Sensitivity 4	Sensitivity 5	Sensitivity 6	Sensitivity 7	
House price £psf	400	388	380	400	400	400	400	400	400
Social housing %	30%	30%	30%	25%	20%	30%	30%	30%	30%
Part L&F - % of build cost	10%	10%	10%	10%	10%	0%	10%	10%	10%
Price per plot payable by housebuilder £	104,353	96,158	90,695	113,456	122,558	116,832	116,832	104,353	104,353
Master developer Revenue £m	898.7	837.2	796.3	967.0	1035.2	992.3	992.3	898.7	898.7
Master developer cost £m	-695.8	-695.8	-695.8	-695.8	-695.8	-695.8	-606.7	-818.9	-695.8
IRR % (s/b 10-14%)	9.80%	6.64%	4.66%	13.70%	18.12%	15.28%	22.98%	3.11%	9.80%
£m from base case- no discounting - £m		-61	-102	68	137	94	89	-123	

Explanation of sensitivities

Sensitivty 1	shows that a 3% fall in house prices (including social housing), will cost £61.5m. This is an undiscounted figure - to be treated with care over 35 years . More reliable is the IRR which falls from 9.8% to 6.64%, even further below the expected range of 10-14%
Sensitivity 2	A 5% fall in house prices produces an IRR of 4.66% and a 10% fall to 0%
Sensitivity 3	If we reduce the % of social housing from 30% to 25% we will save £68m. All other items are as per the base case
Sensitivity 4	If we reduce the % of social housing from 30% to 20% we will save £136m. All other items are as per the base case
Sensitivity 5	The housebuilder appraisal adds 10% for the cost of parts L&F - the key requirements of the Future Homes standard. I assume this is also intended to cover the heavy policy burden in the DPD requiring green and blue infrastructure. Removing the 10% saves £94m over the 35 year period
Sensitivity 6	The appraisal includes £89m for external transport infrastructure and a further £21m contribution to the cost of the link road. The external road improvements may not be sufficiently connected to the GC to be collected under s106 and they may have to be financed elsewhere. The saving would be £89m and the IRR shoots to 22.98% because it is up front expenditure
Sensitivity 7	The master developer appraisal has an overall contingency of 12.7%. If that is increased to 40% as recommended by the Inspector the cost is £123m and the IRR falls to 3.11%
Note	The model is in two parts, as per Gerald Eve. The master developer model covers the Urban and Civic role - buy the land, get planning, install infrastructure, sell plots to housebuilders. The second model considers the price per plot which the housebuilders might be able to pay. All figures as per Gerald Eve, and sensitivities considered one at a time to keep it simple

The figures show that viability is sensitive to house prices. Even a 3% reduction from the key £400psf assumption has a major impact.

They also give a view of the compromises that may be needed. The IRR should be in the 10-14% range but it is only 9.8%. And we know that the house price and contingency assumptions are optimistic and that compromises will be needed.

- 25% social housing saves £68m

[7] In simple terms if 5% inflation is modelled then the benchmark IRR should be increased by 5%.

[8] In the 1970s the tax consequences of inflation were a major problem and "stock relief" had to be introduced to reduce the impact of tax on inflationary stock gains. Some profitable companies were failing because they couldn't afford to replace their stock at new and higher prices.

- Removing environmental regulations saves £93m
- Removing all external transport infrastructure except the link road saves £89m

I am not endorsing any of these compromises, merely calculating the figures.

Is TCBGC viable?

Gerald Eve's own numbers show that the project isn't viable.

- The IRR of 9.65% is below the preferred range of 10-14%.
- The faulty developer profit / GDV metric is 13.4%, below the benchmark of 15%.
- They conclude that the project is "capable of becoming viable", not that it is viable.

The GE numbers appear to have been prepared last autumn on the basis of backward looking evidence. Since then the position has clearly worsened but the appraisal hasn't changed. House prices are now falling, and build costs and interest rates continue to rise. Also the total contingency (12.7%) is below the level advised by the section 1 Inspector (40%).

The DPD is not viable as it stands and compromises will clearly be needed, as they have on other schemes of similar size. I recommend focussing attention now on a 10 year phase 1 appraisal to demonstrate that the scheme will not be stillborn.

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