



Infrastructure first

Matter 7 Hearing Statement

Word count 3123 including Inspector's questions

Viability

We welcome the Inspector's questions on viability which provide an opportunity to open up some issues raised in NEGC's evidence published on 30th September 2019.

1. A brief explanation of the methodology used in the CAUSE appraisal

The CAUSE model starts by replicating Hyas, then tests various assumptions. We have a full model¹ for CBB and simple one-page models for WOB and TCB. We use the figures from the CBB scenario with 40% contingency (so called), no inflation, with grant to illustrate our answers.

Our principal output is NPV per acre, calculated by discounting the residual cash flows available for land at 6% (we argue below that 6% is too low).

A range of scenarios should be stress tested because that is the approach the financial markets will take. The core test is that NPV per acre must exceed a land value benchmark of £100,000 per acre + acquisition costs. But IRR, peak debt, interest cover, loan to value and other measures of financeability should also be considered.

It is essential to make use of DCF measures such as NPV and IRR for evaluating long term projects. Arithmetic measures such as Profit / GDV can be highly misleading beyond 10 years. Only Avison Young have done meaningful IRR calculations, albeit with an unrealistic threshold. We have not found any NPV calculations in any of the appraisals except our own.

A proper discussion on the cost of capital is needed. Views range from our 10%+inflation² to the suggestion by Avison Young that it is only 2.5%-5%³. It is important not to confuse the low cost of capital achieved by utility companies with the high cost of financing long term speculative infrastructure projects with irregular cash flows.

¹ Our full model uses the Hyas spreadsheet which we were able to obtain from publicly available sources. We have had to enter the data manually but, with some help from Hyas, we have been able to replicate their model almost exactly.

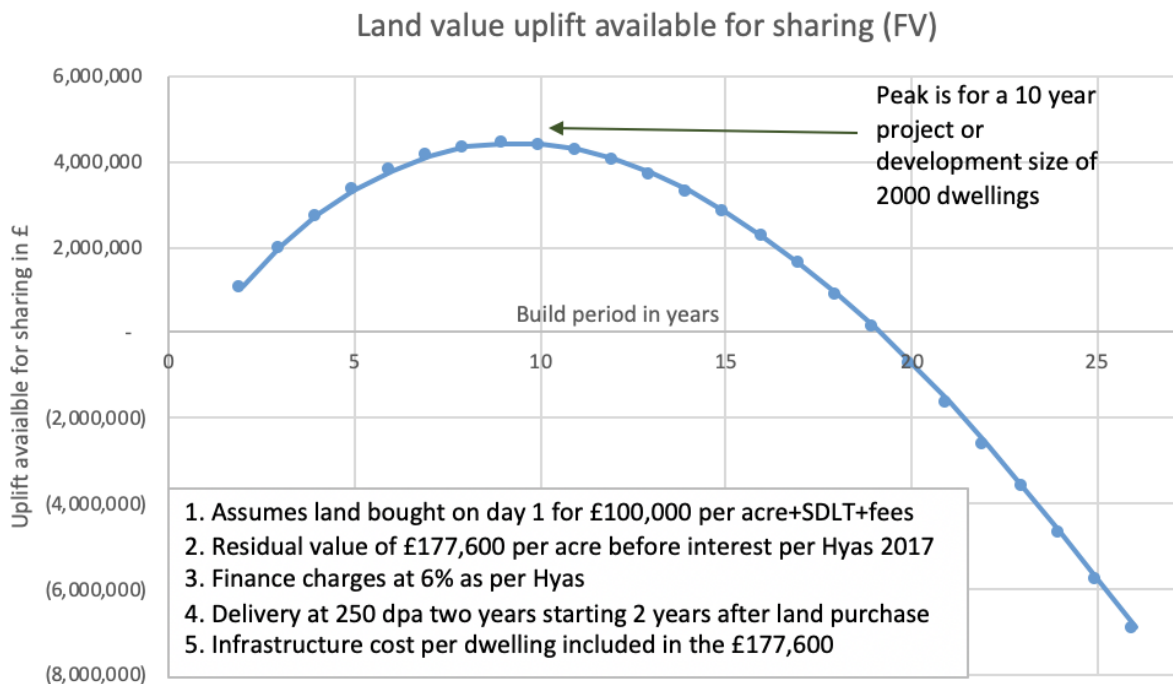
² See our Matter 4 hearing statement for analysis of legal structure and cost of capital

³ See Avison Young consultation response para 33

Matter 7 Hearing Statement

We have modelled⁴ housing developments at a number of different sizes. As the size increases so does the surplus over the benchmark. But when it gets to 2000 houses built over 10 years the surplus starts to fall because the funding cost of the extra land increases (see key diagram below).

This conclusion goes to the root of the Plan but remains unexplored. Our requests for further investigation by the NEAs have been ignored: we believe that anyone who does a similar exercise is likely to reach broadly similar results and that our conclusion is supported by market evidence from the real world as well as financial modelling.



⁴ See CAUSE's various "Small is Beautiful" papers which are now consolidated into a booklet called "Garden Communities – what cost. The need for a Planning Plimsoll line." <http://www.cause4livingessex.com/garden-cities-what-cost-time-for-a-plimsoll-line/>



Infrastructure first

2. A list of input values to the Hyas June 2019 Viability Assessment Update [VAU] [EB/086] which we believe should be amended

We use the same inputs as Hyas as a base case. We list below some of the items where we disagree:

1. Delivery rate: the evidence indicates that 250dpa is a reasonable assumption. Our matter 4 statement argues that 2030 is a realistic start date with the first houses delivered in 2032.

2. Land purchase assumption: the Hyas assumption that land is purchased at a fixed price over up to 80 years is unprecedented. See chapters 4 and 17 of our consultation response.

3. Contingency: 40% on all costings is needed at this early stage of project definition⁵. This should not be compared to the low contingencies allowed in s106 negotiations when there is much greater project definition and every incentive for developers to identify every cost.

4. Developer margin: Hyas have reduced the housebuilder margin from 20% to 15%. The model is very sensitive to this change which is not justifiable over the economic cycle. 20% remains appropriate.

5. Inflation assumptions: Hyas use 3.5% for infrastructure and 4% for everything else – the difference is material. We recommend 2% (the BoE target) for all expenditure unless a forward-looking macroeconomic case can be made for something else. Extrapolation of past trends over 80 years produces absurd results and opens the modelling to mockery.

6. Inflation on land prices: Hyas assume that land prices remain constant for 80 years while 4% inflation rules elsewhere: a wildly unrealistic assumption on which to base investment decisions. Land prices should clearly be inflated too unless there is evidence that a fixed price can be negotiated.

⁵ Our view is supported by the Harman guidance page 27 which states that *“Forecasting things like house prices or costs is notoriously difficult over the shorter term, and subject to wider inaccuracies over the medium and long term. The best a council can realistically seek to do is to make some very cautious and transparent assumptions with sensitivity testing of the robustness of those assumptions.”*



Infrastructure first

Matter 7 Hearing Statement

7. Finance cost in inflation scenarios: Hyas continue to use 6% with 4% inflation and produce spectacular results. However inflation doesn't add value except in the short term. For a long term project inflation should be added to the discount rate: ie if the inflation assumption is 4% then the discount rate should be 10% rather than 6%. Our modelling shows that correctly done an inflation model will produce much the same residual land value as a fixed price one.

9. NEGC overhead: Hyas ignore the significant cost of running NEGC. Avison Young budget this at £209m in total but Hyas have nothing (page 9 of the AY 30th September viability paper)

3.	An account of the approach we have taken to land value. For residual valuation appraisals, what benchmark land value (in £/acre) is assumed and what is the evidence base for it? For appraisals in which land value is an input, what is the input land value (in £/acre) and what is the evidence which supports that land value?
----	--

Hyas should be using a benchmark of at least £100,000 per gross acre + acquisition costs paid up front. This figure is supported by

- Savills (for L&Q)
- CBRE (for Fareham Borough Council) re Welborne and
- the Harman guidance pages 30-31 where the need to deal with local market conditions and landowner expectations is emphasised.

It is not contradicted by the new Viability Guidance which advises that appraisals should include land at EUV + a premium where "The premium for the landowner should reflect the minimum return at which it is considered a reasonable landowner would be willing to sell their land⁶". The CBRE Welborne report took this guidance into account in concluding that £100,000 per acre paid up front was a fair price.

2. Is adequate provision made for the costs of infrastructure at the GCs in the 2019 Hyas VAU?

No. Our matter 6 paper covers this in detail. Known missing items include:

- Cost of HRA mitigation⁷ - £8.9m in total, maybe £2.2m for CBB only.
- Land acquisition costs - £12m per Savills for West Tey including 5% SDLT
- Land for RTS outside Garden Communities - substantial cost unknown⁸

⁶ See Viability Guidance 24/7/2018 para 011

⁷ The overall cost for the mitigation package is £8,916,448 in total from today until 2038. The tariff per dwelling for this period is currently calculated at £122.30 <https://cbccrmdata.blob.core.windows.net/noteattachment/FINAL%20Essex%20Coast%20RAMS%20Strategy%20110119%20SH%20NMR%20v2%20150119.pdf>

⁸ Land cost for HS2 has escalated to £5bn for 160kms or £31.25m per km. <http://stophs2.org/news/17974-hs2-property-cost-forecast-times-original-estimate-foi-shows> That scales down to £781m for 25kms from Colchester to Braintree. The cost will come from severance and damage to residences and farming businesses



Infrastructure first

Matter 7 Hearing Statement

- Cost of RTS route 4 - £37m – not included in any of the three GC appraisals
- Cost of GEML upgrades to deal with extra commuting
- LLDC / NEGC operating costs - £210m over the project period.⁹
- Country park landscaping omitted – was £5m in Hyas 2017

Examples of understatement include:

- A120 contributions paid over 80 years whereas road is needed now. NPV of £31.5m over 80 years = £5.7m¹⁰ now or 1% of the £522m budget. There is no explanation of how the timing mismatch would be funded, merely a suggestion in EB049 that no contribution would be needed at all.
- Cost of RTS is at lower limit. Using the upper limit would add £93m to the cost across north Essex
- Cost of 13km sewage pipeline from CBB to Rowhedge budgeted at £1m per kilometre compared to £2.2m Anglian Water precedent in Norfolk. Extra £16m of cost.
- The cost of CBB3, CBB4 and CBB5, the main items in the £229m HIF bid, should be budgeted consistently in the HIF bid and Hyas¹¹.

Apart from housing delivery rates and infrastructure costs (to be discussed under Matters 5 & 6), a number of other changes have been made to the inputs to the 2019 Hyas VAU compared with the 2017 Hyas VA [EB/013], including..... Are those changes justified?

a) land-use and development breakdown

Retail land has been ignored (or perhaps included in a much smaller “mixed use” category) without justification. This indicates that little thought has been given to the impact of the GCs on the retail hierarchy or to the impact on nearby town centres.

	Hyas 2017 Hectares	Hyas 2019 Hectares	
Employment B1 / offices	7.0 ha	25.7 ha	Employment B1/offices
Employment B2 / B8	33.0 ha	25.7 ha	Employment B2/B8
Retail / leisure / mixed use	46.0 ha	20.0 ha	Mixed use

b) infrastructure costs

en route as much as the land itself. If the RTS is to achieve high speeds then crossings will either have to be grade separated or closed completely as per the Cambridge guided busway.

⁹ £77m+ £89m +£44m for WOB, CBB and TCB respectively per page 9 of Avison Young report written for NEGC

¹⁰ NPV in 2025 of the Hyas CBB £31.5m contribution to the A12 starting 2029, finishing 2099 discounted at 6%.

¹¹ See chapter 3 of the CAUSE consultation response page 10

Matter 7 Hearing Statement

	Hyas 2019	Hyas 2017	Avison Young	Savills	CAUSE comment
Master developer costs	£m	£m	£m	£m	
Infrastructure	977	1182	1009	777	s/b 1840 per CAUSE 2017 analysis
Fees	90	106	101	0	Savills ignore fees on infrastructure
Contingency	144	57	111	0	s/b at least £400m per CAUSE
NEGC opex			89		Hyas ignore cost of master developer
Total costs £m	1212	1345	1310	777	
Infrastructure cost per dwelling	57697	56860	62365	37000	

Unjustified. Infrastructure costs have fallen from £1,182m to £977m in what looks like cheese paring. The table on page 28 of chapter 3 of our consultation response provides detail.

CAUSE has long argued, based on advice from Nicholas Falk, that a new settlement starting from scratch will require a significantly higher infrastructure cost per dwelling than smaller scale developments. In 2017 our engineers estimated the cost of the infrastructure promised for CBB at £1.84bn so we are disappointed to see lower figures.

c) build costs

	Hyas 2019	Hyas 2017	Avison Young	Savills	CAUSE comment
Housebuilder costs	£m	£m	£m	£m	
Build cost - residential	2552	2595		2017	
Build cost - commercial	143	243			
External works and estate ro	270	414			
Fees and finance fees 14%/1	458	397		202	
Contingency				111	
Sales fees 2.5%/ .5%/3.5% of	150	173		84	
Fudge factor	8	-2			
Land acquisition fees				12	Hyas keep forgetting SDLT & fees on sale
Buyer's costs SDLT 5.3%, ac	153	162			Savills ignore buyers costs
Total plot developer cost £m	3734	3982		2426	
Cost per dwelling £	177,825	168,301		102,522	

Justified. Hyas explain that they have included the Dec 18 BCIS data and adjusted for 20% flats thus increasing build costs from £1167psm to £1293psm. They have also updated their sales prices, but not by as much.

d) specific inclusion of flats in the development mix

Probably justified, but not well explained. The idea of including flats is correct, but we would expect to see densities adjusted as well as build costs. We note that density has increased from 35dph to 37.2dph so it is possible that this has been done.

e) plot external costs

Unjustified reduction from 15% to 10% of build cost.

f) sales values

Justified increase from £3504psm to £3598psm

g) plot developer profit rate



Infrastructure first

Matter 7 Hearing Statement

	Hyas 2019	Hyas 2017	Avison Young	Savills	CAUSE comment
	£m	£m	£m	£m	
Finance costs	593	129	348	95	Hyas finance costs now correctly calculated
Master developer profit	129	170	210	0	
Housebuilder profit	921	1338		1341	Hyas 2019 too low
Land costs	170	570	76	191	

Unjustified. Hyas have reduced the housebuilder margin from 20% to 15%, a figure which rises to 17.5% if the master developer profit is included (para 4.26). This is far too low over the economic cycle, a view that is supported by our own experience and also a Savills booklet called “Competitive Return to a Willing Developer” which quotes 23-28

h) contingencies

Unjustified. See chapter 3 of our consultation response and list of inputs above.

i) proportions of affordable rented and intermediate housing

Unjustified. Affordable rented has been reduced from 80% to 60% resulting in significant increased revenue. Braintree Councillors were told that this was just a technical change, a statement we regard as misleading because they should have been told that the technical change resulted in a saving of £153 million on social housing¹².

j) use of inflation rates

Unjustified. Our strong criticism of the Hyas inflation scenarios is laid out in chapter 3 paragraph 10 of our consultation response.

4. Are sufficient contingency allowances built into the 2019 Hyas VAU?

No. See chapter 3 para 4 of CAUSE consultation response

5. Is 6%, as employed in the 2019 Hyas VAU, an appropriate rate for the cost of capital?

No. A higher cost of 8-10% + inflation is appropriate for an infrastructure developer with no track record, no land and no regular income stream.

6. Accepting the assumption that land will be purchased two years before it is required for development, does the 2019 Hyas VAU correctly calculate interest on land purchase?

Yes the Hyas interest calculation is now correct and producing a similar residual land value to an NPV calculation (which can be done in one cell rather than several lines of iterative calculations). The Hyas calculation is different from the Savills one because it assumes that developer profit is paid out over the project period rather than at the end. The Savills assumption is unrealistic for long term projects.

¹² See page 26 of chapter 3 of the CAUSE consultation response



Infrastructure first

Matter 7 Hearing Statement

7. Is the assumption that land will be purchased two years before it is required for development a sound one to make?

Absolutely not. See Chapter 4 of the CAUSE consultation response. All precedents indicate that the land must be owned on day one. This is the line taken by Savills for L&Q and CBRE at Welborne. Only Hyas (and to a lesser extent Avison Young) assume that it is practical to buy the land in convenient block sizes just 2 years before the plots are sold, thus spreading the cost over up to 80 years.

8.0 In the 2019 Hyas VAU Grant scenarios:

(a) Is the value of the HIF funding accurately reflected in the adjustments made to the infrastructure costs, compared with the Reference scenarios?

No. See Chapter 3 para 5 of the CAUSE consultation response.

(b) Is it safe to assume that the HIF funding will not have to be repaid to the government?

No. The HIF bid indicates repayment of £21m before 2030 and £109m at an unspecified time later. It isn't clear where the cash for the repayment will come from, or under what circumstances repayment will be required.

(c) What are the implications for the 2019 Hyas VAU of the reference to "recovery and recycling" of the HIF funding in the Business Case - HIF/FF/000365/BC/01 - Tendring Colchester Borders Garden Community [EXD/054], pp152-155?

It is surprising that there is no provision for repayment in the Hyas model because the HIF bid says (on page 153) that "based on the financial model developed for this HIF bid, it is expected that the recovery and recycling of the HIF funding is achievable, with the profile depending largely on the growth in future housing prices and the mechanism adopted."

Clearly any provision for repayment of HIF bids will impact financial viability even if the repayment is conditional on a surplus. Private capital will not be interested in taking risks if the reward is removed in this way. Clarity is needed on whether the HIF money is to be accounted for as a grant or a loan and the legal structure needs to be clear.

The dependence on grant money goes to the legal integrity of the Plan. If the grants are a material consideration in the NEAs' decision-making, which they appear to be, then a very recent Supreme Court Ruling may apply. On 20th November 2019 the Forest of Dean District Council was found to have been wrong to take community grants into account when deciding to grant planning permission for a wind turbine. The decisions on the location and scale of the GCs appear similarly to be influenced by money rather than planning considerations. The LUC sustainability work shows no particular advantage to the locations chosen and there is no justification for the scale. The decision to continue with them appears to be motivated by the desire to attract grant money



Infrastructure first

Matter 7 Hearing Statement

rather than a planning purpose and therefore to be in breach of the Newbury criteria.

The NEAs need to negotiate two changes to the HIF bid if it is to be workable.

1. Government needs to acknowledge that there is no realistic source of cash for repayment – it is a grant or subsidy for an economically inefficient scale of development
2. The HIF funding needs to be disconnected from any one particular development, both to reduce the risk of a state aid challenge¹³ (and to avoid breaching the Newbury criteria).

9. Is CAUSE's critique of the 2019 Hyas VAU Inflation scenarios valid? (Section 10.0, pages 22-25 of CAUSE's Consultation Response on EB086 Viability Assessment.)

Yes. The Hyas modelling of inflation is so misleading that it should be specifically withdrawn. It is particularly unfortunate that Councillors have placed so much reliance on it for decision making.

10. (a) Should the 2019 Hyas VAU have applied a benchmark land value to each of the GCs?

Yes. An explicit benchmark land value is needed to demonstrate viability. Hyas have ducked the issue thus allowing Councillors to draw the wrong conclusions. Hyas hint at £100,000 per acre in 2017 and reduce this to £10,000+premium per acre in 2019 using the new Planning Guidance as justification. The land market remains unchanged and the premium "should reflect the minimum return at which it is considered a reasonable landowner would be willing to sell their land" ie market price. Councillors have been wrongly led to believe that land can be acquired at just over agricultural value and that projects with residuals of £10k or more are therefore viable.

(b) If so, what should the benchmark land value(s) be?

We suggest £100,000 per acre up front + SDLT + acquisition costs, consistent with the benchmark land value adopted by Savills for L&Q and CBRE for Welborne. Note that CBRE specifically address the recent viability guidance in their report. They point out that a case could be made for a higher figure, and the same applies in North Essex where we have the reports¹⁴ from Troy / Three Dragons pointing to market prices for building land at much higher levels.

7. (a) Does any of the other viability appraisals submitted to the examination provide a more reliable assessment of the GCs' viability than the 2019 Hyas VAU?

¹³ See CAUSE's Matter 5 hearing statement.

¹⁴ e.g. CBC/0001 Colchester Economic viability study.



Infrastructure first

Matter 7 Hearing Statement

Yes. CAUSE's NPV per acre calculations are simple to do and provide a more balanced picture. There is less risk of error and the results will be more credible because they are stable.

(b) If so, what are the key differences in the method(s) and inputs employed in that other appraisal which make it more reliable?

See our consultation response chapter 4 which includes sections on "what might be done better" for each topic.