



## Non-Traditional Homes Summary Property Review

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## **Introduction**

Curtin's Consulting Limited were appointed by Stroud District Council (referred to in their report as SDC or the Council) to undertake a survey and prepare a report on the condition of the remaining non-traditional properties which remain with the Councils housing portfolio.

Surveys were completed in May 2017, and provide a supplement to the earlier report undertaken in August 2003. Additional work has been undertaken to clarify the financial position and viability of the stock.

This report considers only the structural stability and measures which may be taken to keep the properties in good repair.

The 2003 report, prepared by Curtins, noted that some roof coverings were already at or approaching the end of their design life and there was an expectation of an increasing number of repairs being required over the next 30 years. This was particularly to the Woolaway properties which have since been demolished and the sites redeveloped.

## **Project Brief**

The purpose of the surveys was to assess the current structural condition of the stock and identify any remedial work required supplemental to the previous report undertaken in 2003, to ensure a minimum 30-year continued life of the structures is achieved.

In addition, outcomes would provide an update to the outturn report to enable SDC to consider future options regarding the remaining non-traditional housing stock.

## **Methodology**

- Desk top review of Curtins 2003 report
- Visual inspection of external walls
- Determining the configuration of the principal structural components
- Visual inspection internally of floors, walls, ceilings where access available
- Recommendations for future action
- Provision of a report, including an assessment of "remaining life"

For each construction type, Curtins gave an assessment of "remaining life". This is based on the Curtins 2003 report, and their observations of the properties inspected at that time.

It will be assumed that unless there is evidence of deterioration then the remaining life will remain at a constant 30 years. Therefore, the baseline position in 2003 should still be 30 years in 2017.

The remaining life only applies to the non-traditional elements (PRC, steel frame, timber frame etc), and not to any other elements (timber roof structure, coverings, wall finishes, windows etc).

### **Exclusions**

Curtins report expressly excludes that “No trial pits will be excavated; no floorboards will be taken up. The surface waste drainage systems will not be investigated. The survey will not include investigation of non-structural elements such as services (gas, electric, and water supply), windows, doors, finishes (plaster, ceilings etc.), roof insulation and coverings, pollution and/or contamination, asbestos etc. Insulation, damp penetration and condensation will be examined insofar as they might adversely affect the structural components.”

These elements, where applicable, will be considered as part of any surveys for refurbishment works or financial viability forecasting.

### **Mortgageability**

The Curtins report covers non-traditional and mortgageability. The Housing Defects Act of 1984 and Housing Act of 1985 confirmed some construction types as being “*Designated Defective*”. This only applied to properties which were of PRC (Prefabricated Reinforced Concrete) construction, and these types of property became instantly un-mortgageable circa 1980.

In theory, but not necessarily in practice, any construction type which was not “*Designated Defective*” should be mortgageable. However lenders, in protecting their own interests, have tended to put any non-traditional type into the unmortgageable category.

The majority of SDC non-traditional properties are designated defective PRC types and the subsequent works required to achieve mortgageability would require the removal of the PRC external walls and party walls (which will have added difficulty where the adjoining house is private), and replacing them with traditional masonry construction.

<b>Type</b>	<b>Construction</b>	<b>Designated Defective</b>	<b>Major Works</b>	<b>Qty</b>	<b>Mortgageable?*</b>
Airey	PRC	Yes	External Walls	59	No, Internal PRC
BL8	Steel Frame	No	Over cladding – Brick	53	Yes
Cornish	PRC	Yes	Walls Out	52	Yes, PRC Removed
Dorlonco	Steel Frame	No	As original	13	Yes
Reema HP	PRC	Yes	EWI and as original	256	No, all PRC remain
Reema CC	PRC	No	As original	36	Yes

Stent	PRC	Yes	EWI	55	No, all PRC remain
Swedish	Timber Frame	No	EWI and Original	20	Yes
Unity	PRC	Yes	EWI	59	No, all PRC remain
Woolaway	PRC	Yes	EWI and Demolished	5	No, all PRC remain
				608	*Note: in theory only

It should be recognised that even amongst lenders there are different attitudes to non-traditional housing. The above information is Curtin's opinion and not that of individual lenders.

The majority of the non-traditional stock listed are known as Reema Hollow Panel, and the cost for undertaking the structural PRC repairs necessary to make all of SDC non-traditional properties mortgageable would prove to be the most expensive option.

If SDC were to have a single contract for the works and started a new one every week (without any breaks), the contract period would be roughly 5 years. Further considerations would include the removal of existing EWI and additional cost of removal.

The impact of the works on tenants would be very disruptive, would need to be temporarily decanted, probably for twenty weeks (depending on the amount of improvements incorporated into the works – e.g. new central heating, rewiring, kitchens, bathrooms etc.).

In addition to decanting and loss of rental income during the works, there will also be significant SDC management time to consider, both technical and housing management staff.

The Council's non-traditional properties may not be acceptable for mortgage purposes if the property was not completed to a PRC license standard or a bespoke scheme authorised by the Council.

No licences have been updated for twenty years, and any works "to the licence" will also need to comply with current building regulations at the time of the works. For example, the U-value to be achieved is far more onerous today than when the licences were first written in the mid 1980's, so, for example, wall thicknesses are greater to accommodate more Insulation.

Curtins would recommend that if you wish to sell the refurbished properties on the private market (rather than re-letting to your tenants) you should obtain documentation confirming that the works were carried out to a licence (which means approaching the licence holders).

## **Extent of Investigation**

The non-traditional housing stock currently comprises of 687 properties of which 229 are affected by the review which are distributed as follows:

Construction	Qty
Dorlonco	13
Reema Conclad	36
Reema Hollow Panel	162
Swedish	18
Total	229

Curtins undertook surveys to 42no. affected properties, representing 18% of the non-traditional housing stock affected by the review.

## **Conclusions and Recommendations**

### **Airey**

SDC own 59 Airey properties located Brownhill, Coaley. Ebley, Hardwicke, Kingswood, North Nibley, Slimbridge and Westrip.

Initially a “Leeds” scheme was adopted, which at the time would have made houses repaired under the scheme “mortgageable” for tenants if the party and spine wall had been dealt with.

Subsequently an “External Walls” only scheme was adopted. As the PRC elements in the party and spine walls were not dealt with, the scheme would not have been “mortgageable” for tenants.

**Retained PRC Remaining Life** – Curtins state “no change since 2003” and provide 30 years remaining life from the date the report was published”

**Conclusion** – Curtins state “There is no reason to believe that the retained (but structurally redundant) PRC columns in the external walls or the party and spine wall internally had suffered any deterioration”

**Recommendations** – Internal inspections of retained PRC in the party and spine walls whenever property vacant. Check risk of fire spread across party wall, seal where required.

### **BL8**

SDC own total 53 BL8 properties located in Cam and Leonard Stanley.

The external walls have been refurbished by building a new brick outer leaf against the existing metal sheet external walls. The details of the works are not known to Curtins, but they assume that the raft foundation was extended to accommodate the

new brickwork, and a cavity with insulation was incorporated into the works. The refurbishment works included for a new Decra roof installed over the existing roof sheeting.

**Retained metal frame Remaining Life** – Curtins state “no change since 2003” and provide 30 years remaining life from the date the report was published”

**Recommendations** – No further action required

### **Cornish**

SDC owns a total of 52 Cornish properties located in Bridgend, Wotton-Under-Edge, Coaley, Cam, Kingswood, and Slimbridge.

The Cornish properties were not part of Curtins 2003 Report. All the dwellings have been refurbished to a “Walls Out” scheme meaning that only the exterior walls have been renewed.

**Retained PRC Remaining Life** – Not applicable, all PRC in external walls removed and replaced with traditional brick/block cavity walling

**Recommendations** – Internal inspections of support to first floor walls whenever property vacant and action to improve support where required. Inspections of PRC constructed outbuildings to build up database of structural condition, aim to remove all PRC outbuildings within 20 years or less.

### **Dorlonco**

SDC owns a total of 13 Dorlonco properties located in Cashes Green. The external walls can either be brickwork, rendered block work, or render on metal lathing. The rendered block work type has been used in Cashes Green. The steel frame sits within the cavity of the external wall. The roofs have conventional slates on a timber sub-frame which is ultimately supported on steel trusses.

**Retained Steel Frame Remaining Life** – 30 years

**Recommendations** –

- Install EWI, but also remove existing cavity fill and use the opportunity of opening up to
- Inspect the steelwork within the cavity.
- Install “whole house” ventilation system in conjunction with EWI.
- Inspect chimneys during voids, and take down to below roof where deteriorated or not needed.
- Enabling works for EWI include dealing with overhead electric cables, reducing ground levels where too high, and moving gas pipe work away from the building.

## **Reema Conclad**

SDC owns a total of 36 Reema Conclad properties located in Forest Green, Nailsworth, Minchinhampton. The PRC elements in the external walls are performing satisfactorily, and apart from some minor localised repairs to panels no further remedial action is required at the present time. Of the eight properties inspected there were only two minor localised cracking/spalling defects. Pro-rata across the Conclad stock we might expect about ten minor repairs.

**PRC Remaining Life** – 30 years, longer when EWI is installed.

### **Recommendations –**

- Install EWI, inspect **all** properties and carry out repairs to the PRC as part of the EWI installation.
- Install “whole house” ventilation system in conjunction with EWI.
- Enabling works for EWI include dealing with reducing ground levels where too high, dealing with porches and rainwater down pipes, extending the roof gable ladder, re-locating radon gas pumps and ducts away from the buildings, and liaising with LA Planners regarding the existing tile hangings to the first floor.

## **Reema Hollow Panel**

SDC owns a total of 192 Reema Hollow Panel properties located in Forest Green, Nailsworth, Minchinhampton, Woodchester, Whiteshill, Stonehouse, Leonard Stanley, Cashes Green.

The Hollow Panel type of construction comprises wide, storey height, pre-cast, lightly reinforced concrete panels, the inner and outer leafs joined by vertical ribs. Steel reinforcement protrudes into the cast in-situ concrete column at panel junctions and corners. Each panel features channel shaped rebates on upper and vertical edges. These act as permanent shuttering for the in-situ concrete columns and reinforced ring beam. At corners and party walls quoins provide the shuttering and external finish.

**PRC Remaining Life** – 30 years, possibly more if EWI installed. May need to repair first floor PRC “ladder” beams from time to time and these should be inspected at changes of tenancy.

### **Recommendations –**

- Amend database to correct additions and deletions found during the survey
- Install EWI, inspect **all** properties and carry out repairs to the PRC in advance.
- Install “whole house” ventilation system in conjunction with EWI.
- Check for and seal gaps across the party walls where there is a risk of fire spread.
- Check “ladder” FF beams at all changes of tenancy.
- Repairs to single storey extension at 31 Victory Road, Whiteshill



- Enabling works for EWI include dealing with reducing ground levels where too high, dealing with overhead cabling, gas pipework, porches, conservatories, roof verges

### **Stent**

SDC owns a total of 55 Stent properties located in Dursley. Since 1998 the PRC external walls of the houses have been protected by EWI. There is no reason to believe that the retained PRC has deteriorated.

**PRC Remaining Life** – 30 years, subject to routine maintenance of the EWI (which is now 19 years old).

### **Recommendations –**

- Assessment of the EWI in 2018, and 2023. Carry out any repairs to the finishes necessary to continue protection of the PRC.
- Consider new EWI from 2023.
- If new EWI, then remove existing to enable a full assessment of the condition of the PRC prior to installing new.
- Carry out internal inspections at changes of tenancy, including random opening up to view the PRC wall condition. Log the floor construction materials (steel or timber), check condition, and repair/replace as necessary.

### **Swedale**

SDC owns a total of 20 Swedish Timber properties located in North Nibley, Painswick, Stancombe, Stinchcombe, The Camp, Uley and Wotton-Under-Edge. Dwellings comprise semi-detached chalet bungalows and two storey houses. The external walls are clad in vertical timber boarding throughout, and the dwellings have steep pitch gable roofs covered with concrete tiles, slates or timber shingles. The chalet bungalows and some houses have single-storey gable roof extensions.

**Timber Frame Remaining Life** – Stancombe - 30 years

Other sites – Limited without extensive repairs to the timber frame in the short term

### **Recommendations –**

- Repairs and EWI to be installed within three years.
- Install “whole house” ventilation system in conjunction with EWI.
- Carry out maintenance works this year – gutters, ivy, dormer windows, chimneys, roof tiles, flashing, ground levels, underfloor vents all need attention to varying degrees.
- EWI enabling works prior to Repair and EWI Contract – overhead cables and gas pipework.

### **Unity**

SDC owns a total of 59 Unity properties located in Hardwicke, Ebley and Cashes Green. There are two basic types of Unity dwelling. The earlier version (Mark I) has

outer cladding and inner block skin not fixed to the columns but tied across the cavity with copper ties. The later version (Mark II) has outer cladding fixed directly to the columns using copper straps. The columns are slightly different cross section; the Mark I columns have a slight recess in the side, the Mark II columns are of plain rectangular section.

The PRC elements in the external walls were in good condition with a low risk of corrosion to the steel reinforcement, and of all the properties have been protected by the installation of EWI.

**PRC Remaining Life** – 30 years, subject to routine maintenance of the EWI (which is now 16 years old).

**Recommendations** – Repairs to the EWI to continue to protect the PRC.

## **Next Steps**

SDC recognises that better standards of insulation are needed help improve the thermal properties of its homes, regardless of the types of primary heating systems which are installed.

When carrying out refurbishment work on buildings owned by SDC, we will actively seek to go beyond the minimum level of insulation required to meet regulations where it is practically and economically feasible to do so.

External wall insulation improves the home's thermal comfort and performance, limits Co2 pollution and reduces energy costs of accessories (heat pump, air-conditioning, fans). It creates more comfortable living spaces by limiting the effects of condensation and eliminates a large number of thermal bridges and excessive heat loss through the walls.

## **Risks**

### **Sustainable Reinvestment**

We want to help create sustainable communities which are places where people want to live for the long term. Due consideration will need to be given against any capital outlay and the increased risk of RTB that may result in commercial and socially valuable council assets being sold at below their market value or replacement cost.

This may not be something the Council can control, or indeed influence, however, it should be noted that this is an inherent risk given the average discount available on Council homes increased by 132% between 2012/13 and 2016/17 to more than £60,000, and during that period Right to Buy sales have increased 409% (*Source Local Government association*).

If the Council chooses to do nothing, it is likely to see increased level of reactive maintenance being undertaken on the properties which in itself may not be a long term sustainable option.

There is also the increased risk of tenants becoming dissatisfied with the condition of their homes which may lead to increased levels of complaints, and claims for disrepair.

### **Social Value and Our Tenant Expectations**

Social value remains an important part of Stroud's commitment to stakeholders and we realise that communities need to be successful, economically, socially, and environmentally.

Therefore within this context we consider the locations where a number of our non-traditional stock is located to be beneficial to local needs and particular strategic objectives in determining the impact of investment decisions.

We understand that growing competition to attract the best tenants, rising energy costs, and a more informed client has seen tenant expectations rise. Tenants are more aware of what is achievable from the information provided on Energy Performance Certificates (EPC). Improving the energy efficiency of homes will mean that tenants will live in warmer homes with the potential to manage their energy consumption more efficiently, giving them the scope to reduce their fuel bills.

When SDC invests in improvements to its housing stock the only obvious benefit is for the tenants in the form of better thermal comfort and/or lower fuel bills.

### **Conclusions**

The Curtins report of 2003 provided the Council with a number of options which with the exception of the Woolaway stock, largely remains outstanding.

Since 2003, Housing has seen a number of legislative changes which has put greater emphasis on social landlords to ensure the homes they provide meet required standards.

### **Recommendations**

It is inevitable that some works would make the properties more attractive to potential purchasers under the RTB scheme, and potential lenders would find it easier to justify securing loans against the properties.

Undertaking all of the works to make the properties mortgageable would add considerable expense to any programme, and crucially would not extend the life of the properties substantially beyond other proposed measures.

It is recommended that the Council's reinvestment strategy in the properties takes into account the opportunity to undertake identified capital works at the same time as structural and preventative measures indicated within the Curtins report. This would provide an opportunity to achieve greater scales of economy.

If the Council continued to invest at the current rates it is estimated that works would take in the region of twenty five (25) plus years to complete.

# **Non Traditional Homes Short Term Budget Forecast**

## 5 Year figures

Owner	Total Stock	Surveyed	
Council Owned	229	162	
<b>Total:</b>	<b>229</b>	<b>162</b>	

  

	Catchup	2019	2020	2021	2022	2023	Total
Dorlonco	13,432	1,767	25,113	12,748	26,780	1,419	81,258
Reema HP	604,605	79,210	123,355	185,934	43,702	87,982	1,124,789
Remma Conclad	216,633	6,633	42,288	19,783	10,000	10,892	306,230
Swedish Timber	304,563	11,953	41,494	56,647	22,957	11,603	449,216
<b>Grand Total:</b>	<b>1,139,233</b>	<b>99,563</b>	<b>232,251</b>	<b>275,112</b>	<b>103,438</b>	<b>111,897</b>	<b>1,961,493</b>
<b>Per Property:</b>							<b>8,565</b>

Archetype EWI & SEWI costs	Unit cost	Unit	Total cost
Swedish Timber	22,250	18	400,500
Dorlonco	15,600	13	202,800
Reema HP	15,600	162	2,527,200

Grand Total of works	
Capital works	1,961,493
EWI & SEWI	3,692,100
<b>Grand Total of works</b>	<b>5,653,593</b>

Cost per Property per Archetype	EWI&SWEI	Capital Costs	TOTAL
Swedish Timber	22,250	8,565	<b>30,815</b>
Dorlonco	15,600	8,565	<b>24,165</b>
Reema HP	15,600	8,565	<b>24,165</b>
Remma Conclad	15,600	8,565	<b>24,165</b>

The above information has been captured from Keystone Asset Management database and the data illustrates indicative costs for 229 non-traditional properties over a fixed term.

The total planned works costs above are a 5-year fixed period and are shown in the table as 1,961,493 million.

The additional external wall insulated render system have been costed per archetype and are shown as a total cost of 3,692,100 million which amounts to a final total of 5,653,593 million expenditure.

## 10 Year figures

Owner	Total Stock	Surveyed										
Council Owned	229	162										
<b>Total:</b>	<b>229</b>	<b>162</b>										
	Catchup	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Dorlonco	13,432	1,767	25,113	12,748	26,780	1,419	12,952	18,327	11,224	27,240	16,840	167,841
Reema HP	604,605	79,210	123,355	185,934	43,702	87,982	177,723	172,636	199,311	198,132	93,881	1,966,472
Archetype EWI & SEWI costs	Unit cost			Unit	Total cost							
Swedish Timber	22,250			18	400,500	4,746	49,168	29,563	10,509	654	400,869	
Dorlonco	15,600			13	202,800	0	31,318	10,653	13,583	3,517	508,288	
<b>Grand Total of works</b>						<b>195,421</b>	<b>271,449</b>	<b>250,751</b>	<b>249,464</b>	<b>114,892</b>	<b>3,043,469</b>	
												<b>13,290</b>
Capital works					3,043,469							
EWI & SEWI					3,692,100							
Cost per Property per Archetype	EWI&SWEI	Capital Costs	TOTAL									
Swedish Timber	22,250	13,290	<b>35,540</b>									
Dorlonco	15,600	13,290	<b>28,890</b>									
Reema HP	15,600	13,290	<b>28,890</b>									
Remma Conclad	15,600	13,290	<b>28,890</b>									

The above information has been captured from Keystone Asset Management database and the data illustrates indicative costs for 229 non-traditional properties over a fixed term.

The total planned works costs above are a 10-year fixed period and are shown in the table as 3,043,469 million.

The additional external wall Insulated render system have been costed per archetype and are shown as a total cost of 3,692,100 million which amounts to a final total of 6,735,569 million expenditure.

## **Conclusion and Recommendation**

When reviewing and appraising stock requirements, any investment is focused on sustainable stock and reducing the carbon footprint of the building. Therefore, the proposed works have been recommended to prevent the deterioration of our housing stock and has been identified from Curtin's technical appraisal, supplementary report and SDC's in-house stock condition surveys.

Where similar sized registered social landlords and local authorities have carried out significant levels of improvement on their non-traditional stock, it is generally accepted that good practice requires landlords to thermally improve the walls through external cladding, roof insulation and replacing inefficient central heating.

We can see that the cost per property type is less than the £30k which represents good value for money, given the projected surveyed life of the components. Therefore, based on site assessment reports, data analysis, the approach should be to complete the works when properties become vacant minimising disruption to residents; however it is not anticipated that tenants will need to be decanted in order to deliver the works effectively.