

**FALKIRK COUNCIL**  
**COUNCIL TENURE HOUSING**  
**STOCK**

**30 Year Forward Maintenance  
Expenditure Forecast, including  
SHQS compliance delivery**

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**April 2005**

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- 1.1 Falkirk Council, in response to its desire to progress its information planning base, a prior Options Appraisal Study of its Housing Stock and Related Assets, appointed Docherty Consulting to further its business planning. Docherty Consulting has appointed David Adamson & Partners Ltd (Property Consultants and Chartered Surveyors) to provide an expenditure forecast for inclusion in Falkirk Council's Housing Financial Appraisal and Business Planning.
- 1.2 Falkirk Council require to forward forecast over a 30 year period the expenditure requirements associated with repairing, maintaining and improving (hereafter referred to as "The Works") their housing stock, related assets and other assets specified in the Housing Revenue Account (hereafter referred to as The Assets).
- 1.3 The Works are to be of a scope so as to ensure that three strategic asset physical objectives are met, namely:
  - The Assets are maintained in a lettable condition; and
  - Scottish Housing Quality Standard (SHQS) compliance is achieved by 2015 and continued thereafter; and
  - Falkirk Council's housing standard aspirations for it's tenants are satisfied.
- 1.4 In 1999 an Options Appraisal Study was commissioned by Falkirk Council. A requisite of this project was the collection of information about the stock in order to forecast expenditure over a 30 year period. A 10% random stratified sample of Falkirk's Housing was surveyed for the purpose of informing this expenditure forecast. Falkirk Council maintain reliable records of Capital Programmes to The Assets.
- 1.5 Falkirk Council decided that it was value-for-money to explore application of the 1999 Survey dataset, duly modified to reflect Capital Programmes of work, for the purposes of meeting their current strategic reporting needs. Notwithstanding, Falkirk Council recognise that in the medium term a dwelling and asset specific robust data set will be required to be developed for each building and related asset component, in order that The Works may be procured and delivered.
- 1.6 All local authorities within Scotland face an increasingly stringent financial environment for long-term investment and planning within their housing stock. Against decreasing capital allocations the continued physical well-being of the housing stock has to be considered together with the additional requirements placed upon local authorities by the Home Energy Conservation Act and more recently the Scottish Housing Quality Standard compliance planning.



- 1.7 Increasing investment needs within an ageing national housing stock combined with decreasing Central Government financial support has resulted in Local Authorities examining a range of new approaches to housing stock maintenance and to the effective funding of long-term maintenance. For maintenance planning these approaches have witnessed a movement from reactive or demand driven maintenance to longer term intervention within the housing stock on a planned strategic basis. Using elementally targeted programmes or comprehensive multi-element strategies, the central aim is to reduce the untargeted burden of day-to-day repair requests with its uncertain effect on overall physical objectives for the housing stock.
- 1.8 Sample house condition surveys are a recognised means of generating the necessary planning information and are supported by a package of guidance on best practice issued by the Department for Transport, Local Government and the Regions (DTLR).
- 1.9 While stock condition surveys embrace a range of intricate technical issues their objectives are straightforward. In Falkirk Council, the following aims governed the scope and direction of the study process:
- a) **To predict housing conditions and attributes consistently across the whole housing stock using nationally accepted study techniques.**
  - b) **To translate survey generated data into meaningful planning information to assist the Council in making measured and objective decisions over a longer-term planning period.**
  - c) **To provide a computerised base of housing information capable of being maintained, improved and updated over time.**
- 1.10 Involving a wide ranging review of current conditions and future investment needs within the housing stock and related asset base this Study has created an information framework capable of supporting strategic investment decisions for the Falkirk Council housing asset, however it shall require revision to meet more specific programming needs over the medium to long-term.
- 1.11 In a planning context the study will assist the Council in its housing strategy process at both national and local levels:
- NATIONALLY.....** The study will support the Housing Investment Planning process including, Housing Revenue Account business planning within a



Resource Accounting Framework and inform comparative assessment.

### **LOCALLY.....**

The study will permit the development of longer-term proactive maintenance planning based on local priorities and needs.; a costed investment plan to achieve the Scottish Housing Quality Standard (SHQS) by 2015 has been generated, comprised within the longer term 30 year forward maintenance forecast planning period.

1.12 This Report provides statements on Investment Forecasts. Strategic reporting is reliant on the scope of the survey research data set; whilst annualised recurring expenditure has been based on information provided by Falkirk Council personnel.

Other deliverables are included as part of the Project under separate cover, namely:

- ***Cloned MS Access Database populated across 100% of the housing stock***
- ***Updating of the 100% dataset to reflect capital works undertaken by Falkirk Council.***

1.13 In sixteen sections the report addresses:-

<b>Section 2</b>	<b>:</b>	<b>The Survey Methodology</b>
<b>Section 3</b>	<b>:</b>	<b>Survey Information</b>
<b>Section 4</b>	<b>:</b>	<b>The Housing Stock</b>
<b>Section 5</b>	<b>:</b>	<b>Housing Construction</b>
<b>Section 6</b>	<b>:</b>	<b>Housing Amenities and Services</b>
<b>Section 7</b>	<b>:</b>	<b>Current Repair Condition</b>
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<b>Section 12</b>	<b>:</b>	<b>Major Contingent Repairs</b>
<b>Section 13</b>	<b>:</b>	<b>Exceptional Extensive Works</b>
<b>Section 14</b>	<b>:</b>	<b>Cyclical Maintenance</b>
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<b>Section 16</b>	<b>:</b>	<b>Home Energy Efficiency</b>
<b>Section 17</b>	<b>:</b>	<b>Conclusions</b>

1.14 This is a research report by David Adamson & Partners Limited. The views expressed are those of the Consultant and do not necessarily reflect the official views of Falkirk Council. For further information contact:

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- 2.1 Within this framework David Adamson & Partners Ltd, (David Adamson), have been engaged to investigate and validate the 1999 Survey dataset with respect to its adoption for current strategic Cost Generation Purposes. Thereafter, subject to the 1999 Survey dataset being deemed suitable, David Adamson has been instructed to develop an appropriate dataset and Cost Generation Model for the purposes of costing (at present day prices) The Works.
- 2.2 Falkirk Council also seek production of a 100% housing stock database comprising a record for each dwelling, to be achieved by a process commonly referred to as cloning, whereby data for a particular surveyed dwelling is copied across to all dwellings of a similar type. At a strategic level such a data-file is a suitable information source for planning purposes, although it will not typically support development of procurement packages for programmes of capital work until further key component data validation has been implemented.
- 2.3 The study's methodology has embraced a five stage approach to implementation in accordance with established best practice and Central Government guidance:

**STAGE 1** Interrogation and validation of existing data and information:

This analysis has been supported by a small-scale survey of 50 dwellings for the purposes of assessing qualitatively the accuracy and suitability of the stock dataset collected by James Martin Partnership in 1999. Further, we have considered the adequacy of the prior survey's sample design insofar as it remains reasonably representative of the housing stock and provides a basis for the cloned database.

**STAGE 2** Developing a 100% dataset within an MS Access Cost Generation Model:

The James Martin Partnership survey dataset has been further augmented by the inclusion of dwelling descriptive data at address level drawn from other sources, e.g. Regional Assessor property file, this descriptive data being essential for meaningful analysis and cost forecasting against the Asset. We understand that this work was undertaken under the direction of Docherty Consulting and Falkirk Council. David Adamson has applied a combination of dwelling archetype discriminators and locational factors in order to populate the 100% cloned database. A record of the approach has been retained in order that an auditable trail exists from sourced data to the 100% cloned database.



STAGE 3 The 30 year forward cost forecast and investment plan:

Application of a Cost Generation Model to the 100% dataset and the incorporation of in-house Council information through a programme of desk-top research completed in association with Council officers. This has included:

- ***Historical cost information on responsive, voids and cyclical maintenance***
- ***Projected areas of future major contingent and/or exceptional expenditure including non-traditional housing and deleterious materials.***

STAGE 4 Related/Other Assets included in the Housing Revenue Account; a 30-year forward cost forecast:

Components of this programming have included:

- ***Garages (lock-ups)***
- ***HRA shop units and operational assets***
- ***Estate open space and amenity areas***
- ***Unadopted roads and footpaths.***

STAGE 5 Reporting:

The HRA Assets Cost Forecast and Investment Strategy is subject to including integrated SHQS delivery.

2.4 Interrogation and Validation of Existing Data and Information:

2.4.1 Existing data has been derived from two principal sources, namely the 1999 Survey and Falkirk Councils records. Where relevant, information about the Asset has been obtained from Council Officers.

2.4.2 The 1999 Survey was undertaken by James Martin Partnership, a firm of Surveyors known to The Consultant as a professional practice experienced in collecting public sector housing information for strategic reporting and cost forecasting purposes.

2.4.3 Our assessment of the survey sample adopted by James Martin Partnership for the purposes of their 1999 study, suggests that this was a randomly selected sample, with limited controls being available to James Martin Partnership for stratification purposes at the time of survey. Notwithstanding, at whole stock level the sample appears sufficiently robust in order to achieve the typically required 95% confidence plus or minus 4% sample error.



2.4.4 The sample will also support reporting for most main dwelling archetypes, however 95% confidence +/- 4% sample error will not be achieved for all archetypes at Area Level. Given the homogenous nature of public sector housing, sample design statistical confidence is less of a measure of data set robustness than for heterogeneous private sector housing.

2.4.5 The following Table 1; Housing Stock and Sample House Type Distributions indicates that the sample design is sufficient for strategic investment planning purposes. Caution shall have to be exercised when relying on analysis of archetypes at Neighbourhood Area Level, although this may be overcome by an understanding of the homogenous nature of the stock.

**TABLE 1: HOUSING STOCK AND SAMPLE HOUSE TYPE DISTRIBUTIONS**

		surveyed status				Table Total	
		not surveyed		surveyed			
		DWGS	%	DWGS	%	DWGS	%
HOUSING ARCHETYPE	non traditional houses	2308	13.7%	283	14.4%	2591	13.8%
	non traditional flats(non multi)	366	2.2%	38	1.9%	404	2.1%
	non traditional flats - multi storey	898	5.3%	102	5.2%	1000	5.3%
	traditional cottage/bungalow, det/semi-det, pre-1946	82	.5%	11	.6%	93	.5%
	traditional cottage/bungalow, det/semi-det, 1946 - 1959	36	.2%	7	.4%	43	.2%
	traditional cottage/bungalow, det/semi-det, post - 1960	120	.7%	29	1.5%	149	.8%
	traditional cottage/bungalow, terraced, pre-1946	21	.1%	2	.1%	23	.1%
	traditional cottage/bungalow, terraced, 1946 - 1959	129	.8%	21	1.1%	150	.8%
	traditional cottage/bungalow, terraced, post - 1960	307	1.8%	65	3.3%	372	2.0%
	traditional villa, detached/semi-detached, pre-1946	625	3.7%	65	3.3%	690	3.7%
	traditional villa, detached/semi-detached, 1946 - 1959	741	4.4%	78	4.0%	819	4.4%
	traditional villa, detached/semi-detached, post - 1960	114	.7%	13	.7%	127	.7%
	traditional villa, terraced, pre-1946	439	2.6%	46	2.3%	485	2.6%
	traditional villa, terraced, 1946 - 1959	1672	9.9%	188	9.6%	1860	9.9%
	traditional villa, terraced, post - 1960	1107	6.6%	172	8.8%	1279	6.8%
	traditional 4 - in - block, pre - 1946	3343	19.8%	371	18.9%	3714	19.7%
	traditional 4 - in - block, post - 1946	221	1.3%	19	1.0%	240	1.3%
	traditional tenement, pre - 1959	1783	10.6%	207	10.6%	1990	10.6%
traditional tenement, post - 1959	2537	15.1%	242	12.4%	2779	14.8%	
<b>Table Total</b>	<b>16849</b>	<b>100.0%</b>	<b>1959</b>	<b>100.0%</b>	<b>18808</b>	<b>100.0%</b>	

2.4.6 We were provided with the survey data collected by James Martin Partnership. This data was provided in electronic format. Survey and cost generation data typically required for the purposes of housing stock investment planning may broadly be categorised as falling into four groups, namely:

- Dwelling descriptive information.



- Condition and life expectancy reporting.
- Quantities of materials.
- Rates of renewal cost for materials.

2.4.7 Our qualitative review of the James Martin Partnership descriptive information found that this area of data was free from significant incidence of error, although omission did occur more frequently than we would normally expect.

2.4.8 Condition reporting was primarily limited to Surveyor estimates of the remaining life of components. Having regard to our observations at 3.1.4 of this Report, the absence of repair costing does not compromise the investment planning. Data omission was again more frequent than we would expect and in this regard we contacted James Martin Partnership for explanation. We were advised that contrary to briefing some fieldstaff would appear to have omitted to record the remaining life of building components where they considered that the remaining life was in excess of the 30 year planning period. Whilst this does present some difficulty with regards to controls over population of these omissions, we have adopted the approach of a best solution with is further discussed at 2.5 herein.

2.4.9 Measures of quantity in the data set appeared inconsistent and incomplete. Therefore, for the purposes of our reporting we have adopted David Adamson dwelling archetype library of quantities. This library is within our cost forecast operating systems and contains building component quantities for each main public sector dwelling archetype. Utilising the dwelling descriptive data, the operating system selects the most appropriate quantities for a particular dwelling under report.

2.4.10 Building component replacement rates within the James Martin Partnership data set were incomplete and inconsistent. We therefore resourced the David Adamson operating system Schedule of Rates, whereby after having selected the appropriate quantity the operating system then takes the appropriate replacement rate from the systems Schedule of Rates. This Schedule has been specifically designed for public sector housing and has been applied across the United Kingdom. Appropriate indexing is undertaken pursuant to BCIS published index cost information with respect to changes over time and regional variations.

2.4.11 In summary, the sample design utilised in 1999 is deemed satisfactory for the purposes of current investment forecasting (subject to updating survey data to reflect capital expenditure). The survey data provided an acceptable platform from which we have been able to develop a representative data set for strategic reporting, however the data set will not support reporting or programming at dwelling level.



### 2.5 Developing a 100% data set within an MS Access Cost Generation Model:

Further to our Stage 1 activities, at the time of reporting we have developed the 100% "cloned" database, a record being present for every dwelling within the housing stock. The finalised stock total (current as at 1 April 2004) confirmed to us for this studies purposes is 18,808 dwellings.

### 2.6 Housing: The 30 Year Forward Cost Forecast Investment Plan:

The MS Access Cost Generation Model is run against the 100% representation of the Housing Stock. This model indicates the number of instances of planned renewal and the corresponding cost associated with this work over the forecast 30 year period. The first planned renewal is preferably determined using a combination of industry life period and surveyor just-in-time assessment as this modelling approach more accurately represents that adopted by a social landlord. That is, some components are replaced on a life cycle approach e.g. heating boilers, kitchens and bathrooms whilst others are replaced when their useful physical life is expired e.g. roof cover, render and boundary fences/walls and gates. The Falkirk Cost Generation Model is substantially relies upon surveyor just-in-time assessments with respect to first renewals.

Life Periods adopted for second cycle renewals have been agreed with Falkirk Council, whilst furthermore David Adamson's Cost Generation Model Schedule of Rates have been amended to accord with Falkirk Council expectation of cost, having regard to recent works procured/contracts let.

### 2.7 Related/Other Assets:

Falkirk Council have identified related and other assets to be included as part of this cost forecast.

Forward cost forecasting against these assets has been undertaken in accordance with accepted life cycle approaches and/or costing basis developed by David Adamson's on previous comparable studies.

### 2.8 Reporting:

The primary purpose of this study and consequently this Report, is to indicate to Falkirk Council the level of expenditure required to be incurred over the forecast 30 year period in order to maintain The Asset. Implicit within this objective is the upgrading of all

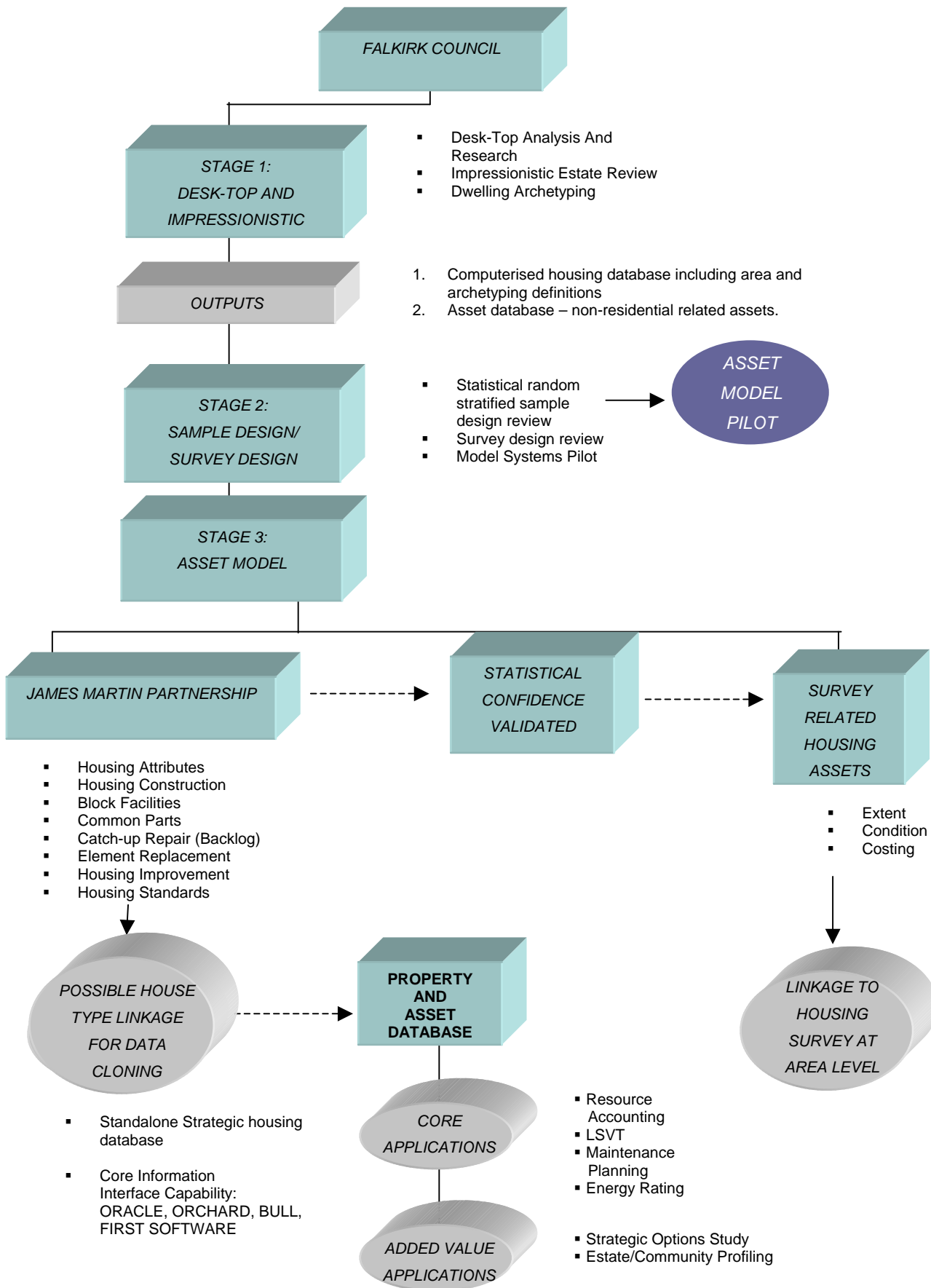


housing to comply with SHQS by 2015 and to maintain compliance thereafter over the remainder of the 30 year forecast period.

- 2.9 The physical data capture was implemented during 1999 against a random sample design. Integration of this data with this Study is depicted at the following Figure A, Project Implementation.



**FIGURE A : PROJECT IMPLEMENTATION**





- 3.1 Information collected by the survey falls into several broad categories or types, a knowledge of which is useful in the interpretation of this report. These are summarised as follows:
- 3.1.2 **Attribute and Construction** - All key features in the construction and servicing of a dwelling were collected and described on an individual element basis. Information on the construction elements and their materials provides an essential background to the understanding of the housing stock and its maintenance/improvement needs. For example, dwellings lacking double-glazing or with metal windows may be targets for window replacement. Dwellings lacking central heating may be prioritised for improvement.
- 3.1.3 **Attribute and Age** - The age of key attributes was measured particularly as concerns internal services and facilities. For internal services such as electrical wiring and kitchen fittings/storage, age is an indicator of the adequacy and standards of provision. For example, broadly post-1970's wiring is of a significantly higher standard than pre-1970 installation. Electrical wiring is also recognised to have a general life span of 30 years.
- 3.1.4 **Repair** - Catch-up cost (Backlog) was often reported upon as part of a stock condition survey. A significant and increasing number of consultants, including this consultant, prefer to represent this within year 1 to 5 forecast renewals (Backlog) in order to avoid double counting of costs. That is, minor to medium repairs will typically be dealt with under local authority Voids and Responsive budgets. Major disrepair and/or obsolescence will generate an early surveyor just-in-time requirement for renewal and will be allowed for under Planned Renewals.
- 3.1.5 **Element Life Expectancy** - In addition to its existing repair condition the future expected life of each element has been predicted. Using yearly age bands this enables projections of the extent and distribution of future major repairs.
- 3.1.6 **Housing Standards** - Where appropriate, elements and dwellings were measured against relevant housing and/or statutory standards, namely the Tolerable Standard and SHQS (dwellings are not assessed against compliance with Building Standards(Scotland) Regulations).
- 3.1.7 **Replacement Costs** - Computer models were developed to apply schedule of rates costings to components requiring renewal (commonly referred to as Planned Renewals or



Major Future Works). These rates have been applied to a profile of required Falkirk Council expenditure for:

- a) First Replacement; This is typically informed by the Surveyors assessment as to when the building component shall require renewal (Just-in-Time); and
- b) Subsequent Renewals; Predicted Planned Replacement based on industry standard life forecasts. These may be modified to better reflect local circumstances and standards.

3.1.8 **Improvement Costs** - The costs of improving dwellings to an enhanced standard of performance, amenity and comfort. These imply an increase in the level of facility offered by dwellings and may have rental implications.

3.1.9 **Survey Based Investment Needs** – Based on survey definitions and normal housing strategy reporting, survey estimations of current investment needs (30 years) include:

- *Future major works*
- *Improvements*

3.2 The Schedule of Rates contained at Appendix C, herein has been relied upon for the purposes of this Study. Prior to final reporting this Schedule of Rates shall be revised by the Authorities Technical personnel for the purpose of assessing its suitability for application to Falkirk Council's housing stock and the general 'tone' of the Schedule of Rates cost quantum. The Authority advised that the Schedule of Rates was reflective of local cost levels and has accordingly been adopted as current as at April 2004. Certain components have been costed on a global quantum specified by the Authority e.g. Kitchens, Bathrooms and Central Heating.

3.3 In interpreting costs and condition indicators derived from the survey programme the Council should also be aware of the following assumptions and general restrictions underlying any large-scale survey programme. These include:

- a) **CONDITION ASSESSMENT:** Surveyor reporting is limited to "observable" disrepair within the housing stock without the aid of specialist or invasive survey techniques. As such...
  - *They exclude invisible and or specialist problems often associated with particular non-traditional construction techniques or particular building forms.*



- *They make no allowance for element/material performance or design obsolescence and are based solely on condition. Thus, unpopular or obsolete materials, e.g. metal windows will generally only be recommended for replacement if seriously defective on condition.*
  - *They take no account of effective or efficient Council planning or of economies of scale outwith the stated basis in maintenance planning. A Council may replace or renew elements which are not defective in condition terms to achieve economies of scale in maintenance programmes.*
- b) FUTURE MAJOR WORKS: Major elemental renewals comprise the renewal of elements as they reach the end of their effective life. In a large-scale survey situation...
- *Elements included for renewal projections have been selected on what might be assumed as 'typical' Council planned maintenance behaviour. These include all key elements of the external shell, fences and gates associated with dwelling/block curtilage and internal services and fittings. Main internal and common area finishes (ceiling, walls and floors) have been excluded on the assumption that renewals will not be programmed but dealt with on a demand driven basis.*
  - *Decorations associated with the dwelling exterior and interior and common parts are also excluded from survey consideration but are included as 'cyclical' or responsive/voids components for investment planning.*
  - *Element renewals are based on the "condition" life of the element, not its functional performance, obsolescence or tenant unpopularity.*
  - *Element renewals assume no major improvement in materials or specification unless dictated by Council policy.*
- c) SURVEY COSTS: Survey costs quoted form only a part of the financial inputs to the Business Plan and as such represent a partial determination of total Council expenditure over a longer term planning period.
- d) DWELLING IMPROVEMENTS: Falkirk Council has taken cognisance of the "Scottish Housing Quality Standard" in adopting this as its Improvement Standard, whereby it is anticipated that implementation of the Improvement Standard over the period 01-04-05 till 01-04-15, will ensure that all dwellings comply with the SHQS criterion.



In summary the Scottish Housing Quality Standard is measured across 40 quality elements within five housing quality criteria. As defined the Standard requires all dwellings to be:

- ***Compliant with the Tolerable Standard***
- ***Free from Serious Disrepair***
- ***Energy Efficient***
- ***Equipped with modern facilities and services***
- ***Healthy, safe and secure***

The statistical confidence able to be ascribed to the survey generated information is depicted according to dwelling type and at whole stock level, at the following Table 2 Statistical Confidence by Housing Archetype.

### 3.0 SURVEY INFORMATION



**TABLE 2: SAMPLE ERROR BY HOUSING ARCHETYPE (95% Confidence).**

ARCHETYPE	SAMPLE SIZE	S.E	RANGE OF OCCURRENCE %					
			5/95	10/90	20/80	30/70	40/60	50/50
			±%	±%	±%	±%	±%	±%
traditional villa, detached/semi-detached, pre-1946	283		2.54	3.50	4.66	5.34	5.71	5.83
traditional villa, detached/semi-detached, 1946 - 1959	38		6.93	9.54	12.72	14.57	15.58	15.90
traditional villa, detached/semi-detached, post - 1960	102		4.23	5.82	7.76	8.89	9.51	9.70
traditional villa, terraced, pre-1946	11		12.88	17.73	23.64	27.08	28.95	29.55
traditional villa, terraced, 1946 - 1959	7		16.15	22.22	29.63	33.95	36.29	37.04
traditional villa, terraced, post - 1960	29		7.93	10.92	14.56	16.68	17.83	18.20
traditional 4 - in- block, pre - 1946	2		30.21	41.58	55.44	63.51	67.90	69.30
traditional 4 - in - block, post - 1946	21		9.32	12.83	17.11	19.60	20.96	21.39
traditional tenement, pre - 1959	65		5.30	7.29	9.72	11.14	11.91	12.16
traditional tenement, post - 1959	65		5.30	7.29	9.72	11.14	11.91	12.16
Non-traditional Low-rise flats	78		4.84	6.66	8.88	10.17	10.87	11.10
Non-traditional houses	13		11.85	16.31	21.74	24.91	26.63	27.18
Bungalows	46		6.30	8.67	11.56	13.24	14.16	14.45
High-rise flats	188		3.12	4.29	5.72	6.55	7.00	7.15
<b>ALL TYPES</b>	<b>948</b>		<b>1.39</b>	<b>1.91</b>	<b>2.55</b>	<b>2.92</b>	<b>3.12</b>	<b>3.18</b>

This statistical representation may be interpreted as meaning that the survey has, in measuring occurrences, been accurate at whole stock level even down to small levels of occurrence. Against all main building components the Survey design satisfied the general prerequisite of a 95% confidence level  $\pm$  4% Sample error.

In respect of future studies, Falkirk Council may wish to require that the sample is controlled at archetype level in order to report on an archetype basis.

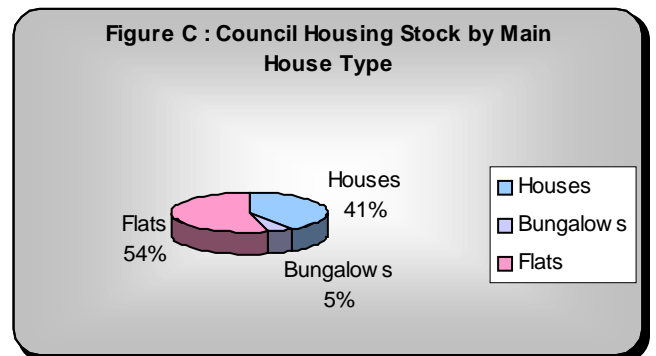
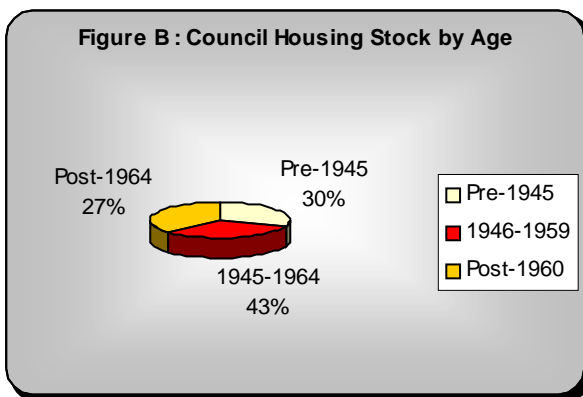


- 4.1 At the time of the study commencement, Falkirk Council housing stock was determined to be 18808 dwellings. The Council has responsibility for a mixed housing type portfolio.

Docherty Consultants provided David Adamson with a computerised property file and supplementary hard copy information, which identified the 18808 housing stock.

### HOUSING STOCK BY AGE

- 4.2 The Council housing stock is representative of all building eras but is predominantly of post second world war construction. 11933 dwellings (63.4%) were constructed pre-1960. The most significant grouping is that of early post-war construction (1946-1959) incorporating 6222 dwellings or 33.1% of total housing stock. Although post-war orientated, a significant component of pre-war housing exists. 5711 dwellings or 30.4%, were constructed pre-1946 predominantly in the inter-war period. Refer **Figure B** .....

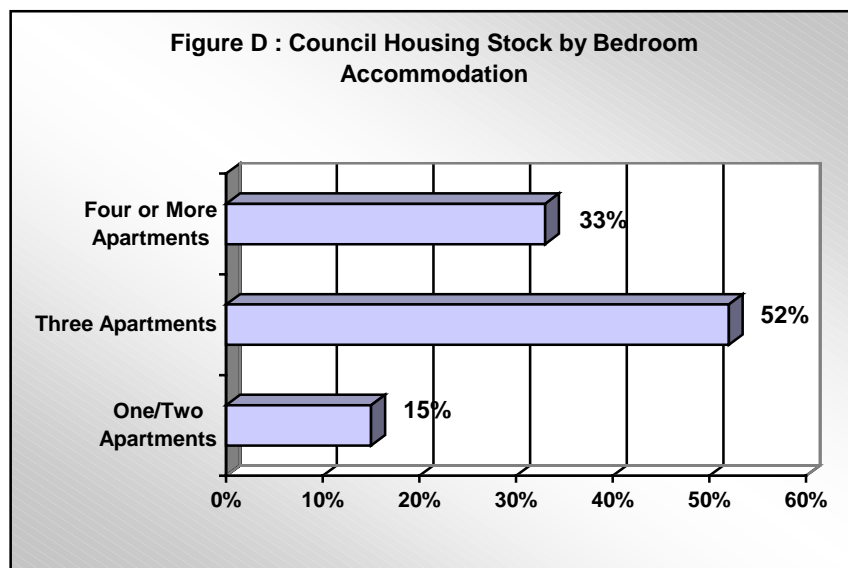


### HOUSING STOCK BY TYPE

- 4.3 The Council housing stock is predominantly low rise housing. Houses comprise 7681 dwellings (40.8%) with Bungalows only accounting for an additional 1000 dwellings (5.3%). Flats (individually maisonettes and bedsits) account for the remaining 10127 dwellings or 53.8%. Refer **Figure C** .....

### HOUSING STOCK BY SIZE

- 4.4 Council housing is family orientated. 6157 dwellings (32.7%) offer 4 apartment or greater accommodation, 9846 dwellings (52.4%) offer 3 apartments with the remaining 2805 dwellings (14.9%) offering one or two apartments. Refer **Figure D** .....



The following Table: Area Stock Profile, depicts the representation of the housing at Area level.

## 4.0 THE HOUSING STOCK



TABLE 3: AREA STOCK PROFILE

		AREA																Table Total	
		A		B		C		D		E		F		K		W			
		DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%
main house type	bungalow/cottage	260	7.5%	181	7.9%	67	2.4%	150	8.9%	209	7.2%	58	2.5%	54	2.9%	21	1.5%	1000	5.3%
	P.B. flat including villa	565	16.3%	287	12.5%	328	11.7%	238	14.1%	285	9.8%	160	6.8%	122	6.5%	236	17.0%	2221	11.8%
	Four-in-block flat	438	12.6%	419	18.2%	560	20.0%	450	26.6%	653	22.4%	421	17.9%	492	26.0%	546	39.2%	3979	21.2%
	Tenement Flat	269	7.8%	33	1.4%	1326	47.3%	196	11.6%	20	.7%	350	14.8%	416	22.0%	317	22.8%	2927	15.6%
	Multi-Storey	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	832	35.3%	168	8.9%	0	.0%	1000	5.3%
	Villa	1932	55.8%	1383	60.1%	523	18.7%	656	38.8%	1742	59.9%	536	22.7%	637	33.7%	272	19.5%	7681	40.8%
construction sub type	Anchor Timber	0	.0%	0	.0%	0	.0%	0	.0%	12	.4%	0	.0%	0	.0%	0	.0%	12	.1%
	Atholl Steel	2	.1%	0	.0%	0	.0%	0	.0%	4	.1%	0	.0%	0	.0%	0	.0%	6	.0%
	Banton	527	15.2%	0	.0%	0	.0%	0	.0%	121	4.2%	0	.0%	0	.0%	0	.0%	648	3.4%
	BISF	0	.0%	0	.0%	0	.0%	0	.0%	84	2.9%	0	.0%	0	.0%	0	.0%	84	.4%
	Bison High Rise	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	167	7.1%	0	.0%	0	.0%	167	.9%
	Blackburn Permanent	36	1.0%	22	1.0%	0	.0%	0	.0%	4	.1%	0	.0%	0	.0%	0	.0%	62	.3%
	Cruden	17	.5%	0	.0%	0	.0%	0	.0%	17	.6%	0	.0%	0	.0%	0	.0%	34	.2%
	Dorran AGW	6	.2%	3	.1%	2	.1%	0	.0%	0	.0%	4	.2%	0	.0%	0	.0%	15	.1%
	Hilcon	48	1.4%	34	1.5%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	82	.4%
	Lawrence Mark 1	0	.0%	0	.0%	0	.0%	0	.0%	42	1.4%	0	.0%	0	.0%	0	.0%	42	.2%
	Livingston	0	.0%	14	.6%	0	.0%	0	.0%	46	1.6%	0	.0%	0	.0%	0	.0%	60	.3%
	Multicom	0	.0%	31	1.3%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	31	.2%
	No Fines	155	4.5%	354	15.4%	0	.0%	0	.0%	134	4.6%	7	.3%	0	.0%	0	.0%	650	3.5%
	Orlit	74	2.1%	129	5.6%	0	.0%	0	.0%	46	1.6%	10	.4%	0	.0%	0	.0%	259	1.4%
	Scotcon	9	.3%	10	.4%	0	.0%	0	.0%	133	4.6%	0	.0%	0	.0%	0	.0%	152	.8%
	Semi Trad Flat Roofed Houses	10	.3%	9	.4%	0	.0%	0	.0%	4	.1%	0	.0%	0	.0%	0	.0%	23	.1%
	Skarne Cruden High Rise	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	508	21.6%	0	.0%	0	.0%	508	2.7%
Skarne Cruden Low Rise	0	.0%	0	.0%	123	4.4%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	123	.7%	

## 4.0 THE HOUSING STOCK



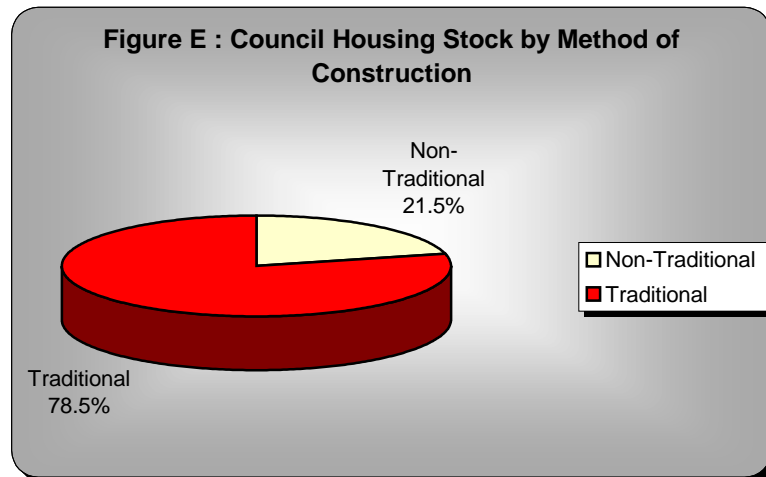
TABLE 3: AREA STOCK PROFILE

		AREA																Table Total	
		A		B		C		D		E		F		K		W			
		DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%
	Swedish Timber	0	.0%	0	.0%	1	.0%	0	.0%	0	.0%	12	.5%	0	.0%	0	.0%	13	.1%
	Tarran Mk 4	0	.0%	3	.1%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	3	.0%
	Thain / Chisholm	2	.1%	2	.1%	19	.7%	0	.0%	176	6.1%	9	.4%	0	.0%	0	.0%	208	1.1%
	Timcon	0	.0%	1	.0%	0	.0%	0	.0%	9	.3%	0	.0%	0	.0%	0	.0%	10	.1%
	Timcon A	0	.0%	5	.2%	0	.0%	0	.0%	19	.7%	0	.0%	0	.0%	0	.0%	24	.1%
	Timcon B	0	.0%	15	.7%	0	.0%	0	.0%	19	.7%	0	.0%	0	.0%	0	.0%	34	.2%
	Traditional	2532	73.1%	1475	64.0%	2659	94.8%	1690	100.0%	1867	64.2%	1480	62.8%	1719	91.0%	1392	100.0%	14814	78.8%
	Weir Quality	0	.0%	25	1.1%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	25	.1%
	Weir Timber	0	.0%	171	7.4%	0	.0%	0	.0%	137	4.7%	0	.0%	0	.0%	0	.0%	308	1.6%
	Whitson Fairhurst	46	1.3%	0	.0%	0	.0%	0	.0%	35	1.2%	0	.0%	0	.0%	0	.0%	81	.4%
Wimpey High Rise	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	160	6.8%	170	9.0%	0	.0%	330	1.8%	
date of construction	Up to 1918	97	2.8%	6	.3%	7	.2%	38	2.2%	0	.0%	6	.3%	7	.4%	64	4.6%	225	1.2%
	1919-1945	974	28.1%	574	24.9%	596	21.3%	650	38.5%	1017	35.0%	500	21.2%	538	28.5%	637	45.8%	5486	29.2%
	1946-1959	1268	36.6%	1105	48.0%	649	23.1%	302	17.9%	1245	42.8%	347	14.7%	693	36.7%	613	44.0%	6222	33.1%
	1960-1979	1005	29.0%	603	26.2%	1548	55.2%	700	41.4%	643	22.1%	1437	61.0%	650	34.4%	72	5.2%	6658	35.4%
	From 1980	120	3.5%	15	.7%	4	.1%	0	.0%	4	.1%	67	2.8%	1	.1%	6	.4%	217	1.2%
construction type	Non-Trad	932	26.9%	828	36.0%	145	5.2%	0	.0%	1042	35.8%	878	37.3%	170	9.0%	0	.0%	3995	21.2%
	Traditional	2532	73.1%	1475	64.0%	2659	94.8%	1690	100.0%	1867	64.2%	1479	62.7%	1719	91.0%	1392	100.0%	14813	78.8%
apartment size	upto 2 apts	481	13.9%	306	13.3%	514	18.3%	318	18.8%	324	11.1%	428	18.2%	243	12.9%	191	13.7%	2805	14.9%
	3 apts	1459	42.1%	1008	43.8%	1721	61.4%	894	52.9%	1356	46.6%	1416	60.1%	1107	58.6%	885	63.6%	9846	52.4%
	4 or more apts	1524	44.0%	989	42.9%	569	20.3%	478	28.3%	1229	42.2%	513	21.8%	539	28.5%	316	22.7%	6157	32.7%
Table Total		3464	100.0%	2303	100.0%	2804	100.0%	1690	100.0%	2909	100.0%	2357	100.0%	1889	100.0%	1392	100.0%	18808	100.0%



### 5.0 HOUSING STOCK BY CONSTRUCTION

5.1 Council housing stock is predominantly traditional in construction – 14780 dwellings (78.5%) were constructed using traditional construction methods, the remaining 4028 dwellings (21.5%) are non-traditional in construction. **Figure E** .....



### HOUSING ARCHETYPES

5.2 Changes in national investment planning implied by resource accounting and best value approaches involve classification of Local Authority housing stock into homogeneous types based on:

- *Dwelling Age;*
- *Dwelling Type;*
- *Dwelling Configuration;*
- *Dwellings size; and*
- *Construction Type.*

This classification has been completed within the Falkirk Council housing stock and is represented in **Table 5** .....

**Table 5, Housing Characteristics by Management Area**, differentiates the housing stock by primary characteristic.

## 5.0 HOUSING CONSTRUCTION



TABLE 4: HOUSING CHARACTERISTICS BY MANAGEMENT AREA

		AREA																Table Total	
		A		B		C		D		E		F		K		W			
		DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%
HOUSING ARCHETYPE	non traditional houses	792	22.9%	802	34.8%	18	.6%	0	.0%	945	32.5%	34	1.4%	0	.0%	0	.0%	2591	13.8%
	non traditional flats(non multi)	140	4.0%	26	1.1%	127	4.5%	0	.0%	97	3.3%	12	.5%	2	.1%	0	.0%	404	2.1%
	non traditional flats - multi storey	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	832	35.3%	168	8.9%	0	.0%	1000	5.3%
	traditional cottage/bungalow, det/semi-det, pre-1946	14	.4%	6	.3%	1	.0%	27	1.6%	29	1.0%	2	.1%	12	.6%	2	.1%	93	.5%
	traditional cottage/bungalow, det/semi-det, 1946 - 1959	0	.0%	18	.8%	8	.3%	0	.0%	9	.3%	0	.0%	0	.0%	8	.6%	43	.2%
	traditional cottage/bungalow, det/semi-det, post - 1960	34	1.0%	6	.3%	7	.2%	36	2.1%	26	.9%	22	.9%	16	.8%	2	.1%	149	.8%
	traditional cottage/bungalow, terraced, pre-1946	15	.4%	0	.0%	0	.0%	3	.2%	5	.2%	0	.0%	0	.0%	0	.0%	23	.1%
	traditional cottage/bungalow, terraced, 1946 - 1959	31	.9%	67	2.9%	0	.0%	2	.1%	25	.9%	3	.1%	17	.9%	5	.4%	150	.8%
	traditional cottage/bungalow, terraced, post - 1960	154	4.4%	24	1.0%	49	1.7%	82	4.9%	19	.7%	31	1.3%	9	.5%	4	.3%	372	2.0%
	traditional villa, detached/semi-detached, pre-1946	158	4.6%	81	3.5%	2	.1%	60	3.6%	171	5.9%	92	3.9%	42	2.2%	84	6.0%	690	3.7%
	traditional villa, detached/semi-detached, 1946 - 1959	178	5.1%	123	5.3%	39	1.4%	140	8.3%	162	5.6%	52	2.2%	116	6.1%	9	.6%	819	4.4%
	traditional villa, detached/semi-detached, post - 1960	19	.5%	15	.7%	5	.2%	47	2.8%	7	.2%	26	1.1%	6	.3%	2	.1%	127	.7%
	traditional villa, terraced, pre-1946	157	4.5%	85	3.7%	57	2.0%	28	1.7%	149	5.1%	0	.0%	7	.4%	2	.1%	485	2.6%
	traditional villa, terraced, 1946 - 1959	414	12.0%	218	9.5%	239	8.5%	72	4.3%	347	11.9%	70	3.0%	325	17.2%	175	12.6%	1860	9.9%

## 5.0 HOUSING CONSTRUCTION



TABLE 4: HOUSING CHARACTERISTICS BY MANAGEMENT AREA

		AREA																Table Total	
		A		B		C		D		E		F		K		W			
		DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%	DWGS	%
	traditional villa, terraced, post - 1960	226	6.5%	119	5.2%	165	5.9%	309	18.3%	57	2.0%	262	11.1%	141	7.5%	0	.0%	1279	6.8%
	traditional 4 - in- block, pre - 1946	428	12.4%	374	16.2%	505	18.0%	386	22.8%	611	21.0%	393	16.7%	481	25.5%	536	38.5%	3714	19.7%
	traditional 4 - in - block, post - 1946	8	.2%	34	1.5%	55	2.0%	64	3.8%	34	1.2%	24	1.0%	11	.6%	10	.7%	240	1.3%
	traditional tenement, pre - 1959	356	10.3%	92	4.0%	357	12.7%	232	13.7%	58	2.0%	185	7.8%	227	12.0%	483	34.7%	1990	10.6%
	traditional tenement, post - 1959	340	9.8%	213	9.2%	1170	41.7%	202	12.0%	158	5.4%	317	13.4%	309	16.4%	70	5.0%	2779	14.8%
Table Total		3464	100.0%	2303	100.0%	2804	100.0%	1690	100.0%	2909	100.0%	2357	100.0%	1889	100.0%	1392	100.0%	18808	100.0%



### 6.0 AMENITIES, SERVICES AND FACILITIES

#### ***WHAT LEVEL OF AMENITY, SERVICE AND FACILITY IS OFFERED BY FALKIRK COUNCIL HOUSING...?***

- 6.1 Detailed information has not been collected during the survey on kitchen and bathroom amenities, heating, electrical and plumbing services. The survey information provided by Falkirk Council has been governed by programming of renewals. Some general strategic comments are however appropriate.
- 6.2 Falkirk Council has implemented various capital works programmes over recent years, including roof cover renewal, external wall finish replacement and internal modernisation.
- 6.3 Programmes of Kitchen and Bathroom planned renewals have occurred over the previous 5 years, as has electrical replacement.



### 7.0 CURRENT REPAIR DEFECTS

#### ***WHAT IS THE CURRENT REPAIR CONDITION OF FALKIRK HOUSING STOCK.....?***

- 7.1 The general pattern is one of localised or minor disrepair with little evidence of presenting disrepair of a magnitude and/or urgency to necessitate large scale major capital building renewal programmes over the first five year period.
- 7.2 Patterns of internal renewal requirements are symptomatic of the general ageing of building materials (e.g. kitchens, bathrooms and electrics) and of occupancy wear and tear.
- 7.3 'Backlog' (catch-up) cost is no longer relevant as a separate cost head, being more properly reflected under early planned renewals and reactive maintenance.



### 8.0 PLANNED RENEWALS : A 30 YEAR FORECAST

- 8.1 The cost basis to Future Major Works 30 year capital works forecast assumes economies of scale at component procurement levels, but does not link component renewal programmes.
- 8.2 Future Major Work cost projections are illustrated in Table 9 by main component and planning period. Including the second cycle renewal of internal services (Kitchens, bathrooms, electrics, heating) the total cost of future major works programmes over a 30 year planning period is £352,689,423 (average cost £18,752 per dwelling).

Building components are forecast for renewal on a “Just-in-Time” basis (at conclusion of the materials physical life) or on a life cycle approach (prediction of life expectancy, physical or functional).

Broadly, building fabric (external) components are forecast on a Just-in-Time approach and main amenity items are forecast for renewal in the first instance on a Just-in-Time approach and thereafter on a life cycle basis. Some components are assumed to have a life beyond 30 years unless otherwise indicated by field staff eg internal doors, plaster finishes and flooring.

The following life cycle renewals have been adopted by Falkirk (unless advised to the contrary by Falkirk Council):-

<i>Kitchen Fittings</i>	: 20 years
<i>Bathroom Fittings</i>	: 30 years
<i>Electrics</i>	: 30 years
<i>Central Heating Boilers</i>	: 15 years
<i>Central Heating Distribution</i>	: 40 years
<i>Electric Storage Heating</i>	: 20 years
<i>Door Entry System</i>	: 25 years
<i>Lifts</i>	: 30 years
<i>Fire &amp; Smoke Alarm Detectors</i>	: 10 years

The following **Table 9, Future Major Works Projections** depicts this substantial Cost Category by main component and predicts timing of works required.

## 8.0 FUTURE MAJOR WORKS



**TABLE 5 : FUTURE MAJOR WORKS PROJECTIONS BY COMPONENT AND PROGRAMME PERIOD**

ITEM DESCRIPTION	Years 1-5		Years 6-10		Years 11-15		Years 16-20		Years 21-25		Years 26-30	
<b>External Components</b>												
Principal roof finish type	528	1,295,555.11	1983	4,866,554.69	3881	9,527,411.17	3668	9,002,610.71	2905	7,130,707.85	1448	3,553,326.23
Secondary roof finish type	30	9,999.61	13	4,333.17	25	8,399.68	155	51,731.33	811	270,256.22	22	7,266.39
Chimneys type	815	317,269.33	2872	1,221,153.77	4291	1,639,269.01	5165	2,044,683.86	3270	1,316,236.16	832	348,643.54
Principal external wall finish type	399	1,397,200.00	1605	5,616,800.00	4037	14,128,800.00	3682	12,887,000.00	3657	12,798,100.00	1690	5,913,600.00
Secondary wall finish type	9	2,253.37	201	52,613.62	761	155,849.52	1856	486,309.20	3338	874,518.09	2138	936,026.31
Principal downpipes type	614	99,403.20	3555	575,910.00	5836	945,432.00	4862	787,611.60	3145	509,457.60	797	129,081.60
Principal gutters type	720	153,994.40	3614	773,396.00	5740	1,228,317.20	4683	1,002,119.20	2825	604,592.80	1213	259,496.40
Balcony Doors	145	86,760.00	624	374,280.00	454	272,280.00	479	287,400.00	3282	1,969,200.00	1088	485,640.00
Fascia & Soffits type	998	204,095.92	3248	726,617.90	3597	762,904.40	3779	886,480.09	4234	853,568.51	563	75,032.75
Flashings	496	75,204.09	2111	312,591.41	2504	382,083.65	3093	548,516.07	4548	794,527.13	549	109,441.59
Windows	1250	3,000,000.00	2000	4,800,000.00	3925	9,420,000.00	3925	9,420,000.00	3925	9,420,000.00	3783	9,079,200.00
<b>Internal Components</b>												
Cold water	0	-	0	-	258	64,500.00	1012	253,000.00	2766	691,500.00	2154	538,500.00
Kitchen units/sink/sundry	5941	8,317,400.00	3088	4,323,200.00	9615	13,461,000.00	164	229,600.00	5941	8,317,400.00	3088	4,323,200.00
Bathroom fittings/sundry	2798	1,818,700.00	3105	2,018,250.00	2389	1,552,850.00	1981	1,287,650.00	1438	934,700.00	7097	4,613,050.00
Electric lighting system	1939	969,500.00	3814	1,907,000.00	3931	1,965,500.00	4293	2,146,500.00	2628	1,314,000.00	2203	1,101,500.00
Electrical supply	1849	924,500.00	3644	1,822,000.00	3984	1,992,000.00	4432	2,216,000.00	2693	1,346,500.00	2206	1,103,000.00
Smoke detectors	0	-	14985	899,100.00	14985	899,100.00	14985	899,100.00	14985	899,100.00	14985	899,100.00
Mechanical ventilation	1596	399,000.00	5702	1,425,500.00	1958	489,500.00	1596	399,000.00	5702	1,425,500.00	1958	489,500.00
Dwelling rear entrance doors	3900	2,340,000.00	2737	1,642,200.00	1416	849,600.00	2845	1,707,000.00	2182	1,309,200.00	15	9,000.00
Dwelling threshold/front door	5273	3,163,800.00	3062	1,837,200.00	1549	929,400.00	4297	2,578,200.00	3631	2,178,600.00	996	597,600.00
CH radiators & distribution	437	524,400.00	1643	1,971,600.00	4275	5,130,000.00	6060	7,272,000.00	3667	4,400,400.00	306	366,960.00
Other/solid fuel	95	142,500.00	106	159,000.00	309	463,500.00	434	651,000.00	427	640,500.00	320	480,000.00
Gas boilers	452	497,200.00	3085	3,393,500.00	9735	10,708,500.00	452	497,200.00	3085	3,393,500.00	9735	10,708,500.00
Electric storage heating	755	1,661,000.00	755	1,661,000.00	755	1,661,000.00	755	1,661,000.00	755	1,661,000.00	755	1,661,000.00
Electric Immersions.	2370	711,000.00	2370	711,000.00	2370	711,000.00	2370	711,000.00	2370	711,000.00	2370	711,000.00

## 8.0 FUTURE MAJOR WORKS



TABLE 5 : FUTURE MAJOR WORKS PROJECTIONS BY COMPONENT AND PROGRAMME PERIOD

ITEM DESCRIPTION	Years 1-5		Years 6-10		Years 11-15		Years 16-20		Years 21-25		Years 26-30	
<b>External Components</b>												
<b>Common Area Components</b>												
Door entry system	1427	494,650.00	801	274,200.00	2244	704,400.00	1838	637,300.00	865	279,650.00	1451	503,050.00
Bin chutes	44	3,928.57	856	76,340.33	19	1,696.43	0	-	0	-	0	-
Bin stores	38	20,083.33	302	160,585.37	596	604,930.30	1548	244,461.52	1380	1,582,671.43	37	9,192.86
Burglar alarm Nr	0	-	80	96,000.00	14	11,200.00	2	1,600.00	80	96,000.00	14	-
Lifts Nr	0	-	6	540,000.00	30	2,700,000.00	0	-	0	-	0	-
Stairs and landings Finish	943	105,595.25	2112	769,114.01	507	141,231.35	1117	289,191.40	1238	1,130,310.72	405	43,351.59
Fire alarm	34	51,000.00	5	7,500.00	0	-	0	-	34	51,000.00	5	7,500.00
Entrance Doors	200	240,000.00	200	240,000.00	200	240,000.00	200	240,000.00	200	240,000.00	200	240,000.00
Communal Area Windows Nr.	4166	1,666,400.00	3348	1,339,200.00	2286	914,400.00	2378	951,200.00	1247	498,800.00	1487	594,800.00
<b>Curtilage Components</b>			335				238		125		149	
Hard landscaping and fences	488	290,679.17	3777	1,810,616.69	5109	2,567,781.72	2243	1,256,596.24	1376	544,739.89	1100	498,951.79
Sheds/outhouses	987	354,450.00	1267	485,900.00	400	147,650.00	1453	513,050.00	1259	447,300.00	0	-
<b>TOTAL</b>	<b>30208</b>	<b>31,337,521.36</b>	<b>58097</b>	<b>48,894,256.95</b>	<b>59290</b>	<b>87,381,486.43</b>	<b>55517</b>	<b>64,046,111.22</b>	<b>51367</b>	<b>70,634,536.39</b>	<b>47794</b>	<b>50,395,511.03</b>



### 9.0 HOUSING PERFORMANCE AGAINST THE SHQS

#### 9.1 SCOTTISH HOUSING QUALITY STANDARD (SHQS) INFORMATION SOURCES

9.1.1 SHQS was developed some time after the Falkirk Council 1999 survey design and therefore it is to be expected that the Survey Data is not directly informative as to a dwellings compliance status against all SHQS measures. Indeed, unless a Survey has been commissioned and reported upon post December 2004, it is extremely unlikely that an authority will possess a full and directly compatible SHQS dataset. Alternative information sources are typically resourced where data gaps occur in an authorities housing database.

9.1.2 David Adamson considered the scope of the 1999 Survey Data in respect of satisfying SHQS performance indicators and criteria. The following Table 6 sets out SHQS criteria and quality elements:

TABLE 6 : SHQS PERFORMANCE INDICATORS	
QUALITY CRITERIA	QUALITY ELEMENT
1. TOLERABLE STANDARD	Statutory Standard
2. REPAIR	Primary Elements
	Secondary Elements
3. ENERGY EFFICIENCY	Cavity Insulation
	Loft Insulation
	Tanks/Pipes
	Central Heating
	NHER
4. FACILITIES/ SERVICES	Kitchen Condition
	Bathroom Condition
	Kitchen Storage
	Kitchen Layout
	Kitchen Power
5. HEALTH/ SAFETY/ SECURITY	Lead Free
	Mechanical Ventilation
	Noise Insulation
	Smoke Detection
	Electrical Systems
	Gas Systems
	Common Access



	Common Lighting
	Access Doors
	Door Entry Systems
	Rear Common Access

9.1.3 The outcome of our review of the Survey Data against SHQS criteria is discussed as follows:

i. Tolerable Standard:

This is substantially informed within the Housing Database

ii. Free from Serious Disrepair :

The Primary building components are adequately represented in the Housing Database. Secondary components are substantially represented. In respect of component failure prediction we have relied upon just-in-time fabric component failure forecasts. For reasons previously expressed life cycling of primary components with regards to first renewals in preference to a just-in-time approach, is not in our opinion a sound forecast basis. For example, concrete tile roof cover might typically have an industry life standard in the vicinity of 50 years, however it is common to find such material having an effective life beyond the stipulated period.

Disrepair to components is depicted within the Housing Database. Measures of disrepair are expressed as percentage ranges of the total component in disrepair presenting to the surveyor at the time of inspection. The Database has been updated to reflect capital works. Our considered opinion is that the Housing Database is sufficiently robust to determine short-term SHQS failure whilst the renewal timing dictates mediums to long-term failures for SHQS programming purposes.

iii. Energy Efficient:

Criteria relating to insulation are not able to be informed from the Housing Database. An NHER minimum rating of 5 or SAP of 50 must be achieved where, “technically feasible” (SHQS). Whilst full dwelling measurement data required to general NHER level 1/SAP is not represented in the Housing Database provided (e.g. measured window and door openings), Energy Rating Software possesses default values for such fields, which given the homogenous nature of Council housing stock are deemed sufficiently accurate for the purposes of David Adamson’s work at this time.

Notwithstanding, a need exists for a sufficiently comprehensive dataset to be established in order to reasonably forecast compliance assessment against SHQS Energy Efficient Criteria for dwelling specific SHQS programming purposes.



iv. Modern Facilities and Services:

Whilst SHQS refers to “modern”, It does not specify a life period for kitchens or bathrooms.

This SHQS criteria considers condition of facilities and services and extent/nature of provision. The Housing Database is sufficiently comprehensive to allow David Adamson to predict compliance levels and upgrade cost at required reporting levels. In adopting a 20 and 30 year life period for kitchens and bathrooms, respectively, the cost forecast against SHQS performance standard is reasonably assured.

Information gaps identified e.g. “including worktop space on at least one side of, and at least the same width as, the cooker”, are not in our opinion material to the 30 year cost forecast and informing of the stock valuation pricing model, given the acceptable variability within these outputs.

v. Healthy, Safe and Secure:

All principal compliance determinants e.g. lead free pipe work, safe electrical systems, safe gas systems and presence of smoke detectors are informed by the Housing Database and/or Council records.

Information gaps as identified e.g. secure rear access to the enclosed common areas, are not considered sufficiently material to prevent David Adamson’s from completing its expenditure forecast within the required confidence levels. Due provision has been allowed within the cost plan to remedy failures on common area security.

9.1.4 In conclusion, we found the Survey Data to be incomplete in respect of informing SHQS at dwelling level, particularly with regards to Criteria 3: “Energy Efficient” and Criteria 5: “Healthy, Safe and Secure”. In order to profile the Asset against the performance indicators David Adamson sourced qualitative information from Falkirk Council and 2002 Scottish House Condition Survey (SHCS) Data, circa 141 records, relating to Falkirk public tenure housing.

9.1.5 David Adamson’s predictions of SHQS current compliant status were found to be compatible with predictions based on the 2002 SHCS data, in respect of Criteria 1: “Tolerable Standard”, 2: “Free from serious disrepair” and 4: “Modern Facilities and services”. Those Criteria where divergence in Housing Database and SHCS predictions existed, namely Criteria 3 and 5, were those Criteria where Falkirk Council has yet to obtain SHQS specific data.

9.1.6 **SHQS Criteria 3, Energy Efficient:** SHCS 2002 data indicated that approximately 85% of dwellings failed this criteria, almost exclusively due to lack of cavity and/loft insulation. On appraising its prior programmes of work relating to insulation, Falkirk Council considered the SHCS base point, amended to reflect capital works since the date of survey, to represent the



best information on which to inform the insulating performance indicators. The outcome of this review indicated that the current position is that some 65% of the total stock currently failed Criteria 3, the considerable majority of failures being due to lack of cavity insulation and/or sufficient loft insulation.

9.1.7 Subject to future NHER Level 1 data capture, our assumption has been that against the background of the Authorities proposed Capital Spend, until March 2015 inclusive of;

- 100% dwellings double glazed.
- All external wall cavities filled where practicable.
- All lofts insulated to 200mm, where practicable.
- A policy of installing condensing boilers.

, we would not expect any dwelling to possess an NHER of less than 5.0. A sum has been included for additional energy efficiency measures e.g. insulated render finish to non-cavity dwellings, which is expected to ensure all dwellings possess an NHER rating of 5.0+ where practicable.

9.1.8 **SHQS Criteria 5: Healthy, Safe and Secure:** David Adamson has examined the SHCS survey data. Failures against this standard were against a variety of performance indicators with some 19 failures being recorded out of the total 141 dwellings inspected. There was no discernable pattern of failure other than the majority of failures appearing to be generated from security issues relating to common arrangements. Failures attributable to items such as unsafe electrical systems are unusual with respect to social housing and in any event should be accommodated within responsive budgets as opposed to capital works. Accordingly, on balance of probability, we have preferred the Housing Database and qualitative Council information as opposed to the SHCS 2002 data in respect of predicting Criteria 5 failures. Notwithstanding, the survey database and proposed capital works depicted at SHQS Appendix 3, include for common area security improvement.

9.1.9 In common with most, if not all Scottish Local Authorities, Falkirk Council has resourced best available information with respect to determining its current and future SHQS compliance and delivery, fully recognising that in order to develop dwelling specific programmes of work to realise their SHQS delivery plan, a comprehensive data set shall be required to be collected against SHQS and thereafter included within an IT platform cost generation and programme delivery model. Notwithstanding, we believe that the SHQS Assessment and Costed Delivery Plan as represented within this Report is representative of the total asset and the SHQS obligations conferred on the Landlord.

**9.2 SHQS PERFORMANCE**

9.2.1 The current SHQS compliance position is depicted at the following Table 7:

<b>TABLE 7 : SHQS PERFORMANCE INDICATORS</b>		
<b>QUALITY CRITERIA</b>	<b>DEFECTIVE DWELLINGS</b>	
	<b>No</b>	<b>%</b>
1. TOLERABLE STANDARD	0	0
2. REPAIR	321	2
3. ENERGY EFFICIENCY	12,225	65
4. FACILITIES/ SERVICES	471	2.5
5. HEALTH/SAFETY/SECURITY	432	0

SHQS predicted failures over the planning period March 2004 until March 2015 and the Authorities anticipated capital spend to meet and maintain the Standard are represented at Appendix D.

**9.3 RISK ASSESSMENT: FUTURE INFORMATION REQUIREMENTS AND SHQS PROCUREMENT AND DELIVERY:**

9.3.1 In order to monitor SHQS future compliance and obviate risk associated with SHQS compliance programming, Falkirk Council requires to obtain SHQS specific data at dwelling level, this data being incorporated within an IT platform cost generation model capable of outputting SHQS strategic and dwelling specific programming information. Clearly, the starting point to this process is a data collection exercise facilitated by a Stock Condition Survey. The survey options open to Falkirk Council are broadly:

- Implement a stratified random sample survey controlled at dwelling archetype and estate level and thereafter “cloning” data by archetype and main variant in order to provide a 100% Stock Database planning tool. Thereafter, undertake a rolling programme of surveys to achieve the 100% Survey of the total stock; or
- A 100% survey of the total stock, in the first instance, delivered through a rolling programme.

9.3.2 The latter survey option is clearly preferable with respect to data reliability and works programming, although the Authority would be required to make financial and personnel resourcing provision in order to implement such an exercise within a typical 12 month programme. The former survey option affords greater flexibility in terms of resourcing, however



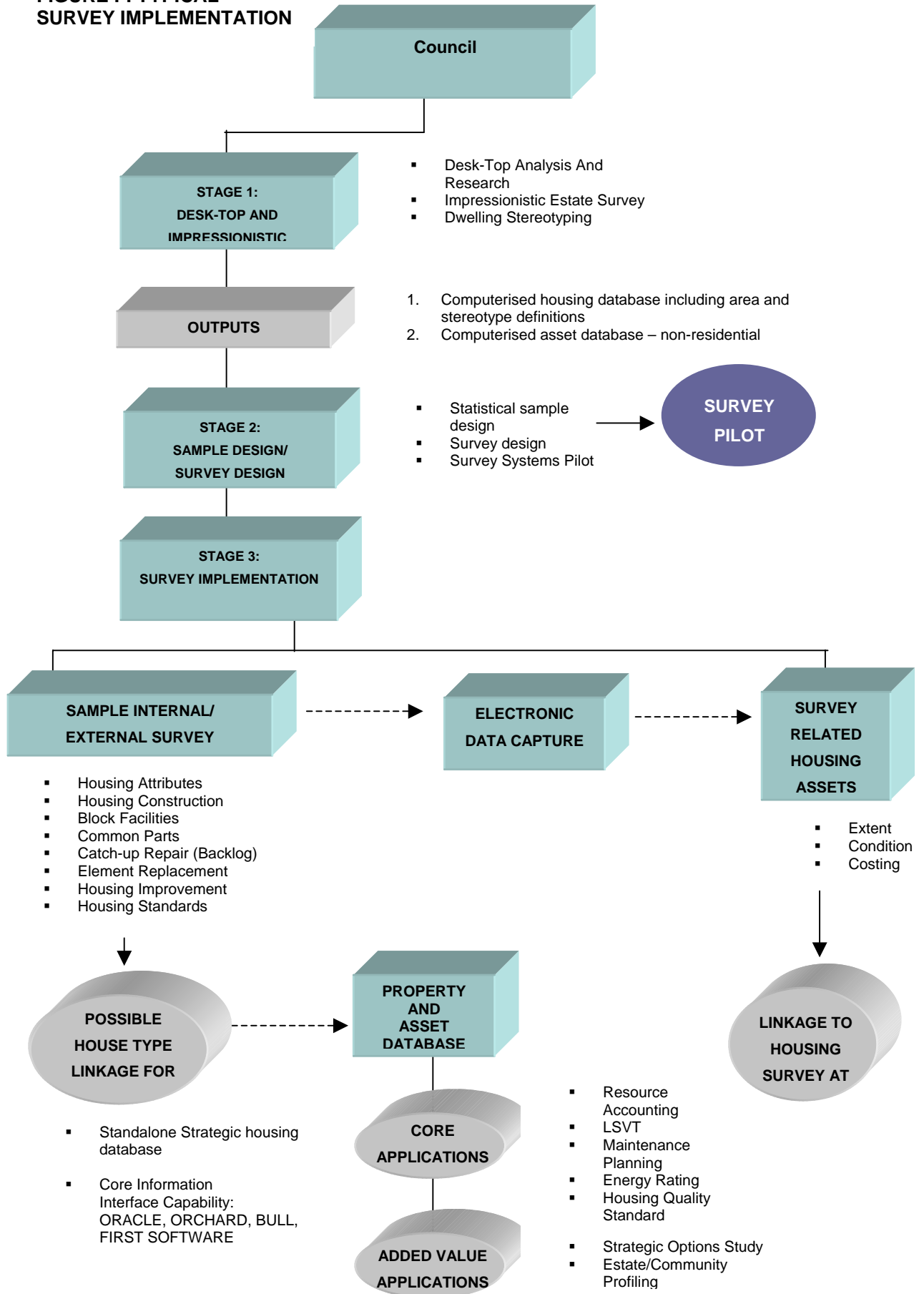
the adequacy of the “cloned” data set for programming purposes will be heavily reliant on the robustness of sample design controls and the Authority’s involvement in the cloning process so as to optimise the accuracy of the 100% interim cloned data set.

9.3.3 Risks associated with Stock Condition Surveys are now well established and predominantly relate to surveying error, surveyor bias, accuracy of component quantities and the schedule of rates adopted for cost generation purposes. Assuming a competent Consultant is appointed to implement this exercise and that the Authority fully engages in contributing to the robustness of the survey data set, we believe the risks associated with achieving an SHQS compliant survey data set on an IT platform programming tool, within an approximate 12 month period, are minimal.

9.3.4 The following Figure F depicts a typical survey implementation process, culminating in the delivery of an Housing Asset Cost Generation and Investment modelling and works programming operating system.



FIGURE F: TYPICAL SURVEY IMPLEMENTATION





- 9.3.5 Risk associated with delivery of the SHQS compliance are common to most Social Landlords and principally relate to procuring and implementing the required work, having particular regard to minimising tenant disruption, achieving value for money, completing within budget and programme. Risks associated with the implementation phase may be substantially obviated by appointment of a suitably skilled and experienced Design Team, with a focus on procuring in a manner which minimises risk of budget overrun and substandard works delivery.
- 9.3.6 Proficient application of value engineering, use of benchmarking, site performance objectives, and key performance indicator approaches, within a partnering framework, will minimise but not eliminate project risk identified from the Risk Assessment.
- 9.3.7 Once the Design Team has been appointed and the procurement strategy finalised, the Design Team would be instrumental in developing and contributing to the Risk Assessment.
- 9.3.8 We believe that the forward maintenance and SHQS compliance cost forecast presented within this Report are realistic and achievable under prevailing market conditions, assuming a best practice procurement strategy is adopted with respect to Design Team appointment and works procurement.



10.1 This Asset Group comprises shops, garages, estate areas, and unadopted footpaths and roads. Guidance in relation to these assets predominantly relies on an impressionistic review of representative areas within selected estates, historical cost and maintenance information and critically, for unexposed and/or non traditional assets, technical personnel's knowledge of the assets previous performance, specification and investment history.

The stock age profile within a public sector housing estate or sub area will also generally assist in a profiling of non-residential and related assets.

### 10.2 **Garages:**

There are 2931 garages, being predominantly of a terraced "lock-up" type as distinct from in-curtilage garage arrangements.

Lock-up garages are of a limited specification scope. Planned Renewals (Future Major Works) are modelled according to remaining physical life of the material and costed assuming contracts of £500,000 or greater.

Elements typically reflected within Planned Renewals are:

- *Roof Cover and rainwater goods (with an allowance for localised decking/joist renewal); £950 per unit*
- *External Wall Finish; £400 per unit*
- *Wall Structure; £2,300 per unit*
- *Door Frame; £400 per unit*



- 10.3 Based on a life expectancy for garage doors of 25 years we estimate the renewal of 20% of garage doors over each 5 year period from year 1. Assuming a typical life expectancy to roof cover of 25 years we project the renewal of 20% of garage roof cover, pertinents and rainwater goods over each 5 year period from year 1. Wall Finish is predicted to possess a physical life of 30 years; 16.7% renewals being projected in each 5 year period. Wall structures were found to be in a fair to average condition; 10% renewal being forecast per period from year 21. Total Future Major Works is determined at £7,253,600 over the following 30 years.

## 10.0 RELATED ASSETS & NON SURVEY BASED COSTS



Table 8 .....

TABLE 8 : FUTURE MAJOR WORKS – GARAGES / LOCK UPS (£ 000's)												
COMPONENT	PERIOD											
	1 – 5		6 – 10		11 – 15		15 – 20		21 – 25		26 – 30	
	Nr	£	Nr	£	Nr	£	Nr	£	Nr	£	Nr	£
Roof Cover & Pertinents	586	556700	586	556700	586	556700	586	556700	586	556700	586	556700
Wall Structure		0		0		0		0	293	673900	293	673900
Wall Finish	483	193200	483	193200	483	193200	483	193200	483	193200	483	193200
Door/Frame	586	234400	586	234400	586	234400	586	234400	586	234400	586	234400
<b>TOTAL COST</b>	<b>1655</b>	<b>984300</b>	<b>1655</b>	<b>984300</b>	<b>1655</b>	<b>984300</b>	<b>1655</b>	<b>984300</b>	<b>1948</b>	<b>1658200</b>	<b>1948</b>	<b>1658200</b>



### 10.4 Shops:

The Council's records identify that the asset under report includes 75 shop premises.

Adopting a model shop premises (Gross Internal Area 100 m<sup>2</sup>) and appropriate buildings age profile projected expenditure for shops has been determined as follows.

**Future Major Works:** *This forecast assumes that shops are let on Lessee Internal Repairing and Insuring Terms. Notwithstanding on reversion the Lessor will typically undertake renewals to facilitate reletting.*

### SHOPS BY MANAGEMENT AREA

Table 9.....

TABLE 9 : SHOPS CATCH-UP & FUTURE MAJOR WORKS			
	NR. SHOPS	FUTURE MAJOR WORKS COST (£)	30 YEAR TOTAL COST (£)
	75	994,000	994,000
<b>TOTAL COST</b>			

For the purposes of this study, Future Major works costs have been included as part of Estate Works. Dependent on the Authorities form of lease and cost recovery policy, these costs may be reduced should the Authority effectively achieve a 'net lease' situation ie all repairing, maintenance and required renewals are met by the Lessee.

### 10.5 Unadopted Roads & Footpaths:

An Asset Register against Unadopted Roads and Footpaths does not currently exist. The Authority advised that the Consultant should assume responsibility for 1km unadopted Roads and 2 km of footpath. Allowing £500 p.metre @ 1000m, indicates an estimated expenditure of some £500,000, to be equally apportioned in years 21 - 25 and 26 - 30.

Footpaths are projected to require renewal over years 21-25 and 26-30 at a cost of £35,000 per period.



### 10.6 Estate Areas:

Communal land maintained as part of the Housing Asset has been identified by the Authority for Management Area and based on historical expenditure an allowance of £100,000 for each 5 year period, commencing years 11-15, has been allocated against hard landscaping.

No discernable renewal cost is associated with soft landscaped areas. A Planned Renewal rate of £20 per m<sup>2</sup> has been applied to hard landscaped areas (source: Adamsons Quantity Surveying Division).

m<sup>2</sup> @ £ per m<sup>2</sup> =        £

**Table 10 .....**

TABLE 10: ESTATE WORKS – ASSET COST FORECAST						
	YEARS .....					
Component	1-5	6-10	11-15	16-20	21-25	26-30
Garages	984,300	984,300	984,300	984,300	1,658,200	1,658,200
Shops	145,000	145,000	147,000	147,000	2,248,200	2,248,200
Footpaths/Roads					285,000	285,000
Landscaping			100,000	100,000	100,000	100,000
<b>TOTAL (£)</b>	<b>1,129,300</b>	<b>1,129,300</b>	<b>1,231,300</b>	<b>1,231,300</b>	<b>2,248,200</b>	<b>2,248,200</b>



11.1 For the purposes of this Study non-traditional dwellings are an asset of special interest. The focus of this interest is the potential impact of the non-traditional stock on future repairing and maintaining obligations and in particular the cost categories;

- *Exceptional Extensive Works; and*
- *Major Contingent Repairs*

11.2 When considering the non-traditional stock against these cost categories we must endeavour to evaluate that exceptional expenditure which is known to be required within the following 30 years (Exceptional Extensive Works) and quantify expenditure for which there is a reasonable expectation given the specification and associated likely physical performance of the non-traditional type, notwithstanding that failure to structural elements may not be apparent at this time (Major Contingent Repairs).

### 11.3 NON-TRADITIONAL HOUSING:

**TABLE 11: NON-TRADITIONAL HOUSING**

	<i>Type Name</i>	<i>Number of Dwellings</i>
<i>Type 1:</i>	Atholl Steel	6
<i>Type 2 :</i>	Banton	658
<i>Type 3 :</i>	BISF	85
<i>Type 4:</i>	Bison High Rise	167
<i>Type 5:</i>	Blackburn Permanent	62
<i>Type 6:</i>	Cruden	34
<i>Type 7:</i>	Dorran AGW	15
<i>Type 8:</i>	Hilcon	85
<i>Type 9:</i>	Lawrence Mk 1	42
<i>Type 10:</i>	Livingston	62
<i>Type 11:</i>	Multicom	32
<i>Type 12:</i>	No Fines	655
<i>Type 13:</i>	Orlit	262
<i>Type 14:</i>	Scotcon	152
<i>Type 15:</i>	Semi -trad. Flat roofed	23
<i>Type 16:</i>	Skarne Cruden High Rise	511
<i>Type 17:</i>	Skarne Cruden Low Rise	124
<i>Type 18:</i>	Swedish Timber	13
<i>Type 19:</i>	Tarran Mk 4	3
<i>Type 20:</i>	Thain/Chisholm	211

## 11.0 NON TRADITIONAL DWELLINGS



Type 21:	Timcon	11
Type 22:	Timcon A	24
Type 23:	Timcon B	34
Type 24:	Weir Quality	25
Type 25:	Weir Timber	309
Type 26:	Whitson Fairhurst	81
Type 27:	Wimpey High Rise	330
Type 28:	Anchor Timber	12
<b>NON-TRAD TOTAL</b>		<b>4028</b>

### ASSUMPTIONS:

1. Source: Council Records

**12.1 ASBESTOS**

Indicative net costs have been determined by prediction against dwelling date built age bands, recognising the relationship between time period and use of asbestos in residential building materials.

Partial fabric renewals, modernisation to kitchens and bathrooms and installation of heating systems and insulating material from 1960 to 1975 in particular, shall typically result in asbestos presence to pre-1945 dwellings.

Cost quantum and timings are in keeping with our experience and expectation, however for the avoidance of doubt until such time as an asbestos survey is undertaken these costs should be regarded as provisional sums.

**12.2 NON-TRADITIONAL DWELLINGS**

The following synopsis specification is our expectation against the non-traditional stock and forms the basis to cost forecasts stated herein. Precast Reinforced Concrete house types not improved to a recognised standard are known to require substantial structural improvement within the 30 year planning period. Accordingly these works are costed under "Exceptional Extensive Works".

**Table 12 .....**

<b>TABLE 12 : NON TRADITIONAL DWELLINGS COST FORECAST</b>			
<b>NON TRADITIONAL TYPE</b>	<b>Total Nr.</b>	<b>Cost Allowance Per Unit</b>	<b>Total Cost</b>
Anchor Timber	12	-	-
Atholl Steel	6	15,000.00	90,000.00
Banton	658	-	-
BISF	85	35,000.00	2,975,000.00
Bison High Rise	167	15,000.00	2,505,000.00
Blackburn Permanent	62	-	-
Cruden	34	15,000.00	510,000.00
Hilcon	85	10,000.00	850,000.00

## 12.0 MAJOR CONTINGENT REPAIRS



Lawrence Mk 1	42	-	-
Livingston	62	-	-
Multicom	32	-	-
No Fines	655	-	-
Scotcon	241	-	-
Semi -trad. Flat roofed	23	-	-
Skarne Cruden High Rise	511	7,500.00	3,832,500.00
Skarne Cruden Low Rise	124	15,000.00	1,860,000.00
Swedish Timber	13	-	-
Thain/Chisholm	211	-	-
Timcon	11	-	-
Timcon A	24	-	-
Timcon B	34	-	-
Weir Quality	25	-	-
Weir Timber	309	-	-
Wimpey High Rise	330	7,500.00	2,475,000.00
<b>Total</b>			<b>15,097,500.00</b>

### 12.3 INTER WAR DWELLINGS

Interwar dwellings are prone to contingent expenditure arising from their specification and age (eg roof spread, wall tie failure and DPC breakdown).

Accordingly a sum of £2,500 per unit has been allowed over periods commencing year 11-15.

**Nr 5041 dwgs @ £2,500 = £12,602,500**



- 13.1 The principal distinction between this cost category and Major Contingent Repair is that Exceptional Extensive Works pertain to identified and currently presenting defects.
- 13.2 A primary asset group to be considered under this head are the PRC defective non-traditional dwellings. Falkirk Council housing stock includes four designated defective house types, comprising 272 dwellings.
- 13.3 Exceptional Extensive Works are defined as "... These are major works which are required to remedy particular significant defects and fall outside the definition of routine repairs and maintenance. They are usually works needed to provide the most effective technical solutions and will reduce future repair and maintenance cost" (DETR).
- 13.4 Exceptional Extensive Works Costs predicted herein are in addition to expenditure profiles for other cost categories, eg Future Major Works.
- 13.5 High Rise Mechanical and Electrical expenditure has been based on established programmes of work, as advised by the Authority.

### 13.6 DRAINAGE (BELOW GROUND)

Council technical personnel advise of no presenting failures attributable to significant latent defect in a localised area. Accordingly on this basis, and subject to specialist reporting, a contingent allowance of £100,000 over Years 1-10, has been made.

### 13.7 CONTAMINATION AND HAZARDOUS SUBSTANCES

The Council's personnel are unaware of known or suspected areas of land contamination affecting the Asset under report. A contingency cost allowance has not been allocated against these potential cost categories at this time.

**Table 13 .....**

## 13.0 EXCEPTIONAL EXTENSIVE WORKS



**TABLE 13 : EXCEPTIONAL EXTENSIVE WORKS COST FORECAST (£000's)**

ITEM	COMPONENT	YEARS .....													
		1	2	3	4	5	6	7	8	9	10	11-15	16-20	21-25	26-30
	Underground Drainage	100	100	100	100	100	100	100	100	100	-	-	-	-	-
	High Rise M &E	450	450	450	450	450	450	450	450	450	450	2,000	2,000	2,000	2,000
PRC	Wall Structure Replacement (PRC Homes licensed scheme) £50k per unit	-	-	-	-	-	-	-	-	-	-	6,800	6,800	-	-
<b>TOTAL</b>		<b>550</b>	<b>550</b>	<b>550</b>	<b>550</b>	<b>550</b>	<b>550</b>	<b>550</b>	<b>550</b>	<b>550</b>	<b>550</b>	<b>8,800</b>	<b>8,800</b>	<b>2,000</b>	<b>2,000</b>



14.1 Cyclical Maintenance is defined as, "...work on an annual or longer term cycle. It includes activities such as servicing central heating or repainting. The extent of future maintenance can be determined by best practice and should take into account the impact of the nature of future major repairs and any improvements that are planned".

Establishing Cyclical Maintenance costs generally involves a two stage process, namely:

- a) *identifying historic costs; and*
- b) *confirmed against an established expectation.*

The Council has provided its forecast cyclical costs annualised for inter alia;

- *Cyclical painting*
- *Cyclical servicing*
- *Cyclical ground maintenance*

14.2 An expenditure quantum of £4,982,000 per annum has been adopted.

14.3 It was further advised that no separate cost provision was to be made for electrical testing.

#### 14.4 **Disabled Adaptations:**

The Council anticipate an expenditure of circa £788,000 per annum against this cost category.

## 15.0 RESPONSIVE AND VOID MAINTENANCE



- 15.1 This cost category may be described as the maintaining obligation arising from the social landlords requirement to undertake repairs pursuant to a tenants notification of defect or in connection with placing the property in a lettable state.
- 15.2 Attributing quantum to this cost head is typically achieved by considering historical cost information, subject to validation against ranges of expectation. Notwithstanding, in this context inter-dependent relationships between cost categories are required to be considered.
- 15.3 “The need to undertake this type of work can be derived from records of response repairs undertaken in the past. The extent to which they are a function of the current condition of the stock and generated by a build up of catch-up repairs, or are a function of current misuse, needs to be identified. Future need for such repairs may be reduced once backlogs have been dealt with or management practices changed.” (DETR March 1998).
- 15.4 Falkirk Council has provided the following projection against these cost heads.

**TABLE 14: RESPONSIVE & VOID MAINTENANCE COSTS OVER 30 YEAR PERIOD**

	TOTAL COST PER PERIOD (£ 000's)						Total Cost (£)
	Years 1-5	Years 6-10	Years 11-15	Years 16-20	Years 21-25	Years 26-30	
Voids	10,415	10,415	10,415	10,415	10,415	10,415	62,490
Responsive	29,445	29,445	29,445	29,445	29,445	29,445	176,670



### 16.0 HOME ENERGY EFFICIENCY

#### **DO CITY OF FALKIRK COUNCIL DWELLINGS OFFER ACCEPTABLE STANDARDS OF ENERGY EFFICIENCY AND AFFORDABLE WARMTH...?**

- 16.1 Falkirk Council requires to collect a robust energy rating data-set (preferably to NHER Level 1/Full SAP) against its housing stock.
- 16.2 An energy audit is a method of estimating the heat loss of a dwelling resulting from, amongst other factors, its size, construction, and insulation characteristics. By combining this information with data on the type of heating, domestic energy costs can be estimated.
- 16.3 NHER Level 1 analysis is concerned specifically with two energy-related performance indicators calculated by the NHER Auto-Evaluator energy audit assessment of the dwellings included in the Falkirk Council Local House Condition Survey. These two energy-related parameters are:
- **National Home Energy Rating score**
  - **Standard Assessment Procedure score**
- 16.4 The National Home Energy Rating (NHER) is an energy cost performance indicator for a dwelling calculated on a scale of "0" to "10". The NHER is derived from an assessment of the total fuel costs per square meter of total floor area of a dwelling, taking into account the specific local climatic region. There is a built-in assumption that larger dwellings will use more fuel, and therefore incur higher fuel bills, to achieve a given temperature standard, given the same heating and insulation characteristics. By the pro rata assessment of fuel costs per unit of floor area (i.e. £/m<sup>2</sup>), the NHER scale allows larger dwellings to be compared directly with smaller dwellings.
- 16.5 The NHER score is not concerned solely with energy consumption per se (e.g. kWh, therms or gigajoules), but with the cost of all household fuel consumption. A NHER score of "0" indicates a poorly insulated dwelling that is reliant on expensive forms of heating; a score of "10" indicates a dwelling that is extremely efficient in its overall use of energy. A dwelling built to the thermal standards of the 1995 Building Regulations and heated with a modern, whole house heating system will score typically "7" or better on the NHER scale. The average NHER for the U.K. is between "4" and "5".
- 16.6 The NHER is designed to remain constant over time. First, it is indexed to take account of inflation. It accommodates increasing fuel prices through inflation by updating the NHER



Fuel Cost Table annually. Further, the fuel prices used within the NHER programme to calculate the rating are based on a three-year national average for each fuel so as to avoid short-term price fluctuations effecting the rating of a dwelling.

- 16.7 The Standard Assessment Procedure (SAP), like the NHER, is also an energy cost performance indicator for a dwelling, calculated on a scale of "1" to "100". The SAP was developed originally by the government and the Building Research Establishment as a means of comparing different energy rating systems. It has become since an energy label in its own right. The SAP is derived from an assessment of only the total space and water costs per square metre of total floor area of a dwelling for the average U.K. climatic region (e.g. East Midlands).
- 16.8 Unlike the NHER, the SAP does not take account of either the energy consumption or the associated costs of light and appliances, or cooking; and it does not take account of local climate factors. Like the NHER, it makes pro rata assessment of space and water heating costs per unit of floor area, allowing larger dwellings to be compared directly with smaller dwellings.
- 16.9 Like the NHER, the SAP is not concerned solely with energy consumption per se, but with the cost of space and water heating. A SAP score of "1" indicates a poorly insulated dwelling that is reliant on expensive forms of heating, while a score of "100" indicates one that is extremely efficient in its overall use of energy. A dwelling built to the thermal standards of the 1995 Building Regulations and heated with a modern, whole house heating system will score about 70 on the SAP scale. The average SAP for the U.K. is around 44.
- 16.10 The SAP was incorporated into the Building Regulations from April 1995; since then, all new dwellings going through Building Control must have a SAP calculation performed as part of the application process. While achieving a particular SAP is not required, the level of SAP determines the insulation standards that must be met. A SAP score of 60 or less requires a dwelling to meet more onerous insulation standards through both the elemental and target calculation methods, while a dwelling scoring between 80 and 85 or better (depending on total floor area), is deemed to comply with the thermal Standards.
- 16.11 Programme of energy efficiency improvement being undertaken or proposed by Falkirk Council, are comprehensive (as previously discussed at Section 16.0). The expectation is that after implementation all dwellings shall meet SHQS and possess an NHER rating considerably in excess of 5.0.



When appraising for comparative purposes against an 'average', it should be recognised that by definition a particular case will on balance of probability differ from the 'average', however this comparative approach provides a useful basis for flagging expenditure variation.

**Table 15 .....**

<b>TABLE 15: COMPARATIVE EXPENDITURE FORECAST ASSESSMENT</b>			
<b>Expenditure Category</b>	<b>Expected Benchmark Range, £ Per Unit</b>	<b>of Falkirk £ Per Unit</b>	<b>Falkirk as % of Benchmark Mean</b>
Future Major Works	£17,000 - £22,000	£18,752	96.2
Cyclical Maintenance	£6,500 - £8,000	£7,947	109.6
Response & Void	£11,000 - £14,000	£12,716	101.7

Globally the expenditure forecast of £49,588 per dwelling, lies within close proximity to expectation. This outcome is consistent with both the 'as-built' characteristics of the housing Asset and the age profile of principal amenity/service components, whereby the majority of dwellings possess central heating and have a reasonable standard kitchens and bathrooms amenity.

### **Future Major Works:**

Planned renewal costs are broadly consistent with expectation. A significant flatted dwelling representation will typically reduce the average Future Major Works Costs.

### **Improvement Cost:**

The improvement standard adopted by Falkirk Council, (namely SHQS) is focused on both improving the condition of existing components and providing new provision.

### **Summary:**

Falkirk Council possess a physical asset that (PRC structural issues aside) will require a typical repairing and maintaining investment to ensure its continued operational effectiveness. Notwithstanding, within this profile there are best value decisions that are required to be informed. This study provides an information platform on which to implement development of a robust asset model for longitudinal application and SHQS performance monitoring.



Appendix A to this Report sets out a Total Cost Summary over the 30 year forecast period. Generally, preliminaries and professional fees allowances are works specific and finalised according to a particular programme of works, however we have allowed a provisional 18% at this time, we believe this to be realistic.