

To Independent assessor



Warrington Borough Council

FEASIBILITY STUDY REPORT
Stockton Heath, Warrington
Stockton Heath Community Primary School
ADU Ref : EFEA 96

Date : 09/11/05

Corporate Services Directorate
Architectural Consultancy
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1. INTRODUCTION

The feasibility study has been based on information supplied in the briefing document prepared by M.Coope and information supplied by the client Lynda Carnes (Head) and the school's Governors, Gordon Carson (Catering Officer), Neil Jones (Highways) and Julie Hall (Education)

The feasibility brief issued at the end of April '05 is a large document and therefore is not attached to the document but has been issued to Education and is available.

Information for the feasibility study was provided by the client / clients agent in the form of the following:

- Brief
- Programme
- Accommodation Schedule
- Room Data Sheets
- Mains Service Information
- Contaminated Land Information
- Ordinance Survey and AMP Drawings

Further information for the feasibility study was gathered and collated by the ADU, generally comprising the following:

- Measured survey drawings to provide plans of the building, elevations and a site level survey.
- Accessibility Assessment Reports
- Photographic records
- Consultation with the following WBC Departments: Highways, Traffic Management, Development Control - Planning, Facilities manager of Estates, Travel Plan Co - ordinator and Catering Services.
- Consultation with Councillors Jordan and Dodd.
- Consultation with Cheshire County Council's archaeologist and English Heritage
- Consultation with the following internal consultants: Mechanical Engineer, Electrical Engineer and Quantity Surveyor.
- Consultation with the following external consultants: Planning Supervisor, Structural Engineer, BREEAM Assessor.
- Two sets of public consultation meetings were held with the following groups in May and July '05 : the School Governors, Little Lot Nursery and the Stay and Play Group, the school staff , the parents and the local residents
- Liaison with a number of contractors to discuss the logistics of the options
- Consultation with mobile contractor hire companies

Accurate "as built" drawings were not available for the existing building.

PROPOSALS

The feasibility study commenced with the production of two options:

Option 1

- replace the existing school with a new build scheme and demolition of the existing school

Option 2

- to extend and refurbish the existing building with the demolition of the Horsa huts

The accommodation schedule and room data sheets were applicable to both proposals. The client requested that the SEN / Enhanced Provision unit was required to be a separate single storey unit, which could be easily omitted at a later date without affecting the remaining plan. It was confirmed at an early stage that the nursery unit was definitely to be included. It was also a requirement for both options to attain at least a 'very good' rating (55 points) with reference to the Building Research Establishment Environmental Assessment Method.

Further to the public consultation meetings completed in July '05 and Executive Board approval in September '05, Children Services requested that the new build scheme was progressed in further detail.

New School Building (Option 1)

The proposal is to replace the existing school buildings with a new building. The new school building will provide suitable accommodation to maintain the current 2 forms of entry and also accommodate the current on site private nursery, Enhanced Provision unit and after school link club. This option will be known as Option 1 and the drawings are referenced EFEA96. The accommodation schedule was developed in accordance with Building Bulletin 99.

During the early development of proposals various different options for rebuilding were investigated. Purely from a building perspective, to redevelop on another site elsewhere would have been desirable but unfortunately no alternative site that would serve the local community could be identified. The option to redevelop on the existing site was taken as the only viable option.

To redevelop the existing site could be undertaken in various ways as outlined below:

- Provide temporary mobile classroom accommodation on site for the whole school, demolish all existing buildings, and build new building and grounds.
- Provide temporary mobile classroom accommodation on an alternative site for the whole school for the duration of the construction works, demolish all existing buildings, and build new building and grounds.
- Maintain most of the existing buildings (occupied), supplement with some mobile accommodation, and redevelop around the extremities of the site with the new building, demolish existing buildings and complete the work to the grounds.

The first two of these proposals, whilst giving the opportunity to position the building in the most desirable location on the site have been disregarded for a combination of reasons. These being that it will be too disruptive to the pupils education, the staff working environment and also too expensive.

The third proposal whilst presenting difficulties to all has been determined to provide the best possible solution to minimise the disruption to the pupils and staff and to provide the school with a best value solution to ensure that the funding being provided is maximised. With this in mind the majority of the available funding can be apportioned to the permanent construction of the building and grounds providing the pupils, staff and the local community with a valuable asset and resource for the future.

The location of the existing school building to be retained as temporary accommodation dictated the siting of the proposed new building, which is proposed to front onto West Avenue. The car park is retained in the same location but increased in size with a new safer access formed off Egerton Street. All trees are to be retained.

To develop and complete this project the works will need to be undertaken in the following manner: -

Phase 1

Retain only the existing Nursery Horsa hut building to provide nursery accommodation whilst the works are being undertaken and demolish the dining room and 2 classroom Horsa huts.

Retain the existing school with the possible exception of the single storey West wing, which may require demolishing at the commencement on site to provide the contractor sufficient access to the works.

Provide temporary mobile accommodation to replace the 3 classrooms lost from the Horsa hut and demolished wing and arrange for the school meals to be delivered from an alternative kitchen during the works.

Temporary parking for the staff to be provided in The Forge car park for the duration of the works.

Form new car park access off Egerton Street as advised by Highways.

Complete the new school building with car park and nursery/reception play area during Summer '07 and the school decants into the new accommodation.

Phase 2

Demolish the existing building providing sufficient time to allow for recycling elements of the old school. Complete the external works including the all weather pitch.

There would be no loss of any significant trees around the boundary.

Repair the North boundary wall

BREEAM (Building Research Establishment Environmental Assessment Method)

The new build option initially gained a BREEAM score of just below 50 points. To achieve the very good score of 55points a number of additional items were reviewed and provisionally added to the scheme. The costs for the known items were added to the cost plan after the initial cost plans provided in June '05, these items include cycle racks, lockers, BREEAM M & E maintenance manuals, roller shutters, wildlife zone, outdoor seating & landscaping, sub metering of services (gas, water, electric) & BREEAM recycling facility Further research is required during the capital scheme to finalise the requirements.

Refurbishment and Extension of the Existing Buildings (Option 2)

The proposal was to extend, remodel and refurbish the existing main school building. The completed project is to provide suitable accommodation to maintain the current 2 forms of entry and also accommodate the current on site private nursery, SEN unit and after school link club. This option will be known as Option 2 and the drawings were referenced EFEA95. The accommodation schedule was developed in accordance with Building Bulletin 99.

A structural survey was carried out of the main existing building, which building was found to be reasonably sound for its age with the exception of the suspended floor over the basement and pipework ductwork, dampness penetration and the condition of the backing timberwork and floors and beams where built into the external walls. The boundary wall was also surveyed and a number of repair recommendations were reported.

The option to retain all of the main school was reviewed but all of the elevations contained significant detail and any wing extended onto the existing building would cover the detail and form recesses, which are generally avoided for security reasons. The extension/s would have to be located sufficiently far from the existing windows to retain existing natural light levels and due to the Planning distance restrictions resulting in a long narrow extension/s. The North side of the school can not be significantly extended due to its proximity to the terraced housing.

The site was reviewed and further to the Planning distance restriction, it was proposed to demolish the West single storey wing of the existing school and its associated basement area and replace it with a two-storey extension linked to the existing school. Two small two-storey extensions were proposed to extend the classrooms on the North elevations. The remaining basement floor under the two-storey part of the school would be replaced. The Horsa huts would be demolished as part of the final scheme. The car park would be relocated with a new access formed off West Avenue.

To develop and complete this project the works will need to be undertaken in the following manner: -

Phase 1

Retain the Horsa hut buildings to provide nursery and dining accommodation whilst the works are being undertaken and demolish the 2 classroom Horsa hut. Approx. 50% of the trees on West Ave would require removing to provide an adequate visibility splay to the new car park entrance as advised by Highways. Provide mobile accommodation for 4 classrooms with associated toilets.

Demolish the single storey East wing and its associated basement of the existing school and extend the existing building whilst the majority of the existing main building remains in use.

The boiler is located in the basement and would be stripped out during the Summer holidays. The remaining basement floor under the two-storey part of the existing school requires replacing during the Summer holiday period to maintain the fire escape stairs in use during term time occupation. The new boiler plant would require installing into a room of the existing school in time for the heating season commencing Oct '06.

Temporary parking for the staff to be provided in The Forge car park for the duration of the works, where car parks would be used as temporary play areas.

The extension included the following accommodation: main hall, small hall, kitchen, nursery unit, 3 Junior classrooms, staff room, staff toilets, enhanced provision classroom, all of the school's administration offices and all of the associated rooms. The extension and car park would be completed in Phase 1.

Phase 2

Relocate some of the pupils and staff into the new extension on completion of Phase 1 with the remainder being decanted to additional mobile accommodation to provide a total of 8 classrooms with associated toilets, the dining block was also to be used as 2 temporary classrooms. The existing main school building was then to be refurbished and remodelled to provide the remaining accommodation required.

Phase 3

On completion of the main building works relocate all pupils and staff into the school building, remove mobile accommodation, and demolish existing Horsa huts.
Complete the external works including the all weather pitch.
Repair the North boundary wall

This method of redevelopment will take approximately 6 months longer to execute than the new build option and will pose inherent difficulties and restrictions on the site whilst the works are being undertaken. This option would require the children to decant twice during the phased work and the majority of children would be taught in mobile accommodation for nearly a year, because the existing building cannot be refurbished whilst it is occupied.

This option was over £0.5m more expensive than the new build option and had a larger footprint of approximately 300sqm due to excess space in the existing building which could not be economically used to provide the accommodation required in the brief. The larger footprint further reduces the restricted play area. Inherent problems were also still unresolved regarding safety and maintenance of the fabric of the building. Further to the initial cost plan – Cost Plan 1, savings were reviewed and a number of items would require omitting, which would be detrimental to the maintenance of the existing school fabric.

BREEAM (Building Research Establishment Environmental Assessment Method)

The refurbishment and extension option initially gained a BREEAM score in the mid 40's point region. To achieve the very good score of 55 points a larger number of additional items were required than for the Option 1 scheme and they were provisionally added to the scheme.

The costs for the known items were added to the cost plan after the initial cost plans provided in June '05, these items include cycle racks, lockers, BREEAM M & E maintenance manuals, roller shutters, wildlife zone, outdoor seating & landscaping, sub metering of services (gas, water, electric), BREEAM recycling facility & increased timber door cost and longevity design (bollards etc). Further research is required to finalise the requirements.

Archaeological Dig

Further to consultation with Cheshire County Council's Historic Environment Planning Officer, it was recommended that an archaeological evaluation was required to review the proposed footprints of the two options. The archaeological evaluation was carried out during the Summer '05 holiday period by an independent consultant, where four linear trenches were excavated. The findings showed that Roman remains of high quality survive within the school grounds. The Roman road survives in an excellent state of preservation and at a shallow depth. Clear traces of roadside structures were also recorded. A report was issued to Warrington Borough Council and the Planning Archaeologist by the contractor. Further to issue of the report, Cheshire County Council's Historic Environment Planning Officer recommended that the footprint of any building work should be sterilised. This would require a full archaeological excavation carrying out by specialists, where any finds would be recorded and removed from the site prior to any building work commencing. The school indicated that they would like to involve the children in part of this process. Any artefacts would become the property of WBC 's Museum.

Development of Option 1

Further to the public consultation meetings completed in July '05, opinion expressed at the July '05 meeting supported the new build scheme as the favoured option. Children Services gained the support of the Executive Board in September '05 to commission the new build option and demolish the old school. Children Services requested that the new build option should be further reviewed regarding the proposed structure to provide two further options with their associated programme and cost implications.

Additional costs were also included into the overall costs of these options further to:

- further to consultation with the school and other building users, the layout and design of the school was developed resulting in an increase in floor area to particular rooms and the addition of rooms.
- the archaeological site sterilisation
- additional items and rooms required to meet BREEAM requirements

Option A : traditional load bearing construction

This option provides a cheaper option but extends the programme beyond a school year and has a higher risk factor regarding delays incurred due to bad weather.

Option B: steel frame with a piled foundation

This option retains the proposed programme period in the brief to a one-year build period but is more expensive. This option also reduces risk of delay due to poor weather.

Commissioning of the Capital Project

Children Services commissioned the Architects Design Unit to proceed with the new build option B (steel frame) on 8th November '05 as a capital scheme, further to review of the cost and programme implications of the two options.

The steel frame is not shown on the plans but it will be incorporated with the capital development of the scheme.

Option 1 Presentation

Further to Executive Board approval Children Services commissioned a 3D animation of the new build option for public presentation, which is scheduled to be exhibited on 29th November '05.

2. COST PLAN

The Quantity Surveyor prepared Cost Plans for the feasibility study, which are attached as separate documents. The cost plans are included for the new build scheme Option 1 for Options A and B regarding the structure options.

The cost plans follow a client approved and industry standard format.

The Cost plan documents conclude with a request for a signature of approval. Please refer to the section below for Client Approval.

The detailed cost plans for Option 2 the extend and refurbishment scheme are not included because they would not be comparative on the same basis to the latest cost plans for Option 1 due to the development of the scheme.

Development of Option 1

The new build option was further reviewed regarding the proposed structure to provide two further options with their associated programme and cost implications.

Additional costs were included into the overall costs of these options further to:

- further to consultation with the school and other building users, the layout and design of the school was developed resulting in an increase in floor area to particular rooms and the addition of rooms.
- the archaeological site sterilisation
- additional items and rooms required to meet BREEAM requirements

Option A traditional load bearing construction: £4,503,305

Option B steel frame with a piled foundation: £4,670,082

3. BRIEF SPECIFICATION AND NOTES

The following notes describe the specification for the feasibility study, against which the estimated costs have been prepared. Due to the nature of any feasibility study, it may prove necessary to revise a number of these assumptions in post feasibility project development. The ADU will notify the client of all post feasibility changes to the specification.

- | | |
|----------|--|
| 1 | <u>Sub-structure</u> |
| 1a | - Excavate & remove existing topsoil / turf / tarmac further to archaeological excavation |
| 1b | - Piled foundations |
| 1c | - short bore piles - 5000mm deep with ground beams |
| 1d | - Ground floor slab - concrete |
| 2 | <u>Superstructure</u> |
| 2a | - Steel Frame - RSJ, bracing, erection, painting and fire protection |
| 2b | - Roof
Roof lights/ sunpipes - minimal
Composite insulated profiled metal roof – eg Kalzip
Fascia boards - 500mm |
| 2c | - Upper floors – reinforced concrete |
| 2d | - Stairs – reinforced concrete |
| 2e | - External walls
Cavity brick & blockwork
Stainless steel lath & render
Brise soliel |
| 2f | - External windows & doors
Powder coated Aluminium windows & Doors
Automatic folding door
Aluminium circular windows
Luxblock Glass Wall
Steel doors with louvres
Aluminium glazed entrance screen & door
Roller Shutters |
| 2g | - Internal walls & Partitions
140mm blockwork partition walls
Glazed Balcony
Toilet partitions |
| 2h | - Glazed internal door, side screen & frame
- Internal doors - standard with viewing panel, inc frame and ironmongery |
| 3 | <u>Internal Finishes</u> |
| 3a | Wall finishes
- 13mm 2ct Plaster & emulsion to walls
- Skirtings / covings
- Wall tiling |

- General painting
- Acoustic panels
- Altro whiterock panelling
- 3b Floor finishes
 - Carpet – general, medium, barrier matting and robust.
 - Vinyl sheeting on Tremco DPC & screed – patterned, anti slip, general & cushioned
 - Entrance matting
 - Plant room - floor painting to concrete
- 3c Ceiling finishes
 - Ceilings – moisture resistant board finish – type 4
 - 12.5 mm Plasterboard, skim & emulsion
 - Suspended ceilings – types 1 - general
 - Suspended ceilings – types 2 - durable
 - Suspended ceilings – types 3 - robust
 - Suspended ceilings – types 5 – high spec
- 4 Furniture, Fixtures & Fittings**
 - Reception counter / screen
 - Signage around school site
 - Practical area S/S sink & worktop
 - Drinking fountains
 - Shelving - spur steel-lok
 - Worktops to ICT suite / practical areas
 - Fitted cupboards
 - Whiteboards
 - Pinboards
 - General fittings / tank platforms / mirrors
 - Bench seating in changing / shower areas
 - Cloakroom fittings
 - Lockers for cyclists - BREEAM
 - Stainless steel sinks to practical areas
 - Mobile folding bookcase
 - Fire fighting equipment
 - Window Blinds/ black out/ fly screens
 - Kitchen units
- 5 Services**
- 5a Sanitary Appliances
 - Normal wcs
 - Disabled wcs - complete with sink & grab rails etc
 - Normal whbs
 - Urinals
 - Grab rails & booster seat
 - Shower & cubicle
 - Cleaners sinks

5b	<u>Services equipment</u> - Main school Kitchen equipment - Fire roller shutter to servery - Servery counter	
5c	<u>Disposal Installations</u> - Above ground svp & wastes - Supply & fit new soil pipes - Supply and fit new aluminium gutters - Rainwater down pipes & fittings - aluminium	
5d	<u>Water installation Options 1 & 2</u> - New incoming metered supply - Cold water service to toilets & practical areas - Hot water service to toilets & practical areas: Point of use TMV3 Thermostatic valves as required	
5e	<u>Space Heating Options 1 & 2</u> - steel panel radiators (LST where required)	
5f	<u>Ventilation System Options 1 & 2</u> - Natural ventilation to habitable rooms - Comfort cooling to ICT Suite to be considered - Kitchen supply and extract mechanical ventilation - Toilet / room ventilation - mechanical extract	
5g	<u>Electrical Installation</u> - Lighting - Small power - Data - O & M manuals - Mains Distribution - External lighting - Mechanical services wiring	New lighting to all areas. New small power to all areas. Dedicated containment systems and necessary power supplies only shall be provided for these systems. Supplied by the main contractor. New build only It is proposed to make an application to the supply authority for a new 3 phase 80kVA supply. New external lighting to all external areas. New mechanical services wiring to suit the requirements for new mechanical services.
5h	<u>Gas Installation</u> - Gas to boilers / Kitchen	New utility service for both Options 1 & 2.

5j	<u>Lift Installations</u>	
	- Platform lift	New supplies and protective services shall be provided.
5k	<u>Protective Installation</u>	
	- Fire detection & alarm system	New build New automatic addressable fire detection & alarm system, linked to off-site monitoring via a BT Redcare line, to all areas.
		Refurbishment
	- Intruder detection & alarm system	Part new automatic addressable fire detection & alarm system, linked to off-site monitoring via a BT Redcare line, to all areas.
		New intruder detection & alarm system, linked to off-site monitoring via a BT Redcare line, to all areas.
	- Lightning protection	New lightning protection system to the whole building.
	- CCTV installation	N/A
5l	<u>Communication Installation</u>	
	- Containment for phones / IT / door entry security	Dedicated containment systems and necessary power supplies only shall be provided for these systems. Door entry systems to the main entrance and nursery areas shall be provided.
5m	<u>Builders work in connection with services installation</u>	
	- forming holes, chases & like	A detailed list of M&E builderswork requirements will be formulated to assist those tendering for the project.
6	<u>External Works</u>	
6a	<u>Demolition / Alterations of existing buildings</u>	
	- Demolish existing single / two storey brick classrooms and remove from site	
	- Remove asbestos related items	
	- Demolish single storey Horsa huts and shelters	
	- Strip out existing mechanical services	Option 2: Complete except for inaccessible services in floor ducts (encapsulate)
	- Strip out existing electrical services	Option 2: All electrical services apart from the main switchgear and sub-main cables and part fire alarm, shall be stripped out

	<ul style="list-style-type: none">- Block up redundant drains & make good	
6b	<u>Siteworks</u> <ul style="list-style-type: none">- New all weather pitch (awp)- New tarmac paving – black / red- Repair perimeter wall- Take down existing fencing to awp- Prune trees / remove shrubbery- Timber climbing frame- New safety playing surface – No Mow- New topsoil & turfing – to front entrance- Wildlife zone and landscaping- New entrance gates- New wooden / hooped metal fencing- 3m fencing to the awp with gates- Plywood kick board to awp- Door guards to external doors- Remove existing trees & replant new- Brick pavements to main entrance area- White line marking to car park/ bollards	
6c	<u>Drainage</u> <ul style="list-style-type: none">- New drain runs- Alterations to existing for new externals layout- New manholes	
6d	<u>External Services</u> <ul style="list-style-type: none">- Electricity supply - Gas supply - Water supply	Option 1 only: It is proposed to make an application to the supply authority for a new 3 phase 80kVA supply. Options 1 & 2: new metered supply Options 1 & 2: new metered supply
6e	<u>Minor Building Works</u> <ul style="list-style-type: none">- Provision of toy store with canopy- Demolition of part of the main school	
6f	<u>Surveys of existing building</u> <ul style="list-style-type: none">- Soil Investigation survey- Asbestos survey- Archaeological dig-	
6g	<u>Temporary Buildings</u> <ul style="list-style-type: none">- Hire of mobiles inc foundations, steps , ramps	

4. EXPENDITURE PROFILE

The attached cost plans are for the Option 1B new build scheme with a steel frame and the forecast phasing of expenditure above are based on an assumed start on site in July '06. All future cost forecasts are based on knowledge of current construction industry costs and rates multiplied by published BCIS indices for anticipated inflation within the construction industry. As such, these figures are not guaranteed.

Option 1B					
Steel frame cashflow					
FEES - (tender & DP x 9.24%)	2005/06	2006/07	2007/08	2008/09	Total
Outline Proposals - 25%	93,870	93,870			93,870
Design & BQ - 50%	187,738	187,738			187,738
Post Contract - 20%	75,095		70,000	5,095	75,095
Final Account - 5%	18,774			18,774	18,774
Total	375,477	281,608	70,000	5,095	375,477
Cashflow Forecast	2005/06	2006/07	2007/08	2008/09	Total
Capital Payments					3,892,980
Direct Payments	11,875	2,916,000	783,000	193,980	11,875
Demolish existing school			160,125		160,125
Demolish & rebuild boundary wall			10,500		10,500
Hire of Mobile classrooms		60,000	66,000		126,000
Fees	281,608	70,000	5,095	18,774	375,477
Planning / Building Regs					-
Furniture / equipment / carparking / IT			105,000		105,000
Total	293,483	3,046,000	1,129,720	212,754	4,681,957