

Zone 16

**BRITANNIA ROYAL NAVAL COLLEGE  
DARTMOUTH**

**VOLUME 2  
HARDY BLOCK**

**QUADRENNIAL REVIEW - AUGUST 1999  
20346**

**BRITANNIA ROYAL NAVAL COLLEGE  
DARTMOUTH**

**AUGUST 1999 - QUADRENNIAL REVIEW  
VOLUME 2 - HARDY BLOCK**

**FOR:** BRITANNIA ROYAL NAVAL COLLEGE  
DARTMOUTH  
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English Heritage approved specialist conservation consultant for  
the Government Historic Buildings Advisory Unit.

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## CONTENTS

### **A INTRODUCTION**

- A1 Status and Occupancy
- A2 Building History and Significance

### **B CONDUCT OF THE INSPECTION**

- B1 Scope of Inspection
- B2 Other Specialist Reports
- B3 Additional Information
- B4 Drawings and Other Record Documents
- B5 Fire Officer's Report
- B6 Personnel
- B7 Date of Inspection

### **C WORK DONE SINCE PREVIOUS INSPECTION**

- C1 Action on Previously Recommended Repairs
- C2 Work Since Previous Inspection

### **D GENERAL STATE OF BUILDING AND IT'S SETTING**

- D1 Condition Category
- D2 Summary of Findings and General Soundness
- D3 Degree of Deterioration in Relation to it's Age
- D4 Appropriateness, Use and Intensity of Occupancy
- D5 Adequacy of Maintenance & General Care of Building and it's Setting
- D6 Major Problems and Structural Defects
- D7 Major Recommendations for Maintenance, Repair or Improvement

### **E FINDINGS OF THE INSPECTIONS**

- E1 General Notes
- E2 Chimney Stacks and Any Other Roof Features
- E3 Roof Coverings and Elevations by Block
- E4 Landscaping Generally

### **F RECOMMENDATIONS AND CLASSIFICATIONS OF MAINTENANCE PRIORITIES**

- F1 Introduction, Site Safety, Maintenance Priorities and Costings
- F2 Priority of Works, Recommended Remedial Works

BRITANNIA ROYAL NAVAL COLLEGE, DARTMOUTH - HARDY BLOCK

**A INTRODUCTION**

**A.1 Status and Occupancy**

**A.1.01 Building Tenure**

Freehold MOD (Navy).

**A.1.02 Maintenance Responsibility**

Property Manager: Responsible for the care of the buildings using one or other of the WSM or EWC below, as appropriate.

Establishment Works Consultant (EWC):

Establishment Works Consultant (EWC):  
The Works Service Manager (WSM) is responsible for the care of the buildings using one or other of the WSM or EWC below, as appropriate.

Works Service Manager (WSM):

Responsible for general maintenance works as directed or required by the Property Manager up to value of £10,000.

**A.1.03 Maintenance Standard**

In view of the listed grade of the buildings and the prestigious nature of the works of the college, the maintenance standard is classified "N" - Normal.

**A.2 Building History and Significance**

**A.2.01** Grade II, SX8752 673 - First listed on 23 February 1974. The building complex is within the MOD Historic Area and in Area of Outstanding Natural Beauty.

**A.2.02** Hardy Block was formally the sanatorium to the Britannia Royal Naval College, built between 1899-1905 by [redacted] who later built the main Royal Naval College.

**A.2.03** The building is constructed in Flemish bond brickwork with Portland stone dressings. Brick chimney stacks with stone bonded shafts some of which are connected with a round headed recess between slate roofs. Free Palladium style to the ward blocks, administration block and doctor's house at right angles to the south end.

**A.2.04 Plan:** The building footprint comprises of 3 parallel detached isolation ward wings connected by covered corridors. To the end of the centre block is a water tower. There is a further fourth block which is the administration wing with the former doctor's house at right angles to the south end.



## BRITANNIA ROYAL NAVAL COLLEGE, DARTMOUTH - HARDY BLOCK

A.2.14 As can be seen from the above, this complex of buildings was constructed in advance of the main college building due to the need for medical accommodation necessitated by disease on the timber hulks which comprised of the college.

**SECTION B - CONDUCT OF THE INSPECTION**

**B CONDUCT OF THE INSPECTION**

**B1 Scope of the Inspection**

B.1.01 The inspection was carried out in accordance with:

DEO (Works) Functional Standard 04 MoD Conservation Manual for Listed Buildings and Scheduled Monuments.

DEO Technical Bulletin 98/36.

DEO (Works) Specification 005, Issue 003, Amendment 1, Task 527 - Quadrennial Inspection by Specialist Conservation Advisors.

British Standard BS 7913:1998 Guide to the Principles of Conservation and Historic Buildings.

and

Government Historic Buildings Advisory Unit - The Care of Historic Buildings and Ancient Monuments Guidelines for Government Departments and Agencies Handbook.

B.1.02 The brief for this review report specified inspection of external walls and roofs and the internal areas have only been inspected where external inspection indicated possible structural problems. The brief required that this report reviewed the previous report (carried out in February 1995). This report has therefore been carried out in accordance with Annexes A and B of the Defence Works Functional Technical Bulletin 96/19.

B.1.03 In general, inspection of the elevations to the buildings has been from the ground level, windows in buildings, staircases and readily accessible roofs where elevations are partly concealed. Parapet wall faces to roofs are included in the section on roofs. Roofs accessible externally from vertical steel ladders, internal from stairs and ladders have also been inspected. However where access was not possible using some fixed means, the inspection was carried out from adjoining roofs, windows or ground as appropriate.

B.1.04 In accordance with the last report, internal spaces to pitched roofs have not been inspected except for any parts readily accessible. Parts requiring access through small openings, ceiling hatches, etc have not been inspected. Pitched roofs which have been repaired/reslated have not been inspected in detail. Visual inspection from the outside has not identified any distortions to roof planes and it is assumed that there are no major defects to the structures. However, it can be reasonably assumed that the defects identified in previous quadrennial inspections have received some attention.

B.1.05 All flat roofs, except those without access as described above, have been inspected and any work carried out since the last quadrennial inspection have been noted in the particular section.



## BRITANNIA ROYAL NAVAL COLLEGE, DARTMOUTH - HARDY BLOCK

- B.1.06 There has been a significant programme of reslating and repair to pitched roofs and repairs to brickwork since the 1995 report. Any roof identified as included in this forward programme has been excluded from the detailed inspection (see particular roof areas).
- B.1.07 Woodwork or other parts of the structure which were covered, unexposed or inaccessible, etc were not inspected and therefore it is not possible to report that such parts remain free from defects.
- B.1.08 Flues, ducts or any other similarly enclosed areas, the access to which would have required tools (which could have caused damage to finishes or fittings) were not inspected and therefore it is not possible to report that such parts remain free from defects.
- B.1.09 Specialist inspection or testing was not carried out in respect of material used in the construction or services, including drainage.
- B.1.10 The inspection did not include examination of mechanical, electrical, telephone or drainage services.
- B.1.11 It is not envisaged that the report will be made available, in whole or in part, for use by a third party and Sovereign Consultancy Services Limited will not hold responsibility toward any third party for the content therein.
- B.1.12 **It is not intended that this document is used as a direct basis for instructing repairs. Rather, a detailed conservation schedule and specification must be prepared and used after due specialist consultation from an SCA or Conservation Term Consultant and following receipt of all necessary Clearance or Consent approvals.**
- B.1.13 All works to include; general maintenance, investigations and major works, should only be carried out by suitably trained and experienced specialist conservation contractors.

### **B2 Other Specialist Reports**

- B2.01 *Recommended Specialist Reports*
- B2.02 Preparation of a Conservation Brief or Housekeeping Manual by an SCA or Conservation Term Consultant is considered essential to the "housekeeping" maintenance and management of this historic structure. It is therefore strongly recommended, as per DEO Estate Development Group recommendation within Technical Bulletin 98/36 that a Conservation Brief; would "...provide useful additional guidance for responsibilities for routine maintenance and as such, represent a good long term investment. EDG, therefore, **encourages** the use of these discretionary documents on all listed or scheduled buildings".
- B.2.03 Advice on the content and format of a Conservation Manual may be found within Appendix 2 of the GHBAU "*Handbook*".

B2.04 All works to an historic structure should be recorded in a Log Book to provide a continuous record and should be retained for ever as a permanent record of the building or site. Advice on the format and content of Log Books may be found within Appendix 3 of the GHBAU "*Handbook*".

B2.05 A Forward Maintenance Register should be prepared by the EWC in co-operation with the PROM and SCA to include all works recommended within the Quadrennial Inspection report. No work should be omitted simply because of doubt as to the availability of funds, since funding can only be allocated rationally if all genuine needs are known and prioritised. Should any works be deferred beyond the next 4 year period for financial or other reasons, the PROM should include such information in the annual return for the DEO *Annual Report Historic Buildings on the Defence Estate*.

**B3 Additional Information**

B.3.01 Previous Quadrennial Inspection Reports:

B.3.02 February 1995 by C. J. ...

**B4 Drawings and Other Record Documents**

B4.01 None provided at the time of inspection.

**B5 Fire Officer's Report**

B5.01 None provided at the time of inspection.

**B6 Personnel**

B6.01 This inspection was carried out by:-

B6.02 The personnel met during the inspection were:-

**B7 Date of Inspection and Weather Conditions**

B7.01 Inspections were carried out on 22, 29 and 30 July 1999.

B7.02 The weather was dry and sunny with the occasional shower. The temperature was approximately 75°F.

**SECTION C - WORK DONE SINCE PREVIOUS INSPECTION**

**C WORK DONE SINCE PREVIOUS INSPECTION**

**C1 Action on Previously Recommended Repairs**

- C.1.01 A number of repairs have been carried out from the last quadrennial inspection (these are listed below in C2.2.01).
- C.1.02 Due to the physical size of the property, carrying out all works would prove to be extremely difficult and costly therefore the main items previously reported have, in the main, been carried out.
- C.1.03 A majority of repairs previously reported to spalling brickwork, defective mortar joints, etc have been carried out, especially to high level brickwork to chimneys and parapets.

**C2 Work Since Previous Inspection**

Elevations

- C.2.01 Apart from minor repairs which were difficult to identify, the major works carried out since the last inspection were as listed below:-
- C.2.02 Areas of repointing carried out to brickwork to parapet walls and chimney stacks (1997-1998).
- C.2.03 External redecoration of joinery to doors, windows, link corridors and passageways (1998).

Roofs

- C.2.04 Major repairs have been carried out over the past 4 years with the majority of slate roofs being replaced with new Delabole slates (1997-1998).

In addition the brick chimneys have been repointed and repaired together with new lead flashings, soakers, gutters, etc (1997-1998).

**SECTION D - GENERAL STATE OF THE STRUCTURE AND IT'S SETTING**

**D GENERAL STATE OF THE STRUCTURE AND IT'S SETTING**

**D.1 Condition Category**

D.1.01 The overall general condition of the various elements of the complex is considered to be good. Programmed works of repairs to elevations and repairs to roofs been carried out, although limited due to cost restraints. However, some areas still require maintenance.

**D2 Summary of Finishing and General Soundness**

Elevations

D.2.01 The elevations in total are in fair condition. There are some minor areas of erosion and weathering of brick and stone (to a lesser degree) together with limited areas of failure to the mortar pointing. There is also a comparatively small amount of unsympathetic mortar and brick repairs. However, this is not considered to be much more than cosmetic at this stage. Some areas of repointing have been carried out, mostly to chimneys and high level areas, however a programme of works should be set in motion for the elevations. Works can then be implemented at reasonably short notice, as and when funding permits. This should be proceeded by the careful preparation of repair documentation packages. These should be undertaken in full consultation with English Heritage and other appropriate bodies as necessary. Corroding metalwork within the structure may be present although not noted. Techniques such as cathodic protection should be investigated and discussed with English Heritage.

D.2.02 There are minor areas of concern to the joints between coping stones, cornices and other projecting ledges. The presence of moss growth at the joints indicates the mortar has failed allowing moisture retention. As copings appear to be without any form of dpc, failure of the jointing mortar leads to the passage of water into the structure. The result of this can be corrosion of the structural steel frame and possible rot of timbers built into the walls. A check of all these joints and a repointing programme is considered to be necessary as this is a reoccurring problem and these works should be carried out when the roofs are repaired or renewed. There are minor instances where the growth of moss and algae on walls below coping joints indicate excessive moisture and failure of joints. This is the visible surface effect but it may suggest a hidden problem. Although this situation is often on walls which are permanently in shadow (ie north facing) it is by no means the rule.

D.2.03 Windows and doors seem generally to be in fair to reasonable condition with exceptions noted within the report. It is essential that they are regularly inspected, repaired and painted.

D.2.04 Gutters and rainwater downpipes are generally sound but again regular inspection and painting is required. Bearing in mind the number of trees surrounding the buildings, all outlets should be checked regularly but particularly at times of leaf fall. A number of hoppers are blocked and plant growth is visible.

Roofs

- D.2.05 The roofs are generally in good condition which is due to them being recently renewed. The general condition of the flat roofs gives little concern. This extends to include parapet walls and their copings, cover flashings and stepped abutment and chimney flashings. Many valleys have been renewed along with the reslating works but minor repairs are required to the roofs that were not renewed or repaired. A programme should be put in place for the renewal/repair of these roofs.
- D.2.06 Waterproofing of the structure is of prime importance and in this the roof coverings are paramount. Failure of these elements will allow water to get into the steel frame causing hidden corrosion. Eventually the corrosion manifests itself on the external envelope with movement of stonework and brickwork facings.
- D.2.07 Patch repairs to the mineral finished bituminous felt roofs suggests that the coverings are either past their useful life or improperly laid. Very often the internal evidence is not indicative of the precise location of the leak. As a minimum, it is recommended that the areas of roofing, where patching has taken place, should be renewed.

**D.3 Degree of Deterioration In Relation to It's Age**

Elevations

- D.3.01 Generally all elevations have weathered the period of time quite well and it is only in recent years that pointing, failure of brickwork and stonework has started to occur. This is partially due to the lack of maintenance in the past. The time has now come for these repairs to be carried out over the next 4 years to stop further decay and breakdown of materials.
- D.3.02 Exposed elevations have suffered somewhat more from deterioration, however sheltered areas have suffered more with staining and plant growth. This in turn is having an effect on the bricks and pointing. Where areas of water penetration has occurred due to these defects this will have a serious effect on the structure of the building and to maintain the buildings longevity and minimilisation of the erosion repairs are paramount.

Roofs

- D.3.03 Old roof coverings have outlasted their useful life and require renewal. Flashings, soakers, etc need to be checked , repaired and repointed. Roofs, gutters, valleys, etc must be maintained as water penetration will have dire consequences on the property both structurally and aesthetically. Overall the roofs have almost been fully renewed or repaired and are in good condition. However there are still a number of small roofs which require replacing.

**D.4 Appropriateness, Use and Intensity of Occupation**

- D.4.01 The main general use and construction of the complex is for modern day usage as accommodation for the Naval College and is probably somewhat suited for this use. There are also store rooms and office areas within the complex.

## BRITANNIA ROYAL NAVAL COLLEGE, DARTMOUTH - HARDY BLOCK

D.4.02 In the present day the armed forces are decreasing in size and therefore the long term future may come into question and an alternative use may be needed for all or part of the complex to maintain it's history and state of condition and not allowed to fall into disrepair or unsympathetically adapted or altered. So many buildings within the MOD demise have been left to decay with minimal maintenance. Most cases are due to the buildings not be the correct layout, design or location together with the cost of maintenance. Hardy Block is in a secure area and is inaccessible for public or commercial use.

### D.5 Adequacy of Maintenance and General Care of Buildings and Their Setting

#### Elevations

D.5.01 Maintenance of buildings of this age and construction as a rule is going to be quite high. Deterioration of stonework, brickwork, steelwork, woodwork, etc is inevitable especially where exposed to the elements.

D.5.02 Stonework and handmade bricks despite some spalling are generally sound however damaged stone and brick must be cut out and renewed to ensure the longevity of buildings and their integrity. Water penetration within the structure will have dire consequences on the structural members within and eventually tendering them unsafe. Likewise mortar joints should also be maintained to ensure erosion of bricks and stonework does not occur.

D.5.03 Timber work and steelwork should be maintained to minimalise decay. Exposed timber and steelwork will rot and decay during water penetration and for the deterioration of the buildings.

D.5.04 Brickwork and stonework should be regularly inspected ie every 6 months and so should decorations, woodwork and steelwork. All should be repaired/replaced without delay especially before the winter months set in.

D.5.05 Maintenance is important and the time and cost restraints are, as a rule, the driving factor. A maintenance programme of repairs must be prepared and budgeting allocated accordingly. Due to the buildings setting, exposure to the elements, driving wind and rain, etc it is critical that the building is maintained watertight.

#### Roofs

D.5.06 As per the elevations, maintenance of roofs is also of considerable importance. Although the longevity of the roof materials, ie slate, lead, asphalt, etc is quite considerable however maintenance of gutters, etc is very important, ie cleaning debris, leaves, etc from outlets. This would seem to only be carried out when there is a problem and not on a 3 monthly or 6 monthly basis (especially important during the autumn and winter months).

D.5.07 The majority of roof coverings have been replaced or repaired over the past 4 years. Renewal of roof coverings, valleys, etc is important and as repairs are generally only temporary and just prolong the inevitable or long enough for the programmed replacement.



- D.5.08 It is also important for roofs to be recovered/renewed with similar materials to compliment the age of the building. If an alternative material is to be used it must be of a similar nature, ie lead.
- D.5.09 Slipped slates should be replaced preferably with secret fixings and not tingles. Regular inspections of roofs should be carried out, ie on a six monthly basis and any repairs carried out.
- D.5.10 Gutters, downpipes, hoppers, etc should be cleaned out to stop water build up due to debris. This should be carried out on a 3 or 6 monthly basis especially during the autumn and winter months. Likewise any damaged pipes or gutters should be replaced.

Generally

- D.5.11 Due to the layout and position of the complex, it's exposure to the elements is high consequently adequate maintenance is vital. In general the past regime of maintenance and repair has been satisfactory but in a reactive nature. This should be of a proactive nature, ie dealing with a potential problem before it arises and not after the problem has occurred. Consequently programmed inspections and repairs are vital.

**D6 Major Problems and Structural Defects**

- D.6.01 Structurally the complex of buildings are at present sound and in the main watertight. Over the past 4 years, since the last quadrennial survey was prepared, replacement of roofs and repair brick walls along with the redecoration of timber and steelwork and replacement of windows has been carried out.
- D.6.02 There are still a number of smaller roofs that require and need replacement within the next few years and a phased programme of these should be prepared.
- D.6.03 There is also concern over the defective joints to cornices and other ledges together with defective brickwork and spalling stone and mortar joints. Some repairs have previously been carried out using cement based mortar to pointing and this is out of character with the bricks and they should, in time, be replaced with a lime based mortar and hand made bricks.
- D.6.04 A detailed inspection of repairs to brickwork, stonework and pointing should be carried out and the replacement/repair of windows and cast iron fittings.

**D7 Major Recommendations for Maintenance, Repair or Improvement**

- D.7.01 List of "urgent" items are recommended for inclusion within this or next year's programmes rated Priorities A1, A2 or A3. (See Section F).
- D.7.02 There are three items that are recommended to be completed, replacement of remaining roofs, repair of brickwork, stonework and pointing and repair/replacement and redecoration of all woodwork and steelwork including windows, etc.
- D.7.03 List of "minor" items are recommended for inclusion within the next four year period rated Priorities B1, B2, C or D (See Section F).

**BRITANNIA ROYAL NAVAL COLLEGE, DARTMOUTH - HARDY BLOCK**

- D.7.04 The MoD Conservation Manual requires the production of a "Conservation Brief" or Housekeeping Manual for larger and more important protected structures to provide the WSM, (and PROM) with an introduction to the WSM's responsibilities in relation to a protected structure and enable the WSM to "carry out sensitive" management and routine housekeeping maintenance in order to keep the structure in good condition and to prevent serious deterioration".
- D.7.05 The schedule of recommended works includes a basic minimum. It is strongly recommended that EWC's Forward Maintenance Register (FMR) and Planned Maintenance Programmes (FMP, PMP) make due allowance for such potential outlay.

**SECTION E - FINDINGS OF THE INSPECTION BY ELEMENT & BLOCK**

**E FINDINGS OF THE INSPECTION BY ELEMENT**

**E1 GENERAL NOTES**

The methodology used in this report is as set out below for each block in the relevant sections excluding the Commanders House which is covered under a separate report:

- E1 General
- E2 Chimney Stacks and Other Roof Features
- E3 Roof Coverings and Elevations also Commodore OSR internal (by Block)
- E4 Landscaping Generally

Each of the above divisions is split up into further subdivisions of description and condition.

Repair works to elevations and roofs are related to key plans which accompany each block schedule.

Repair works, costings, priority and year are described under each building block in Sections F.

Photographs relating to each block are recorded in the Appendix by block.

**EXTERNAL ELEVATIONS**

**GENERAL NOTE**

The report on the elevations is split into blocks with each block have a general note on the description, condition, repair and recommendations.

Each elevational drawing has been noted with the main areas of defects and coded as follows:

- SB - Spalling Brickwork
- SS - Spalling Stonework
- DP - Defective Pointing
- C - Cracking

For cost, year and priority refer to Section F of this report.

Many small or obscured areas of walls of some elevations are not included due to their size or inaccessibility.

Elevations to each block should be referred to the key plan.

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Elevations to each block should be referred to the key plan.

E2 CHIMNEY STACKS AND ANY OTHER FEATURES GENERALLY

E2.01 *Description*

Brick built chimney stacks serving boilers and heating units providing hot water and central heating serving the block. A number of chimney stacks are disused.

Chimneys are generally large in construction with one or more flues constructed within the chimney stack. They are of solid brick with appropriate damp proof courses, soakers and flashings incorporated within the structure to prevent water penetration.

E2.02 *Condition*

The general condition of the chimney stacks appear to be in good sound condition and would appear to have been recently repaired and repointed. However there are a number of flashings and soakers showing signs of age and some splitting to isolated areas. This in turn will allow water penetration into the roof structure and due to their location and position it was not possible during the inspection to ascertain whether leakage had occurred. Any suspect areas we felt may have a problem, were looked at internally to ascertain any damage.

There are a number of stacks which have been rebuilt/repared and consequently are in good condition and watertight. However, general pointing to the stacks to some areas is weathered and requires repointing. Likewise a number of bricks generally have weathered and spalled and consequently will need to be cut and replaced.

Lead flashings, soakers, cavity trays, etc that are damaged require renewal with a minimum of Code 5 lead correctly chased and mastic pointed into the brickwork.

Disused chimney stacks need to be capped and vented at both the top and bottom to ensure continuous air flow or alternatively they are to be taken down subject to the permission of English Heritage.

Moss, lichen and plant growth are evident on the face of the chimney stacks, to some areas that are sheltered from the prevailing weather.

E2.03 *Recommendations*

It is recommended that all chimneys are thoroughly inspected with the use of a sky platform, if necessary, and areas of defective brickwork are cut out and replaced with new brick to match existing.

All areas of defective pointing should be raked out and repointed to a minimum depth of 25mm in a lime mortar.

Previous repairs in cement mortar should be cut out and replaced with lime mortar.

## BRITANNIA ROYAL NAVAL COLLEGE, DARTMOUTH - HARDY BLOCK

Disused chimneys should be capped and vented at the top and bottom to ensure a thorough free flow of air.

All defective lead flashings, soakers, trays, etc should be cut and replaced with new Code 5 lead correctly chased into brick joints a minimum of 25mm and mastic pointed accordingly, waste and pointed accordingly.

Plant growth, moss and lichen should be cleaned off using an anti-fungicidal fluid and any defective bricks should be replaced as previously described.

Roof voids are to be inspected where chimneys pass through the timber structure to ensure that all decayed timber is cut out and replaced with new treated timber of similar size and section to that of existing.

### E3.04 ROOF COVERINGS & ELEVATIONS

#### General Note

- E.4.01 Each roof covering and elevation are described separately to each block giving condition and recommendations for repairs. Repairs described are to be read generally with the areas shown on the plans and roof layouts. General areas of concern are highlighted only on the plans and elevations.
- E.4.02 Photographs of roofs and elevations are in the section for each block.

**SPUR BLOCK A & MAIN ENTRANCE BLOCK - ROOFS AND ELEVATIONS**



**MAIN ENTRANCE BUILDING**

**E3 ROOFS TO SPUR BLOCK A & MAIN ENTRANCE BLOCK**

**MAIN ENTRANCE BLOCK**

**E3.01 Roof A Main to Front Part of A Block**

*Description*

Delabole slate roofs with brick gabled ends to the main part of the building with pitched link roof to main Spur Block A, complete with flashings and soakers to gables and chimneys. Asphalt flat roofs to right hand side with parapet walls around the perimeter (2 No) complete with flashings and soakers to upstands. Flat lead roofs over porch and bay windows laid to falls with lead ridge and hip tiles to pitches.

*Condition*

Slate roofs are in good condition, we understand that that they have been replaced within the past four years.

Asphalt flat roofs are in fair condition, lack of solar reflective coating, parapets are slightly weathered with cracking to joints in coping stones. Vegetation is growing up the side of the wall and over the flat roof in one area.

Lead flat roofs appear to be in fair condition with little signs of any water ingress.

*Recommendations*

Clean down flat roof areas of asphalt and re-apply solar reflective coating.

Rake out defective joints to copings and re-mastic

Clean down parapets and remove plant growth, moss, etc.

Clean out gutters, remove debris, etc on a regular basis.

**E3 EXTERNAL ELEVATIONS - SPUR BLOCK A & MAIN ENTRANCE BLOCK**

**E3.02 Main Entrance Block**

*Description*

Main entrance block and link to Spur Block A - Two storey brick construction to the main areas with stone band feature courses horizontally above ground floor window height level and key stones to centre of arches over windows and openings and soffits with cast iron gutters and downpipes. Timber vertical sliding sash windows subdivided into small panes. Lead flat roof over main entrance door. Parapet walls and flat roof areas.

*Condition*

All generally in good condition, some minor areas of spalling brickwork and stonework with areas of defective pointing. Redecoration generally good, minor rust staining to gutters and downpipes.

Some discolouring of brickwork due to moss/lichen growth in some sheltered areas, especially to parapet walls around flat roofs, etc. Some plant growth to walls also noted. Single storey rendered block to right hand side looks unsightly, dirty and out of keeping with the main entrance block.

*Repair Recommendations*

Cut out spalled brickwork and stonework and cut in new to match.

Rake out defective pointing and repoint in lime mortar.

Clean down wall faces, remove all plant, moss and lichen growth.

Clean down woodwork to doors, windows, fascias and soffits and redecorate.

Clean down steelwork to downpipes, gutters, etc. Treat with rust inhibitor and redecorate.

Redecorate single storey building to be in keeping with main building complex.

SPUR BLOCK A

**E3 ROOFS - SPUR BLOCK A & MAIN ENTRANCE BLOCK**

**E3.03 Spur Block A**

*Description*

Delabole slate roofs with hips and back gabled ends to the main parts of the roof. Roof intersections are at different levels with lead valley gutters; ridges and hips. Complete with cover flashings and soakers at gables, chimeys, etc, cast iron gutters and downpipes with fascia and soffits around perimeter.

*Condition*

Slate roofs are in good condition and we understand have been in the main reslated within the past 4 years.

Asphalt flat roofs were accessible and are in fair condition. Lack of solar reflective coating and parapets are slightly weathered with cracking to pointing between copings.

Access to lead flat roof at high level was not accessible but there were no signs of any water penetration.

*Recommendations*

Cut out spalled brickwork and stonework and cut in new to match.

Rake out defective pointing and repoint in lime mortar.

Clean down wall faces, remove all plant, moss and lichen growth.

Clean down woodwork to doors, windows, fascias and soffits and redecorate.

Clean down steelwork to downpipes, gutters, etc. Treat with rust inhibitor and redecorate.

Redecorate single storey building to be in keeping with main building complex.

**E3 EXTERNAL ELEVATIONS SPUR BLOCK A & MAIN ENTRANCE BLOCK**

**E3.04 Spur Block A**

*Description*

Spur Block A comprises of two main blocks linked by an adjoining flat roof section. The rear block is similar in appearance to the main entrance block and brick construction with a horizontal stone band course at the top of ground floor window level with a slate roof over, hipped ends and timber fascias and soffits overhanging walls. Timber sash windows, cast iron gutters, downpipes, soil pipes, etc.

The main block to the north west which was once a ward wing block is now accommodation. Two storeys in height of brick construction with stone band courses, etc. However the overall height is taller with gabled ends and balcony to the end elevation. Projecting wings intersecting with main roofs, gables and parapet walls. Large chimneys protrude from roofs at high level, all under natural slate roofs, projecting eaves with timber soffits and fascias. Cast iron gutters and downpipes. Timber sash windows to match remainder of block. Single storey rendered walls with flat roof over to rear of Block A.

*Condition*

Generally all in good condition. Some areas of spalling brickwork and stonework with areas of defective pointing. Decorations generally in fair condition with minor rust staining to gutters, downpipes, soil pipes, etc. Magnolia bushes causing damage to brickwork.

Some discolouration of brickwork due to moss/lichen growth to general sheltered areas and to top of parapet walls. Some salting to chimneys noted especially to under side of arches to chimneys. Some areas of brickwork darkened by weathering to chimneys and parapets.

*Repair Recommendations*

Cut out spalled brickwork and stonework and cut in new to match.

Rake out defective pointing and repoint in lime mortar.

Clean down wall faces and remove all plant growth, lichen, moss, etc.

Clean down woodwork to doors, windows, fascias, soffits, etc and redecorate.

Clean down steelwork to downpipes, gutters, soil pipes, etc, treat with rust inhibitor and redecorate.

Redecorate single storey extension to be in keeping with brickwork of main elevations.

**E3 ROOFS - SPUR BLOCK B**

**E3.05 Spur Block B**

*Description*

Delabole slate roofs with hips and brick gabled ends to the main parts of the roof. Roof intersection at different levels with lead valley gutters, ridges and hips. Complete with cover flashings and soakers, etc at gables, chimneys, etc. Cast iron gutters, downpipes with fascias and soffits around perimeter.

*Condition*

All generally in good condition. We understand roofs have been recovered within the past 4 years.

*Repair Recommendations*

Clean down valley, parapet gutters and rainwater pipes on an annual basis.

**E3 EXTERNAL ELEVATIONS - SPUR BLOCK B**

**E3.06 Spur Block B**

*Description*

Similar to main block A, tall two storey building which was once the old ward block constructed of brick with stone band courses, etc, all under a slated roofs with gable ends to the main north west elevation and to projecting wing intersections with main roofs to gutter with parapet walls along parapet gutters. Large projecting chimneys above roof line. Timber fascias and soffits with vertical sliding sash timber windows. Cast iron gutters, downpipes, soil and vent pipes, etc. Covered balconies to north west end of block.

*Condition*

Generally all in good condition. Some areas of spalling brickwork and stonework with areas of defective pointing. Damage to brickwork noted behind magnolia bushes to north west end. Decorations generally in fair condition with minor rust staining to metalwork.

*Repair Recommendations*

Cut out spalled brickwork and stonework and cut in new to match.

Rake out defective pointing and repoint in lime mortar.

Clean down wall faces and remove all plant growth, lichen, moss, etc.

Clean down woodwork to doors, windows, fascias, soffits, etc and redecorate.

Clean down steelwork to downpipes, gutters, soil pipes, etc, treat with rust inhibitor and redecorate.



**SPUR BLOCK C AND KITTING STORE**

**SPUR BLOCK C**

**E3 ROOFS - SPUR BLOCK C & KITTING STORE**

**E3.07 Spur Block C**

*Description*

Delabole slate roofs with hips and back gabled ends to the main parts of the roof. Roof intersections are at different levels with lead valley gutters, ridges and hips. Complete with cover flashings and soakers at gables, chimeys, etc, cast iron gutters and downpipes with fascia and soffits around perimeter.

*Condition*

Slate roofs are in good condition and we understand have been in the main reslated within the past 4 years.

Asphalt flat roofs were accessible and are in fair condition. Lack of solar reflective coating and parapets are slighty weathered with cracking to pointing between copings.

Access to lead flat roof at high level was not accessible but there were no signs of any water penetration.

*Repair Recommendations*

Clean down valley, parapet gutters and rainwater pipes on an annual basis.

**E3        EXTERNAL ELEVATIONS - SPUR BLOCK C & KIT STORE**

**E3.08     Spur Block C**

*Description*

Similar to main block A, tall two storey building which was once the old ward block constructed of brick with stone band courses, etc, all under a slated roofs with gable ends to the main north west elevation and to projecting wing intersections with main roofs to gutter with parapet walls along parapet gutters. Large projecting chimneys above roof line. Timber fascias and soffits with vertical sliding sash timber windows. Cast iron gutters, downpipes, soil and vent pipes, etc. Covered balconies to north west end of block.

*Condition*

Generally all in good condition. Some areas of spalling brickwork and stonework with areas of defective pointing. Damage to brickwork noted behind magnolia bushes to north west end. Decorations generally in fair condition with minor rust staining to metalwork.

*Repair Recommendations*

Cut out spalled brickwork and stonework and cut in new to match.

Rake out defective pointing and repoint in lime mortar.

Clean down wall faces and remove all plant growth, lichen, moss, etc.

Clean down woodwork to doors, windows, fascias, soffits, etc and redecorate.

Clean down steelwork to downpipes, gutters, soil pipes, etc, treat with rust inhibitor and redecorate.

**KITTING STORE**

**E3 ROOFS - SPUR BLOCK C & KITTING STORE**

**E3.09 Kitting Store**

*Description*

Delabole slate roofs with hips and brick gable ends to main parts of the roof. Roof intersections with lead valley gutters, ridges and hips. Complete with cover flashings, soakers, etc at gables, chimneys, etc. Cast iron gutters, downpipes, fascias and soffits around perimeter.

*Condition*

All slate roofs are in good condition and we understand they were reslated in the past 4 years.

Lead flat roofs also appear to be in good condition.

Felt flat roof to extension slightly weathered and showing some ageing but appeared to be watertight at the time of the inspection.

*Repair Recommendations*

Clean down gutters, etc on a regular basis, ie annually.

**E3 EXTERNAL ELEVATIONS - SPUR BLOCK C & KITTING STORE**

**E3.10 Kitting Store**

*Description*

Single storey bungalow type property of brick construction under a slate roof with brick gable ends. Timber overhanging soffits and fascias with vertical timber sliding sash windows. Cast iron gutters, downpipes, soil pipes, etc, Single stone flat roof extension to left hand side with pitched hipped roof extension to rear linking to link covered passageway to Spur Block C. Brick chimney stacks with stone band courses and copings to gable parapets.

*Condition*

All generally in good condition, some minor damage to brickwork noted and areas of defective pointing. Discolouration of some brickwork due to weathering. Timber and iron generally in good condition, some rust staining noted to metalwork.

*Repair Recommendations*

Clean down walls, rake out defective pointing and repoint using lime mortar.

Cut out damaged or spalled brickwork and renew to match.

Clean down woodwork and redecorate.

Clean down metalwork to gutters, downpipes, etc, treat with rust inhibitor and decorate.

**SPUR BLOCK B - WATER TOWER**



**E3 ROOFS - SPUR BLOCK B**

**E3.11 Water Tower**

*Description*

Lead pitched pagoda style roof at approximately 30° pitch, laid in bays with lead roll upstands and finial to ridge.

*Condition*

All would appear to be in fair condition. Unfortunately access was not available to ascertain any leaks.

*Repair Recommendations*

Carry out full detailed inspection and repair/replace accordingly.

**E3 EXTERNAL ELEVATIONS - SPUR BLOCK B**

**E3.12 Water Tower**

*Description*

Tall square brick constructed tower with stone features to quoins under a pagoda type lead roof with centre finial, stone mullion window openings to top with timber sliding sash windows to lower section. The tower backs onto the link corridors to A & C Spur Blocks at the end of B Block. Cast iron downpipes to gutters to lower intersections of other roofs.

*Condition*

Generally in fair condition, spalling brickwork and stonework noted especially at high level, brickwork also discoloured by weathering at high level. Redecoration to woodwork fair. Defective pointing noted at high level where little maintenance has been carried out. Metalwork to gutters and downpipes showing signs of rust.

*Repair Recommendations*

Clean down brickwork and stonework, cut out defective stone and bricks and reinstate with new to match.

Rake out defective pointing and repoint using lime mortar.

Clean down woodwork to doors and windows and redecorate.

Clean down metalwork to gutters and downpipes, treat for rust and redecorate.

**SPUR BLOCK C - TOWER AND CORRIDOR LINKS**



**E3 EXTERNAL ELEVATIONS - SPUR BLOCK C**

**E3.14 Small Tower**

*Description*

Brick constructed square tower with stone features to corners under a natural hipped slate roof with finial on top. Timber soffits and fascias forming over hanging eaves, cast iron gutters and downpipes. Timber sash windows and entrance door. Small tower is situated at the end of C Block linked covered corridors to B Block and Kit Store.

Condition

Generally in fair condition, areas of brickwork and stonework showing signs of weathering with spalling brickwork together with areas of defective pointing.

Woodwork generally fair but showing slight signs of weathering to some areas. Metalwork to gutters and downpipes showings slight signs of rusting,

*Repair Recommendations*

Clean down walls, cut out defective brickwork and stonework and reinstate with new to match.

Rake out defective pointing and repoint using lime mortar.

Clean down woodwork to fascias and soffits, doors and windows and redecorate.

Clean down metalwork to gutters and downpipes, treat for rust and redecorate.

BRITANNIA ROYAL NAVAL COLLEGE, DARTMOUTH - HARDY BLOCK

**E3 SPUR BLOCKS A & B**

**E3.15 Link Roof to Corridors**

*Description*

Lead flat roofs laid to shallow fall with lead roll upstands to form bays.

*Condition*

Access was very limited but from high level the roofs appeared to be in fair condition. It was not possible to inspect internally at the time of our inspection.

*Repair Recommendations*

Carry out full inspection of the lead roof and repair accordingly.

**E3 EXTERNAL ELEVATIONS - SPUR BLOCKS A & B**

**E3.16 Link Corridors**

*Description*

Link corridors totally covered at first floor level over open corridor on ground level. Corridors are of timber construction with panelling above and around steel windows under a flat lead roof. The corridor is supported on round columns constructed off brick dwarf walls to ground floor corridor. To the north west elevation there are two low level lean-to buildings rendered to elevations with timber and steel windows to elevations, cast iron gutters and downpipes, painted to all roofs.

*Condition*

Generally all in good condition. Timber structure of corridor appears sound with little sign of movement. Brick dwarf walls to ground floor supporting columns generally in fair condition, some decay of brickwork and pointing noted. Brickwork is weathered and discoloured and looks a little grubby. Steel windows generally in good condition, little rust noted to some areas. Metalwork to gutters and downpipes generally in good condition, some rusting noted.

*Repair Recommendations*

Clean down and redecorate all previously painted surfaces

Cut out defective and damaged brickwork and replace with new.

Rake out all defective pointing and repoint in lime mortar.

Redecorate lean-to sheds in contrast with brickwork, preferably demolish.

Clean down metalwork, treat rust and decorate.

**E3 ROOFS - SPUR BLOCK B & C**

**E3.17 Link Roof to Corridors**

*Description*

Similar to main block A, tall two storey building which was once the old ward block constructed of brick with stone band courses, etc, all under a slated roofs with gable ends to the main north west elevation and to projecting wing intersections with main roofs to gutter with parapet walls along parapet gutters. Large projecting chimneys above roof line. Timber fascias and soffits with vertical sliding sash timber windows. Cast iron gutters, downpipes, soil and vent pipes, etc. Covered balconies to north west end of block.

*Condition*

Generally all in good condition. Some areas of spalling brickwork and stonework with areas of defective pointing. Damage to brickwork noted behind magnolia bushes to north west end. Decorations generally in fair condition with minor rust staining to metalwork.

*Repair Recommendations*

Clean down and redecorate all previously painted surfaces

Cut out defective and damaged brickwork and replace with new.

Rake out all defective pointing and repoint in lime mortar.

Redecorate lean-to sheds in contrast with brickwork, preferably demolish.



**E3 EXTERNAL ELEVATIONS - SPUR BLOCKS B& C**

**E3.18 Link Corridors**

*Description*

Link corridor totally covered at first floor level over open corridor on ground level. Corridor over of timber construction with timber panelling above and around steel windows, under a lead flat roof. Corridor supported on round columns constructed of brickwork, walls at ground corridor level.

*Condition*

Generally all in good condition. Timber structure of corridor and roof appear in good condition with little sign of movement. Brick dwarf walls support the columns supporting the first floor corridor. Some decay and damage to brickwork present by trolley and general weathering together with decay of pointing to mortar joints. Some discolouring of brickwork by weathering and lichen/moss growth. Rusting noted to cast iron gutters and downpipes. Window glass has been painted over for some reason.

*Repair Recommendations*

Clean down and redecorate all previously painted surfaces.

Cut out defective and damaged brickwork and replace with new.

Rake out defective pointing and repoint in lime mortar.

Clean down metalwork, treat rust and redecorate to all grilles, downpipes and handrails, etc.

**E4.01 LANDSCAPING GENERALLY**

*Description*

Landscaping around the blocks are generally of tarmac to roads together with steps and paths to front of Spur Block.

*Condition*

The general condition is fair. Some of the tarmac is cracked and crazed by structural sand. Regular maintenance is carried out but rather than complete renewal of areas they cut out and the tarmac is tired and chipped. This type of covering is temporary only.

Grassed and soft landscaped areas are maintained generally to a good standard and regularly maintained.

*Recommended Repairs*

Other than general maintenance which the grounds are getting, little further works are required. Steps are out of alignment and uneven.

Re-tarmac of drives and paths will be necessary within the next 5-10 years.

Realign steps by removing and relaying.

**SECTION F - RECOMMENDATIONS AND CLASSIFICATIONS OF PRIORITY**

**F: RECOMMENDATIONS AND CLASSIFICATIONS OF PRIORITY**

**F1 INTRODUCTION, SITE SAFETY, MAINTENANCE PRIORITIES & COSTING**

*Generally*

The following recommendations / proposals are to be regarded only as strategic statements or brief summaries of the work; before any work is carried out, a detailed specification must be prepared, based on a thorough investigation of each component of the structure. Listed Building Clearance / Consent, will be required for any proposal to alter, extend or demolish any part of the structure.

*Site Safety : CDM Regulations*

Recent legislation places legal obligations on all concerned with the construction and maintenance of structures. The nature of such may involve additional risks associated with the historic nature of the building. The contractor should be selected by the client as being experienced and competent to carry out work of a historic nature and have proper resources to comply with Health and Safety requirements.

*Interpretation of maintenance task classification priority*

Annex E point 29.a.(1) of Functional Standard 04 *MoD Conservation Manual*, refers to the highest relevant maintenance task classification priority, A1, (known as Priority 1 in FS 04), as "unavoidable work ... which cannot be deferred without breaching statutory obligations,...".

Therefore all works necessary to stop deterioration of the fabric of a Historic Structure, including works to ensure the 'shell' is "Wind and Weatherproof" should be classed as unavoidable without breaching statutory obligations and have accordingly been classified as priority A1.

*Basis of costings*

Costings are budget rough orders of cost, (ROC), allocated by the surveying person during the inspection and report process. The costs are an indication of the costs which could be expected if works were included either in a Term Contract or as part of a Works contract, carried out at the time of the report.

Such cost would not hold if broken down into phases or let as small separate contracts or requiring a contractor to erect scaffolding for a single item of work. All costs will need to be reviewed at local level when the work item has been investigated and recommendations, specifications etc. have been made. ROCs shown are inclusive of VAT.

**F: RECOMMENDATIONS AND CLASSIFICATIONS OF PRIORITY**

**F2 CLASSIFICATION OF MAINTENANCE PRIORITIES**

Structures are classified for required maintenance standard as follows:

<b>Maintenance Standard</b>	<b>Definition</b>	<b>Example</b>
<b>X</b>	<b>Exceptional</b>  Maintenance in impeccable order at all times for reasons of operational necessity, public importance, client status or environmental quality.	Selected public or defence facilities in environmentally important areas or with irreplaceable contents.
<b>N</b>	<b>Normal</b>  Fully maintained in accordance with EWC instructions and with regard to the client's needs for extended use.	All facilities except those in categories X, L, W or D.
<b>L</b>	<b>Limited Life</b>  Maintained to allow use for a period of not more than five years. Classification to be reviewed annually in consultation with client.	Asset awaiting a decision on continued use, conversion, modernisation etc.
<b>W</b>	<b>Wind and Weatherproof</b>  Disused asset maintained only to prevent serious deterioration with due regard to safety.	Asset having no present use awaiting decision on future use or disposal.
<b>D</b>	<b>Demolition Pending</b>  Maintained only to a level sufficient to obviate the risk of claims or legal action against the client or EWC.	Assets having on further use or value awaiting demolition.

The Maintenance Standard of Hardy Block is "N" - Normal

**F: RECOMMENDATIONS AND CLASSIFICATIONS OF PRIORITY**

**F2 CLASSIFICATION OF MAINTENANCE PRIORITIES**

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**A1 Unavoidable Service.** Unavoidable tasks required to meet statutory obligations which must be carried out to avoid the serving of an in-year legally enforceable notice.

Failure to do so is liable to lead to prosecution and / or adverse publicity.

Preventative maintenance tasks to obviate the possibility of breaching statutory and health and safety regulations.

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**A2 Unavoidable Service.** Unavoidable MoD Mandatory Tasks and unavoidable existing in-year contractual commitments.

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**A3 Unavoidable Services.** Unavoidable planned tasks which, if not undertaken, will lead directly to unacceptable degradation of core functional capability.

**B1 Essential Services.** Planned tasks which, if not undertaken, will result in unacceptable and disproportionate expenditure in the next financial year.

**B2 Essential Services.** Works services tasks required to improve efficiency significantly with a pay back period of less than 5 years.

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**C Urgent Services.** Those services that are necessary to undertake to maintain the utility and value of the Estate. If not undertaken in the short term, there should be no adverse effect.

**D Desirable Services.** Works services which are necessary to maintain standards.

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Examples of the category classified works may be found within the PROPAN Initiative Framework Document for LTC '99 dated February 1998. Further advice on prioritisation may be found within Section A4.3.3 of the GHBAU "Handbook".

Please note that recommendations are **not** intended as a specification for the works required but simply an indication of their nature.

## BRITANNIA ROYAL NAVAL COLLEGE, DARTMOUTH - HARDY BLOCK

### REPAIR TYPES TO ELEVATIONS

<p><b>A Defective/Badly Weathered Stone - General</b> Monitor and investigate in detail to decide appropriate repair option.</p>	<p><b>L Raking Out Unsympathetic Mortar and Repoint - Brick</b> Rake out sand cement render and repoint in specified matching mortar.</p>
<p><b>B Replace Damaged/Cracked Stone</b> Take out indicated block and cut back to sound core. Replace with new material to form new element to match the original in size and character.</p>	<p><b>M Raking Out Unsympathetic Mortar and Repoint - Stone</b> Rake out sand cement render and repoint in specified matching mortar.</p>
<p><b>C Piece-In Stone</b> Cut out damaged portion of stone/unsatisfactory mortar repair. Replace with new material to match the original in character.</p>	<p><b>N Removal of Efflorescence</b> Remove efflorescence and monitor.</p>
<p><b>D Pinning of Surface Spalls in Masonry</b> Pin spalling surface by means of phosphor bronze wire or stainless steel pins and epoxy resin.</p>	<p><b>O Treatment of Metal Fixtures - Retained</b> Treat and paint metal fixings as specified.</p>
<p><b>E Fissured Stonework</b> Point in fissures in individual stones as indicated using mortar mix as specified.</p>	<p><b>P Removal of Metal Fixtures</b> Remove redundant metal built-in to brick/Stone and make good as appropriate.</p>
<p><b>F Mortar Repair of Stone</b> Mortar repair to single stone in situ using mix as specified.</p>	<p><b>Q Removal of Moss &amp; Vegetation and Treatment</b> Remove ivy, other plant growth and moss. And treat with approved herbicide and make good pointing as necessary.</p>
<p><b>G Grouting Masonry</b> Apply grout to cracks in stones and voids in masonry walls.</p>	<p><b>R Removal of Algae/Slimes &amp; Treatment</b> Investigate cause of algae/slimes on brick/stone to walls, remove and treat with approved fungicide.</p>
<p><b>H Brick Repair - General</b> Investigate in detail to decide repair option. Repair options:-</p> <ol style="list-style-type: none"> <li>1. Cut out damaged brick/s, portion of brickwork or inappropriate brick/s and piece in new to match.</li> <li>2. Mortar repair to brick or bricks in situ using approved mix.</li> </ol>	<p><b>S Timber Treatment</b> Treat/paint existing timber in situ or remove and make good as indicated. Renew timber component.</p>
<p><b>I Brick Repair - Make Good Missing Bricks</b> Rake out holes including removal of remains of any broken bricks and insert new in approved mortar all to match existing.</p>	<p><b>T Check Movement in Stonework/Brickwork</b> Investigation by engineer of cracks and open joints in stonework prior to identifying repair type.</p>
<p><b>J Raking Out Defective Mortar and Repoint Brick</b> Rake out to specified depth and repoint in specified matching mortar.</p>	<p><b>U Open Up for More Detailed Inspection</b> Open up structure/roof for more detailed inspection of fault prior to defining repair type</p>
<p><b>K Raking Out Defective Mortar and Repoint Stone</b> Rake out to specified depth and repoint in specified matching mortar.</p>	<p><b>V Rainwater/Soil/Vent Pipes and Gutters</b> Replace existing plastic rainwater, soil, waste and ventilation pipes and gutters with cast iron to match existing. Where only part of pipe is to be replaced use cast iron/lead/zinc as appropriate.</p>
	<p><b>Z Particular Repair</b> Non-typical repair which is described in detail on repair sheet/schedule against relevant elevation</p>

**BRITANNIA ROYAL NAVAL COLLEGE, DARTMOUTH - HARDY BLOCK**

**REPAIR TYPES TO ROOFS**

<p><b>RA Reslate</b> Carefully remove all existing slates and battens it is anticipated that between 60% and 70% of slates can be reused. Repair replace defective/rotten timbers, structural and under slate close boarding. Re-cover roof in original form with random slates laid to diminishing courses. Incorporate high performance slater's felt, counterbattens and battens (instead of battens only) and insulation as appropriate. Provide cross ventilation to cold roofs. Renew any defective lead valleys, hips, stepped flashings, cover flashings as part of re-roofing.</p>	<p><b>RI Cover Flashings</b> Fit lead cover flashings over tops of upstands. Work to be in accordance with the recommendations in LSA Manuals.</p>
<p><b>RB Replace Slates</b>  Replace unsympathetic and missing slates as a short term option.</p>	<p><b>RJ Refix Flashings</b> Refix with lead wedges and repoint loose/defective mortar to lead cover flashings.</p>
<p><b>RC Lead Flashings</b> Replace defective lead flashings as identified. New work to be in accordance with the recommendations in LSA Manuals.</p>	<p><b>RK Felt Roofing</b> Renew/patch repair green mineral finished felt and fit lead cover flashings over top of upstand as recommended in LSA Manuals.</p>
<p><b>RD Lead Roofing</b> Remove existing defective lead roofing and renew to falls and details, etc as recommended in the current Lead Sheet Association Manuals</p>	<p><b>RL Moss &amp; Vegetation</b> Remove moss and vegetation from joints, treat with herbicide/moss killer and make Good pointing.</p>
<p><b>RE Repair Lead Roofing</b> Patch/weld repair lead as required in the short term. Extreme care should be taken if in situ lead welding carried out.</p>	<p><b>RM Defective Pointing Brick &amp; Stone</b> Rake out defective pointing (m<sup>2</sup>) in brick Parapet walls m run in stone copings and repoint with approved mortar mix.</p>
<p><b>RF Asphalt Roofing</b> Take up existing asphalt roof finish and lay new in accordance with recommended procedures. Upstands and fascias to be reinforced with suitable expanded metal to reduce risk of creep. Fit lead cover flashings over tops of upstands. Work to be in accordance with the recommendations in LSA Manuals.</p>	<p><b>RN Treat Metal</b> Treat with approved rust converter/inhibitor all steel and cast iron and paint with lead based paints.</p>
<p><b>RG Repair Asphalt</b> Cut out defective asphalt areas including coves and upstands and make good with new material to match existing and in accordance with recommended procedures.</p>	<p><b>RO Timber Treatment</b> Clean down and repaint timber generally including fascias and eaves soffit boarding. Renew timber/timber component as directed.</p>
<p><b>RH Solar Coating</b> Apply/reapply touch up solar reflective coating to asphalt.</p>	<p><b>RP Rainwater Outlets, Etc</b> Clean out hopper head, rainwater outlets, etc.</p>
	<p><b>RQ Defective Parapet Walls</b> Take down defective parapet wall and rebuild in bricks to match original.</p>
	<p><b>RR Gutters &amp; RWP's</b> Take down defective parapet wall and rebuild in bricks to match original.</p>
	<p><b>RS Structural Steel</b> Clean down, treat and paint all structural Steel.</p>
	<p><b>RT Lightning Conductor</b> Pointing holes around lightning conductor fixings.</p>
	<p><b>RZ Particular Repair</b> Special survey/action/repair/treatment as described under specific roof section.</p>



**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**CHIMNEY STACKS AND OTHER FEATURES GENERALLY**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
E2.03	Carry out full inspection of all chimneys with the use of a sky platform	1111	B2	2000	RZ	
	Rake out all areas of defective pointing and repoint	1111	B1	2000-2003	J	
	Cut out defective brickwork and make good	1111	B1	2000-2003	H	
	Cap off disused chimneys	1111	B1	2000-2003	Z	
	Remove plant growth and salting of brickwork	1111	B1	2000-2003	RL	

**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**SPUR BLOCK A & MAIN ENTRANCE - ROOFS**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
E3.03	<b>Main Entrance Block</b>					
	Clean down flat roof areas and apply solar coating		B1	2000	RH	
	Rake out defective pointing to copings and re-mastic		B1	2000	RZ	
	Clean down parapets and remove plant growth		B1	2000	RL	
	Clean out gutters, remove debris on a regular basis		B1	2000-2004	RP	

**SECTION F2 :- RECOMMENDED REMEDIAL WORKS  
SPUR BLOCK A & MAIN ENTRANCE - ELEVATIONS**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
E3.06	<b>Main Entrance Block</b>					
	Cut out spalled brickwork and make good	(16)	B1	2000	H	
	Cut out spalled stonework and make good	100	B1	2000	A	
	Clean down faces, remove plant growth, moss, etc	100	B1	2000	Q	
	Clean down woodwork and redecorate	500	B1	2001	Z	
	Clean down metalwork and redecorate	100	B1	2001	O	
	Decorate single storey building	100	B1	2001	Z	
Rake out defective pointing and repoint	1000	B1	2000	J		

**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**SPUR BLOCK A - ROOFS**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
E3.09	<b>Spur Block A</b>					
	Clean down flat roofs and apply solar coating		B1	2000	RH	
	Rake out defective joints to copings and mastic		B1	2000	RZ	
	Clean down parapets, remove plant growth		B1	2000	RL	
	Clean out gullies on regular basis		B1	2000-2004	RD	

**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**SPUR BLOCK A - ELEVATION**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
E3.12	<b>Spur Block A</b>					
	Cut out spalled brickwork and make good.	100	B1	2000	H	
	Cut out spalled stonework and make good	200	B1	2000	B	
	Clean down walls, remove plant growth, moss, etc	100	B1	2000	Q	
	Clean down woodwork and redecorate	100	B1	2001	Z	
	Clean down metalwork and redecorate	100	B1	2001	O	
	Redecorate single storey extension	100	B1	2001	Z	
Rake out defective pointing and repaint	100	B1	2001	Z		

**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**SPUR BLOCK B - ROOFS**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
	<p><b>Spur Block B</b> Clean down valleys and rainwater goods.</p>		B1	2000-2003	RL	

**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**SPUR BLOCK B - ELEVATIONS**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
E3.12	<b>Spur Block B</b>					
	Cut out spalled brickwork and make good.	4000	B1	2000	H	
	Cut out spalled stonework and make good	1000	B1	2000	B	
	Clean down walls, remove plant growth, moss, etc	1000	B1	2000	Q	
	Clean down woodwork and redecorate	1000	B1	2001	Z	
	Clean down metalwork and redecorate	1000	B1	2001	O	
	Redecorate single storey extension	1000	B1	2001	Z	
Rake out defective pointing and repoint	1000	B1	2001	Z		

**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**SPUR BLOCK C- ROOFS**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
	<p><b>Spur Block C</b> Clean down valleys and rainwater goods.</p>		B1	2000-2003	RL	



**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**SPUR BLOCK C- ELEVATIONS**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
E3.12	<b>Spur Block C</b>					
	Cut out spalled brickwork and make good.	1000	B1	2000	H	
	Cut out spalled stonework and make good	1000	B1	2000	B	
	Clean down walls, remove plant growth, moss, etc	200	B1	2000	Q	
	Clean down woodwork and redecorate	100	B1	2001	Z	
	Clean down metalwork and redecorate	100	B1	2001	O	
	Redecorate single storey extension	100	B1	2001	Z	
Rake out defective pointing and repoint	100	B1	2001	Z		

**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**SPUR BLOCK C & KITTING STORE - ROOFS**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
E3.27	<p><b>Kitting Store</b></p> <p>Clean down gutters on a regular basis.</p>	1,000	B1	2000-2003	RZ	

**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**  
**SPUR BLOCK C & KITTING STORE - ELEVATIONS**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
E3.30	<b>Kitting Store</b> Clean down walls and rake out defective pointing Cut out damaged brickwork and make good Clean down woodwork and redecorate Clean down metalwork and redecorate		B1	2000	J	
			B1	2000	H	
			B1	2001	Z	
			B1	2001	Z	

**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**SPUR BLOCK B - ROOFS**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
E3.33	Water Tower Carry out detailed survey and repair accordingly.	0000	B1	2000	RD	

**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**SPUR BLOCK B - ELEVATIONS**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
E3.36	<b>Water Tower</b>					
	Clean down brickwork and cut out defective brickwork, make good.	( ) ( ) ( )	B1	2000	H	
	Rake out defective pointing and repoint	( ) ( ) ( )	B1	2000	J	
	Clean down timberwork and redecorate	( ) ( ) ( )	B1	2001	Z	
	Clean down metalwork and redecorate	( ) ( ) ( )	B1	2001	O	

**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**SPUR BLOCK C - ROOFS**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
E3:39	<b>Small Tower</b> Clean down roofs, replaced slipped slates Clean out gutters		B1	2000	RB	
			B1	2000	RP	

**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**SPUR BLOCK C - ELEVATIONS**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
E3.42	<b>Small Tower</b> Clean down walls, cut out defective brickwork and make good Cut out defective stonework and make good Rake out defective pointing and repoint Clean down joinery and redecorate woodwork Clean down metalwork and redecorate		B1	2000	H	
			B1	2000	C	
			B1	2000	J	
			B1	2001	Z	
			B1	2001	Z	





**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**SPUR BLOCKS A & B - ELEVATIONS**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
E3.48	<b>Link Corridors</b>					
	Clean down and redecorate joinery		B1	2001	Z	
	Cut out defective brickwork and make good		B1	2001	H	
	Rake out defective pointing and repoint		B1	2001	K	
	Decorate lean-to sheds		D	2001	Z	
	Clean down metalwork and redecorate		B1	2001	O	

**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**SPUR BLOCKS B & C - ROOFS**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
	Link Roof to Corridors					
	Carry out full detailed inspection of roof		B1	2000	RZ	

**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**SPUR BLOCKS B & C - ELEVATIONS**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
E3.48	<b>Link Corridors</b>					
	Clean down and redecorate joinery		B1	2001	Z	
	Cut out defective brickwork and make good		B1	2001	H	
	Rake out defective pointing and repoint		B1	2001	K	
	Decorate lean-to sheds		D	2001	Z	
	Clean down metalwork and redecorate		B1	2001	O	

**SECTION F2 :- RECOMMENDED REMEDIAL WORKS**

**LANDSCAPING - GENERALLY**

Reference	Brief Description of Item	Cost	Priority	Year	Repair Code	Comments
E4.03	General maintenance Re-tarmac drives, paths, etc Realign/rebuild steps		B1 D D	2000- 2004 2001 2001	Z Z Z	