

APPLEMORE HEALTH AND LEISURE CENTRE, URGENT ROOF REPAIRS

1. INTRODUCTION

- 1.1 Following a recent survey by a specialist roofing contractor of the large flat roof at Applemore HLC (Appendix 1) it is clear that the roof over the Sports Hall side is in urgent need of repair. The remainder of the roof (over the Pool Hall side) will ALSO require remedial works but these are not quite so urgent.
- 1.2 Another survey shows the New Milton HLC roof is fairly sound (3 – 5 years before re-surveying), so there is currently budget potentially available in this financial year which could be used to offset in part the cost of works required to Applemore (see 3.4).

2. OPTIONS FOR ROOF REPAIRS AT APPLEMORE

- 2.1 If the Sports Hall roof is repaired now it will avoid the need for an unscheduled closure of facilities if the roof worsens, as seems very likely in the short term.
- 2.2 There is the option to repair both sides of the roof at the same time and this would be more financially efficient, as the estimates below indicate :
- | | |
|------------------------------------|-----------------------|
| Option 1 - Sports Hall side only | = £ 97k |
| Pool Hall side only | = £ 75k |
| Option 2 - Both sides at same time | = £152k, saving £20k. |

3. FINANCIAL IMPLICATIONS

- 3.1 The pre-tender cost estimate of the Sports Hall roof works is £93.5k plus a contingency sum of £3.5k, totalling £97k.
- 3.2 It is believed this is best funded in part through a supplementary estimate (of £6k), as the works are urgent and the roof fabric is deteriorating. Option 2 would require a supplementary estimate of £61k.
- 3.3 It is proposed that the remainder of the costs be met through virements from the existing Leisure capital programme; the schemes it replaces will be re-bid for in due course through the expenditure plan process.
- 3.4 The schemes replaced are as follows :
- | | | |
|----------------------------------|---------|-------------|
| • New Milton, roof repairs | - | £55k |
| • New Milton, pool hall lighting | - | £11k |
| • New Milton, pool hall refurb | - | <u>£25k</u> |
| | Total = | £91k. |

4. EQUALITY AND DIVERSITY IMPLICATIONS

There are none arising directly from this report.

5. ENVIRONMENTAL IMPLICATIONS

There are none arising directly from this report.

6. CRIME AND DISORDER IMPLICATIONS

There are none arising directly from this report.

7. PORTFOLIO HOLDER COMMENTS

The Portfolio Holder supports the recommendations detailed below and proposes that Option 2 should be pursued.

8. RECOMMENDATIONS

It is recommended that Members:

- 8.1 approve the supplementary estimate and virements to fund these roofing works
- 8.2 decide which option they wish to see pursued, i.e.
 - Option 1 [est. £ 6k]
 - Option 2 [est. £61k]
 - No action to be taken this year
- 8.3 note that the schemes replaced are likely to be re-bid in future years.

For Further Information Contact:

Peter Freeman
Property Services Manager
Tel (023) 8028 5627
Email peter.freeman@nfdc.gov.uk

Background Papers:

FAO Mr S Davies
Senior Surveyor
New Forest District Council
Town Hall
Avenue Road
Lyndhurst
Hampshire
SO41 9ZG

E-MAIL & POST

Dear Mr Davies

Re: Applemore Recreation Centre, Claypits Lane, Dibden – Main Flat Roof Area

Further to our recent conversations and subsequent site visit and survey inspection of the main flat roof area and surrounding construction at the above site address, we can now confirm the following.

The following is based on our meeting/conversations and subsequent survey as an interpretation of your requirements.

For reference the following refers to the Main Flat Roof area at the Recreation Centre which encompasses areas predominately above the Sports Hall Facilities & Office Area, and Swimming Pool Facilities.

Existing Flat Roof Construction

The existing construction comprises of layered built up mineral felt covered with stone chippings, bonded to rigid 'PUR' type closed cell insulation of approximate 50mm dimension, laid onto an bituminous vapour control layer. There is structural profiled metal decking secured to a steel frame construction.

The build up present is a 'Warm Roof' Construction.

The falls for water dispersal are incorporated within the deck/steel frame, dispersing water into internal splayed type gulleys, outlets and drainage systems.

There is a raised dwarf parapet type detail to the external perimeter edge detail, with a metal capping section mechanically secured over the external perimeter vertical cladding.

There is a roof/wall junction to the higher elevation Plant Room Roof, weathered with a sheet lead cover flashing; however, it appears that no tray section is present.

There is various M & E equipment/plant set at random on the roof, to include, air conditioning units, solar panels, pipes, and protrusions.

There is a lightning conductor secured irregularly to specific areas .

Core samples have been removed/taken to confirm the build up.

Condition Survey

The existing felted covering is blistered, bubbled, and cracked to a varying degree throughout with extensive degeneration evident. Specific sections of the roof, mainly to above the Sports Hall facilities & Office Area appear to be further excessively bubbled and degenerated, indicating a possible variance in specification, however this has not been confirmed/determined.

The rigid '*PUR*' type insulation material where exposed appears generally to be in a sound condition, however, where moisture is present/occurring to specific areas the condition is to be confirmed.

The profiled metal deck/frame construction where visible/inspected internally appears to be in a sound condition, with no obvious defects visible internally or at roof level, with the exact condition determined during works.

The falls for water dispersal appear in general, adequate; however some '*Ponding*' is occurring, this being quite normal for this type of roof construction and configuration.

The metal capping detail to the dwarf parapet wall detail appears to be in a fair weathered condition for age, however has not been fully inspected.

The sheet lead cover flashing to the roof/wall junctions is in a poor, weathered condition, with corroded, split and cracked sections visible.

The M & E Equipment/Plant, solar panels, pipes, protrusions and lightening conductor have not been inspected.

Conclusion & Recommendations

Following a thorough inspection, we are of the opinion that the built up felted, waterproof membrane, as previously stated is in a extensively degenerated condition with water/moisture ingress and penetration occurring to specific areas throughout. The remainder of the build up at present appears to be in a serviceable condition, however remedial works may be necessary to identified

areas of the rigid insulation where excessive water/moisture penetration has occurred/is occurring.

As the waterproof membrane is clearly reaching/has reached the end of the serviceable watertight period it is now necessary to instruct and undertake remedial refurbishment works in the not too distant future as to prevent possible additional, costly damage occurring to the remainder of roof build up and general building fabric.

As you are probably aware, there are various options/methods that can be employed to waterproof this roof area. Taking into account all factors, we are of the opinion, that due to the existing roof build up and specification present, the best way forward for a long term, cost effective, practical solution is to, following remedial repairs to the existing built up felt, over-lay the existing roof construction with the '*Cold Liquid Applied* Protec 20 Membrane.

This type of membrane will encapsulate the complete roof area, forming a seamless, joint free membrane throughout and with its permeable qualities allow a percentage of potential entrapped moisture to dissipate.

Employing this method will ensure that the existing build up remains in position, limiting disruption to the building and users during works, obviously ensuring that the building remains virtually water-tight.

The areas excessively bubbled predominately over the Sports Hall and Office Areas will require further investigation, with potential defective insulation renewed and/or mushroom ventilators installed to aid further entrapped moisture to dissipate.

Polyroof Products Limited who are leading manufacturers of these types of waterproof membranes, have been instructed and visited site, and duly compiled a Proposal Specification of Works on which we have based the following.

As requested we have compiled a full proposal of works with confirmed costings.

May we thank you for the opportunity of submitting the following.

Preliminary Requirements

It will be necessary to construct a secure compound within an agreed area of the car park at the side elevation of the building. This area will be fenced off with security '*Heras*' type fencing.

A secure container will be sited within the compound.
A skip bin for waste disposal will be sited within the compound.
Adequate signage will be displayed with restricted access.

Under our joint obligation for Health & Safety it is necessary to install:

Independent Access Scaffolding – Plant/Material/Operative

Secure double guard-rail edge protection to be erected to the complete perimeter of the roof area, incorporating debris netting allowing clearance for the main entrance. A secure access tower is to be erected to the required locations of 4.00 x 4.00m approximate dimension, incorporating a fully boarded lift, double guard-rail edge protection and secure ladder access. A rubbish chute is to be erected from the access tower.

The design and erection of the scaffolding will be undertaken by an Independent, Approved Scaffolding Contractor and is to be in line with current legislation.

Electric Hoist

A 100 KG Electric Hoist is to be utilised to gain access to all elevations. This will be required individually for each elevation.

NOTE: It will be necessary for the client to supply a 3 phase power supply within 10m of the hoist location.

Proposal & Specification of Works

Main Flat Roof Area – Premium Specification – Polyroof Protec 20 Membrane & Associated Works

With this specified system it would be the Clients responsibility to ensure the area is adequately insulated to comply with current Building Regulation standards.

Prior to works it will be necessary for all M & E Plant and electrical cables on the roof areas to be inspected/turned off and certified/deemed as safe by others.

APPENDIX 1

1. To carefully remove the existing defective sheet lead cover flashing to the higher Plant Room roof/wall junctions to allow adequate access for works.
2. To temporarily lift up/remove the lightening conductor pads/fixings to allow access for works.
3. To carefully temporarily un-fix and remove the complete capping detail, to the entire perimeter of the dwarf parapet. To store all removed material at roof level for re-use. To thoroughly inspect the removed capping for condition/defects. To report all findings and advise as necessary. (*Please Note: No allowance has been made for newel/replacement of possible defective capping sections*).
4. To remove as necessary all stone chippings, moss, lichen present utilising heat and/or a mechanical de-scarifier as required. To load all removed material into skip bin for removal.
5. To apply Polykill 'W' Anti-Fungal Wash to the complete roof area if/as necessary, in line with manufacturers' recommendations, ensuring all moss and lichen spores that may be present are destroyed.
6. To thoroughly inspect the felted membrane for all excessively blistered, bubbled, and raised areas. To heat and trowel down flat raised blisters and bubbles, star cutting and removing as required to ensure a smooth surface is achieved as best possible in the conditions present throughout. To apply HT180 strips to specific identified areas using heat if/as necessary.
7. *Possible Additional:* To inspect and identify any areas where the rigid insulation material is excessively damaged/saturated. To carefully remove and install rigid Kingspan TR26 50mm (*Or similar approved*) insulation, bonding to the bituminous VCL with high performance bonding agent.
8. *Possible Additional:* To install 1 number standard mushroom type ventilator with an overall opening of 100mm, securing as required into the sound base. To aid in moisture evaporation as best possible in the conditions present.
9. To wash down the complete roof area if/as required using a high powered water hose, ensuring that all dust, debris, and residue is removed in line with specification. To cover over outlets with mesh and remove upon completion.

APPENDIX 1

10. To apply a single layer of Uni-Primer at an approximate coverage rate of 4-5m²/litre. All in order to gain maximum adhesion to the existing substrate.
11. To apply a single layer of Protec Embedment Coat to all prepared surfaces at an approximate coverage rate of 1.25m² – 1.5m²/litre and incorporating whilst wet 450g Chopped Strand Mat glass fibre matting and thoroughly '*wetting-in*', overlapping adjacent reinforcement areas already laid by at least 50mm.
12. To apply Polyroof Protec Finishing Coat to the complete roof areas. To apply the Protection Coat to the required coverage rates and thus at an approximate cover rate of 0.5 litres/m², in a desired standard colour. To mould around all detailing present, forming a seamless, joint free membrane throughout. All to be in line with specification and Approved Code of Practice.
13. To track into the existing mortar joint to the roof/wall junction to a minimum depth of 30mm. To install new Code 4 150 sheet lead cover flashing, cutting down and dressing in as required. To re-point the mortar joint using 5:1 sand and cement mortar to a struck finish to match the existing.
14. To re-fix the quality existing reclaimed capping detail to the original specification, re-securing as necessary using new SFS mechanical fixings to the required dimensions, joint and mastic sealing. All to be in line with Approved Code of Practice.
15. To re-fix the existing lightening conductor using bonded '*Pad*' type fixings to recognised Code of Practice. To instruct and undertake a Lightening Conductor Test. To report all findings and forward certification if acceptable.
16. To remove all relevant plant and debris from site, leaving area clean and tidy to satisfaction.
17. To undertake a quality control check on site with a member of the Polyroof Technical Department and sign off the completed works.

Schedule of Cost

As requested we have separated the Main Flat Roof area into two individual areas of differing dimensions as per the existing building constraints and configuration.

Area 1 – Main Flat Roof Area – Predominately Above Sports Hall Facilities & Office Area

Item 1 - Preliminary Requirements

To include: Independent Scaffolding/Electric Hoist/Compound/Container/Fencing

Total for Preliminary Requirements - £8,321.00 + VAT @ standard rate.

Item 2 - Premium Specification – Polyroof Protec 20 Membrane & Associated Works

Total for Complete Works - £85,186.00 + VAT @ standard rate.

Total Cost of Project for Area 1 – Item 1 + Item 2 = £93,507.00 + VAT @ standard rate.

Area 2 – Main Flat Roof Area – Predominately Above Swimming Pool Facilities

Item 3 - Preliminary Requirements

To include: Independent Scaffolding/Electric Hoist/Compound/Container/Fencing

Total for Preliminary Requirements - £7,219.00 + VAT @ standard rate.

Item 4 - Premium Specification – Polyroof Protec 20 Membrane & Associated Works

Total for Complete Works - £64,871.00 + VAT @ standard rate.

Total Cost of Project for Area 2 – Item 3 + Item 4 = £72,090.00 + VAT @ standard rate.

Should works be instructed and undertaken simultaneously to both Areas 1 & 2 a total gross overall saving of 12% (£19,871.64) can be achieved.

Possible Additional Items

Item 5 – Supply & Installation of 1 number standard mushroom ventilator

Total Cost per Ventilator - £26.80 + VAT @ standard rate

Item 6 – Removal / Supply & Installation of 1 M² of Kingspan 50mm TR26 Insulation

Total Cost per M² - £15.42 + VAT @ standard rate.

We recommend that a maximum contingency sum of £3,500.00 per individual Area be allocated for possible additional works.

Please Note: All Roof Works

Any existing water retention will remain to roof areas and no allowance has been made to adjust the existing falls, with the new membrane following the existing contours.

Slight colour variation may occur within the membrane as/if the works are to be phased.

Resin splashing and odour infiltration will be experienced during membrane application.

All necessary, reasonable precautions will be undertaken to minimise any disturbance.

Any plant situated on the roof is to be certified as safe by others prior to works.

All works are to be undertaken during '*Normal*' working hours with no allowance made for '*Out of Hours*' working.

Access to welfare facilities will be required from within the main building.

Any Air In-Take units are to be **TURNED OFF** during membrane application.

All services (Water, Electricity etc) to be supplied FOC by the client.

Obvious amounts of noise and vibration disturbance will occur during works.

Whilst every care will be taken when sitting plant and scaffolding, it may be that some disturbance will occur to lawns, plants, and shrubbery. Unfortunately we cannot accept any responsibility for this if it should occur.

All works to be undertaken to Polyroof Products Approved Code of Practice.

Health & Safety

It will be necessary to produce a defined Health & Safety Plan with Risk Assessments and Method Statements.
All site operatives to undertake site Safety Induction Course.

Proposed Contract Duration

Lead in time – *TBC*
Set Up Site – *TBC*
Roof Works – *TBC*
All subject to inclement weather and specific site conditions.

Guarantee

Polyroof Protec Membrane – 20 Year Manufacturers Guarantee

Payment

It will be necessary to produce a defined payment plan with regular valuations.
All invoices/valuations are payable in full within a maximum of 28 days. Title of goods does not pass until full payment is received.

Contract

Subject to Williams Roofing Contractors Ltd standard Terms & Conditions.

Training & References

We are trained to a very high standard to include CITB/CSCS approval. We have undertaken a vast number of contracts of varying size throughout the area with local recommendations and referrals open to any inspection. We are members of The National Federation of Roofing Contractors, The TrustMark Scheme (*Government Endorsed*), South West Region Roof Training Group, Constructionline, and Hampshire County Council Business Trading Partnership.

We trust that this meets with your approval and your anticipated requirements, should you have any queries, require further information or wish to view completed works, please do not hesitate to contact us. We look forward to your reply.

Yours sincerely

R. Williams MIO R

WILLIAMS ROOFING CONTRACTORS LTD

Valid until 04/09/07 subject to written acceptance within 3 months of specified date.

This specification proposal costing has been calculated in conjunction with Polyroof Products Ltd Specification Proposal 7356 and on the basis that all associated specifications present are to standard, recognised building Codes of Practice with no allowance for any variations or adjustments. A visual inspection survey only has been undertaken with core samples removed.

GENERAL PHOTOGRAPHS



Extensive Raised/Detached Areas Evident



Further Extensive Raised Areas Present



General Overview Highlighting Extensive Defects



Confirming Roof Build Up



Confirming Depth of Membrane Build Up



Further Confirmation of Existing Roof Build Up