

NORTHAW HOUSE, COOPERS LANE, POTTERS BAR EN6 4PS**RESTORATION PLAN**

Document Title	External Works
Document Reference	D106

This document to be read in conjunction with all other documents listed within the Restoration Plan's Contents page.

Details within the following documents are referenced within this schedule and to be read in conjunction with this document

29, 30, 31,42, D109, D119

SCHEDULE OF WORKS FOR RESTORATION**NORTHAW HOUSE****EXTERNAL WORKS RESTORATION SCHEDULE****6717**

NOTES:

- 1 **Specification:**
All items are to be carried out in accordance with specification even where not expressly mentioned.
- 2 **Preliminaries:**
The cost of preliminaries is to be shown at the relevant items and is assumed to include Contractor's profit.
- 3 **Prices to be all-in:**
Prices for items of work in the Schedule must include for all site operations, materials and workmanship, to complete the work in accordance with good current building practice.
- 4 **Problems, discrepancies:**
Preliminaries, pre-amble trade clauses, Schedule of Works and drawings are to be read together. The Architect in charge is to be notified immediately of any discrepancy found before work is put in hand.
- 5 **Drawings:**
All items are to be read in conjunction with all associated schedules and drawings.

Ref.	Existing	Proposed Works	
1.		Exterior Preparation	
1.1.	-	Clearance. All exterior areas of the site surrounding the building to be cleared of debris and materials to ensure free access to the building for inspection and remedial works, including scaffolding. Clearance to include for the removal of all foliage and plant life. All gulleys, ducts and voids to also be cleared.	
1.2.	-	Walls. Plant life and 'trees' to be removed from walls. This is specifically to be undertaken on elevation 'C' but all roofs and walls to be examined and cleared accordingly.	
1.3.	-	Fire Escapes. All metal fire escape and access stairs to be removed and disposed of.	
2.		External Walls & Boundary Walls associated with Northaw House (NB. Walled Garden include in separate document)	
2.1.	-	Include works to Northaw House and Ballroom Wing and associated garden and boundary walls and the Walled Gardens.	
2.2.	Masonry paint on brick	Existing Paintwork. Strip all paintwork to brick surfaces using Keim STS 7 M in accordance with manufacturers guidance.	
2.3.	Cement based render on brick	Existing Render. Carefully strip all existing render from the brickwork.	
2.4.	Lime pointing in soft red brick	Repointing. Following removal of paint and render where the pointing has failed rake out to a depth of 10mm and re-point mortar joints to a depth of 10mm re-point in 1:3 NHL 3.5 lime to sharp sand. Pointing to match existing. Include also to rake out all cement pointing, where found and re-point as stated.	
2.5.	-	New Render. To previously rendered brickwork apply a two coat system from Best of Lime, using Warmcote and Limecote with plastic bell drips and angle beads and rendering mesh.	
2.6.	-	New Paintwork. To previously painted brickwork clean all loose and flaking material from brickwork and apply a base coat of Keim Soldalit Fixativ. Finish with 2 top coats of Keim Soldalit Colour to be white and all in accordance with manufacturers guidance.	
2.7.	Lime pointing in soft red brick	Provisional Brick Repairs. Where spalled and failed bricks found cut out brickwork and replace with new Launceston multi bricks laid in a 1:3 NHL 3.5 to sharp sand lime mortar.	

2.8.	Lime pointing in soft red brick	Provisional Heli-Bar. Where cracks in masonry found allow for Helibar to project 500mm either way beyond crack every 4 courses (allow for 4 bars). Bend bars around corners by at least 100mm. Mortar joints to be raked out and Helibar inserted and applied according to manufactures requirements and re-pointed in 1:3 NHL 3.5 lime to sharp sand mortar. This item to also be used over brick arch windows and openings where lintels require consolidation.	
2.9.	-	Lintels. Where necessary to replace lintels. Cut out defective lintel in its entirety. No repairs to existing lintels to be undertaken. Replace with Oak, Steel or Reinforced concrete subject to engineer spec bedded on NHL 3.5 lime mortar and wedge brickwork above with slate wedges. Any new padstones to be undertaken in accordance with the engineers details and cutting of brickwork and removal of lintels to be undertaken in accordant with the specification clauses.	
3.		Roofing	
3.1.	-	Following the theft of lead some lead roofs have already been stripped, partially by theft and the remainder to secure the building. Associated with this, high level slate roofs were stripped and slates that could be salvaged were retained and are on site. A tin roof has been put over the building to provide waterproofing.	
3.2.	Welsh Slate	Strip Existing Finishes. Remaining slates are to be removed from the roofs and remaining leadwork to be stripped. Lead is to be disposed of, off site. Existing slates to be retained on site and set aside for re-use. Assume a loss of circa 60% of remaining slates. Existing battens to be removed from the roof and all rafters to be de-nailed.	
3.3.	Mix of oak and softwood	Timber Treatment. Existing rafters are to be treated using 2 coats of 'Cuprinol 5 Star Complete Wood Treatment.' To be applied according to manufacturer's guidance.	
3.4.	-	Re-Roof (pitched). To all roofs, cover existing roof structures with 'DuPont Tyvek Supro Plus' roofing membrane. Fix over with 38x19mm softwood treated roofing battens at maximum 600 centres and fix new slates using slate hooks. Retained slates to be re-used and new slates to be Welsh Heather Blue Capital 18"x9". Retained slates to be used on single roof slopes and when these are fully used new roofing slates to be used. Where	

		<p>possible existing slates to be used on principle roofing elevations.</p> <p>Eaves to overhang by 50mm with dressed edge of under eaves slate laid facing down and eaves course slate facing up. Verges and valleys to be fitted with slate and a half slates. Headlaps and fixing to be as set out within BS 5534 subject to roof exposure and pitch.</p> <p>Ridges, hips flashing and valleys to all be lead as item 5.5</p>	
3.5.	Leadwork on penny slot boarding.	<p>Re-Roof (flat). To Lead flat roofs strip all remaining finishes. Vacuum up remaining lead salts present and dispose of in licensed facility suitable for lead oxide and similar chemicals.</p> <p>Check existing levels and falls. Where the lay boards have failed supply and fix new 50 x ex 100mm high softwood battens to falls at max 450mm centres and 25 mm finished thickness sawn softwood sole boards. Lay to falls to be minimum of 1:80. Profile and width of gutter to remain as existing. All timber used is to be high hazard equivalent pressure impregnated and drier than 18% when laid. Prepare all lead and all surfaces to receive lead with chalk emulsion as anti corrosion measure. Allow to dry before laying lead work.</p> <p>Fix Code 7 sand cast lead roof sheeting with drips at eaves and at intermediate step as existing arrangement, nail fix to intermediate drip and to rolls, nail fix at head and lead burn coverings over fixings, all as LSA sheet details</p>	
3.6.	-	<p>Leadwork. supply and fix 50mm x 50mm planed softwood rolls for roof leadwork to ridges and hips and provide code 7 lead ridges and hips to all slate roofs. As LSA details.</p>	
3.7.	Leadwork on penny slot boarding.	<p>Parapets Gutters. Strip all bituminous coverings from the parapet cappings. Rake out and repoint brickwork parapet in accordance with the trade clauses, in 1:3 lime putty: sharp sand. Include for mortar joints behind parapet, above existing lead flashing.</p> <p>Strip all remaining finishes. Vacuum up remaining lead salts present and dispose of in licensed facility suitable for lead oxide and similar chemicals.</p> <p>Check existing levels and falls. Where the gutter lay boards have failed supply and fix new 50 x ex 100mm high softwood battens to falls at max 450mm centres and 25 mm finished thickness sawn softwood sole boards. Lay to falls to be minimum of 1:80. Profile and width of gutter to remain as existing. All timber used is to be high hazard equivalent pressure impregnated and drier than 18% when laid. Prepare all lead and all</p>	

		<p>surfaces to receive lead with chalk emulsion as anti corrosion measure. Allow to dry before laying lead work.</p> <p>For gutter lining supply and lay sand cast gutter lining to parapet gutter in code 8 sand cast lead. Nail to boarding at drip positions and rebate into boarding above, drips to be minimum 63 mm. Maximum bay lengths to be 2500mm and maximum widths to be 850mm. Lay lead work to catch pit and outlet as existing, extending the length of the catch pit as necessary in order to accommodate reduced lead lengths. Lay as LSA sheets 2G, 4G, 10G</p> <p>Reinstate new code 4 lead upstand flashing to the parapets chased into the brickwork in accordance with LSA details.</p> <p>To parapets reinstate stone capping stones.</p>	
3.8.	Leadwork on penny slot boarding.	<p>Valleys. Strip all remaining finishes. Vacuum up remaining lead salts present and dispose of in licensed facility suitable for lead oxide and similar chemicals.</p> <p>Check existing levels and falls. Where the gutter lay boards have failed supply and fix new 50 x ex 100mm high softwood battens to falls at max 450mm centres and 25 mm finished thickness sawn softwood sole boards. Lay to falls to be minimum of 1:80. Profile and width of gutter to remain as existing. All timber used is to be high hazard equivalent pressure impregnated and drier than 18% when laid. Prepare all lead and all surfaces to receive lead with chalk emulsion as anti corrosion measure. Allow to dry before laying lead work.</p> <p>For gutter lining supply and lay sand cast gutter lining to parapet gutter in code 7 sand cast lead. Nail to boarding at drip positions and rebate into boarding above. Prepare all surfaces to receive lead with chalk emulsion as anti corrosion measure. Allow to dry before laying lead work. Lay lead work to catch pit and outlet as existing. Lay as LSA sheets 2G, 4G, 10G</p>	
3.9.	-	<p>Dormers: Strip all remaining finishes. Vacuum up remaining lead salts present and dispose of in licensed facility suitable for lead oxide and similar chemicals. Prepare all surfaces to receive lead with chalk emulsion as anti corrosion measure. Allow to dry before laying lead work.</p> <p>Replace lead abutment flashings in code 4 lead, renew cheeks and and roofing in code 5 lead. All lead work to be undertaken in accordance with LSA details.</p> <p>Dormer roof to be formed with central 50mm rolled softwood ridge.</p>	
3.10.	-	Provisional Plate Repairs. To rotten sole plate (where discovered) repair in like for like dimensioned oak.	

		Coachscrew and half lap as soleplate detail on typical timber frame drawings Any sole plate to be cut out to be cut out to extend 0.5m in both directions of failed timber. Associated include for rafter feet replacement as item 5.10	
3.11.	-	Provisional Rafter Feet Repairs. To rotten rafter feet (where discovered) undertake half lap feet repairs as detailed on typical timber frame repair drawings Fix using M12 coachscrews. Fixings made below purlin.	
4.		Chimneys	
4.1.	Cement based render	Strip render. Carefully remove all remaining render from exterior of brickwork.	
4.2.	Lime pointing in soft red brick	Re-Point brick work. Rake out all joints to a depth of 10mm and repoint mortar joints in 1:3 NHL 3.5 lime to sharp sand. Pointing to match existing.	
4.3.	-	Flaunching. Break off existing flaunching to top of chimneys and reform in an NHL 5 lime mortar.	
4.4.	-	Leadwork. Allow for new leadwork to the chimney in accordance with LSA details	
4.5.	-	Internal Register Plates: No fireplaces are to be used. To all open fireplaces install a new 4mm thick steel register plate to the head of the fireplace opening. Plate to be formed in two sections; one section is to incorporate a hole with cover plate to accommodate the steel flue liner to serve the fireplace. The plates are to be supported on 6mm thick, 50 x 50mm steel 'L' shaped angles bolted to the brickwork / support beam. The plates are brackets ate to be primed with rust inhibiting primer followed by two coats of micaceous iron oxide paint.	
5.		Rainwater Goods, Ducting & Vents	
5.1.	Mix of cast iron and UPVC	Existing rainwater goods. All existing rainwater goods are to be removed. Fit Alumasc Heritage Cast Aluminium 113mm half round guttering and 150mm Heritage circular downpipes in existing locations. Colour to be a textured black finish. Include also for Cast aluminium rainwater hoppers, to parapet roofs and valley gutters.	
6.		Porch	
6.1.	-	Cornice. Remove ply sheathing to portico cornice. Template the existing remaining cornice, cut out rotten and damaged timber and reinstate the new 32mm softwood crenelated cornice.	

6.2.	Felt roof	<p>Roof. To flat roofs remove bituminous finish and timber boarding. Vacuum up remaining lead salts present and dispose of in licensed facility suitable for lead oxide and similar chemicals.</p> <p>Check existing levels and falls. Fix new 50 x ex 100mm high softwood battens to falls at max 450mm centres and 25 mm finished thickness sawn softwood sole boards. Lay to falls to be minimum of 1:80. Profile and width of gutter to remain as existing. All timber used is to be high hazard equivalent pressure impregnated and drier than 18% when laid. Prepare all lead and all surfaces to receive lead with chalk emulsion as anti corrosion measure. Allow to dry before laying lead work. Falls to front of roof.</p> <p>Fix Code 7 sand cast lead roof sheeting with drips at eaves and at intermediate step as existing arrangement, nail fix to intermediate drip and to rolls, nail fix at head and lead burn coverings over fixings, all as LSA sheet details</p>	