62-66 London Street, Reading

Design and Access Statement

Cleaning the Façade and Painting Main Entrance Door

Brick finishes façade

Bath stone facade

1.0 Introduction

1.1 This is a combined Design and Access and Heritage Statement produced to support a Listed Building consent for cleaning the façade at 62-66 London Street Reading.

1.2 The application site is a Grade II listed building, located within London Street described as Early C19, 4 stories bath stone ashlar .strings at first floor level, entablature, cornice and parapet. 4 windows on the upper floors, glazing bar sashes, 3 on ground floor with splayed reveals and door with heavy Doric pilasters, entablature and cornice. 6 panelled door with high rectangular fanlight over. To south is early c20 replica style block 3 storeys and basement red brick with stone modillion cornice and blocking course. 5 ranges of windows, glazing bar sashes with panels below. Bath stone pilaster door case to left, similar to no 62 (retaining pattern glazing in rectangular fanlight)

2.0 Description of Building Consent

2.1 As stated above, the application site is located within Reading town Centre on a busy road, one of the principal routes out of central Reading. The property is two part four storey, Bath stone and brick facing finishes that was constructed in the late 1980. It is part of a row of buildings comprising various finishes along London Street. The bricks finishes part of the building contains mainly modern sash windows concrete window cills and lead finishes over concrete Cills with the stone parapet at the top.

Listed Building consent is sought for cleaning The Bath stone part of the façade and small repairs to spalling to small areas together with painting the main entrance door

3.0 Survey Report

3.1 Survey was carried in order to establish the best method to clean the un- authorised paints(Emulsion) on the Bath stone part of the building and painting the main entrance door into the building .(refer to drawing A-1200 survey drawing indicating the current status of the façade)

Fig 1

Fig 1 shows the capping above the pillars above the front door showing that it's soiled by a combination of street dust mixed vehicular exhaust fumes which requiring water cleaning or similar cleaning.
There are small patches of holes filled with Polly filler that requires Polly fillers taken out and taken back to original state, and filled either by the correct mix or repaired
Parts of the façade have been partially painted (Emulsion) needs to be cleaned.

Fig 2

Fig 2 shows the heads of the window soiled by dust / pollution of street vehicles, requiring water/steam cleaning.

Fig 3

Fig 3 shows the parapet wall soiled by dust/Pollution of street vehicles requiring water/ Steam cleaning. With some areas of the façade discoloured.

Fig 4

Fig 4 an over view showing soiled areas/ painted areas discoloured areas requiring Either by water /similar cleaning.

4.0 Different Cleaning Methods for soiled Bath stone

4.1 Water washing

4.2 This is one of the simplest ways to remove dirt from the surface of masonry. It is particularly effective on limestone facades, as soiling on limestone is normally water soluble. On other building materials such as brick or sandstone, water washing can produce considerable improvements but may not achieve complete cleaning.
Water washing is usually done in two main stages; the first involves spraying water on the surface to soften the accumulated dirt, and the second washing the dirt away using again water (often with the help of chemically neutral soap and brush or a low pressure water lance). For light soiling e.g. physical accumulation of dust and superficial surface staining, this method can be easy, relatively cheap and effective if it is used carefully (i.e. without using excessive pressure, excessive volumes of water which can penetrate the structure or even stain the surface, and without using metal brushes or other coarse abrasives which can physically damage the stone or bricks).
The disadvantage of this method (again depending on the nature of the soiling, the porosity of the materials, etc.) is that it may prove to be relatively ineffective. Despite the simplicity, it needs to be carried out by specialised and experienced operators, in order to control the amount and pressure of water used, to select any supplementary techniques that may be necessary on a particular building and to apply skill and care when rubbing the wet surface of the facade.

It is essential that, before washing begins, any open joints, cracks, junctions with window frames, and any other potential water penetration points, are carefully sealed, and 'emergency' repointing may have to be undertaken.

Water penetration can cause new straining, can seriously damage the mortar between stones, it can cause corrosion of hidden iron-cramps and deterioration of existing cracks in the bricks or stone.
Specialist contractors will be sought to advise during the tender process to I recommend the most appropriate type of jets or other spraying mechanisms, to achieve even wetting of the surface of the wall in order to soften the dirt or dissolve any soluble binding matter and to apply the right water pressure for the removal of the softened unwanted material, using the minimum necessary quantity of water. This method is normally not effective for the removal of paint unless the paint is already clearly loose.
Special care must be taken when pressure-water or brushing is used, to avoid damage to soft stone.
Variations of water-washing cleaning are based on the use of different pressures and temperatures, the use of water in steam form and the different equipment which can adjust the targeting and the amount of water during the cleaning process ('pulse' system). In some cases it may be appropriate to use neutral pH soap in order to improve water washing.

5.0 Water/abrasive cleaning:

5.1 This is a development of the air/abrasive cleaning methods, adapted to include water into the air/abrasive stream. Water is introduced either with the use of a 'wet-head' with one or many small jets spraying the surface simultaneously with the abrasive action of the 'grains', or by mixing the water with the abrasive particles and blasting the mix on the surface through the same nozzle.
The main advantages of the water/abrasive techniques are:
(a) Water softens water-soluble soiling and facilitates its removal.
(b) The water controls the dust which would be generated if dry air/abrasive cleaning was undertaken, and; (c) Because of the rinsing action of the water, it is easier for operatives to see the progression of cleaning and to control the operation more effectively.

As all methods of cleaning, water abrasive techniques require extreme care and attention to avoid unnecessary removal of the surface of the material. Again, the success of this type of cleaning depends on the operators' experience and ability to distinguish between soiling matter which has to be removed, and the surface of the brick or stone which should not be damaged unnecessarily.

6.0. Cleaning Method for paint removal from Bath stone:

6.1 Chemical cleaning:

6.2 Chemical methods are based on the use of chemical substances to soften or dissolve the soiling, which is subsequently washed away with low pressure water. Depending on whether the chemical substances used to soften or dissolve the soiling are acidic or alkaline, different types of chemical cleaning processes are

sometimes referred to as acidic or alkaline methods. However, techniques using alkaline chemicals to break down the soiling, require also the use of acidic chemicals afterwards, to neutralise the alkaline agents used.

Cleaning chemicals are available in liquid or gel form, requiring different techniques of application. For practical purposes, one chemical technique - known as the poultice method - is often referred to separately. Although in principle it constitutes ordinary chemical cleaning, the poultice method is based on a different set of procedures of application and, as a result, in some cases it may have a number of practical disadvantages. A brief outline of these types of chemical cleaning is as follows:

7.0 Acidic and alkaline (chemical) cleaning:

7.1 These methods use acidic or alkaline chemicals to soften or dissolve soiling or paint, which is then washed away with water. They should be selected for use, only after an assessment/analysis has been made of conditions on a building, concerning the physical and chemical nature of the soiling and of the type of stone, brick, mortar and other materials, and after trails have been made on-site, to establish the most appropriate chemicals and processes to be employed. If this assessment is not done or if it is not accurate of it is not taken adequately into account by the operators, the facade may be left uncleaned, permanently stained or physically damaged.

Methods using alkaline chemicals to dissolve the soiling require pre-wetting of the surface, and the use of acidic substances after cleaning to neutralise the alkali; this must be followed by thorough rinsing of the surface with water.

It is important to use proprietary brands of known and consistent concentration rather than preparing them on site. Even when using readymade brands, the following potential care must be taken account with the involvement of specialist contractors and supervisors, to ensure the correct methods are used to clean the facade.

Risk of permanent damage to the facade as well as other parts of the building (such as glass, timber etc.) shall be minimised by trial cleaning on a very small area prior to applying to much larger areas.

The main advantage of chemical cleaning methods is that, if they are undertaken by experienced specialists, they can be highly effective. Chemical cleaning is highly versatile and adaptable to specific requirements of individual buildings, by careful analysis of conditions, on-site trials, and adaptation of the specifications accordingly.

For the chemical removal of paint, solvent-based or alkaline-based strippers are available, suitable for different types of paint. Surfaces **must** be neutralised after the use of alkaline strippers, by the use of acidic neutralisers.

8.0 Poultice (chemical) cleaning:

8.1 This is a cleaning method which, because of its special technique of application, presents important differences from other chemical methods and

has considerable advantages. The poultice method involves the use of the same types of chemicals as the methods outlined above. The chemicals used for poultice cleaning however, are contained in concentration into absorbent 'packs' in poultice form, many of which are clay based. The poultice shall be applied on the facade by trowel or spray and must be left to act for precisely the right time as determined by the analysis or by trial applications. The poultice method gives a high degree of control over the duration of action and over the targeting of the chemicals onto detailed parts of the facade.
The principles of poultice cleaning are the same as those of the other chemical methods. The soiling is softened or diluted by the chemicals contained in the poultice, and is drawn away from the surface removing (much of) the soiling. The facade is then washed down with low pressure water. If necessary, the process can be repeated until the cleaning is satisfactory.

The main advantage of this technique is that the poultice holds the chemicals on the surface of the façade, in contact with the soiling, thus restricting considerably their ability to be absorbed into the stone. Because of this advantage and because it offers a high degree of targeting of action, It is preferred to use poultice cleaning on brick or stone facades in appropriate cases, provided that cleaning is necessary and that it is done after specialist advice and carried out by specialist operators. Poultice cleaning is more commonly used on heavily soiled limestone and sandstone surfaces such as paint removal

9.0 Techniques for repairs

9.1 Critical Stages: (must be undertaken in sequence) Bath stone indent

Access to the work area will be via ladder access onto the scaffold
Surveyor to identify areas to be repaired. Site Manager to produce a repair schedule and record drawings of areas to be repaired.
Isolate the defective areas using small cutters and hand tools and cut back to a minimum of 20mm to allow a suitable key for the new repair.
De-dust and rinse with clean cold water. Saturate the cavity with clean cold water.
Using natural Bath Stone, cut the stone, with dove tail if require, to suit the defective area, ensuring clean line are cut and sharp arises are achieved.
Drill, where required, fixing hole to the rear of the stone indent and the façade of the building.
Clean the surface of the façade with clean water. Apply a Bath Stone Premix bed and rear of the façade to provide adhesion to the indent. Re in -fill the fixing holes and slot the fixings, with the stone indent into place.
Once in place, further dampen down the working area with clean water and a sponge. Once the indent is in place and secure, grout around the stone to ensure a tight fit is achieved. After the grout has set, re-point around the stone with Portland Premix and clean to finish.
If required, damp hessian should be laid over the repair to ensure it does not dry out too fast and fail.

10.0 In- Situ Bath mortar repairs to stone

10.1 Access to the work area will be via ladder access onto the scaffold
Area's to be repaired shall be surveyed, a repair schedule and record drawings of areas to be prepared.
Using suitable lime and aggregate carry out sample mortar repairs to stone for inspection and approval by local authority prior to carrying out main works.
Isolate the defective areas using small cutters and hand tools and cut back to a minimum of 20mm to allow a suitable key for the new repair.
De-dust and rinse with clean cold water. Saturate the cavity with clean cold water.
Using the approved mortar mix, Bath Stone Premix, press in the repair material to a depth not exceeding 10mm in one visit. Allow repair to dry out and prior to repeating the process.
Where repairs exceed 50mm in depth stainless steel or similar non-ferrous reinforcement to be introduced with a minimum of 20mm cover.
Build up repair to achieve original line and profile and smooth off with a wood float, damp cloth or sponge.
Protect the repair from direct sunlight to prevent rapid drying using Hessian or similar sheeting.

11.0 Repointing – stonework

11.1 Carefully rake out all loose/defective areas of pointing to a depth of 15mm using a combination of appropriate diamond blade and careful pitching out by hand with suitable chisels. Work to be carried out by skilled restorers to prevent damage to adjacent units.
Flush out joints with clean cold water to remove excess dust/debris and reduce Absorption. Point up with lime based mortar in approved Bath Stone premix.
Remove all excess pointing material to skip upon completion.

12.0 Painting Method for main entrance door

12.1 Linseed Oil Paint is an excellent and safe natural alternative to lead paints. It is a high quality environmentally-friendly product which has unbeatable wood caring properties when used directly on bare wood. It also adheres well to most synthetic paints. When it is applied correctly, linseed oil paint has a longer life than modern synthetic alkyd paints. It also has the advantage of a one-pot system for primer, undercoat and topcoat. Thus it is intended that we shall use linseed oil pain if it can be plied to the external door, as it has been painted previously with modern synthetic paints

13.0 Conclusion

13.1 After surveying the front façade, it can be seen that the soiled surfaces can be cleaned with one of the methods described above, similarly the applied areas where Emulsion has been applied, it may be that similar water wash can us applied for both cleaning the soiled surfaces and to remove the paint from the surface areas of the Bath stone, the process shall be applied by an experienced Trade's men with relevant experience or alternatively Poultice method shall be applied to remove the painted surfaces.
On visual inspection of the areas that Poly fillers been applied our suggestion would be to remove the poly fillers wash and clean the surface and a correct mixture of sand stone applied., only if the bath stone areas that the indents are too large and more than 10mm depth in situ repairs shall be carried out by experienced stone masons as described above , unfortunately the front door has been painted many times with modern synthetic paints , thus our suggestion would be to apply Linseed oil paint on the top following rubbing down the painted surfaces and cleaned , then correct colours applied.