



QUALITY FAST FACADES LIMITED

RESIDENTIAL DEVELOPMENT

PARADISE WHARF, DUCIE STREET, MANCHESTER

FACADE ACOUSTIC REVIEW

R2114-REP01A-SJW

4 AUGUST 2022

REPORT DETAILS

Project	Paradise Wharf, Ducie Street, Manchester
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SUMMARY

Red Acoustics Ltd has been commissioned by Quality Fast Facades Limited, to provide an acoustic review for changes to the facades at the residential development site at Paradise Wharf, Ducie Street, Manchester.

A full acoustic review has been undertaken in accordance with the requirements of Manchester City Council Planning Application ref. 133807/FO/2022 which states:

The insulation performance of any replacement glazing, and cladding should have an SRI the same or better than the existing.

The proposed facade constructions have been assessed in accordance with the approved and existing facade elements and comments have been provided.

RESIDENTIAL DEVELOPMENT - PARADISE WHARF, DUCIE STREET, MANCHESTER

QUALITY FAST FACADES LIMITED

ENVIRONMENTAL NOISE STUDY - R2114-REP01A-SJW

CONTENTS

1.0 INTRODUCTION	1
2.0 SITE DESCRIPTION & PROPOSED DEVELOPMENT	2
3.0 EXISTING FACADE ELEMENTS	3
4.0 FACADE PROPOSALS	10
5.0 CONCLUSIONS	13

1.0 INTRODUCTION

Red Acoustics Ltd has been commissioned by Quality Fast Facades Limited, to provide an acoustic review for changes to the facades at the residential development site at Paradise Wharf, Ducie Street, Manchester.

A full acoustic review of the facade proposals has been undertaken in accordance with the requirements of Manchester City Council Planning Application ref. 133807/FO/2022 which states:

Re: Planning Application ref. 133807/FO/2022 Jutland House & Whittles Croft, Paradise Wharf, Manchester, M1 2BE

Proposal: Re-cladding and replacement windows and doors to Jutland House & Whittles Croft apartment buildings

Recommended condition

Before the development commences a scheme for acoustically insulating the proposed residential accommodation against noise from local traffic noise shall be submitted to and approved in writing by the City Council as local planning authority. There may be other actual or potential sources of noise which require consideration on or near the site, including any local commercial/industrial premises. The approved noise insulation and ventilation scheme shall be completed before any of the dwelling units are occupied.

Reason: To secure a reduction in noise from traffic or other sources in order to protect existing and/or future residents from noise disturbance.

Comments

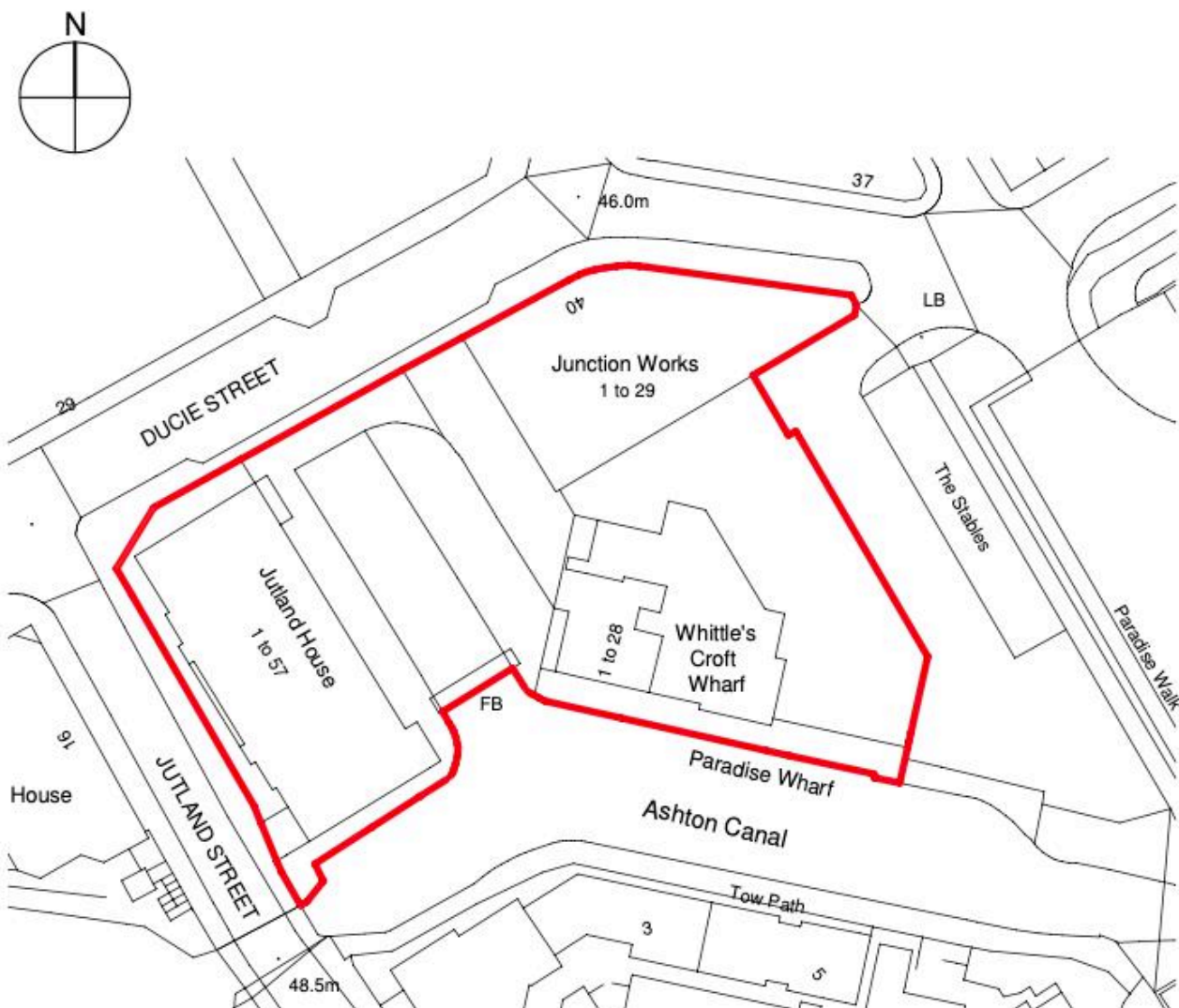
The insulation performance of any replacement glazing, and cladding should have an SRI the same or better than the existing.

The proposed facade constructions have been assessed in accordance with the approved and existing facade elements and comments have been provided.

2.0 SITE DESCRIPTION & PROPOSED DEVELOPMENT

The residential development is located on Ducie Street, Manchester and bounded to the West by Jutland Street, to the North by Ducie Street and to the South by Paradise Wharf and Ashton Canal. Figure 2.1 below shows the site location outlined in red. The site is formed by three residential blocks; Jutland House, Whittle's Croft Wharf and Junction Works. This review includes Jutland House & Whittle's Croft only.

Figure 2.1: Site Location



3.0 EXISTING FACADE ELEMENTS

Figures 3.1 to 3.4 below show the existing glazing elements in Jutland House and Whittle's Croft.

Figure 3.1: Existing Facade Mitigation: Jutland House Southwest Elevation

Jutland House Southwest Elevation



-  = Laminated - inner leaf = 6mm / spacer = 12mm / outer leaf = 6mm
-  = Laminated – inner leaf = 6mm / spacer = 11mm / outer leaf = 6mm
-  = Toughened - inner leaf = 6mm / spacer = 11.9mm / outer leaf = 6mm
-  = Toughened - inner leaf = 6mm / spacer = 11.8mm / outer leaf = 6mm (Communal Window)

Figure 3.2: Existing Facade Mitigation: Jutland House Northwest

Jutland House Northwest



Figure 3.3: Existing Facade Mitigation: Whittle's Croft West Elevation

Whittles Croft West Elevation

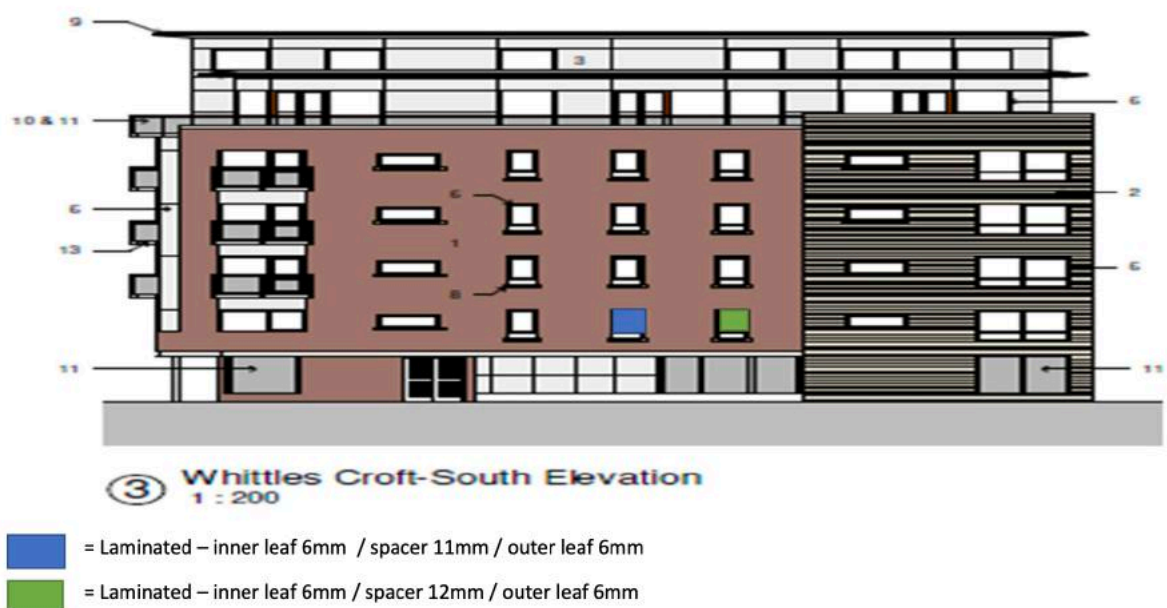


Figure 3.4: Existing Facade Mitigation: Whittle's Croft North Elevation

Whittles Croft North Elevation



1 Whittles Croft-North Elevation
1 : 200

-  = Laminated inner leaf 6mm / spacer = 12mm / outer leaf 6mm
-  = Toughened inner leaf = 6mm / spacer = 11.9mm / outer leaf = 6mm
-  = Toughened inner leaf = 5.8mm / spacer = 12mm / outer leaf = 6mm

A summary of the installed glazing configurations is presented in Table 3.1 below.

Table 3.1: Facade Mitigation Strategy

Key Colour	Installed Glazing & Ventilation
	6mm Laminated Glass 12 mm cavity 6mm Glass 31dB R_w 1 no. 4000mm ² Vent
	6mm Laminated Glass 11 mm cavity 6mm Glass 31dB R_w 1 no. 4000mm ² Vent
	6mm Toughened Glass 11.9 mm cavity 6mm Glass 31dB R_w 1 no. 4000mm ² Vent
Communal Window	6mm Toughened Glass 11.8 mm cavity 6mm Glass 31dB R_w 1 no. 4000mm ² Vent
	5.9mm Toughened Glass 11 mm cavity 6mm Glass 31dB R_w 1 no. 4000mm ² Vent

The external walls comprise a lightweight SFS framed solution as detailed below:

2x layers 12.5mm plasterboard

100mm deep SFS with quilt insulation fitted between studs

40mm PIR insulation fixed to SFS (un-taped joints)

Breather paper

Aluminium angles fitted to SFS (running through PIR and breather paper) 6mm high pressure laminate cladding

Unknown acoustic performance

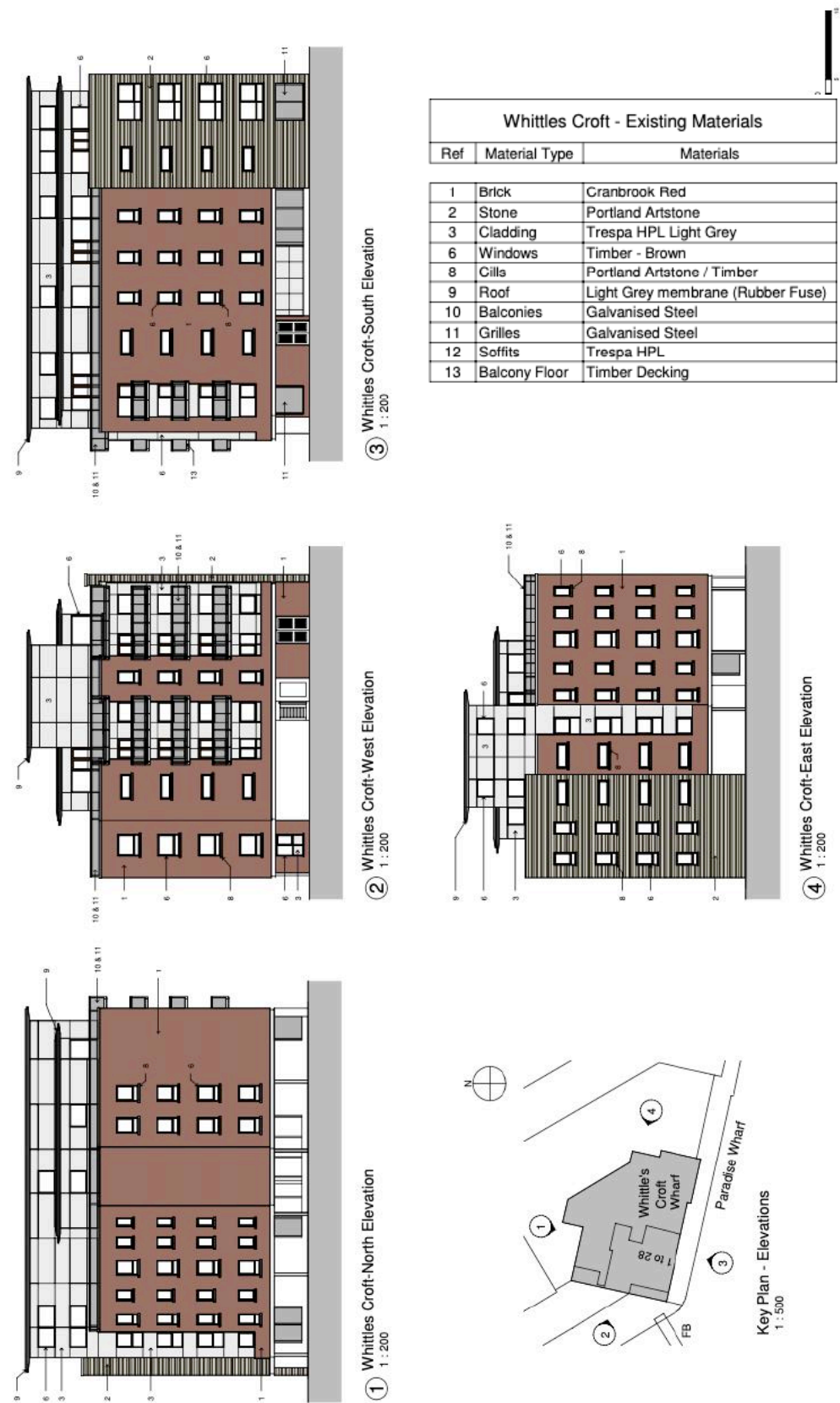
With outer facade elements comprising a mixture of Cranbrook Red Brick, Trespa LPL Lightweight Cladding, Mirrored Stainless Steel and Portland Artstone.

The existing facade elements are detailed in Figures 3.5 and 3.6 below for Jutland House and Whittle's Croft respectively.

Figure 3.4: Jutland House - Existing Elevations



Figure 3.5: Whittle's Croft - Existing Elevations



4.0 FACADE PROPOSALS

In accordance with the requirements of Manchester City Council, the proposed facade constructions are presented below and compared against the existing facade acoustic performance requirements.

SFS Facade

The existing lightweight facade which comprises an internally lined SFS system is to be upgraded by fitting a 12mm fibre cement sheathing board to the outside face of the SFS (all joins sealed with façade tape), changing the PIR for medium density mineral wool, using a helping hand system and installing 4mm Albond cladding. The proposed facade constructions are detailed in Figures 4.1 and 4.2 below for Jutland House and Whittle's Croft respectively.

Figure 4.1: Jutland House - Proposed Facade

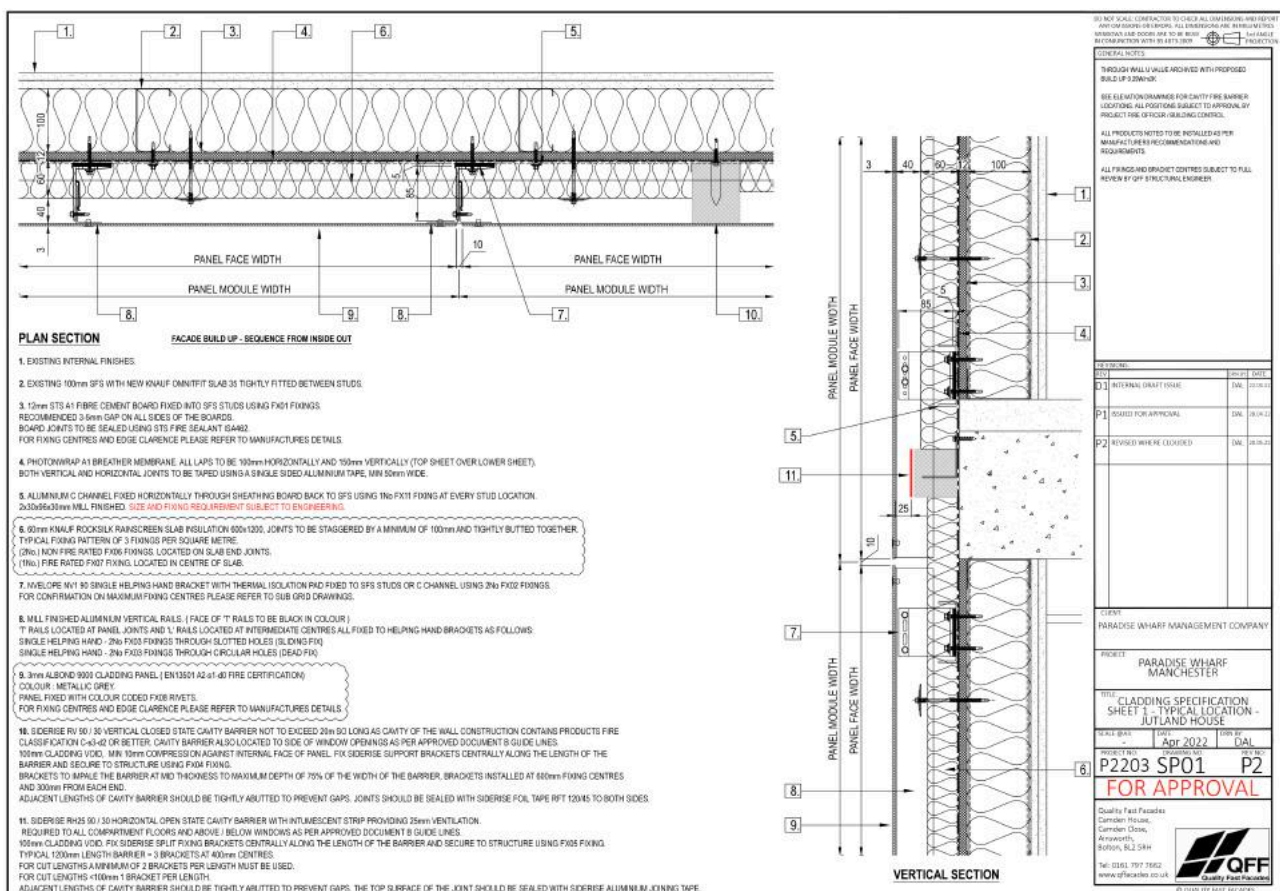
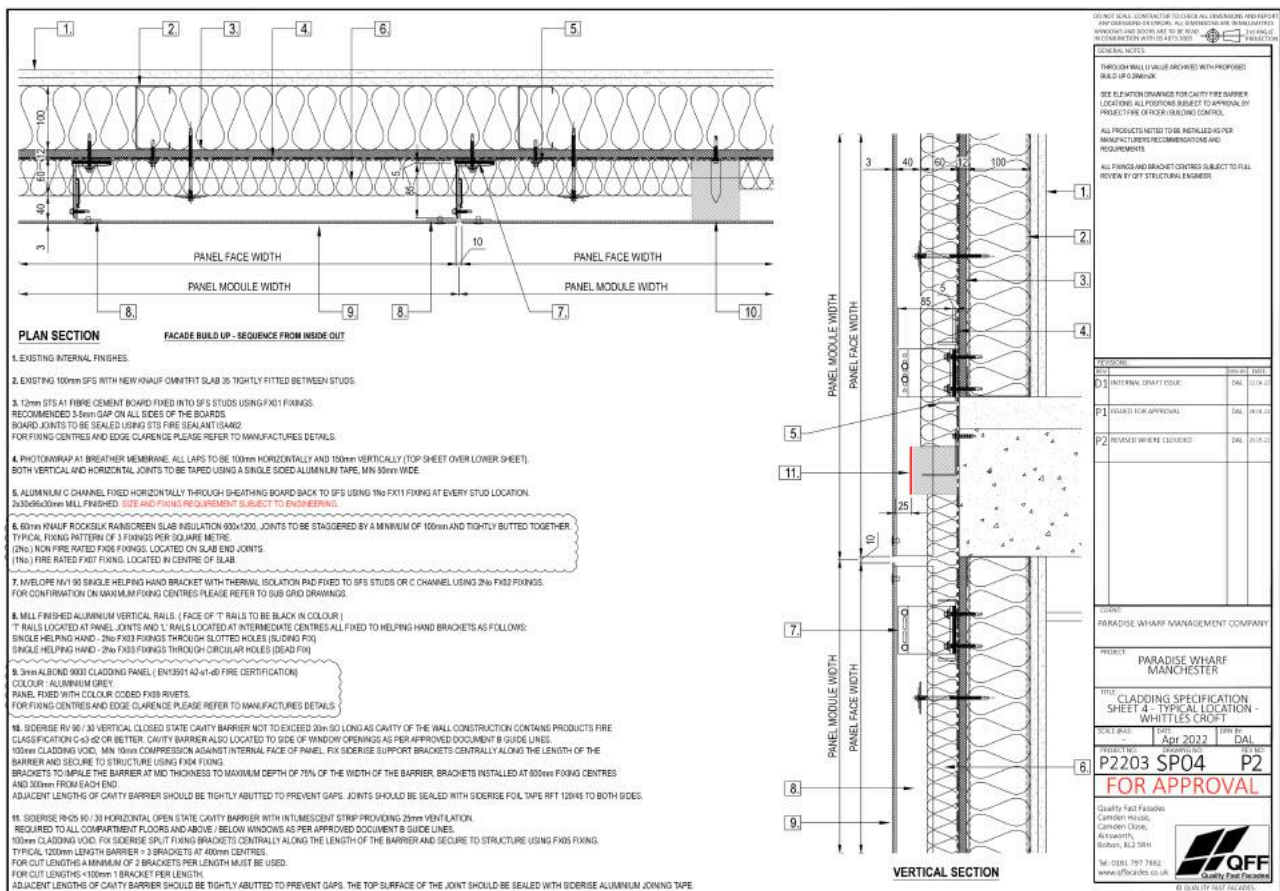


Figure 4.2: Whittle's Croft - Proposed Facade

The predicted performance of the SFS system with internal double boarded lining and external 12mm Fibre Cement Sheathing board is 54dB R_w excluding any external finishes. This construction, with the additional 12mm Fibre Cement Sheathing board will provide an enhanced acoustic performance over the existing facade and is acoustically acceptable.

Although the proposed external cladding / brick elements will provide further acoustic enhancements, these have been excluded from this assessment which covers a review of the installed and proposed SFS external system.

Glazing

All sealed double glazed units on Jutland House and Whittles Croft are currently proposed as:

6mm toughened glass - 18mm cavity - 4mm toughened soft coat glass

Predicted Performance: 32dB R_w

Similarly, it is proposed that all communal windows on Jutland House comprise:

6.8mm glass - 16mm cavity - 4mm toughened soft coat glass

Predicted Performance: 36dB R_w

Patios and French doors would be glazed with:

6.8mm glass - 16mm cavity - 4mm toughened soft coat

Predicted Performance: 36dB R_w

The proposed facade constructions have been assessed in accordance with the approved and existing facade elements and comments have been provided.

5.0 CONCLUSIONS

Red Acoustics Ltd has been commissioned by Quality Fast Facades Limited, to provide an acoustic review for changes to the facades at the residential development site at Paradise Wharf, Ducie Street, Manchester.

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The proposed facade constructions have been assessed in accordance with the approved planning stage acoustic strategy and comments have been provided.