

Condition 3c: Quality Control plan.

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CLIENT Axis RE

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1.0 INTRODUCTION

The Purpose of this document is to set the quality control procedure for the selection, design ,delivery and installation of the external Façade at the proposed development at Tariff St, Manchester

The construction of 1NQ and Clements Building, Tariff St in Manchester represents a significant undertaking, requiring meticulous attention to detail, adherence to regulatory standards, and a commitment to delivering excellence in every aspect of the project. To ensure the successful completion of this endeavour, a robust Quality Management Process has been developed to govern all construction activities and ensure that the final result meets the highest standards of quality, safety, and performance.

The Quality Management Process outlined for this project encompasses a comprehensive framework designed to establish clear objectives, define responsibilities, and implement rigorous quality control measures at every stage of the construction process.

The external facade consists of a full brick external envelope/cavity/FCS internal and incorporates powder coated windows and part cladding system as detailed below. (fig 1.)

2.0. SUBCONTRACTOR SELECTION AND MANAGEMENT

The selection of the right subcontractor for Tariff St development is paramount to achieving the required quality expected by both Contractor and the Client.

There are a number of basic factors to identify suitable subcontractors:

- Financial strength to sustain the required cash flow.
- Quality management
- Standard of workmanship
- Adequacy of experienced staff
- Number of relevant projects completed.
- Adherence to programme
- Sufficiency of resources
- Provision of safety information & current safety performance
- Price
- Past relationships
- Current workload
- Reputation

3.0 ROLES AND RESPONSIBILITIES -INTRODUCTION TO THE TEAM

Architect: Leech Rhodes Walker

Role: Leach Rhodes Walker (Architect) are responsible for creating the initial design concept and architectural drawings for this project. They play a crucial role in establishing the overall vision, aesthetic character, and functionality of the building.

Responsibilities:

Develop architectural concept and schematic designs.

Prepare detailed architectural drawings, elevations, and specifications.

Specify materials, finishes, and design elements.

Review and approve material samples for conformance with design intent.

Collaborate with engineers, consultants, and contractors to ensure design integrity.

Provide input and guidance throughout the construction process to maintain design coherence and quality.

Sign off on material selections and architectural details to ensure compliance with design standards and specifications.

Project Director: United Living

Role: The United Living project manager oversees the planning, execution, and completion of the construction project. They act as the central point of contact between the client, design team, contractors, and other stakeholders.

Responsibilities:

Develop project plans, schedules, and budgets.

Coordinate activities of the design team, contractors, and subcontractors.

Manage project resources, procurement, and contracts.

Monitor project progress and performance.

Mitigate risks and resolve issues as they arise.

Ensure compliance with regulatory requirements and quality standards.

Facilitate communication and collaboration among project stakeholders.

Design Team/Design Manager (United Living/Leach Rhodes Walker/Fairhurst's/TPM Landscapes)

Role: The design team consists of United Living Design team, Architects, Engineers, and consultants responsible for developing and refining the project design.

Responsibilities:

Develop detailed design drawings and specifications.

Conduct structural, mechanical, electrical, and other engineering analyses.

Specify building systems, components, and materials.

Review material samples and provide input on their suitability.



Coordinate design efforts to ensure integration and coherence.
Address technical challenges and optimise design solutions.
Assist in resolving conflicts or discrepancies between design intent and construction realities.

Quality Control Inspector: United Living/Cladtech

Role: The quality control inspector is responsible for ensuring that construction materials and workmanship meet specified standards and requirements. United Living and the Client have appointed Quality Control inspectors for the project. Each appointed sub-contractor will have an appointed quality control inspector on site.

Responsibilities:

Conduct inspections of materials, components, and construction activities.
Verify compliance with design specifications, codes, and regulations.
Identify defects, deficiencies, or deviations from quality standards.
Document inspection findings and maintain records.
Coordinate with contractors to address non-conformities and ensure corrective actions are taken.
Monitor ongoing construction to maintain quality and safety standards.

Sub-Contractors and Suppliers:

Role: Contractors and suppliers are responsible for executing the construction work and supplying materials as per the design and specifications.

Responsibilities:

Procure and deliver materials according to specifications and schedules.
Install materials and components in accordance with design drawings and industry standards.
Coordinate with subcontractors and trades to ensure timely completion of work.
Implement quality control measures to ensure workmanship meets standards.
Address any issues or concerns raised during construction.
Provide input on material selection and availability.

Each member of the team plays a crucial role in ensuring the successful execution of the construction project, with Leach Rhodes Walker (Architect) providing design oversight and recommendation on material selections to maintain design integrity and quality standards.

4.0 INTERFACE MANAGEMENT

4.1 Interface Management (between component materials) and Contractual Responsibility for this.

Scope Definition: The project contract clearly defines the scope of work for each party involved in the project, including responsibilities related to interface management.

Interface Identification: The project team, including designers, engineers, and contractors, have identified critical interfaces between component materials early in the project planning phase. This involved reviewing design drawings, specifications, and other project documents to identify potential interface issues and risks.

Risk Assessment: Once interfaces were identified, the project team conducted a risk assessment to evaluate potential risks associated with interface management. This included assessing the likelihood and impact of interface-related issues such as material incompatibility, dimensional discrepancies, and construction sequencing conflicts.

Interface Coordination: The United Living project management team is responsible for coordinating interface management activities between different parties involved in the project, including material suppliers, subcontractors, and specialty trades. This involves establishing communication channels, facilitating collaboration, and resolving interface-related issues in a timely manner.

Quality Assurance: Contract documents include provisions for quality assurance measures related to interface management. This includes requirements for material testing, inspections, and verification of compatibility between component materials.

Change Management: Interface management often requires adaptation to changes during the construction process. Contract documents include provisions for change management procedures, including how changes to component materials or design revisions impacting interfaces will be addressed, documented, and communicated to relevant parties.

Contractual Clauses: Specific contractual clauses include to allocate responsibilities and liabilities related to interface management.

Performance Monitoring: The United Living project management team have established performance metrics and monitoring mechanisms to track interface management activities and ensure compliance with contractual requirements. This will include regular progress meetings, inspections, and reporting on interface-related issues and resolutions.

The scheme involves a full depth brick outer façade in a stretcher bond configuration with bucket handle mortar joints on masonry support system (alternate floors) / 57.5 mm clear cavity/150mm full fill cavity insulation/100mm SFS with 100mm Insulation.

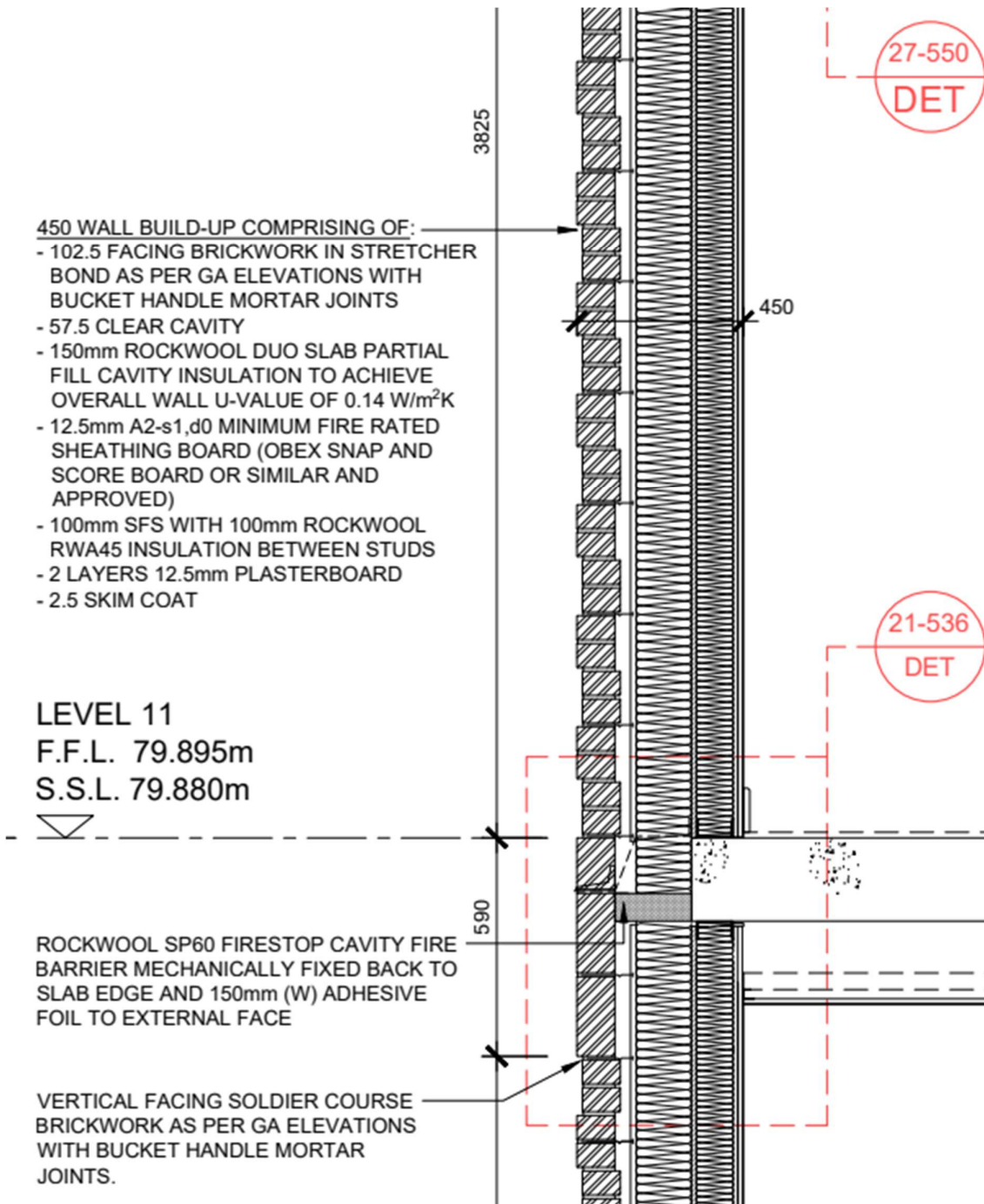


Figure 1 External Facade Make up.



Figure 4 Rainscreen location (in brown)

5.0 MATERIALS

Each material with the Façade has been chosen to complement each other both in aesthetics and durability.

Brick Façade

1NQ facing brickwork:

Manufacturer: Vandersanden

Type: Mottram Multi

Manufactured to BS En 771-1

Fire Rating A1

Clements facing brickwork:

Manufacturer: Vandersanden

Type: Broadstone Buff Multi

Manufactured to BS En 771-1

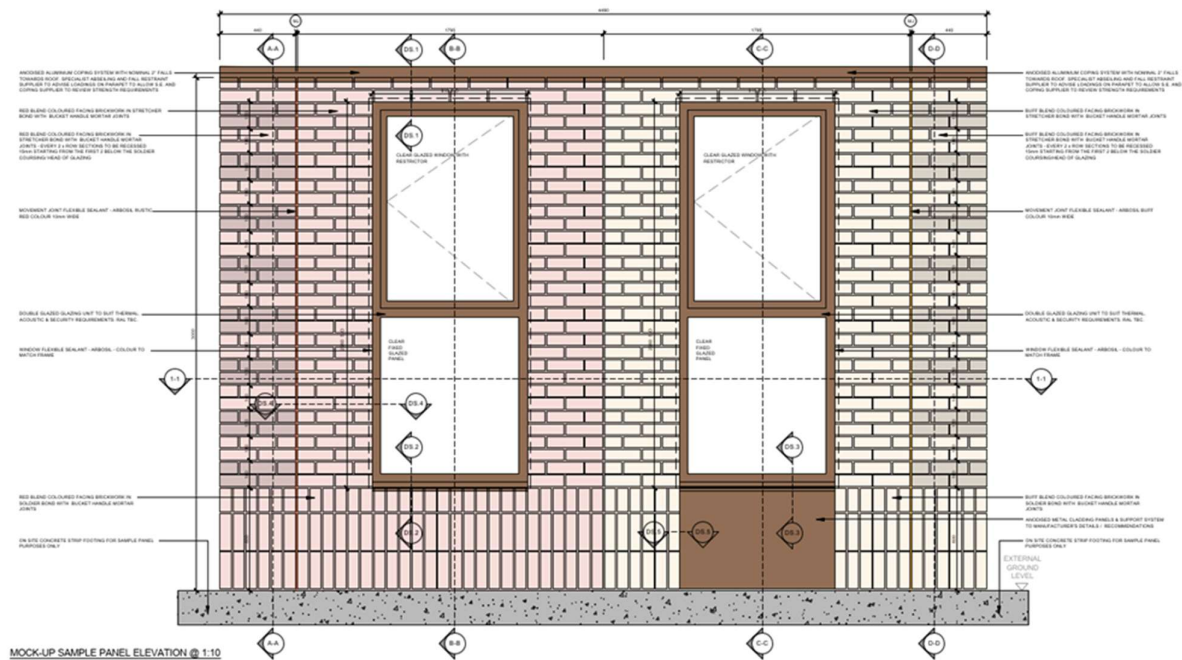
Fire Rating A1

Rainscreen/Windows and Coping materials

To be powder coated aluminium finished as per sample panel specification.

5.0 SAMPLE PANEL

A sample for the materials will be constructed on site for sign off by both the project Architect and Manchester City Planning Department.



This panel will incorporate all elements within the facade make up including the following –

- External Brick Finish for both brick types with brick detailing as per Architectural Detailing.
- Mastic expansion joints.
- Mastic Sealant to windows.
- Powder Coated windows.
- Rainscreen detail.
- Coping detail.

The panel will be constructed then snagged prior sign off by the Architect and Manchester City Council planning department.

6.0 OFF SITE AND ONSITE MANAGEMENT

Our process to maintain a high level of standards are –

Supplier Selection: We choose reputable suppliers with a track record of delivering high-quality materials. We conduct thorough assessments of potential suppliers to ensure they meet quality standards and have appropriate certifications and Warranties.

Material Inspection: Implement rigorous inspection procedures to assess the quality of materials upon delivery to site. This may involve visual inspections, testing, and verification against specifications.

Quality Control Processes: Establish comprehensive quality control processes throughout the build stages. This includes defining quality criteria, conducting regular inspections, and addressing any deviations promptly.

Employee Training: Each subcontractor to provide training to personnel involved in handling of products. Ensure they understand quality requirements, proper handling procedures, and how to identify and address potential issues.

Traceability and Documentation: United Living will maintain detailed records of materials used in each component or module. This allows for traceability in case of defects or quality issues and facilitates effective quality management. We will do this through the request for EDP's and any certification required for Warranty.

Supplier Communication: United Living will maintain open communication channels with suppliers to address any quality concerns promptly.

Testing and Certification: United Living will obtain relevant certifications to demonstrate compliance with industry standards.

Final Inspection: United Living will perform a final inspection of completed components or modules before handover. This ensures that only products meeting quality standards are delivered to the project site.

Damage Mitigation and Resolution

United Living have adopted a mitigation and resolution strategy in relation damaged materials on site:-

Remediation Process for Damaged Materials

1. Immediate Action and Assessment (Site Team)

- **Stop Work:** Immediately stop any work related to the damaged materials to prevent further issues.
- **Isolate Area:** Secure and isolate the area to ensure safety and prevent additional damage.
- **Initial Assessment:** Conduct a preliminary inspection to assess the extent and type of damage.

2. Documentation and Reporting (Operations Team)

- **Photographic Evidence:** Take clear and detailed photographs of the damage from multiple angles.
- **Damage Report:** Prepare a comprehensive damage report that includes the date, time, location, description of the damage, potential causes, and initial impact assessment.
- **Notification:** Inform relevant stakeholders, including the project manager, site supervisor, and quality control team, about the damage.

3. Detailed Inspection and Analysis (Operations Team)

- **Expert Evaluation:** Engage experts or a specialist team to conduct a thorough inspection and analysis of the damage.
- **Material Testing:** If necessary, perform material tests to determine the impact of the damage on structural integrity and safety.
- **Root Cause Analysis:** Identify the root cause of the damage, whether it occurred during transit, handling, or installation.

4. Remediation Planning (Operations Team/Client)

- **Remediation Options:** Develop and evaluate remediation options, considering repair, replacement, or alternative solutions.
- **Cost and Time Impact:** Assess the cost and time implications of each remediation option.
- **Approval:** Present the remediation plan to stakeholders for approval. Ensure the plan aligns with project timelines and budgets.

5. Implementation of Remediation Plan(Site team)

- **Resource Allocation:** Allocate necessary resources, including labour, materials, and equipment, to execute the remediation plan.
- **Execution:** Carry out the remediation work as per the approved plan. Ensure that all work is performed according to safety and quality standards.
- **Quality Control:** Conduct continuous quality control checks during the remediation process to ensure adherence to standards.

6. Final Inspection and Verification

- **Inspection:** Perform a final inspection of the remediated materials and work area to ensure all issues have been addressed.
- **Verification:** Verify that the remediated materials meet the required specifications and quality standards.
- **Sign-Off:** Obtain sign-off from the quality control team and relevant stakeholders.

7. Documentation and Reporting

- **Completion Report:** Prepare a detailed report documenting the remediation process, actions taken, and final outcomes.

- **Records:** Maintain records of all reports, inspections, and verifications for future reference and accountability.

8. Preventive Measures

- **Review Procedures:** Review and revise handling, transit, and installation procedures to prevent similar damage in the future.
- **Training:** Provide additional training to personnel on proper handling and care of materials.
- **Supplier Communication:** Communicate with suppliers and transporters to improve packaging and transit conditions.

Example Scenario

Situation: During transit, several glass windows building façade are found to be cracked upon arrival at the site.

Remediation Process:

1. **Immediate Action:** Stop unloading the glass panels and secure the damaged panels.
2. **Documentation:** Take photographs and prepare a damage report detailing the extent and possible causes of the damage.
3. **Remediation Plan:** Order replacement panels due to the extent of the damage. Assess the impact on the project timeline.
4. **Implementation:** Expedite the order for replacement panels and arrange for safe disposal of the damaged panels.
5. **Final Inspection:** Inspect the new panels upon arrival and ensure they are installed correctly.
6. **Documentation:** Prepare a final report documenting the damage, remediation steps, and preventive measures.
7. **Preventive Measures:** Review and improve packaging and handling procedures with the supplier to avoid future damage.

By following a structured remediation process, United Living can effectively manage and mitigate the impact of material damage, ensuring quality and safety are maintained.