

St Gabriel's Student Accommodation Manchester

McLaren Construction

July 2023



Project Quality Plan

	Position	Name	Sign	Date
Prepared by				
Reviewed by				
Authorised by				

	Date		3 Monthly Review Record		Reviewed by:	
	Planned	Actual	Purpose and details of amendments	Issue	Contract Head	Quality Manager
1						
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1. Introduction

The primary document on all McLaren projects is the Safety, Health, Environmental, Quality Management Plan (SHEQ Management Plan). The SHEQ Management Plan identifies project specific methods and strategies for achieving the level of compliance required, within the framework of the McLaren Management Procedures (MMP). The St Gabriel's Project Quality Plan sits within the SHEQ Management Plan.

The principal aim of this document is to set out a systematic quality framework for the construction and management of the project works in accordance with the contract requirements, specification and procedures.

This Quality Plan will describe how the project quality compliance aspects will be managed by listing the specific resources, responsibilities and procedures for managing these aspects, describing the procedures and checks necessary to construct the works.

The procedures adopted for the project will be selected from McLaren Management Procedures and amended to suit the project requirements.

This Quality Plan and its associated procedures will be approved by the Project Manager and utilised by the Project Team. The plan will be reviewed on a quarterly basis or when there is a significant change in the project. The Project Manager for the contract must approve any amendments.

The Quality System operated on each project is audited and improvement opportunities will be sought.

1. The Contract

Contract Details	
Name:	David Atherton
The Client:	McLaren Properties
Client's Representative(s):	Anthony Smith, Arcadis
The Designer(s):	Simpson Haugh, Meinhardt, ProMEP
The Principal Contractor:	McLaren Construction
Contract Type:	Design & Build
Form of Contract:	JCT D&B
Specification(s):	NBS with adaptations by
Framework Contract?	N/A
Contract Value:	30m
Contract Award Date:	December 2023
Contract Start Date:	May 2025
<i>Contract completion / end Date:</i>	N/A
Sectional Dates:	N/A
Defects Liability Period:	12 Months
The Contract Documents:	

2. Outline Scope of Works

The development comprises of a 318 bedroom student accommodation scheme for McLaren Property on the site of the St Gabriel's chapel and lodge in the Victoria Park Conservation Area, Rusholme, Manchester.

The site is 0.88ha and runs along Oxford Place at the edge of the conservation area. The site is currently a series of vacant existing buildings; St Gabriel's lodge (dating from the late 19th century, extended in 1922), Chapel (1962), Woodthorpe Hall (1939) and St David's Hall. Up until recently St Gabriel's Hall / Woodthorpe Hall were used as student accommodation with St David's Hall used as a Place of Worship / Indoor Sports or Recreation.

3. Quality Statement

By effectively managing processes designed to deliver quality compliance, we can be confident in meeting both the needs of McLaren and those of our customers.

By understanding compliance, we can instil a level of confidence that we will provide an effective and reliable product for our Client. This will not only develop partnership with our stakeholders but improve our financial outcome by providing what is required to the standard required first time.

4. Standards

We will work in accordance with the relevant industry standards and codes of practice. Quality will be managed and monitored in line with ISO9001, ISO 14001, ISO45001. This will be managed via:

- SHEQ Management Plan
- Project Quality Plan
- Training and Competence
- Design Management
- Subcontractor Procurement
- Quality Controls (Inspection & Test Plans)
- Agreed Samples
- Quality Audits & Inspections
- Management of Non-Conformances
- Task Management
- Reporting and Record Keeping

5. SHEQ Management Plan

The purpose of the SHEQ Management Plan is to assist the McLaren contract team to realise the requirements placed upon it. In particular it aims to:

- Support Communication of the business' mission, vision, values, policies, objectives, strategies and processes.
- Act as the construction health and safety plan where CDM applies.
- Overview the roles, responsibilities and arrangements in place to deliver customer, regulatory and internal requirements.
- Inform internal and external stakeholders of the resources and processes employed.
- Act as a gateway to the contract's processes, information and data.
- Constitute an integrated quality, safety and environmental management plan.
- Support senior staff inductions and day to day contract management.

It has been designed and structured around three principal elements as illustrated below:

- Requirements: what we have to do.
- Resources: what have we got to do with it?
- Methodology: how are we going to do it?

The SHEQ Management Plan will be reviewed as a minimum monthly and as required if the working environment changes sufficiently to warrant a review. Additionally, the Project Director will ensure a review is undertaken in advance of all key milestones / partial and complete handovers / demobilisation.

McLaren experience shows that the last few months of any project are critical to the success of any project. McLaren require all projects to prepare a specific close down plan that addresses how the project is to be controlled over the latter stages to ensure standards are maintained. For construction related contracts

guidance is available for the preparation of the Flying Finish document (12 weeks to go) Appendix B. This plan will link into the remaining Soft-Landing requirements.

6. Project Quality Plan

The SHEQ Management Plan is underpinned by a series of controls that ensure quality compliance. This quality plan will detail specifically the procedures, records and forms relative to managing quality within the project. Incorporated within the procedures will be the following strategies: Risk Management, Value Engineering and the Commissioning Plan.

The Risk Management Strategy will be developed by the construction team. The Value Engineering strategy will be developed by the construction team. The Commissioning Plan will be led by the Commissioning Manager in conjunction with the Client nominated representative.

The principal control document used to ensure the specified quality requirements are met within each package is the Inspection and Test Plan (ITP). The ITP will be produced by the specialist contractor and approved by McLaren before commencement of works on site. The ITP will identify the hold points, inspections, tests and records necessary to ensure the package of work is carried out to the specified quality required. The plan will be generated via reference to relevant standards, acceptance criteria, specification and design drawings.

It is essential at the commencement of any package of works to establish the standard of workmanship and end quality requirements. The ITP will be produced by the specialist contractor, checked by the McLaren Site Manager for adequacy and in addition checked by the McLaren quality team to ensure that the ITP is checked against the relevant specification to ensure that test requirements are satisfied.

7. Project Roles & Responsibilities

7.1 Project Organisational Chart

The project organisational chart is located within the SHEQ Management Plan Section 9. The project organisational chart will be displayed at site level on the main notice boards. This chart details the hierarchy of management within the project. Refer to **Appendix A** for the Construction Delivery Team organisation chart. The project roles and responsibilities are described within the SHEQ Management Plan.

7.2 Roles

The following roles are key to the Assurance of Quality of the project:

- Appointment of suitable McLaren staff – Operations Director
- Approval prior to appointment of Designers – Operations Director
- Approval prior to appointment of Contractors – Operations Director
- Prepare stakeholder management plan – Project Manager
- Agreeing scope of the various design appointments including s/c – Design Manager
- Ensuring the various design elements are co-ordinated – Design Manager
- Receiving, checking and issuing documents to Client/Project Manager – Design Manager, Document Controller
- Agreeing Schedule of Samples with Authority – Design manager
- Designers and Contractors operating own QA process – All designers and contractors
- Off-site auditing of Designers – Design Manager
- Onsite Quality Auditing of works – Quality & Compliance Manager
- Site Quality Champion – Project Manager
- Site NCR Co-ordinator – Senior Site Manager

- Inspection & Test Plan Co-ordinator – Senior Site Manager
- Approval of Inspection and Test Plans – Package Manager
- Supervision of works – Trade Contractor Supervisors

7.3 Quality Principal Point of Contact

The principal point of contact for all quality management issues is the Project Director / Project Manager. The role of the quality principal point of contact is to ensure the management and delivery processes are implemented and ensuring that the project quality performance data is reported to the Client / Clients Representative.

7.4 Liaison with Client

The Client will appoint a representative who will interface with the construction site team on a daily basis. The McLaren Senior Site Manager will be responsible for the day-to-day monitoring of construction progress, quality of work and conformity of the works. The Senior Site Manager will agree with the Clients representative suitable hold points on a monthly look ahead basis and ensure the Clients representative is invited at the appropriate time giving a minimum of 1 working day notice.

This monthly look ahead will also flag up notices to be given for attendance to witness any element of the testing and / or commissioning, with final confirmation of date and timing given 2 working days in advance.

Schedule of inspections will be agreed with the client to witness fire stopping and other similar fire safety measures. A reasonable timescale is required for inspections.

A stakeholder management plan including all other Client subject matter experts will be developed after appointment to ensure they are engaged with the project at the appropriate stage, both in terms of design development and during the construction phase.

8. Organisation and Management of Meetings

8.1 Setting-up meetings

All meetings, whether requested by McLaren or the Client must be requested and set up through the McLaren project office so that an up-to-date calendar can be kept.

8.2 Meeting Minutes / Action Notes

McLaren personnel shall make a record of all meetings which are to be forwarded to all meeting attendees. All meeting minutes should clearly indicate:

- Meeting subject
- Meeting organiser
- Meeting distribution list
- Meeting number sequence.
- Meeting location, date and time
- List of attendees and non-attendees
- SMART actions by whom and by when.

Agendas should be prepared by the organiser of the meeting and issued to all attendees prior to the meeting.

8.3 Meetings with the Client or Clients Representative

At the regular monthly meeting the following information will be presented

- Record of progress
- Record of delays, including those which may trigger Delay Events and/or Compensation Events.
- Record of any issues related to Building Control, Town Planning, Public Utilities and the Fire Authority.
- Any interface problems with the Works.
- Matters relating to the design, specification and delivery and / or installation of Equipment.
- Response to requests for extension of time.
- Report on the effect of Variations.
- Health and safety issues.
- Problems with workmanship (including quality and NCRs)
- Summary of outstanding information.
- Summary of document review process
- Report on any conflict between the Client's Construction Requirements and Proposals and respond in accordance with the process defined in the Project Agreement
- Inform the Client of issues relating to any of the above and proposed actions to bring the work back on course.

8.4 Package Progress Meetings

Regular formal meetings are established with the trade contractor in order that their performance and progress can be reviewed, based upon an agenda which is notified before each meeting to discuss future requirements and problem resolution. Whilst the norm would be to hold these meetings on a weekly basis the actual frequency may vary based upon the operational needs of the project and the nature, size and scope of the package.

Regular close out forums will be held to address any unresolved issues which will be escalated to McLaren Senior Management for direction on suitable resolution regarding key trade contractors, those that are partnered or those with a major element of the Works.

8.5 Trade Contractor Interface and Co-ordination Meetings

Where trade contractors' interface with each other through their construction detailing or proximity of the work faces, joint meetings / workshops will be established and organised by McLaren.

9. Training and Competence

In the first instance the Project Director / Project Manager will select the contract team from experienced staff currently available for transfer. Where necessary and as soon after commencement on the contract as possible, staff undertake training in order that required levels of competence are met.

The Project Director / Project Manager will ensure that Personal Development Plans arising from contract team Personal Development Reviews are managed through the Training Request system. Staff development needs, to either maintain or further develop competence are identified through the appraisal / review process and other 'one to ones' meetings, records of which are maintained on file by the Contract.

Training and competence is managed as described in the McLaren Management Procedures (MMP). We will maintain a Technical Competency Training Matrix detailing the training undertaken by Staff. This will be updated as part of the personal development review. A Competency Based Assessment regime is in place to ensure compliance.

The purpose of the Technical Competency Matrix (TCM) is to provide a structure for the development and assessment of technical skills of McLaren's operational staff. This is both to enable each employee to satisfy the necessary training needs for their role and support their career development goals. It also has two roles for the business. Firstly, it enables the business to plan and deliver training to meet its technical requirements. Secondly, it is a tool to support project management in developing its Project Nominations and Project Training Plan and identifying any gaps in its current and foreseeable technical competency skill set requirements. A blank TCM is attached in **Appendix C** with live documents filed on a O-drive file. Prior to starting works all operatives will undertake induction training. This will set out McLaren's expectations in relation to quality. As part of this process McLaren will check to ensure the attendees have the appropriate competence training and have been trained on the task specific Method Statement and Risk Assessments. For "black hat" supervisors there is an additional induction setting out McLaren's expectations for supervisors and the key role they are expected to play in achieving a quality product.

All specialist contractors will be required to carry out a programme of continuing training throughout the time they are involved in the project. McLaren will ensure these are focused on the key risk areas of the project, in terms of Safety, Health, Environmental and Quality. This will primarily take the form of Toolbox Talks, which are short focussed on-site supervisor led weekly sessions.

- a programme of talks will be produced and supplied to site management
- records of attendees and the subject matter should be kept and forwarded to site management
- all talks should be relevant to activities taking place on site
- before the talks are concluded there should be an open forum for the workforce to raise any concerns regarding Safety, Health, Environmental, and Quality matters
- any points raised by the workforce should be forwarded to McLaren before the end of the working day

10. Design Management

McLaren will use A-Site, an on-line collaborative working package to share all other information with the designers, subcontractors, and the Client.

Emails - On award of contract McLaren will set up a dedicated email inbox for the project.

Hard correspondence to McLaren should initially be sent to:

McLaren Site Offices,

St Gabriel's Chapel

Oxford Place

Manchester

M14 5RR

10.1 *Quality at design stage*

McLaren's Best Practice

- Where practical keep it simple
- Early dialogue with subcontractors and Client SMEs
- Creating the culture - quality starts at this stage and works right through to completion
- Avoid changes once design is set
- Check design details are buildable and achieve the vision
- Standardise details and layouts
- Hands-on design workshops with interfacing contractors
- IRS fully integrated with procurement, manufacture and construction
- Create interface details that are seamless when areas can be completed
- Agree and stick to a protocol for all other elements

The **Design Manager** will:

- Set out and enforce a convention for logos, document numbering, title blocks and revision control.
- Develop an information release schedule in conjunction with the various designers setting out the, what, who and when of all the design deliverables.
- Monitor progress against this information release schedule.
- Hold regular workshops and review meetings with all parties responsible for design.
- Maintain a register of Client and statutory stakeholders and develop a plan to engage with them in a timely manner.
- Review and comment on design information paying particular attention to ensure it is co-ordinated, buildable, and compliant with the employers and other requirements.
- Check and sign off the completeness and compliance of all submissions prior to the submission being made to the Client.
- Review Client comments made and assigning actions to the relevant designers and monitoring these actions to closure.
- Where required present design at formal review meetings.
- Carry out monthly site inspections to view the ongoing compliance of the installed works.
- Collate information and compile the Health and Safety file in conjunction with the CDM Co-ordinator.
- Collate information and compile the Operations & Maintenance Manual.

The **designers** (including contractors with design obligations) will:

- Ensure their design is fully compliant with the Clients requirements prior to issuing to McLaren.
- Attend meetings and workshops.
- Respond and close out comments in a timely manner.
- Eliminate hazards and reduce risks during design.
- Provide information about remaining risks.
- Provide any information needed for the O&M Manual and health and safety file.

10.2 **Change Control**

Changes identified by any means i.e. Client instructions; revised documents; technical queries clarifying design or specification issues; verbal instructions; changes due to site circumstances; that affect quality are registered, reviewed, agreed and communicated to relevant persons to ensure that the agreed changes are incorporated into the works.

Controlled documents will be marked up to reflect the change or in the case of obsolete documents will be removed from active files. The **Project Quantity Surveyor** is responsible for maintaining a register of changes and their impacts.

11. Subcontractor Procurement

Subcontractors will be assessed, selected and procured in accordance with McLaren Supply Chain procedures which include the requirement for each subcontractor to have successfully completed a health, safety and quality competence assessment. The competency assessment and registration schemes used include industry acknowledged competence schemes (Achilles) and registration to UKAS accredited certification bodies for core disciplines including health and safety, environment and quality.

Details of proposed subcontractors are submitted to the Client / Client Representative. A register of accepted subcontractors is / will be maintained on the contract.

11.1 *Management of Subcontractors*

McLaren ensures that all subcontractors are provided with the information that they need to enable them to carry out their work safely and without risks to health. Requests for information are met promptly.

Personnel are not permitted to undertake specialist tasks unless they or their employers can demonstrate that they have received adequate training to carry out the work properly, without risk to health and safety, the environment or quality of workmanship / service delivery.

All subcontractors, including Statutory Undertakers and maintenance contractors are subject to appropriate operational controls to ensure their activities are carried out safely, without damage to the environment and without affecting the quality of the works.

11.2 *Assessment and Procurement of Trade contractors*

All trade contractors are required to submit Quality Plans. All trade contractors are required to comply with the McLaren Project Quality Plan.

McLaren procurement and supply chain managers will vet potential trade contractors to ensure they have a suitable certified management system to deliver the product or service required.

All trade contractors are required to submit details of policy statements, personnel, non-conformances including complaints, prosecutions, prohibition notices and accident records to support their selection. They will not be allowed to commence work until such time as the above process has been completed successfully and the company accredited.

Where non-conformances have been identified, McLaren will require to be satisfied that the supplier has taken appropriate corrective action to improve systems, methods and/or workforce.

Documented references will be sought, on a project-by-project basis, from previous employers to demonstrate the trade contractor's ability effectively to manage health & safety, sustainability and quality, on where possible, similar works.

Once trade contractors have successfully passed this initial assessment, a pre-start meeting will be held with the relevant members of the operational team including the SHEQ manager and any other specialists as required. The purpose of this meeting is to review and comment on the trade contractors proposed working methods as specified within the trade contractor's quality plan or inspection and test plans. This will also identify any specific hazards or requirements they may not already be aware of. For example: welfare arrangements, method statements, inspection regime, record management and the like.

Periodically, each trade contractor's performance will be assessed, and the results fed back through to McLaren Supply Chain management.

Any areas of underperformance will be notified to the trade contractor who will be required to remedy the situation or risk losing their "approved" status.

11.3 Trade Contractors Project Quality Plan Review

The specialist trade contractors Quality Plan will be reviewed to ensure compliance with the following:

- The plan should be constructed in accordance with BS EN ISO 9001 / 14001
- The plan must identify the scope of work and detail the major processes involved in carrying out the trade contract works.
- The plans must identify the quality control measures to be applied to each process/activity.
- The plan must identify how the verification records that are required to ensure the quality control measures will be maintained.
- The plan must identify or list the trade contractors control procedures involved in the execution of the full scope of works.

Prior to the trade contractors works commencing, McLaren will review the trade contractors Quality Plan, Inspection and Test Plans and Method Statements to enable sufficient opportunity to action any comments raised.

If the plan is deemed unacceptable, remedial actions will be requested of the trade contractor to improve the plan. The plan will be resubmitted for acceptance.

12. Quality Control

12.1 Document Control

Documentation is controlled by the issuing or receiving function.

- All incoming and outgoing general correspondence is controlled by the Office Manager / Administrator.
- All incoming and outgoing drawings, samples and specifications are controlled by the Document Control Manager.
- All other documents on the project are controlled by the appropriate function head.
- Where appropriate, documents will be scanned and held on the collaborative database Asite and / or the project O:\drive.

All contractually significant correspondence will be issued under cover of a McLaren headed letter / purchase order signed by an authorised person. Advance copies of such correspondence may be forwarded by Email to the recipient for information. Use of Emails for communicating between parties is for information only.

The Project Quality Plan is underpinned by a series of controls that describe document control process which may require local project specific procedures to be introduced as necessary.

Local records may be maintained by project personnel for the proper management of their function and may be filed and stored in a manner which demonstrates compliance with ISO9001:2015 Cl 4.2.3(d) (e) and (g).

12.2 *Material Control*

McLaren will ensure effective controls are implemented and maintained by the trade contractors through their Inspection and Test Plans to control material compliance on site.

Package managers will check compliance at each operation stage through review of the specification, purchase order, delivery ticket and certificates of conformance. Additional checks may include:

- Check of quantities ordered v quantities delivered
- Check of transportation damage identification
- Arrangements for the return of goods or services
- Quarantine for segregation of materials until compliance can be verified
- Matrix of Authorisation to ensure materials are approved by competent personnel.

12.3 *Handling, Storage and Logistics*

All materials delivered to the work site remain the responsibility of the appropriate trade contractor. Each trade contractor shall be responsible for the protection and preservation of their materials until the Completion Certificate is issued.

McLaren will allocate designated storage areas to each trade contractor for them to ensure the integrity of the product is maintained.

McLaren will specify methods for controlling and maintaining product quality during material movements by tower cranes and other methods as detailed in appropriate logistic plans and method statements. Protection of the works, or partially completed works will be carried out in accordance with the appropriate plan.

12.4 *Deliveries*

Material deliveries for the various contractors will be coordinated to prevent disruption to other project activities, programme and local residents.

12.5 *Product Identification and Traceability*

There are elements of the Works where a degree of traceability is required such as in the following two examples:

- Design manufacture and installation of structural steel to ensure each steel member is fixed in the correct location and orientation.
- Similarly placement of concrete and associated testing of concrete cubes will maintain traceability between the fresh concrete and the subsequent cube test result.

Where these or similar limited requirements are recognised, a limited traceable process will be implemented to ensure procurement, design, construction and commissioning is maintained.

There are no specific requirements in the Contract to have the identity of anything specifically traced throughout the process described in ISO9001 Cl. 7.5.3.

12.6 *Product Identification*

Each trade contractor maintains their own method of identifying their bespoke manufactured products. Examples include CARES certification for reinforcement, mill certification for structural steel, panel reference numbers for cladding elements and cable drum numbers for power cables etc.

Use of these systems where appropriate will be included in the records arising from the Inspection and Test Plans and Method Statements. Each item with a unique identity mark or tag (e.g. structural steel member) will permit the element to be traced to its assembly or fabrication specification.

Where specified, the location and identity of a traced item such as a transformer unit will be recorded on delivery notes and in test and commissioning documentation and the item will be shown on the As Built Drawings and described in the O&M Manuals.

12.7 *Customer Supplied Products*

The scope of the project includes for many products to be incorporated into the Works as supplied by the Client. These items will be recorded upon receipt and stored in a suitable environment until such time as they can be incorporated into the Works.

During the final commissioning and handover of the project, it is envisaged that existing equipment will migrate to the new building. In the event that equipment is to be supplied by the Client to McLaren for transfer to the new building, a plan will be developed together with Method Statements and which may require a revision to incorporate changes to this Project Quality Plan.

At that time, equipment condition will be verified and handling requirements established for the transfer. Information will be collected and briefed regarding its move and reinstatement programme together with re-commissioning parameters. Some of the Clients supplied products may require to be stored for a time in a secure manner to avoid loss or damage. Upon receipt, any defective items must be identified and notified immediately to the Client in writing.

13. Samples, Mock Ups and Benchmarks

13.1 **Samples Log**

The Design Manager in conjunction with the Project Manager will identify all samples that are required. A samples log (Appendix D) of all materials, processes or products that require to have samples approved prior to their being incorporated into the temporary or permanent works needs to be compiled during the design stage of the project.

This log will clearly identify the materials, process or products and method of approval, e.g. sample panel, product sample, sample board, mock up, sample area, etc. Include the names of all stakeholders who are party to the final approval and sign-off process and the date by which formal approval is required.

These dates should be correlated and be referenced to the construction, procurement and design programmes.

Products / samples / materials need to be submitted for approval under cover of a Sample Sign-off Form. Each form being uniquely referenced and containing relevant details.

13.2 Review

These sample materials, processes or products will be reviewed, under the leadership of the Project Director / Project Manager or his nominated deputy in conjunction with the McLaren design and procurement teams to ensure compliance with our contractual obligations, e.g. Bills of Quantities, NBS, employer's requirements, contractor's proposals and British Standards etc.

13.3 Approval (Sign off)

Once an agreement has been reached, formal approval and sign off should be obtained and recorded by the Project Director / Project Manager or his nominated deputy from all relevant internal and external stakeholders and this information should be logged on the sign-off form. A blank sign off form is attached is **Appendix E**.

If, for whatever reason, the sample material, process or product does not fully meet the required specification, then all affected stakeholders are to be informed of the fact in writing. The Project Director / Project Manager, or his appointed deputy, should ensure that no material, process or product that requires approval is incorporated into the works until the final approval and sign off by all stakeholders has been confirmed and recorded.

13.4 Sample Match

Care should be taken to ensure that any sample material, process or product put forward for approval is truly representative (match) in terms of quality, appearance, finish and performance to that which can be reasonably achieved in the general works. This is in order to avoid expectation creep by introducing unrepresentative samples that are superior to what is normally achievable. Note that the converse has consequences of non-acceptance on the one hand and delight at a better than agreed standard on the other. As with many things a balance must be struck to which all parties are prepared to subscribe.

Individual samples, samples panel, mock-up's etc should be retained for reference / comparison until a representative sample of the permanent works has been signed off as accepted.

It is recommended that the review of samples and approvals, where appropriate, is incorporated into the agenda of any progress review meeting.

13.5 Mock Ups

A number of mock ups are required to be constructed prior to the relevant element of the works progressing.

13.6 Benchmarks

Where appropriate rooms will be completed at an early stage of the project, approved by the Client and used as a benchmark for subsequent activities.

14. Record Management

14.1 *Package Plans (Weights of Evidence File)*

Compilation of the Package Plan commences on appointment of the trade contractor. When the trade package work elements are completed the Weights of Evidence detailing the compliance with the required quality standards attained will be held within the package plan. The package plan will contain the quality requirements and quality records for all elements of a trade contractor package.

A typical Package Plan will include:

1. Scope of Works
2. Package Specification
3. Trade Package Programme
4. Weekly Target Programme
5. Inspection and Test Plans
6. Area Release Forms
7. Weights of Evidence/ Compliance documentation
8. Completion Criteria Documentation
9. Quality Control Samples / Approvals
10. Outstanding Works and Snagging Matters

14.2 *Trade Contractor Retained Records*

Each trade contractor will generate the vast majority of records associated with their work package and compliance records will temporarily be filed in their offices both on and off site.

All records generated by the trade contractors must be held in folders such that they are readily identifiable as being part of the Package Plan for the particular package. As each folder becomes full or at a time agreed with the appropriate McLaren Site Manager, the folders will transfer to McLaren for retention.

Original records may be retained by the trade contractor with the agreement of the McLaren Site Manager, provided clear readable copies are provided in the Package Plan folder.

15. Monitoring of Workmanship

15.1 *Subcontractor responsibility*

Each trade contractor is responsible for delivery of their scope of work in accordance with the Contract specifications and standards. The Package Managers will progressively monitor the quality of the work on their packages through regular inspections both on and off site at places of manufacture. The frequencies of the Package Managers inspections will as a minimum be detailed within the Inspection and Test Plans.

The inspection and test (or commissioning) result will be documented in hard copy and included within the appropriate part of the Package Plan which is available for review.

Any deviations will be logged on the project NCR system which is regularly reviewed by the Quality & Compliance Manager and the resulting approved corrective action recorded.

Further Inspections may be carried out by third parties as detailed within the Inspection and Test Plan and will be accompanied by McLaren project personnel such as Package Manager, Quality & Compliance Manager, McLaren technical advisors, and / or designers to suit the relevant activity.

16. Quality Control (Inspection and Test Plans)

The Project Quality Plan is underpinned by a series of controls that ensure quality compliance. The principal control document used to ensure the specified quality requirements are met within each package is the Inspection and Test Plan (ITP).

The ITP must be produced by the trade contractor before commencement of works on site. The ITP will identify the hold points, inspections, test and records necessary to ensure the package of work is carried out to the quality required. The plan will be generated via reference to relevant standards, acceptance criteria, specification and design drawings.

It is essential at the commencement of any package of works to establish the standard of workmanship and end quality requirements.

The ITP will be produced by the trade contractor and checked by the McLaren Site manager for adequacy prior to its acceptance and signed prior to being issued back to the trade contractor authorising the works inspection and testing regime.

The ITP is held within the Relevant Quality file and will be readily available for review by the Client or auditor.

Each ITP will comprise 5 sections and will have an index that relates to the Package Plan containing Weight of Evidence for the Specialist trade contractor work

Each ITP will contain the following:

- Pre-Start Activities
- Materials Compliance
- Construction Compliance
- Final Inspection and Test

MCLAREN									
Contract No & Title:						Definitions of Inspection frequency:			
I&TP Ref & Title:			ITP002 – Foundations			100% = there needs to be documentary evidence that every occurrence of that item has been inspected by that party.			
I&TP Scope of Works:			Installation of Pad Foundations			10% = Documentary evidence required that overall 1 in 10 of the occurrences have been checked (and pro rata for any other percentages)			
Name of Subcontractor (S/C):						H = Hold Point means no work on that specific element can continue until a satisfactory check is carried out by the specified party.			
Name and position of S/C Supervisor:						S = Surveillance means that a note is taken of correctness of item during routine visits by the specified party.			
McLaren Manager assigned to manage this activity:						I = Inspection means that works are checked by the specified party and signed record is produced prior to works continuing.			
						R = Review of Records means that the specified party as reviewed the records submitted by the subcontractor.			
						W = Witness means a test carried out in the presence of the particular party (this can be followed by a percentage if not all such tests need to be witnessed).			
Stage	No	Activity	Method of Inspection/Test	Acceptance Criteria	Frequency of Check/Test				Verification Records
					S/C	MCL	Client	Other	
Pre-Start Activities	1.1	Method Statement & Risk Assessment	Review prior to works starting on site	Approval by McLaren Construction	100% - H	100% - H			SAF 009 RAMS Evaluation Sheet
	1.2	Competence	Review prior to works starting on site	Approval by McLaren Construction	100% - H	100% - H			Formal Training Records/Manufacturer's System Training Certificates
	1.3	Design Approval	Review prior to works starting on site	Approval by McLaren Construction Design Team	100% - H	100% - H			Drawings Approved For Construction Status – held on 4 Projects.
	1.4	Latest Design Information Issued	Review prior to works starting on site	Approval by McLaren Construction Design Team	100% - H	100% - H			RFIs/4 Projects Notifications for latest design information issued.
	1.5	Manufacturer's technical literature held on site.	Review prior to works starting on site	Approval by McLaren Construction	100% - H	100% - H			Manufacturer's Technical Literature
	1.6	Strategy to protect works	Review prior to works starting on site	Approval by McLaren Construction	100% - H	100% - H			Quality Plan
	1.7	Site quality briefing	Review prior to works starting on site	Presentation/Toolbox Talks and Training carried out to relevant parties	100% - H	100% - H	100% - H	100% - H	Training Records
	1.8	Equipment Calibration	Review prior to works starting on site	Approval by McLaren Construction	100% - H	100% - H			Calibration Certificates
	1.9	Mock-Up/Benchmark to be produced	Visual inspection by relevant parties prior to works starting on site.	Approval by McLaren Construction and relevant parties.	100% - H	100% - H	100% - H	100% - H	Benchmark Sample Form
	1.10	Samples	Visual inspection by relevant parties prior to works starting on site.	Approval by McLaren Construction and relevant parties.	100% - H	100% - H	100% - H	100% - H	RDD Sign Off

ITP002 01/20

Page 1 of 3

Foundations Inspection & Test Plan

Figure 2 – Inspection and Test Plan Typical Example

ITPs must identify the acceptance criteria, the organisation responsible, the frequency of inspection and the record of inspection. Inspection and test plans can typically be required for the following:

- Quality (dimensional accuracy, materials, workmanship etc)
- Materials (certificates of compliance, data sheets etc)
- Items of plant (certificates of inspection, servicing etc)
- Environment (disposal of waste, dust, noise and pollution etc)

It is the role of the specialist contractor to initially inspect its work and ensure it is compliant; it is however necessary that McLaren provides an appropriate level of control over this process to ensure that our best interests are being covered and that we are not put at risk due to faulty or poor workmanship or materials.

16.1 Inspection and Test Plan Golden Rules are:

- Ensure the ITP has been reviewed and agreed by McLaren during the Method Statement review process
- Ensure the ITP is specific to the work in hand, appropriately reflecting the principal requirements of the project specification and drawings, including obtaining confirmation from the designer that the installation meets its expectations.
- Ensure that hold points are included for quality critical areas, that they are sufficient and include, where appropriate, the inclusion of third-party inspections.
- Ensure the ITP details the frequency and personnel responsible for conducting inspections and tests, including where appropriate participation from McLaren.
- Ensure the personnel conducting the inspections are competent.
- Ensure the ITP identifies the specified level of acceptance criteria for the work/product being reviewed.
- Ensure the ITP addresses the interface criteria between differing systems or products.
- Where appropriate/critical ensure the ITP includes inspection of the product before delivery, eg stage inspection of the product during fabrication, pre-delivery and performance.
- Where appropriate the installed work is suitably protected from following trades in a suitable manner.
- Where the system supplier is providing a warranty, ensure the ITP identifies the inspections required by the system supplier to permit the warranty.
- Obtain evidence where there are non-conformances arising from inspections that corrective actions are compliant.
- Ensure the ITP details the production of all relevant records.
- Ensure the standard of workmanship is established by means of a sample which can be used readily as a comparator throughout the life of the project until the built-in product is formally accepted.
- Where considered beneficial obtain agreement of the component supplier that the installation meets their installation requirements.
- Ensure there is a system in operation to record any acceptable deviations and that these are transferred to "As Built" records.
- Ensure that monitoring covers all sections of a system such that it is evident that it is compliant in its entirety, including collating evidence where necessary.

The Package Manager must review any work activity against the requirements set out within the designs and specifications. The output of the review will be recorded on the Method Statement comments sheet. A list of packages requiring ITPs is to be kept up to date in **Appendix F**.

Each trade contractor shall use the McLaren ITP template in **Appendix G** which includes for the following:

DEFINITIONS OF INSPECTION FREQUENCY:

Witness inspection frequency may vary – H and A approvals are mandatory:

1. H = **Hold Point** means no work on that specific element can be continued until approval is provided by the specified party.
2. S = **Surveillance** means that during routine visits, correctness of item is verified, and a note is documented and recorded (e.g., Weekly Report)
3. A = **Approved Document** must be provided prior to next stage commencing
4. W = **Witness** means an activity may be carried out in the presence of a particular party and the occurrences have been satisfactorily inspected by that party
 - a. W100% = there needs to be documentary evidence that every occurrence of that item has been satisfactorily inspected by that party.
 - b. W10% = Documentary evidence required that overall, 1 in 10 of the occurrences have been satisfactorily inspected by that party

17. Quality Audits and Inspections

McLaren recognises that to achieve a quality product there needs to be a regime of Inspections and Audits. McLaren will organise quality audits and inspections on many different levels.

McLaren will prepare an audit schedule to audit compliance with each of the package plan quality sections. The schedule will take cognisance of all package activities and ensure that the audits are conducted at a time and frequency appropriate to the significance of the activity under review.

McLaren technical experts will also be utilised to advise and carry out peer reviews on the quality of the works and if required they have the expertise to implement improvement techniques. They will also support the project team in carrying out compliance audits.

McLaren technical expert inspections:

- Masonry
- Envelope
- Roofing

The **SHEQ Manager** will inspect the site on a two-weekly basis.

The **McLaren Quality & Compliance Manager** will audit the site each month

The **Project Manager** will carry out a minimum of 1 weekly site inspection focussed on quality matters where necessary recording findings on Dalux

The **Senior Site Manager** and **Site Managers** will inspect the sites daily for quality matters, where necessary recording their findings on Dalux

The **Operations Director** will carry out Director SHEQ tour visits which will pick up on quality matters.

Designers will carry out site visits and report on any quality matters noted as part of their appointment. These will be recorded in the Designers Site Observations list maintained by the Project Manager.

Trade Contractor Supervisors are responsible for ensuring the quality requirements set out in the approved method statements and inspection and Test plans are followed. In particular they must ensure that hold points are not built past without the requisite inspection having taken place.

Operatives are encouraged to use the Spot it Shout it system for recording any quality matters.

Subcontractor audits in accordance with their own quality processes and accreditation. Where these take place on McLaren sites these will be shared with McLaren.

There will be a **McLaren Directors Bi-Monthly Tour** which will vet the project for compliance with McLaren standards. This tour is carried out by a minimum of two McLaren directors from another part of the business.

The project manager and relevant SHEQ Manager are responsible for identifying and arranging for additional audits/surveillances to be performed on relevant areas and activities that affect the Project based on assessed risk.

The **Client's representative** will be invited to carry out site visits and inspections in line with a schedule agreed in outline at the start of each month. Observations from these inspections will be recorded on the Client's Observation List and where appropriate transferred to Dalux. These observations will be pro-actively responded to and managed to closure.

All findings will be logged on Dalux which is the McLaren default system for recording the findings of audits and inspections. This includes outstanding works, non-conformances (including minor defects or snags), tracking resolution, analysing and reporting.

Audit results will be collected for the purposes of producing meaningful information and data to facilitate continual improvement within the Project. The results of audits will be reported to the Project Manager and be incorporated into Management Review sessions and the various reports as listed within the Project Quality Plan.

Audit results including close out of any recommended actions, will be available for review by the Independent Tester. Additionally, audits may also be carried out by the Independent Tester as required throughout the duration of the Contract to ensure the Contract requirements are being met through use of McLaren's quality assurance processes and procedures.

18. Management of Non-Conformance

This plan will only deal with non-conformances relative to Quality. Non-conformances relative to health and safety, environmental and complaints will be dealt with in the SHEQ Plan. The term non-conformance relates to failure to achieve agreed standards including materials, goods, services, workmanship, design, and management system audit findings.

The Non-Conformance process comprises essentially two parts:

- Product compliance failure
- System implementation failure

On discovery of a non-conformance McLaren will use the Dalux system to ensure that the problem is identified, corrected, re-checked, and reviewed to determine preventative actions to minimise recurrence. Assistance on determining whether the item should be the subject of a Non-Conformance Report (NCR) or a snag is given in **Appendix H**.

It is essential that NCRs are closed out in a realistic time to prevent jeopardising follow-on work which would otherwise be compliant. In addition, the NCR must contain corrective and preventative actions. Corrective actions must have the approval of the pertinent designer where necessary.

18.1 ***NCR Process for Product***

Where the person responsible for management of a package identifies a non-conformance of the product, the responsible party will be informed and verbally requested to carry out timely corrective action.

The non-conformance will be formally documented when: -

- The corrective action does not take place immediately
- The non-conformance will cause delay
- The non-conformance will require involvement of the design team

18.2 ***NCR Process for System***

Where an informal surveillance is carried out on persons implementing a process, or a system audit is carried out, then an NCR will be raised to document any issue which may require the following to be implemented:

- Personnel to be trained in the use of existing process
- Existing process to be modified and briefed to personnel
- A new process to be developed where the absence of a process will affect the system

18.3 ***Corrective Action***

- Corrective action will be carried out promptly to prevent recurrence of an existing non-conformance.
- Corrective action will be carried out in accordance with the requirements described within the Project Quality Plan.
- Where required by the Contract, and or the Client/Project Manager approval of corrective action will be obtained.
- Where required approval will be obtained from designers or other relevant specialists.
- Records will be maintained to show that corrective action measures have been properly implemented.
- Where a non-conformity within the Project Quality Plan has been identified by either McLaren or any 3rd party during the course of an audit, then the corrective actions taken will be recorded and signed off as described within the relevant procedure.
- Actions will be taken to prevent recurrence.
- Concessions – written evidence by the designer and where appropriate the end user that the non-conformance does not materially affect the usability of the product or service and may remain as is.
- Repair – rectification so that the product becomes compliant.
- Replacement is required where the previous options are not appropriate.

18.4 ***Preventive Action***

Planning and logistical measures will be implemented during the start-up stage of each work package element to ensure the risk of a non-conformance is minimised.

Preventive action will be achieved by means of utilising the most appropriate documentation and project resources. This will include but not restricted to:

- Audit reports
- Nonconformity reports
- Customer/user complaints

The information will be used for the purpose of detecting, analysing and eliminating potential causes of nonconformity.

Where it is identified that preventive controls are required, necessary measures will be introduced to ensure product or system conformity. Procedures that are either amended or introduced will be reviewed for effectiveness and adequacy during planned audits or management reviews.

18.5 Analysis of NCR Types and Trends

McLaren will carry out analysis of non-conformances through Dalux. This will identify areas of significance and ensure the appropriate action to remedy these is carried out. McLaren will provide a register of non-conformances with actions and status to the Client/Project Manager as part of the monthly report.

Areas of specific interest will be discussed at the monthly progress meetings and appropriate action plans will be produced with close out times agreed.

19. Quality Expectations and Tolerances

19.1 Accuracy in Building

The project is being designed, set out and built, in accordance with the Clients Specification for Building Construction.

The design shall detail finishes for the building to a standard that gives a satisfactory fit at all joints and junctions without unacceptable changes in plane, line, or level. The finished work should have a true and regular appearance with no appreciable variations in finish or colour, where of the same material, as established in the Kit of Parts and the mock-ups.

Any departures from the defined quality requirements will only be accepted if agreed by both McLaren and the Client. Such departures (changes) will be documented.

19.2 Control of Inspection, Measuring and Test Equipment

McLaren will utilise the Control of Instruments & Test Equipment procedure as described in the McLaren Management Procedure (MMP) with regards to Inspection Measuring and Test Equipment. The procedure describes how inspection, measuring and test equipment is controlled, calibrated, maintained and certified to ensure that such items are in calibration and of the proper type, range, accuracy and tolerance for the purpose for which they are to be used.

All trade contractors are required to submit as part of their Method Statements or Inspection and Test Plans, details of how all their testing and measuring equipment will be controlled.

19.3 Testing Laboratories

All laboratories and testing service providers used by McLaren and any trade contractors will be accredited by UKAS (or an EU equivalent).

20. Task Management

McLaren will be using Dalux, an electronic database system. This is a proprietary system that allows us to record on Tablets: Tasks (Outstanding works, Defects, Snags, Client snags, Variations and Health & Safety), raise Forms, NCR's and take and attach photographs to the relevant document. In addition, a dashboard is

produced which can be modified by the end user to reflect their area of interest. This will allow cross contract and cross Business Unit reporting to enable focus on subcontractor performance and quality issues.

McLaren will use the Dalux system to record and track the clearance of all Tasks. At the start of the project Dalux will be pre-loaded with drawings containing information relating to the floor plans, elevations and external areas of the project, plus details of all users and subcontractors.

The process will operate as follows:

- Subcontractor / s will complete and inspect their own works. Once they are satisfied it is completed to the agreed standard, they will invite McLaren to inspect.
- McLaren Site manager will carry out their inspection and record any findings on Dalux using the handheld Tablet. This will be synchronised with the secure master server which holds the project database.
- Any Tasks found will be issued automatically from the secure server to the relevant subcontractor by e-mail.
- Subcontractor clears the snags and notifies McLaren.
- McLaren to re-inspect and update Dalux.
- Once McLaren is satisfied it has reached a suitable standard McLaren will invite the Client's representative to inspect. Any findings from this inspection will be recorded onto Dalux.
- Dashboard reports will be generated monthly or by request.

It is McLaren's aim that by using Dalux, confidence will be given to the Client that snagging and outstanding works are being managed in an open and transparent way in line with the construction programme.

21. Snag, Defect or Non-Conformance?

Consistency in deciding what is a snag, a defect and a non-conformance is a requirement when assessing finished product. Below are descriptions and examples applicable to each heading: -

Snag – unsatisfactory workmanship, small items of work to be completed or damage repaired, e.g., a dirty mark on a finished surface or a paint run.

Defect - A Construction Defect is a flaw / design error or significant area requiring re-work that causes a dangerous condition or could lead to further damage should that defect not be rectified, e.g., a leaking roof.

Non-Conformance – A construction non-conformance is a failure to comply with the design / specification or with the expected quality of the completed product by a 'trade', e.g. reinforcement missing from a concrete pour or a steel column out of position out with the allowable tolerances.

22. Management of the Commissioning Process

This Project Quality Plan will be revised prior to the commissioning of the Works to include further details in this section and may refer to specific commissioning plans and procedures.

The Commissioning Manager will monitor and report on the critical construction completion activities on a regular basis to ensure the installation of the equipment and systems is correct and complete. All commissioning will be carried out in conjunction with the Facilities Management service provider who will ensure the systems have been completed in an appropriate manner and can be maintained satisfactorily upon completion.

All commissioning progress will be monitored and controlled through frequent liaison meetings. The commissioning progress being recorded on updated commissioning programmes and commissioning status reports generated via the commissioning database.

Integrating the requirements of the electrical power supply testing, BMS commissioning, Fire Alarm system testing, air and water balancing, and environmental testing is an important aspect of the team managers' responsibilities. The commissioning activities of these specialists and subcontractors will be controlled by a system of 'Authority to Proceed'. At each stage of the commissioning process, static completion, pre-commissioning, commissioning and performance testing, an 'Authority to Proceed' (to the next stage) will be issued when the conditions of issue have been satisfied for the next stage to commence.

Each system Inspection and Test Plans (or Test and Commissioning Plan) will underpin all the commissioning activities on this project. They will define all the procedures and commissioning activities for each system and building. Specialist equipment suppliers will issue their own testing and commissioning method statements. Method statements will be written for:

- Testing of plant items both on and off site.
- Commissioning of plant items.
- Tests on completed systems including but limited to:
 - hydraulic tests on pipe work
 - gas pressure tests on pipe work and chambers
 - Balanced room environments.
 - Complete engineering systems.
 - Power systems
 - Lifts
 - Alarms

The Commissioning Manager will chair all commissioning meetings and prepare minutes for circulation to all interested parties and will organise attendance of relevant statutory bodies where the trade contractors have to satisfy a statutory inspection and provide the appropriate test completion report. The Client's representative will be invited to comment, review and witness the commissioning process. See diagram below:

23. Operation and Maintenance Manual

Each trade contractor order incorporates the requirements from Tender Volume 1 Clause 21 where the Trade Contractor shall prepare manuals and hand over to McLaren not less than 60 working days prior to the anticipated date for achieving completion of the Trade Contract Works.

A Reference Manual will describe how the various O&M Manuals relate to each other and will provide a route map for easy reference for users.

The project specific manuals will be composed in sections as follows:

Section 1	Package Contractor & Supplier Information
Section 2	System & Equipment Overview
Section 3	System Operation and Full Description
Section 4	Fault Finding
Section 5	Recommended Routine Maintenance and Emergency Procedures
Section 6	Hazard Data Sheets/COSHH & Risk Assessments
Section 7	A Comprehensive List of Spares
Section 8	Design Calculations
Section 9	Lifecycle Replacement and Demolition

Section 10	Specific Test Results
Section 11	Conformity Certification & Design Life Warranty
Section 12	Full index of 'As Built' Drawings and Specifications
Section 13	As Built' Drawings and Specifications
Section 14	Asset Register

Additional sections may be introduced in an O&M Manual based upon the subject and each proposed improvement will be reviewed and agreed prior to delivery of the documentation. The O&M Manuals will be compiled and presented in an electronic format.

The Client will review and accept all O&M Manuals compiled for the project.

24. Reporting and Record Keeping

24.1 Reporting

The Project Manager will provide a monthly report to the Client/Project Manager, in an agreed format. Typical details relating to quality will include:

- General summary of works to date
- Health and Safety (including accident and incident rates)
- Programme and Progress
- IRS Schedule
- Status of any submissions
- RFI schedule
- Summary of Commercial Information (including Milestone payments and Change Control)
- Environmental (including Waste Management Reporting and other performance targets)
- Progress of Operations and Maintenance Manuals
- Soft Landings update.
- Security Information
- Project Quality Plan Status
- Any significant quality issues identified or perceived
- Inspection & Test plans Scheduled / Due
- Approval Status of Inspection and Test Plans
- Risks to Successful Outcome
- Audit Schedule
 - Audits planned in period
 - Actual number of Audits conducted in period
 - Cumulative total number of Audits
 - Actions Status:
 - Total number of Audit actions raised to date
 - Total number of Audit actions closed
 - Total number of Audit actions open

Task Status

- Total number of tasks raised to date
- Total number of tasks closed
- Total number of tasks open

- Root cause analysis of tasks to determine:
 - % Tasks due to Damage
 - % Tasks due to Poor Workmanship
 - % Tasks due to Materials
 - % Tasks due to Information
- Samples/Benchmarks Scheduled (Specified & One Offs)
- Samples/Benchmarks Due
- Samples/Benchmarks Agreed
- Certificates of Compliance Scheduled
- Certificates of Compliance Due
- Certificates of Compliance Issued
- Facilities maintenance manuals status

24.2 *Record Keeping*

Records will be generated and maintained to demonstrate the control and management of activities and processes during construction of the project. McLaren will ensure that the records will be maintained in hard copy and soft copy. The web-based collaboration tools Asite and Dalux will be used to retain soft copy electronic files in their original format or pdf type files.

On completion of work carried out by McLaren or its nominated subcontractor, a suitable completion pack shall be provided for the client and retained. Typically, this pack will contain copies of As Laid / As Built Drawings, photographic records, Completion Certificates and Forms used to monitor the quality of workmanship. Documentation shall be signed and dated by the responsible person.

25. Aftercare

It is McLaren's vision to deliver defect free projects at handover, however there may be instances where defects do occur.

A McLaren employee will be dedicated aftercare personal who will liaise between the Client and the project team on any defects. They are aware of the restraints of working within occupied premises and will coordinate any works with the appropriate authorities so that the daily operations of the school are not compromised.

26. Continuous Improvement

McLaren operate an on-line Knowledge Bank which is to be used to learn from current and previous projects to reduce the risk and increase opportunities on future Projects.

The system is to be used as a way to capture, share, review and act upon learning from Projects across McLaren. It will allow us to submit better bids by capturing lessons learned with evidence of best practise. In preparing for this project McLaren have reviewed the knowledge bank for lessons from previous similar projects. McLaren has selected staff, designers and contractors who are experienced in working on similar projects and will bring their knowledge and experience with them.

McLaren will hold lessons learnt review meetings at the completion of each significant works package. The design manager will feed these back into the McLaren Knowledge Bank.

27. Risk management

An initial risk review is returned with this contract. Following appointment McLaren will carry out an in-depth risk review. This will look at the risks to the successful delivery of the project including cost, programme, and quality. Blank pro-forma for recording the risks, their probability, an estimate of the likely cost and time impacts is included in **Appendix I**. It will also include a proposed mitigation measure. McLaren will update this as the project progresses.

28. Through Life Costing

If applicable the Whole Life Cost Model will be updated as necessary through the design stage.

29. Value engineering

McLaren will agree with the client team how value engineering proposals will be prepared, submitted, and approved or rejected. No value engineering options will be incorporated into the project without written approval from the client, backed up by full details of the proposed change and duly instructed under the contract provisions.

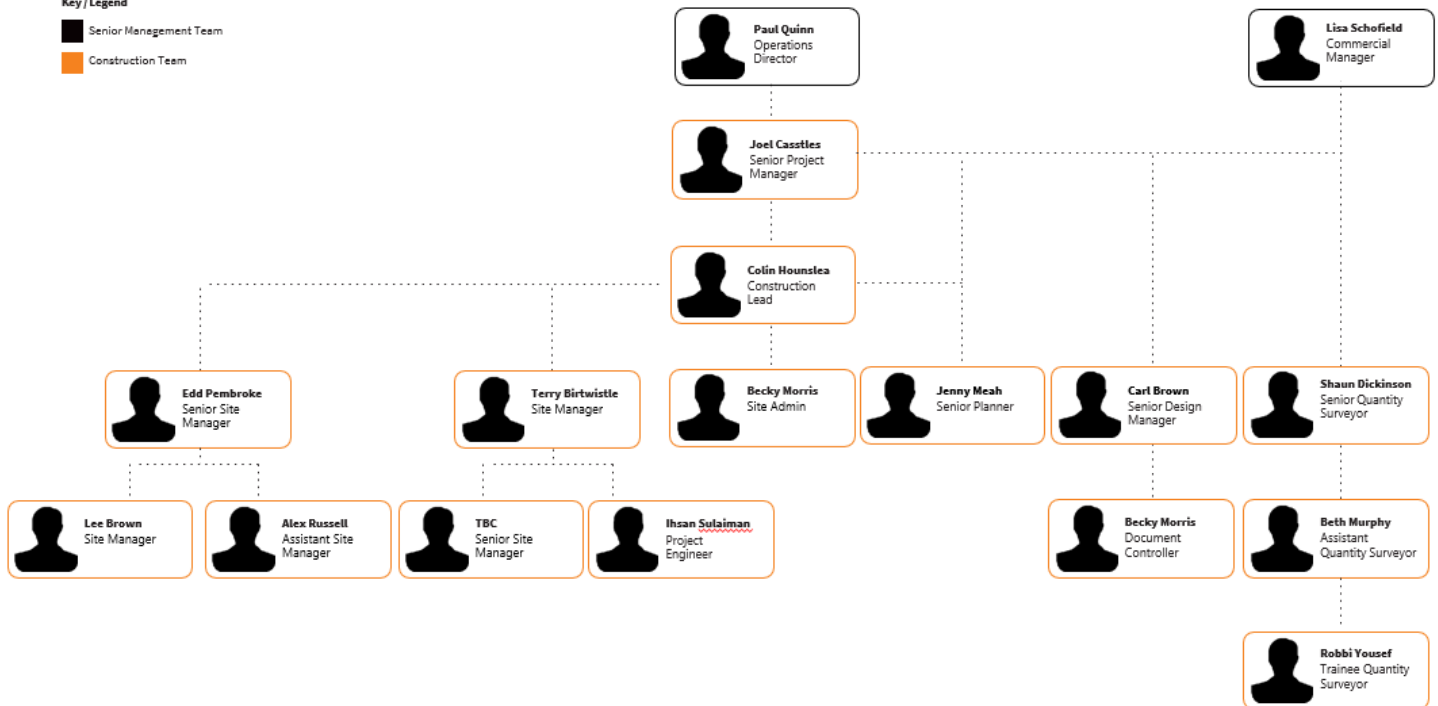
Appendix A Organisation Chart for Construction Delivery Team

Construction Team

St Gabriel's, Manchester | July 2023

Key / Legend

-  Senior Management Team
-  Construction Team



Appendix B Flying Finish - 12 Week Closedown Plan



PROJECT:

FLYING FINISH

MMS5029

Today's Date
Completion date

07/07/2021
21/02/2013

F No.	ACTION	DESCRIPTION	METHOD	RESPONSIBILITY	LINKS	DATE REQ BY	COMPLETE Y/N
1	PRE COMPLETION ITEMS						
1.1	Confirmation of services easements / Way leaves	Confirmation from Stat required	Letter confirming or requesting	Project / Site Manager			Y
1.2	Electricity meters ordered via Shipper, date to be agreed when heads are installed	Place order with shippers	Letter	Commercial Manager / Senior QS			
1.3	Gas meters ordered via Shipper, date to be agreed when heads are installed	Place order with shippers	Letter	Commercial Manager / Senior QS			
1.4	Water meters ordered via Shipper, date to be agreed when heads are installed	Place order with shippers	Letter	Commercial Manager / Senior QS			
1.5	Ensure chlorination certificate is available for on site mains system prior to water authority connection.	Obtain certificate from M&E subcontractor	Discussion with subcontractor	Project / Site Manager			
1.6	Does water authority require on site plumbing inspection prior to final / meter connection	Arrange for inspection	Letter	Project / Site Manager			
1.7	Electricity supply capacities confirmed and connected	Confirm incoming supply meets requirements	Letter to M&E subcontractor & stat authorities	Project / Site Manager			
1.8	Pre commissioning of completed areas is available	Area partially completed can be pre commissioned	Discussion with subcontractor	Project / Site Manager			
1.9	Snagging system to be agreed / implemented and progressed	Assists in collating snags and producing reports	Contact David McDonnell	Project / Site Manager			
1.10	Preliminary Floor area measurement carried out and issued to client	Confirm areas as client required	Subcontract Order	Commercial Manager / Senior QS			
1.11	Final Floor area measurement carried out and issued to client	Confirm areas as client required	Subcontract Order	Commercial Manager / Senior QS			
1.12	External service duct layouts complete and marked up 'as built'	Form part of as built drawings	Marked up drawing	Site Engineer			
1.13	Drainage as built drawings	Form part of as built drawings	Marked up drawing	Site Engineer			
1.14	Confirmation that room data sheet requirements are met						
1.15	Confirmation of travel plans and finalisation						
2	TEST CERTIFICATES & COMMISSIONING						
2.1	Agree method to sign off witness testing	Agree with subcontractor	Discussion	Project / Site Manager			
2.2	Ensure BMS system set up and calibrated	Obtain witnessed tests & certificates	Letter requesting	Project / Site Manager			
2.3	Programme issued for testing & commissioning, comment on and agree indicating order for witness testing	Request programme from subcontractor	Letter requesting	Project / Site Manager			
2.4	Commissioning and inspection of M&E services complete and reports compiled, detailing any minor outstanding actions.	Obtain witnessed tests & certificates	Letter requesting	Project / Site Manager			
2.5	Electrical system test certificates complete and available.	Obtain witnessed tests & certificates	Letter requesting	Project / Site Manager			
2.6	Fire alarm and detection system test certificates complete and available, witnessed by & issued / to Building Control	Obtain witnessed tests & certificates	Letter requesting & issue to Bid Ori	Project / Site Manager			
2.7	Smoke evacuation vents all operational, tested and certified, witnessed by & issued / to Building Control	Obtain witnessed tests & certificates	Letter requesting & issue to Bid Ori	Project / Site Manager			

Appendix D Samples Log Example

Mclaren Technical Competence Matrix Training Record

Name: _____ Title: _____ Payroll No. _____ Business Unit: _____
Date Completed: _____ Review Date: 30-Dec-00 Current Project: _____
THIS FORM HAS BEEN REVIEWED AND AGREED WITH MY LINE MANAGER -

Please fill in ALL the grey boxes

How to use this tool

This Technical Competence Matrix tool is designed to enable all technical staff to assess their current level of technical knowledge and experience across a range of construction activities. This will then enable technical training requirements to be captured, prioritised and delivered over an agreed timescale. This process is carried out by the individual and their line manager and will result in the issue of a Technical Competence Passport. This process will be renewed each year to ensure changing training needs and improved competence are reflected.
For best results view at 100% zoom.

PLEASE COMPLETE YOUR PERSONAL AND PROJECT DETAILS FIRST.

1. Candidate completes "Competence Level" self-assessment for each category/discipline against the Scoring Criteria. Click on the category title to find the scoring criteria then select the appropriate level using the 0 - 4 option buttons. Tick the "Training Required" box if further training is required. Click on the category title link or the TCM tab to return to the TCM page.

2. Candidate completes "Experience Level" self-assessment for each category by clicking in the relevant cell in the matrix and making a 0 - 4 selection from the drop-down list.

3. Candidate completes the "Sector Experience" matrix by typing an X in the relevant number of cells to represent the number of projects completed in each industry sector.

4. Candidate completes the "Passport Details" include projects with previous company if new to McLaren. Please limit each project to 25 words max.

5. Insert recent head & shoulders photograph JPEG or GIF in the "Your Photo HERE" box left. Resize the photograph to fit within the box without distorting the image. You can cut & paste or click the insert tab and select a photo from file.

6. Forward the completed form to line manager for review

7. Line manager reviews with the candidate and agrees the competence and experience scores.

8. Line manager and candidate review the "Training Required" results (right →) and select the relevant course from the drop down list in the "Top 5 Training Priorities" box left

9. Line manager and candidate agree the timescales to complete the "Top 5 Training Priorities" and saves the file in the format: TCM18.Initial.Surname.e.g. TCM18.J.Bloggs

10. Line manager forwards the completed Technical Competence Matrix to????

11. Technical Competence Passport Updated and training requirement logged.

TECHNICAL COMPETENCY PASSPORT DETAILS To generate your Passport please provide BRIEF details of your current project and up to four previous projects.

Current Project	Em	Qualifications	Current Responsibilities	Current Position	All Projects	No. 1 Riverside, Rochdale	The Snow Centre	The Chill Factor
					From	To	From	To
0	N/A			0				

TECHNICAL COMPETENCY ASSESSMENT PROCESS

Complete Personal Details → Assess your Competency → Assess your Experience → Record your sector experience → Complete the Passport Details → Attach Photograph → Review with Line Manager → Identify training requirements → Identify Training Priorities → Forward to Jaime Coughlan in Excel format. → Training logged and Passport Issued

[illegible]

Appendix E Sample Sign Off Pro-Forma Example

Construction Samples Sign-off form			
Contract:		Contract No:	
Package Number:		Subcontractor:	
Description:			
Location:			
Supplier Name address & Contact No			
Source (e.g. Quarry, Plant, Manufacturer):			
The sample is to be inspected for the following criteria :			
☐	Visual	☐	Performance
☐	Workmanship	☐	Compliance

Trade Contractor
_____ _____ _____ (Print Name) (Signature) (Date)
Comments _____

McLaren
_____ _____ _____ (Print Name) (Signature) (Date)
Comments _____ ☐ Accept ☐ Reject

Designer

(Print Name)

(Signature)

(Date)

☐ Accept

Comments

☐ Reject

Client

(Print Name)

(Signature)

(Date)

☐ Accept

Comments

☐ Reject

End User

(Print Name)

(Signature)

(Date)

☐ Accept

Comments

☐ Reject

Other

(Print Name)

(Signature)

(Date)

☐ Accept

Comments

☐ Reject

Other

(Print Name)

(Signature)

(Date)

☐ Accept

Comments

☐ Reject

McLAREN

Inspection & Test Plan Schedule

[illegible]

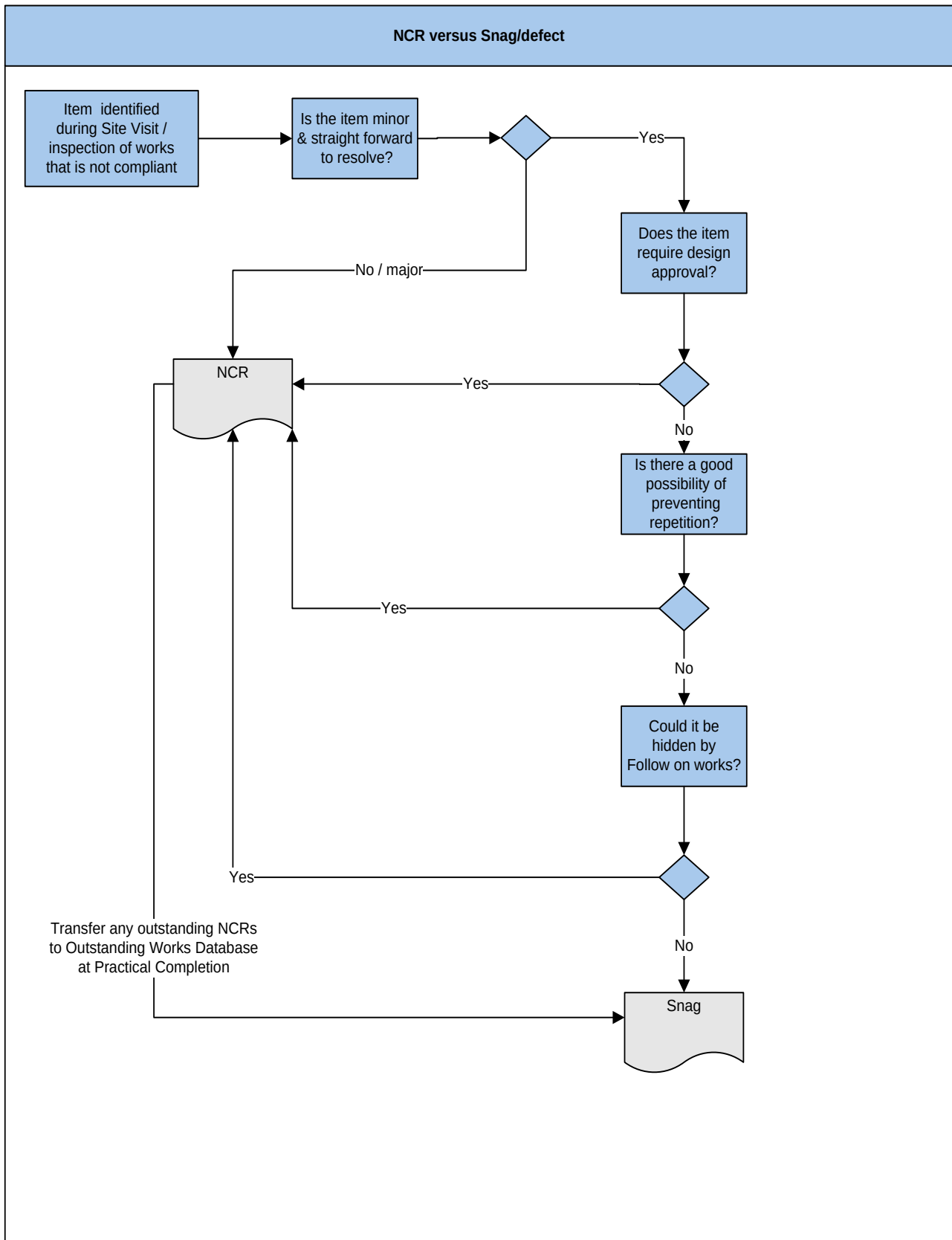
MMSXXX 07/21



Contract No & Title:		Definitions of Inspection frequency:					
I&TP Ref & Title:		100% = there needs to be documentary evidence that every occurrence of that item has been inspected by that party.					
I&TP Scope of Works:		10% = Documentary evidence required that overall 1 in 10 of the occurrences have been checked (and pro rata for any other percentages)					
Name of Subcontractor(S/C):		H = Hold Point means no work on that specific element can continue until a satisfactory check is carried out by the specified party.					
Name and position of S/C Supervisor:		S = Surveillance means that note is taken of correctness of item during routine visits by the specified party.					
McLaren Manager assigned to manage this activity:		I = Inspection means that works are checked by the specified party and signed record is produced prior to works continuing.					
		R = Review of Records means that the specified party as reviewed the records submitted by the subcontractor.					
		W = Witness means a test carried out in the presence of the particular party (this can be followed by a percentage if not all such tests need to be witnessed).					

Inspection & Test Plan

Appendix H NCR versus Snag/Defect



Appendix I Risk Register

Risk Register



Project:

Project No:

Date:

Rev:

REF	Risk description	Consequence	EVALUATION			Cost & Time impact		Management Action
			Probability	Impact	Rating	Cost	Time (weeks)	
1.00	Design							
1.01	Revisions to tender specifications		2	3	6			
1.02					0			
1.03					0			
1.04					0			
1.06					0			
1.07					0			
1.08					0			
1.09					0			
1.10					0			
1.11					0			
1.12					0			
1.13					0			
2.00	Commercial							
2.01	Honorous contract amendments	None agreement of contract	5	5	25			
2.02	Conflicting information in ER's		3	4	12			Clarify tender as to which documents priced or included
2.03					0			
2.04					0			
2.05					0			
2.06					0			
2.07					0			
2.08					0			
2.09					0			
2.10					0			
2.11					0			
3.00	Programme							
3.01	Poor weather conditions during earthworks & groundworks	Programme delays/additional cost	4	4	16			Dewatering and lime stabilisation included to mitigate issues
3.02					0			
3.03					0			
3.04					0			
3.05					0			
3.06					0			
3.07					0			
3.08					0			
3.09					0			
3.10					0			
4.00	Production/Operational							
4.01	Potential for unknown services	Programme delays/additional cost	4	4	16			
4.02	Potential for unknown obstructions	Programme delays/additional cost	4	4	16			
4.03					0			
4.04					0			
4.05					0			
4.06					0			
4.07					0			
4.08					0			
4.09					0			
4.10					0			
4.11					0			
4.12					0			
4.13					0			
4.14					0			

EST007 - Risk Register Rev 11/13

07/07/2021

Risk Register



Project:

Project No:

Date:

Rev:

REF	Risk description	Consequence	EVALUATION			Cost & Time impact		Management Action
			Probability	Impact	Rating	Cost	Time (weeks)	
4.15					0			
5.00	Third Party requirements, planning and statutory approvals & Health & Safety							
5.01	No planning consent	Programme delays	4	4	16			
5.02	1278 agreements not in place	Programme delays	3	4	12			
5.03					0			
5.04					0			
5.05					0			
5.06					0			
5.07					0			
5.08					0			
5.09					0			
5.10					0			
5.11					0			
5.12					0			
5.13					0			
6.00	Construction, site conditions, ground, weather and access							
6.01	Limited access to site	Programme delays and inefficient working	4	4	16			
6.02					0			
6.03					0			
6.04					0			
6.05					0			
6.06					0			
6.07					0			