

Mr James Dornan MSP, Convener
Room T3.40
The Scottish Parliament
Edinburgh
EH99 1SP

Please ask for: Finlay MacDonald
Direct Dial: 01463 702211
E-mail: Finlay.MacDonald@highland.gov.uk
Our Reference: ENQ33595

Date: 8 June 2017

Dear Mr Dornan

Education and Skills Committee - short inquiry on school buildings across Scotland

Thank you for your letter dated 15 May 2017. I have enclosed a copy of a letter dated 10 November 2016 sent to Mr John Cole which details Highland Council's response to the Independent Inquiry into Construction of Edinburgh Schools together with an Action Plan prepared to address the findings.

To assist with your inquiry we have included the following reply to the questions raised:-

Part 1 - Inspection and remedial work of the current estate since January 2016	
<p>To what extent:</p> <ul style="list-style-type: none"> Has the school estate been inspected; 	<p>PPP schools and schools under construction / have recently been constructed have been inspected as part of a joint visit by area Maintenance Officers and Building Standards Officers. The remaining school estate is covered by a School Estate Condition survey.</p>
<ul style="list-style-type: none"> Have faults been identified; 	<p>One PPP school was found to have a minor shrinkage crack in a gable. Another PPP school had information in a Clerk of Works report relating to wall tie quality which was not conclusively confirmed to have been addressed during construction. The PPP company has been requested to arrange for cavities to be inspected via metal detection and intrusive survey techniques to produce a photographic record of compliance.</p>
<ul style="list-style-type: none"> Has remedial work been undertaken and the impact of this? 	<p>The shrinkage crack found in the PPP school has been repaired with no impact on delivery of the school curriculum.</p>

Part 2 - Quality Assurance Practices	
<ul style="list-style-type: none"> How quality assurance is undertaken on current capital projects on the school estate; 	<p>Quality assurance on current capital projects is covered by the allocation of an area Maintenance Officer to carry out Clerk of Works inspections on site.</p> <p>The Contract Administrator for each project also visits the site for regular meetings to monitor progress.</p> <p>The Project team (designers and contractors) review snagging lists prepared by the area Maintenance Officer and arrange for defects to be addressed prior to Practical Completion.</p>
<ul style="list-style-type: none"> Whether the quality assurance of school capital projects has been reassessed since 2016; 	<p>The current process is being supplemented by the formation of a Construction Clerk of Works team. The aim of this team is to target projects with intermediate and complex design risk profiles, leaving those projects with basic design / construction risk for area Maintenance Officers to cover. By forming a dedicated team to monitor the larger / more complex projects, a focus on targeting quality with resources who have construction quality knowledge, experience and skills will result in standards being raised / less defects discovered at the end of a project. In addition, contractors who inspect and maintain plant / equipment / carry out servicing will be used at design reviews stages and for pre-handover inspections to widen the range of resources looking at quality of installations. The Clerk of Works team will be required to be progress to attain or already have attained full Member status of the Institute of Clerk of Works and Construction Inspectorate.</p>
<ul style="list-style-type: none"> Whether there are, or were, particular issues depending on the funding model and the lessons to be learned? 	<p>The contracts used on PPP / Hub projects have limitations on the ability of the client to act where quality matters have been raised by Clerk of Works (e.g. where such items are treated only as 'client observations'). This approach compromises the efficiency of defect resolution. The Clerk of Works is a client appointment with the resource assigned to a project team. The independence to report and escalate to the client any on-going or unresolved quality related matters not being addressed by the project team is an important step to include in the remits of a project team. The close relationship of quality and commissioning require adequate time to be set aside for any defects to be corrected before occupation. Funding models vary in the sufficiency or adequacy of time for handover arrangements and can be shaped by commercial interests. The client can (and Highland has) declined to occupy a property despite Practical Completion being issued until quality and compliance matters have been fully addressed.</p>

I would be happy to discuss any aspects of the response above or other matters that may assist your inquiry.

Yours sincerely

pp Finlay Macdonald
Head of Property Services

Mr John Cole, Chair
Independent Inquiry into Construction of
Edinburgh Schools
Room C52
Waverley Court
4 East Market Street
Edinburgh
EH8 8BG

Please ask for: Finlay MacDonald
Direct Dial: 01463 702211
E-mail: Finlay.MacDonald@highland.gov.uk
Our Reference: ENQ33595
Your Reference: JC/DH
Date: 10 November 2016

Dear Mr Cole

Independent Inquiry into Construction of Edinburgh Schools

Thank you for your letter dated 30 August 2016. I apologise for the delay in responding to you.

As a result of the wall collapse at Oxfangs Primary School we confirm that the Highland Council obtained formal confirmation as to the state of the schools from our PP 1 & 2 Partners. The Highland Council carried out joint surveys of the PPP schools (with the relevant PPP FM provider together with our area Maintenance Officers and accompanied by Building Standards Officers). The PPP1 Partner also provided recent independent condition surveys.

This review found no structural issues were visually apparent.

Further documentation checks were carried out which indicated Clerk of Works concerns on cavity tie arrangements that were recorded in site diaries. PPP Partners are continuing to follow this enquiry up to confirm that the quality issues were attended to during construction (extracts from the Clerk of Works diary is included with this letter for information).

We then widened our review from PPP schools to other new schools. Part of that wider review revealed other defects e.g. steel and timber frame (structural steel work with excessive deflection at the new Wick Campus). This has subsequently been addressed by HUB North Scotland.

To assist with your inquiry we have included the following documentation:-

Property/Location	Defect	Documentation
Wick Community Campus Replacement for Wick High School West Banks Avenue Wick KW1 5LU	Excessive deflection – subsequently resolved	Report by Jacobs dated 22 August 2016 - <i>Structural Inspection of Elements under Construction</i>

Property/Location	Defect	Documentation
Wick Noss Primary School Ackergill Street Wick KW1 4DT	Timber frame connections and subsequent roof damage – subsequently resolved.	3 reports by Jacobs entitled <i>B1339401 – Under construction V2</i> <i>B1339401 – Under construction V3</i> <i>B1339401 – Under construction Final</i>
Bun-sgoil Ghàidhlig Inbhir Nis Gaelic Primary School Inverness IV2 6BA	Render on part of a gable wall. Subsequently checked and was found to be cosmetic only. Render was replaced on the whole wall to avoid any perceived concerns.	See photos contained within <i>Briefing Note for Senior Managers – Wall structural stability review dated 25 April 2016</i>

We also attach copies of briefing notes summaries that were prepared as part of the investigation undertaken by the Highland Council.

I would be happy to discuss any other matters that may assist your inquiry.

Yours sincerely

Original signed by Finlay MacDonald

Finlay Macdonald
Head of Property Services

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
1. Procurement						
1.1		Public sector bodies engaged in the procurement of public buildings should maintain, or have assured access to, a level of expertise and resources that allows that body to act as an 'intelligent customer' in undertaking transactions with Private Sector Construction Companies.	Before commencing a programme of work or an individual project, a public body should first assess this requirement and ensure that it has in place the requisite and appropriate resources in terms of governance arrangements, type of expertise, allocated time and the funding required to enable it to act as an 'Intelligent Customer'.	Ensure adequate resources are provided for projects	Director of D&I and Service Directors to ensure Project Sponsors are identified / allocated to projects.	June
1.2		Ensuring compliance with specification	In any construction contract let by a public body, the public body should ensure that due diligence is undertaken at an appropriate level to confirm that the requirements of that contract are actually delivered in accordance with the terms of that contract. The level of due diligence applied should be determined through an informed assessment of risk of the likelihood or implications of non-compliance.	Ensure project gates are signed off by the Project Sponsor. <i>Reference the PM Governance policy 2.1.1 Accountability and Responsibility: A single point of accountability will exist for all projects within a Service. This point of accountability will be the Service Director while responsibility for ensuring that an individual project is run in compliance to this framework lies with the Project Sponsor.</i>	Director of D&I and Service Directors to ensure relevant Project Sponsor.	Reminder sent out by end of March
1.3		In seeking to transfer as much risk as possible away from themselves in relation to the design and construction of facilities, public bodies should understand that they cannot delegate to others the duty that they ultimately owe to the public	There should always be an appropriate level of independent scrutiny in relation to all aspects of design and construction that are in effect largely or partly self-certified by those producing them.	Implement Property Mgt policy. <i>Reference section 2b) Property client role the accompanying Property client role delegated to the Property Manager to ensure; contracts are in place for statutory inspections, testing and maintenance; maintenance and that project work</i>	Head of Property	End of March

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
		to ensure the provision of a safe environment for the delivery of services to their communities and this should inform their approach to their quality assurance processes of projects.		<i>meets property-related compliance criteria before and after completion; including ensuring client duties under Construction (Design and Management) Regs 2015 via Property management system.</i>		
1.4		The procurement strategies adopted by public bodies should include appropriate investment in the provision of informed independent scrutiny of projects when they are being designed and constructed so that they are built right first time, rather than clients subsequently seeking to rely on their ability to seek remediation or compensation if they are not.	It is the view of the Inquiry that seeking savings through cutting investment in quality assurance is inevitably a false economy.	Define when for significant projects, and Higher Project Management Boards HPMB may consider an external independent project review to be necessary. <i>4.7.2 a) Service Directors serve as the single point of accountability for their assigned projects. The Higher Project Management Boards (HPMBs) provide scrutiny and application of the governance process.</i>	Service Directors	End of June
1.5		There should be a more informed approach among public bodies as to how best practice methodologies aimed at optimising the quality of design and the quality of construction can be incorporated into the current models of procurement of public buildings, whilst maintaining other benefits of these processes. One key element of such processes is a clear and considered articulation in a comprehensive brief by the client of the quality objectives for a project and of the methodology to be used for	Appropriate time and resource should be allocated by clients during the initial stages of a project and during the development of the brief in order to establish and clearly define these quality objectives and approaches to ensuring quality.	Ensure compliance with corporate project management policies	Service Directors	End March

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
		ensuring the achievement of that quality in both the design and construction phases.				
2. Independent Certifier Recommendations						
2.1		<p>There would appear to be a lack of shared understanding, both by those commissioning and providing the services of Independent Certifier in PPP forms of contracts, with regard to the level of inspection to be undertaken by the Independent Certifier and the degree of reliance that clients can place on the issue of Availability Certificates as to the quality of the construction.</p> <p>The level of service provided by Independent Certifiers needs to be reviewed and contracts of appointment written to reflect what clients actually require of the role, so that clients better understand exactly what they are getting and providers of the service better understand what is required of them. Standard forms for these appointments should spell out the nature of the</p>	The Inquiry is of the view that one possible model or option to overcome the type of issues identified in the PPP1 project would be to extend the range of services required in the appointment of Independent Certifiers to include the provision and management of Clerks of Works services.	Form of Appointment for Clerk of Works / Construction Inspector Appointment (from ICWCI) to be used for all C of W appointments.	Acting Property Manager	3/4/17
2.2		Professional indemnity insurance and liability period	The level of professional indemnity insurance sought and the liability period for	Part of good practice	Project Sponsor	End of March

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
			Independent Certifiers should be assessed to properly and appropriately reflect the significance of their Certification processes and the degree of reliance that is to be placed on it.			
2.3		Method of appointment of independent certifier.	Given the essential requirement that those undertaking the role of Independent Certifier are truly independent, the appointment of Independent Certifiers should be made following properly advertised and conducted public procurement processes and not through nomination or recommendation by the private sector party (as appears frequently to have been the case).	Work with procurement	Head of Property	End March
2.4		Fees of independent certifier	The fees for undertaking the Independent Certifier role should reflect the level of service required, rather than the service being restricted to fit a predetermined budget.	Work with procurement	Head of Property	End March
2.5		Public sector clients should engage appropriately qualified individuals or organisations with the necessary professional construction expertise to undertake on their behalf an appropriate level of ongoing	Clients need to reappraise this gap in the assurance processes which has been allowed to develop.	Form of Appointment for Clerk of Works / Construction Inspector Appointment (from ICWCI) to be used for all C of W appointments. C of W is a client appointment and whilst	Acting Property Manager	3/4/17

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
		<p>inspection of the construction of their buildings. This is in order to identify and report defective work to the client and to ensure proper rectification of same.</p> <p>Depending on the nature of the project, this inspection role, at the level at which the defects in the Edinburgh PPP1 schools occurred, is traditionally undertaken by a combination of resident architects, resident engineers and Clerks of Works, the use of whom has dramatically reduced over recent years, yet the essential role they played does not appear to have been effectively provided for by alternative arrangements within the forms of procurement currently in vogue.</p>		assigned to a project team is independent and reports to the client (via the Property Manager).		
3. Client's relationship with the Design team						
3.1		Under current models of procurement, the relationship between the client and key members of the design team has tended to become at least one or more steps removed, yet the inherent fundamental quality and safety of projects as determined by the design of spaces, the specification of materials and the structural intent behind the design, relies	Public bodies should review current procurement arrangements to ensure they are providing the optimum level of communication between clients and key members of the design team and that clients are able to benefit to the fullest extent from their professional advice and expertise. They may wish to consider how more direct	For projects where the Project Governance Policy applies, a CDM Advisor to Client should be appointed.	Acting Property Manager	3/4/17

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
		on the creativeness and effectiveness of their designs and the proper implementation of these on site. The extent of their appointments and the level of involvement of design team members (either with clients or on site) is now frequently delegated to contractors to determine.	communication could be incorporated into current forms of contract, in addition to the existing requirement for the provision of collateral warranties.			
3.2		Role of design teams in inspecting works on site	If clients do not wish to prescribe in their tender documentation the minimum level of services which they require to be provided by design team members when employed by a contractor, public sector clients should at least require that submitted tenders include a full description of the proposed scope of design team services, including any proposed role in the inspection of the works on site. This, in addition to the quality of the proposed design team or proposed design, should be important factors in the assessment of such tenders.	We would specify in tenders	Head of Property	End of March
3.3		Notification of issues to public sector client	The Inquiry is of the view that, where possible, there should be a mandatory provision built into such contracts that where, to the knowledge of a professional design team	We would ensure this	Head of Property	End of March

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
			member, a contractor has failed to take appropriate action as advised by a member of the professional design team on issues that could impact on the subsequent safety of building users or functionality of the building, the consultant in question should be required to inform the public sector client of the advice provided to the contractor.			
4. Information sharing recommendations						
4.1		The production, retention and updating of accurate construction and operational information and related documentation on projects should be regarded as a fundamental requirement and requires a systematic and disciplined approach by all parties to the contract.	Public bodies should establish a mandatory protocol for receipt and processing of all such project information within their own organisations.	Review current processes to ensure compliance with best practice	Head of Property	End of March
4.2		The process of producing as-built drawings is frequently included in appointment documents as a requirement of the design team. In evidence to the Inquiry, design team members have stated a practical limitation on them in that they may be unaware of the detail of on-site changes to the issued design drawings or	Contractors should be required to put in place appropriate arrangements for the recording of all subsequent changes to final 'construction issues' drawings and arrange for the production of a final as-built set of documents to a standard suitable for issue to the client for retention as a permanent record of the detail of the	For projects where the Project Governance Policy applies, a CDM Advisor to Client should be appointed to monitor PD / PC duties are carried out in accordance with the CDM 2015 Regs.	Acting Property Manager	3/4/17

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
		specifications that may be made by the contractor or its supply chain.	project. Contractors should also be required to certify that the 'as-built' documentation as provided is an accurate record of what has actually been built.			
4.3		Provision of as-built drawings to Building Control	It is also recommended by the Inquiry that consideration be given to the requirement for 'as built' drawings as prepared for and certified by the Contractor to be submitted to Building Standards as a definitive record of what was built. This could be a formal part of the Completion Certificate process.	The Amendment to warrant process is the current vehicle for this action. See 4.6 Property team to assist Building Standards Officers in accessing the documentation / portal.	Building Standards Manager	End of March
4.4		It is critical that there is effective communication of essential design information in an accessible form to tradesmen such as bricklayers working on site. In relation to the construction of walls and the incorporation of related structural accessories, in order to avoid mistaken omissions of accessories such as wall ties, head restraints or bed joint reinforcement, it is recommended that all relevant information should be fully integrated into a single document, rather than requiring reference by bricklayers to a	The design and construction professions should consider the need for the development of a better approach to the integration of documentation to reflect the practical needs associated with the implementation of design information in a building site environment. From the evidence provided to the Inquiry, there was a unanimous view that a comprehensive set of all such information in regard to the construction of external cavity walls should be provided on a	Complete rollout of Viewpoint for Projects (property projects)	Head of Property	End of April

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
		range of different documents produced by different members of the design team.	document produced by the structural engineering consultants.			
4.5		The evidence to the Inquiry suggested that the design intent in relation to the importance to the structural integrity of masonry panels of the proper installation of wall accessories and secondary steelwork, may not always be adequately conveyed in design documentation and may not be fully understood by those reviewing the documentation (or perhaps more importantly by those actually building the walls).	Structural engineers should be required to describe in their documentation and drawings the approach and design philosophy adopted in their designs in terms of the reliance on the inclusion of bed joint reinforcement, wall head and lateral restraints or windposts in the required locations and in accordance with the specification, and the relative inter-dependence of these various components.	Complete rollout of Viewpoint for Projects (property projects)	Head of Property	End of April
4.6		The approved building warrant system relies on buildings being constructed in accordance with the approved drawings.	Contractors should ensure that any amendments to the structural design of buildings should only be implemented after having undertaken any necessary checks or amendment to the design by the structural engineer and any changes to the approved design should be documented and processed in compliance with the statutory obligations imposed by the Buildings Standards regulations under the amendment to warrant process.	<ul style="list-style-type: none"> • The amendment to warrant process should be built into the processes of change within projects. • Amendments to Warrant must be approved before amended works are commenced. • Statutory obligations under the Building (Scotland) Act 2003 to be strengthened by implementation of the IDOX Notices module • Senior Management and Legal support for statutory enforcement action by Building Standards service. 	Client/Design Team Client/Design team GC/MM SB	Aug 17 End Mar 17

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
				<ul style="list-style-type: none"> • The current requirement of the SER scheme is that any structural design changes are signed off by the SE and are covered by an amended SER certificate forming part of an Amendment to Warrant application will be adhered to. • Amended SER certificates must be approved through the Amendment to Warrant process before amended works commence on site. • C of W appointment to liaise with Building Control over any design change. 	GC	End Mar 17
					GC	End Mar 17
4.7		The City of Edinburgh Council was not automatically provided with all relevant design, construction and survey information relating to the original construction, the subsequent investigations and the implementation of the remedial works to the PPP1 schools. In response to requests for elements of this information, the Council was advised by various members of the supply chain that it did not have a direct contractual right to this information and would have to seek it through the various levels of ESP's supply chain, including members of their original supply chain who may	PPP contract arrangements should incorporate clearly the right for public sector clients to be provided, by members of current and original PPP supply chains (and where relevant in return for an appropriate fee), with copies of all design and technical information, surveys, proposed amendments and as-built documentation in relation to their projects.	Review handover process with SFT.	Head of Legal Services	June

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
		be out of contract.				
5. Construction recommendations						
5.1		The evidence from this Inquiry suggests that the subsequent practical difficulties that arise from building the inner and outer leaves of cavity walls at different times may have been significant contributory factors in the lack of embedment of wall ties achieved.	The construction industry should carefully review this practice and if the separate building of the leaves of cavity walls is still required to achieve programme dates, it is recommended that standard wall ties should not be used and instead be replaced by alternative approved ties or by alternative construction to blockwork for the inner leaf e.g. use of structural framing systems.	Ensure C of W follow correct FOA is followed.	Property Manager	End of March
5.2		There would be significant benefit if the design of wall ties, particularly the type used on the Oxgangs School, more readily enabled both those laying the bricks and those inspecting cavity walls before closure, to determine that the minimum or recommended embedment of wall ties was being or had been achieved.	Clearer calibration or marking of these points through the introduction of colour, texture or shape could assist in this process, by making the level of embedment more clearly visible.	Review and include in specification for PC	Head of Property	End of March
5.3		Design and use of head restraints	There may be benefit in designers, contractors and manufacturers reviewing the practical complexity of installing the different forms of head restraints, particularly	Review and include in specification for PC	Head of Property	End of March

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
			when being connected to sloping beams, and seeking to simplify this in terms of specification, design and fixing of this component, thereby reducing the time required to fit them and any potential reluctance on the part of bricklayers to install them.			
5.3		Design and use of head restraints	As in the case of the wall ties, it would be beneficial if they were designed to incorporate some visible indicator to prove in any subsequent inspections that they had actually been fitted, thus preventing the need for avoidable intrusive investigations.	Review and include in specification for PC	Head of Property	End of March
5.4		The most common method of paying bricklayers in recent years has tended to be based on the number of bricks laid rather than on the time that bricklayers work. As generally applied, this approach would appear not to take account of the number, type and complexity of accessories that are required to be incorporated.	The construction industry should seek to review this approach to remove any perverse incentive of the payment mechanism to encourage the omission of elements providing the essential structural integrity of walls.	Review and include in specification for PC	Head of Property	End of March
5.5		The quality assurance processes applied by the contractors on the PPP1 projects failed to identify or rectify fundamental non-	The construction industry should seek to introduce, develop and promulgate standardised best practice methods in relation to the	Review and include in specification for PC	Head of Property	End of March

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
		<p>compliance with required standards in the construction of masonry walls. Irrespective of the potential role of independent inspections by agents of the client, such failures are and remain the direct responsibility of the contractor.</p> <p>The repeated failures across many different projects would suggest that either the quality assurance processes themselves or the manner in which these processes are implemented have frequently proved inadequate.</p>	<p>requirements of the related quality assurance processes, how they are implemented and who implements them.</p> <p>The design of such processes should consider the potential greater use of modern technology in relation to the digital recording of such areas of work.</p>			
5.6		<p>It is particularly important to note that in the case of the 17 PPP1 projects, visual only inspections of the external walls of these schools, by experienced teams of qualified structural engineers, failed to identify any indications of the subsequently identified presence of significant deficiencies in the construction of the walls.</p> <p>While visual inspections are clearly the first part of any structural assessment of walls and can help identify any movement, bulging or alignment issues, they should not be relied upon as evidence that the walls are properly constructed and</p>	<p>Quality assurance processes on site should be such that they prevent the closure of walls before proper inspection and sign-off has been facilitated to confirm the quality and completeness of the work.</p>	<p>Review and include in specification for PC</p>	<p>Head of Property</p>	<p>End of March</p>

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
		have the required structural capacity to resist strong winds.				
5.7		The Inquiry is of the view that, given the widespread nature of similar defective construction across the 17 PPP1 projects, undertaken by bricklayers from different sub-contracting companies, and from different squads within these companies, there is clear evidence of a problem in ensuring the appropriate quality in this fundamental area of construction.	The construction industry should re-examine its approach to recruitment, training, selection and appointment of brick-laying subcontractors, means of remuneration, vetting of qualifications and competence, supervision and quality assurance of bricklayers.	Review and include in specification for PC	Head of Property	End of March
5.8		<p>Fire-stopping and fire-proofing are fundamental aspects of the safety of buildings and must be treated with the importance that they deserve due to the potential implications for the safety of building users and the risk to property as a result of defects in their incorporation into the building.</p> <p>There has been significant evidence of failures of fire-stopping in PPP projects in England and questions have been raised as a result of the initial surveys of fire-stopping undertaken across the 17 PPP1 projects in Edinburgh.</p>	In relation to these aspects, consideration should be given to the introduction of independent, in-depth inspection and certification by a suitably qualified person or specialist company, in accordance with the provisions made within the Building (Scotland) Act 2003, and that this certification be required to be provided to Building Standards as evidence of fully compliant installation, prior to the approval of the Completion Certification by Building Standards.	<ul style="list-style-type: none"> • Building Standards teams in Highland continue to place a stronger focus on inspecting fire separation and fire stopping of service penetrations than most other construction processes and this will continue. • The Construction Compliance Notification Plans (CCNP) issued with every Building Warrant Approval is the mechanism where critical elements of construction require to be inspected prior to being covered over. • Where items are not notified for inspection by the client/ contractor/designer in 	GC	On going
					GC	On going

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
				<p>line with the CCNP Building Standards teams will require areas to be opened up for inspection.</p> <ul style="list-style-type: none"> Specialist fire-stopping companies do certify their work. This procedure could be used. Each fire-stopped penetration is labelled, signed and digitally recorded. It is recommended that this be adopted as standard practice. Building Construction Compliance Notification Plan (CCNP) – Building Standards can include fire stopping in this plan. Consider liaison with C of W to include any fire stopping instances in the CCNP. 	GC	On Going
					GC / BSD	TBC
6. Training and recruitment recommendations						
6.1		<p>The evidence to the Inquiry from several experienced sources suggested that there is an increasing shortage of essential skills and/or deskilling in the construction industry which is impacting on its ability to deliver and ensure the required quality of construction.</p> <p>Three particular areas were identified where a combination of a lack of funding, lack of</p>	<p>The appropriate authorities should undertake a review of the current level of provision of training in these areas, and any others considered relevant, to ensure that the construction industry has access to an adequate properly trained and qualified resource in each of these areas.</p>	<ul style="list-style-type: none"> Professionally qualified and experienced Building Standards Surveyors are required to ensure full Reasonable Inquiry is undertaken as required by legislation. This applies more so when the building types are public access buildings and/or complex. Additional resources to employ BS Surveyors to provide an increased level of 	GC	On going

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
		<p>appropriate training courses and lack of recognition of the level of requirement has led to serious skills shortages and difficulties in recruitment. The three areas were:</p> <ul style="list-style-type: none"> • Bricklaying • Clerks of Works • Building Standards Inspectors 		scrutiny should be considered for capital projects and paid from the Capital budget.	SB	
6.2		Apprenticeships	<p>In relation to the training of bricklayers, the Construction Industry Training Board (CITB) should review with the industry the effectiveness of current apprenticeship arrangements in meeting the objective of developing a highly skilled bricklaying workforce.</p> <p>The current apprenticeship course and skills tests should also be reviewed to ensure that there is sufficient focus on understanding the function of and the practical installation of brickwork accessories.</p>			
7. Building Standards Recommendations						
7.1		The Inquiry formed the view that there was a common misconception as to the extent of the reliance that can be placed on the quality of construction of a building	To resolve this issue, there is a need for Government and the construction industry to consider the introduction of methods that would provide Buildings Standards with the	<ul style="list-style-type: none"> • The Construction Compliance Notification Plan (CCNP) process requires revising both at a SG level and at LA level to concentrate on the more 		

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
		<p>because it had successfully gone through the statutory Buildings Standards process.</p> <p>The typical frequency of site visits and the level and nature of inspections undertaken, as provided in evidence, can only confirm that buildings are being built generally in accordance with approved warrants.</p> <p>It would not appear to be either practical or appropriate for Building Standards Departments to be expected to undertake the type and level of detailed inspection that would be necessary to identify the risks to user safety that have been identified in this Report. However, an underlying core objective of their function as expressed in the Building (Scotland) Act 2003 is 'securing the health, safety, welfare and convenience of persons in or about buildings'.</p>	<p>required level of assurance in risk areas.</p> <p>In this regard, it is recommended that consideration be given to the practicality of extending the concept of mandatory inspection and certification of construction by approved certifiers to elements of the building that could potentially pose significant risk to users if not constructed properly and which level of inspection cannot practically be undertaken by Building Inspectors themselves.</p>	<p>critical inspection stages.</p> <ul style="list-style-type: none"> • The importance of a 'fully accepted' CCNP, by the verifier, needs to be more forcibly put across to the customer via Focus Group meetings and the added risk of the CC being rejected. • Scottish Government developing further the certification of construction processes will be assisted and supported by HC to include more aspects of the regulations. • Develop further the use of photographic evidence in lieu of undertaking site visits. • Increasing site inspection visits to ensure compliance will require an increased financial resource. This action is not achievable given travel/mileage costs are continually being challenged – and pressure is continually applied to cut travel costs. <p>CCNPs, expand brickwork / fire stopping into certification.</p> <p>Review Scottish Government progress on making changes.</p>	<p>GC</p> <p>GC</p> <p>GC</p> <p>GC</p> <p>GC/MM</p>	<p>End Mar 17</p> <p>End Mar 17</p> <p>On going</p> <p>On going</p> <p>?</p>
7.2		The evidence provided to the Inquiry showed a number of breaches in relation to the PPP1	The Inquiry would recommend that in order to improve the effectiveness of the revised	<ul style="list-style-type: none"> • Implement fully the Notices (enforcement) module of the IDOX case management 		

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
		<p>schools compliance with the statutory applications and certification processes required under the Building (Scotland) Act 2003.</p> <p>The Inquiry noted that: (a) there does not appear to be an automatic follow up by Building Standards Departments to require compliance, where proper processes have not been complied with; and (b) that the non-application for and non-issue of completion certificates for new buildings would not appear to be an infrequent occurrence.</p>	<p>Building (Scotland) Act 2005, in delivering the key stated policy objective of, 'securing the health, safety, welfare and convenience of persons in or about buildings', systematic and appropriate administrative arrangements should be developed and implemented by verifiers to identify, pursue and sanction those who fail to comply with its statutory requirements.</p>	<p>system including a Document Management System category.</p> <ul style="list-style-type: none"> Implement a protocol for the enforcement of the statutory requirements of the Building (Scotland) Act 2003 that will be fully supported by senior management, where the project owner is the Highland Council. Monitoring the validity of Temporary Occupation Certificates will be undertaken by BS and notification given on the resultant non-compliance of Council operated or owned buildings to Senior Management. 	<p>GC/MM</p> <p>GC/MM</p> <p>GC</p>	<p>Aug 17</p> <p>Apr 17</p> <p>End Mar 17</p>
7.3		<p>In circumstances in PPP contracts where the Building Standards Certificate of Completion cannot yet be issued, and the issue of an Availability Certificate is permitted under the contract on the basis of a Temporary Occupancy Certificate.</p>	<p>It is recommended that there should be a specific requirement that the Independent Certifier issuing an Availability Certificate should formally advise the public sector client of this fact and qualify the documentation to reflect this position.</p> <p>Additionally, it is recommended that there should be a requirement under the contract that, in such circumstances, a date should be set by which the Project Company should</p>	<ul style="list-style-type: none"> The BIM processes being developed, and existing project management processes, should be the mandatory mechanism whereby the CC acceptance is mandatory before public buildings are handed over/received by the client. In circumstances where the CC cannot be accepted but a Temporary Occupation Certificate can be granted all parties must accept that the Temp Occ Cert is valid for a limited period of time only. 	<p>FM/client</p>	

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
			be required to have achieved an accepted Certificate of Completion or be in default.	Once this period expires the building technically reverts to being a non-compliant building. <ul style="list-style-type: none"> • Non-compliance issues with the Building Act, rejected CCs and Temp Occ cert will be reported by BS to senior management. • The granting of a Temp Occupation Cert is a discretionary function. Training for BS staff related to the circumstances where a Temp Occ should be rejected to be programmed 	FM/client GC GC	End Mar 17 End Apr 17
7.4		The Inquiry noted, from the evidence provided, the number and preponderance of visits by Building Inspectors which focussed on drainage issues compared to the limited number of visits that were undertaken in relation to the compliance of the construction of the general structure and fabric of the buildings, the design and specification of which would have represented the vast majority of information submitted and scrutinised by Building Standards prior to approval of the design warrant.	It is recommended that a review be undertaken as to the overall objective of site visits undertaken by Building Inspectors to ensure that the planning of these properly reflects a prioritisation of the identification and inspection of areas of highest risk.	The fundamental purpose of Building Standards is to protect the health and safety of persons in and around buildings. In Highland, we will continue to place a stronger focus on fire separation and fire stopping of service penetrations to protect escape routes than most other construction processes; this procedure will continue.	GC	On going
7.5		Building standards Department of the City of Edinburgh Council.	It is recommended that a review be undertaken of the	• A review of BS staffing and resources would be		

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
			staffing and funding of the Building Standards Department in Edinburgh Council to ensure that these are adequate to meet the demand for services and to provide the level of service that is required.	welcomed. <ul style="list-style-type: none"> Increasing site inspections/visits will undoubtedly allow the surveyor to see more stages of construction. This needs however to be balanced against the Council's driving down travel costs. A portion of the BW fee income is set aside to pay for site inspections. 	GC/MM	End Mar 17
8. Information Sharing Recommendations						
8.1		The Inquiry found that there was a degree of reluctance on the part of some Local Authorities to reveal to the Inquiry full details of the extent and nature of defective construction that had been found as a result of investigations undertaken at some of their schools. This reluctance could be related to possible on-going litigation or a reluctance on their part (or that of their project company) to have this information made public.	It is recommended that there should be a formal requirement on public bodies to make automatic disclosure to a central source of information on building failures, particularly in relation to building failures that bring with them potential risks to the safety of building users. In particular, the collation and dissemination of information relating to matters of structural concern is a vital element of achieving safe structures. The Standing Committee on Structural Safety (SCOSS) has introduced the Confidential Reporting on Structural Safety (CROSS) scheme, to facilitate this process in circumstances where those providing the	SCOSS bulletins will be publicised on Sharepoint and distributed to staff.	GC	Immediately

REPORT REF.	GRADE	FINDING	RECOMMENDATION	MANAGEMENT AGREED ACTION	IMPLEMENTATION	
					RESPONSIBLE OFFICER	TARGET DATE
			information may wish to retain a degree of anonymity. This should be used more widely.			
10. Further Investigations						
10.1		In relation to the potential presence of further defective construction in the external walls of other of their buildings, the City of Edinburgh Council is undertaking a proportionate and structured risk-based approach to investigating their wider estate, specifically regarding the issues identified on the PPP1 Estate i.e. wall tie embedment and the provision of appropriate restraints to masonry panels.	Other clients of recently constructed buildings of a similar scale and form of construction to the PPP1 schools, if concerned that their buildings may contain similar defects, may wish to adopt a similar risk-based approach to any investigation process they may feel necessary.	Ongoing reviews	Head of Property	August