

SPECIFICATION

for

**Construction of a single and two-story classroom extensions with
ancillary accommodations and associated site work**

At

Scoil Mhuire agus Iosaf , Collooney, Co. Sligo

For

The School Board of Management

Scoil Mhuire agus Iosaf

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Alterations to Existing Building (00)

Drawings of Existing Building

- 00.01 The main contractor should note that the drawings of the existing buildings are for general information only, and upon taking possession of the site should undertake a detailed measured survey & take levels of the existing buildings, site & surrounding area including all overground and underground services. The main contractor must provide this survey to the architect and structural engineer as soon as possible after commencing works on site.

Alterations to existing building - General

- 00.02 The Contractor tendering should fully acquaint themselves with the condition of the existing site, buildings, areas & items to be demolished/removed, adjustment of ground levels around new extension, all new & existing foul & surface water pipe runs, possible overground & underground telecom & electrical cables located on site or adjacent to site, water supply pipes etc., gas supply pipes, condition of all adjoining properties, all boundaries and all other features, conditions and matters which could influence the demolition or any other works associated with carrying out the overall contract for both demolition / renovation works & construction of the new extension and associated site works.
- 00.03 N.B. - The main contractor is to note that the school & all adjoining properties will remain in use for the duration of the works.
- 00.05 The main contractor shall include for all costs associated with removing/ decommissioning redundant services met during excavations, whether or not they are shown on the tender drawings.
- 00.06 The main contractor must allow for submitting to the architect & structural engineer all drawings and calculations in relation to all proposed temporary works that the main contractor deems necessary to undertake and complete the works. Temporary works may include but would be not limited to such matters as trench shoring, scaffolding, propping, working platforms, gangways and access stairs/ladders etc.

Method Statement for all Demolition & Renovation Works

- 00.07 The main contractor must also allow for providing a detailed method statement for all demolition, excavation and renovation works to the existing buildings, including all temporary works, etc., taking into consideration the particular conditions and requirements encountered on this specific project which are detailed on the tender documents and all other conditions which also may be encountered during the course of the works and not identified on the tender documents. This method statement must be submitted to the architect & structural engineer prior to the commencement of any demolitions or alterations to the existing building.
- 00.08 N.B. - Ensure all services are kept operational in existing school during school hours where possible, including hot water, heating, water supply, electricity, gas, foul & surface water drainage, telephone etc, etc.. The main contractor must provide a power generator on site at their own expense for the duration of the contract to prevent disruption in times of power failure. Where the temporary disconnection of any particular service is deemed necessary, the main contractor must agree time & duration of cut off with the client beforehand before proceeding with cutting power to the school.

Waste Management Plan

- 00.09 The main contractor should note that they are required to submit, and obtain the written agreement of the employer's representative, a plan containing details for the management of waste (and, in particular, recyclable materials), including the provision of facilities for the storage, separation and collection of the waste and, in particular, recyclable materials, and for the ongoing operation of these facilities.

Demolition & Alterations to the Existing School Building & Surrounding Areas

- 00.10 Allow for all demolition of all internal and external walls, forming new opes, adjusting opes, blocking up existing opes, removal of existing doors and windows, taking up sections of existing concrete floors timber floors, removing all existing floor covering etc., removing existing concrete flat roofs, taking up existing external concrete/tarmac paved & grassed areas as necessary where shown on the architects drawings for this project, and for removal of all debris to an approved site which has a current waste licence or waste permit.
- 00.11 Allow for making good to all areas \ finishes on completion and for keying blockwork to existing walls where necessary using Ancon Staifix or equivalent proprietary steel wall starter system.
- 00.12 Ensure that no leaks occur into existing building due to disturbance etc. during the course of the works and contractor should take full responsibility for making good and any costs incurred should such an event occur.
- 00.13 Allow for touching up and making good all finishes where disturbed. Allow for temporary altering/adjusting of all services as necessary.
- 00.14 The main contractor is to allow for all builders work in the existing building in connection with the Mechanical & Electrical installation as set out in the Service Engineers builders work schedule. The main contractor is to also allow for all necessary attendances to ensure that all parts of the existing building disturbed by the mechanical & electrical works is made good and or patched, cleaned and redecorated as necessary.

Removal of Existing prefab

- 00.16 Allow for disconnecting and blocking off services to the prefab and allow for the complete demolition & removal of the existing prefab including walls, roof, doors and grubbing up all existing floors and foundations in order to make way for the proposed new extension.

Hoarding/Fencing In Existing Building

- 00.21 Internal Areas:
Allow for securely hoarding off internal areas of the building during the works along the lines shown on the architects phasing plan drawings. Hoarding to be: 19mm plywood on 100 x 50 studs at 300c/c with 2 no. layers of polythene sheeting, one on each side. Seal all joints with silicone mastic to prevent ingress of moisture, wind or dust.
- 00.22 The contractor is to ensure that tarpaulins etc are on site at all times to protect the existing areas of the building at short notice.

Existing External Walls Now Internal

- 00.23 Allow for hacking off plaster of all external walls that are now internal

Lining of External Walls Now Internal

- 00.24 Allow for lining existing internal walls with 12.5mm th. Gyproc Duraline or equivalent heavy duty impact resistant plasterboard, which is to be mechanically fixed to 22x50mm timber battens at 400mm crs., in accordance with the manufacturers recommendations. Allow for taping and filling all joints and finishing with a skim plaster finish & painted as specified later in this specification for interior walls.

Existing Wall/New Wall Vertical Joint

- 00.26 Allow for chasing a 100mm deep, 40mm wide continuous vertical chase into the existing walls, and for supply and inserting a vertical DPC & 40mm rigid insulation as shown on the architects drawings.

Existing Wall to New Flat Roof Abutment

- 00.27 Allow for chasing a 50mm deep chase into the existing wall above where new flat roofs abut existing walls, to be a minimum of 150mm above the finish level of the new flat roof, and for supply and inserting 5lb lead cover flashing in to the chase to be fitted over new Trocal metal upstand, & 25mm th. vertical upstand insulation, as shown on the architects detail drawing. Allow for painting all lead upon completion with patination oil.

Building Up Existing Walls

- 00.28 Allow for laying new concrete blockwork on top of the existing walls where indicated on the architects section and elevation drawings. This new blockwork is to be plastered on both sides and painted to match existing.

Existing Gutters & Downpipes

- 00.29 Allow for removing of gutters and downpipes where required for the new extension as indicated in the architects drawings. Allow for removal of all debris to an approved site which has a current waste licence or waste permit. Allow for making all necessary adjustments to the existing gutters where falls may need to be re-directed as necessary.

Existing Foul & Surface Drainage

- 00.30 Allow for making all necessary adjustments to the existing foul water & surface drainage to allow for the new extension as indicated on the architects drainage floor plan & as specified by the structural engineer.
- 00.31 The main contractor is to allow for all builders work in the existing building in connection with the Mechanical & Electrical installation as set out in the Service Engineers builders work schedule. The main contractor is to also allow for all necessary attendances to ensure that all parts of the existing building disturbed by the mechanical & electrical works is made good and or patched, cleaned and redecorated as necessary.

Existing Soffits, Fascia's & Verges

- 00.32 Allow for cleaning down of all existing fascia's, soffits and verges being retained that are disturbed during construction. Allow for repainting with 2 coats of Dulux Weathershield exterior satinwood or masonry paint, in a colour to be selected by the architect.

New Floor Finishes in Existing Building

- 00.36 Main contractor to allow for removal of all floor finishes where indicated on the survey floor plan drawings, to be being replaced by new flooring finishes where shown on the architects floor finishes plan & as detailed in Section 43 of this document.
- 00.37 The main contractor is responsible for ensuring that the surface of the existing floors being recovered in this project as shown on the architects floor finishes layout drawing are suitable to receive the floor finishes as specified in Section 43 of this document. If the architect, or the flooring manufacturers representative is dissatisfied with the floor surface of any of the floor areas being recovered in the existing main building, the main contractor must allow for the cost of remedying the floor using levelling compound at no additional cost to the contract, to be "Forbo Europlan 960 Super" or equivalent product as recommended by the flooring manufacturers representative. Floor levelling compound to be laid & levelled strictly in accordance with the manufacturers recommendations.

Repairs to Existing Ceilings Disturbed & Repainting of Same

- 00.38 Make good any areas of the ceiling in the main building disturbed during the course of the works, and for all necessary additional sections of new 12.5mm plasterboard with skim finish to the parts of the ceiling where existing walls are demolished etc. all to match existing ceiling.
- 00.39 Allow for repainting all ceilings in the parts of the school being renovated - all areas that have a new floor finish are to have ceilings painted - refer to architects floor finishes plan. Also allow for re-decorating & touching up all areas of the existing ceilings where disturbed during the course of the works.
- 00.40 Existing internal ceilings in renovated areas to be re-decorated as follows: - Wash and clean down existing ceilings, filling as necessary. Clean and dust surface. Apply one undercoat, 2 coats of Vinyl Soft Sheen Emulsion finish by Dulux or equivalent.

Painting & Decorating of Internal & External Walls in Existing Building

- 00.41 Allow for making good to all walls in the existing building disturbed by the works, and leave ready for re decoration.
- 00.42 Allow for repainting all internal walls in all areas of the existing school being altered, i.e. existing main corridor lobbys & toilets and store. Clean down existing walls, filling as necessary. Paint walls as per the specification for painting new walls described later in this specification.
- 00.43 Allow for repainting all external walls of the existing school. Clean down existing walls, fill as necessary. Paint walls as per the specification for painting new walls described later in this specification. Allow for repainting external boundary walls of the existing school. Clean down existing walls, fill as necessary. Paint walls as per the specification for painting new walls described later in this specification.

Prepared Site (10)

Contractors Access to Site

- 10.01 The main contractor is to take note of the proposed location of the access route to the works during the project as shown on the contractors working area/phasing plan drawing. Prior to the submission of their tender the main contractor must satisfy themselves that the proposed access route to the works and the works area itself will be adequate for their operations and the operations of all their sub contractors. No subsequent claim for inadequate access or having too small a work area will be entertained by the employer's representative or the contracting authority after the contract is signed.
- 10.02 Prior to the signing of the contract the main contractor will be required to agree in writing to restrict their operations to the areas indicated on the architects working area drawing where ever possible, and should note that they can only enter other parts of the school with the express written permission of the contracting authority.
- 10.03 Immediately upon taking possession of the site, the main contractor is to take a detailed survey (including photographs etc.) of the condition of all existing driveways, paths, kerbs, walls, piers, gates or any other features or areas that may be disturbed or damaged during the course of the works, and supply same to the employer's representative, as soon as possible after the commencement of works on site.
- 10.04 The main contractor is to allow for making good to all areas of the existing paths, tarmac or concrete drives, kerbs, grass areas, walls, piers, gates etc., etc. damaged by vehicular traffic using the access route/driveway/grass areas allocated to the contractor for the duration of the works. To be clear, the main contractor must allow for reinstating and/or making good to all damaged surfaces, features or areas caused by the construction operations on site, whether or not the damage is within the area set out for the builder on the architects drawings
- 10.05 The main contractor is to allow for power washing & cleaning the entire access road & car parking area upon completion.
- 10.06 No mud, clay etc., will be allowed on to the public road. The contractor is to ensure that there is a daily cleaning regime in place to ensure that the public road is kept clean at all times.

Hoarding/Fencing On site

- 10.07 External Fencing:
Main contractor to allow for the supply and erection of steel wire mesh fencing with green fabric netting to all areas enclosing the contractors working areas for phase 1 & 2, as shown on the architect's drawings.
- 10.08 External Hoarding:
Main contractor to allow for the supply and erection of solid timber hoarding to all areas shown on the architects contractors working area drawings, To be 19mm WBP plywood on 100 x 50 studs at 300c/c, to be painted in a colour to be selected by the architect.

Removal of Existing Paths/tarmac Areas

- 10.11 Allow for breaking up and removing existing concrete/tarmac paved areas around the existing prefabs being removed and the existing playshed being removed. All debris is to be removed and disposed to a site with a current waste licence or permit.

Removal of existing fence

- 10.15 Allow for carefully removing existing mesh fence to allow for builders access or prevent any fence damage, store in agreed location for reinstallation on completion. All debris is to be removed and disposed to a site with a current waste licence or permit. Make good to all finishes upon completion.

Removal of existing concrete ramps, steps and railings

- 10.15 Allow for removing existing concrete ramps, steps and railings as indicated in architects site plan to allow for builders access. Fill in all voids & build up levels as required with compacted clause 804 hardcore in accordance with the structural engineers drawings & specifications, and remove all debris from the site to a location which has a current waste licence or waste permit.

Removal of Existing Paths & Paving Areas

- 10.20 In addition to the demolition of the existing building, the main contractor is to allow for the removal of all existing concrete paths and tarmacadam/gravel areas which is required for the construction of the new extension, and as shown on the architects site plan. Fill in all voids & build up levels as required with compacted clause 804 hardcore in accordance with the structural engineers drawings & specifications, and remove all debris from the site to a location which has a current waste licence or waste permit.

Alterations to existing drainage

- 10.21 Main contractor to allow for all necessary alterations to the existing foul and surface water drainage, as shown on the structural engineers drawings & specifications & architects drainage plan. Fill in all voids with hardcore, and remove all debris from the site to a location which has a current waste licence or waste permit.
- 10.22 In their tender the main contractor is deemed to accept that the locations of the existing foul & surface water pipe runs, manholes location etc may vary from that indicated on the drawings and shall make local enquires and satisfy himself at tender stage in relation to making all necessary adjustments to the existing foul & surface water drainage, no additional claim from the main contractor in relation to the foul & surface water drainage will be entertained.

Repairs to tarmacadam & concrete areas where new trenches required

- 10.23 Allow for cutting existing good tarmac/concrete prior to digging trenches for new foul and surface water drainage pipes, pressure pipes, ducts, etc where shown on the architects drainage plan drawings, structural engineers & service engineers drawings for the project. Width of trenches to be kept at a minimum.
- 10.24 Allow for backfilling trenches and for re-finishing/making good as specified by the structural/service engineer and finishing off top of trenches with either new tarmac minimum 60mm deep, compacted and rolled flush with existing tarmac surfaces or 100mm concrete on 50mm sand blinding on 225mm layers of compacted hardcore.
- 10.25 Allow for sealing new tarmac to existing tarmac with appropriate bitumen sealer. Allow for finishing concrete to match existing paths.

Site Preparation

- 10.26 Main contractor to allow for excavation of top soil, approximately 300mm deep across the contractors working area, and for depositing in spoil heaps on site for re-use, note that all excess top soil which is not later reused is to be removed from the site by the main contractor to a location which has a current waste licence or waste permit.
- 10.27 Also allow for excavating to reduce levels as necessary and for removal of excavated material from the site to a location which has a current waste licence or waste permit.
- 10.28 Main contractor is to allow for keeping all excavations free of ground water.
- 10.29 Main contractor to supply and deposit in layers Clause 804 hardcore fill to make up and re-build levels as necessary.
- 10.30 Allow for removing the topsoil of all areas that the contractor deems necessary for the site office/compound etc., and storing same in spoil heaps on site for later re - use. Allow for supply and laying a 225mm layer of hardcore to these areas to form a good level surface.
- 10.31 Upon completion of the project, allow for removal of all hardcore from the site and reinstating the topsoil and reseedling as set out on Section 80 - Landscaping of this specification.

Overhead Cables on Site

- 10.35 Main contractor is to note that there are existing ESB & Telecom poles & overhead wires crossing the site. Ensure that all such locations are clearly identified, and all necessary precautions are taken in working in the vicinity of same. Contractor to coordinate with the ESB as required.

Substructure (19)

Testing Cubes and Samples

- 19.00 Main contractor to allow for testing of concrete as required below including:
- 19.01 Preliminary tests on concrete
- Immediately upon commencement of the contract the Main Contractor is to submit all details of the various concrete mixes being used on this particular project, and the structural engineer may require that preliminary crushing tests be carried out on the various mixes being used. Any claim by the main contractor for a time delay due to a possible requirement for testing of concrete will not be entertained.
- 19.02 The main contractor must allow for providing a minimum of six concrete cubes 150x150x150mm for each mix, and delivering them to a laboratory nominated or approved by the structural engineer. The laboratory must carry out the tests in accordance with B.S. 1881, with 3 cubes of each mix crushed at 7 days and the other three at 28 days. The results must then be furnished to the structural engineer for approval, before concrete is delivered to site.
- 19.03 Works Tests of concrete
- In the absence of any specific instruction, the main contractor must allow for as a minimum to make concrete test cubes and take slump tests on each of the first five days of use of each batch of concrete delivered to site and thereafter at intervals not exceeding 10 days, unless otherwise agreed by the structural engineer.
- 19.04 The main contractor is to allow for carrying out sampling of concrete to be taken at the point of depositing. Concrete cubes shall be cast in purpose made steel moulds - 150x150x150mm in sets of 3 from which one shall be tested at 7 days, one at 28 days and the 3rd retained at site pending the structural engineers instruction for testing or disposal.
- 19.05 The contractor must allow for delivering the cubes to a laboratory nominated or approved by the architect, where the cubes are to be tested in accordance with B.S. 1881. One cube of each batch shall be tested by the laboratory at 7 days, one at 28 days and the 3rd retained at site pending the structural engineers instruction for testing or disposal. The results of the tests must then be furnished to the structural engineer for approval.
- 19.06 Unsatisfactory test results
- In the event of unsatisfactory test results being furnished to the structural engineer, the structural engineer reserves the right to reject the works represented by the test results and/or instruct the contractor to:
- 19.07 Cut from the finished work samples of concrete for testing.
- 19.08 Apply loading tests to suspected defective members, to a load test specification prepared by the structural engineer.
- 19.09 Make such other tests as may be determined by and acceptable to the structural engineer.
- 19.10 The contractor shall carry out such works expeditiously and shall be responsible for the costs thereof and for any delays incurred.

Excavations

- 19.11 Main contractor to allow for all excavations associated with the foundations, retaining walls & floor slabs of the new extension as specified by the structural engineer, while allowing for all necessary earthwork supports to trenches, and for maintaining trenches in good condition, and keeping trenches free of water etc., prior to the pouring of foundations.

- 19.12 Main contractor is deemed to accept that the ground conditions may vary from that indicated on the drawings and shall make local enquires and satisfy himself in relation to the ground conditions, water table and other factors affecting the proposed excavations, and no additional claim from the main contractor in relation to the ground conditions will be entertained.
- 19.13 Main contractor to also allow for disposal of all excavated material an approved site which has a current waste licence or waste permit, with the exception of any topsoil excavated, which will remain in the ownership of the client. As part of this contract, the main contractor must allow for relocating any excess topsoil which is not required on site upon completion of the landscaping works to be removed from the site by the main contractor to a location which has a current waste licence or waste permit.
- 19.14 The main contractor is to allow for all necessary temporary shoring of excavation trenches to ensure soil stability. The responsibility for design & specification of temporary shoring to be undertaken by the main contractor, a detailed method statement for such works must be submitted to the structural engineer for approval prior to commencement of this element of the works.

Hardcore Fill to make up levels

- 19.15 Main contractor to allow for supply, depositing, and compacting hardcore fill to backfill foundations and to make up levels for new floor slab, laid in 225mm compacted layers. The properties of the hardcore, and the overall depth of same to be as specified by the structural engineer for this project.
- 19.16 NOTE: The main contractor is to note that they must to provide certification for ALL hardcore used on site, i.e. certification must be obtained for each delivery to site, and immediately submitted to the structural engineer & assigned certifier PRIOR to being used on site.

Concrete pads & footings

- 19.17 Allow for supply and pouring of lean concrete mix to formation level under all foundations, as specified by the structural engineer.
- 19.18 Main contractor to pour the concrete foundations as set out on the structural engineers drawings & specifications.
- 19.19 NOTE: The main contractor is to provide all necessary certification for ALL concrete used on site, i.e. certification must be obtained for each delivery to site, and immediately submitted to the structural engineer & assigned certifier.
- 19.20 Reinforcement to all foundations to be strictly as specified on the structural engineers drawings & specifications.

DPM \ Radon Barrier

- 19.21 Barrier to consist of installation of 5 no. proprietary radon sumps, to be Necoflex "Easi-Sump" or equivalent, together with an IAB certified sealed protection membrane system, to be Necoflex Monarflex RMB400 or equivalent (must have 11kN/m min. break strength in accordance with BS 5757 Part 2). Radon sumps to be installed directly below the radon barrier level (see floor plan for the positions of the sumps), and interconnected as shown on the floor plan with 110mm dia. uPVC pipes. A 110mm dia. uPVC pipe is to be taken from the sumps to terminate at footpath level outside the building, where shown on the floor plan. This pipe is to be laid in accordance with standard drainage details and to be capped, sealed and clearly identified as radon transfer pipe at finished footpath level. The pipe must also be sealed where it passes through the external wall to avoid drawing in air from the outside.

The RMB400 membrane is to be laid on the sand blinding in continuous sheets over the complete floor area, to wrap up and around the edges of rising blockwork (see architects detail drawings). At all laps ensure a minimum overlap of 150mm. All surfaces to be joined to be clean & dry beyond full width of joint, laps to be sealed with Necoflex Monobond RT in accordance with the manufacturers recommendations. Particular care to be taken to ensure that all seams, corners, services etc. to be fully sealed with proprietary seals where passing through the barrier, all fully in accordance with the manufacturers details & recommendations.

- 19.22 The main contractor must also to ensure that there is adequate structural support above the openings where the pipe passes through the external wall & terminates outside the building.
- 19.23 To facilitate passage of any Radon Gas present to the radon sump, gaps of one quarter block in length for every 4 blocks should be left along last course of internal rising block work directly below the Radon Barrier. Radon barrier to be 400µm th. radon barrier with 11kN/m strength (BS 5750 Part 2) and must have IAB certification to be laid on 50mm th. compacted sand blinding in a continuous sheet over the complete floor area, to pass up over the inner leaf block work and out over the cavity (see architects detail drawings). Particular care to be taken to ensure that all seams, corners, services etc. to be fully sealed with proprietary seals where passing through the barrier, all fully in accordance with the manufacturers details & recommendations.
- 19.24 N.B. Main contractor to use proprietary Self-Adhesive Radon Flashing membrane around all steel columns & preformed proprietary collar systems around all pipe or cable upstands as per the manufacturers recommendations, prepare sample for approval by the architect before sealing membrane to all columns, pipes & cables.
- 19.25 Internal block work can then be completed to D.P.C. level with care taken to prevent damage to the membrane during this procedure. The membrane should then be protected immediately by laying the floor insulation directly on the membrane. In view of the difficulties in achieving gas tight seals under site conditions it is strongly recommended that the membranes be prefabricated and installed by appropriately trained personnel, with inspections by the membrane manufacturers representative.

Blockwork Rising walls

- 19.26 Rising walls of solid block work complying to I.S. 20 or of 25N concrete to be to a level 225mm below finished floor level, as specified by the structural engineer.
- 19.27 Allow for supply & laying a 225mm high course of "Roadstone Thermal Lite block" or equivalent thermal concrete blocks on the inner leaf of the external rising walls and at floor level of the internal walls, where indicated on the architects section & detail drawings, made up of 2 no. soap bar blocks. Thermal Concrete blocks to have a minimum compressive strength of 7.5N/mm², and must be CE marked and manufactured to the requirements of I.S. EN 771-3 to System 2+, and must have a thermal conductivity of 0.33W/mK or less.

Ground Floor Slab

- 19.27 150mm. POWERFLOATED CONC. FLOOR SLAB WITH 1 LAYER OF A142 REINFORCEMENT MESH ON 0.125mm VAPOUR CONTROL LAYER ON 150mm TH. INSULATION WITH MIN. 0.022W/mK THERMAL CONDUCTIVITY ON 400µm THICK RADON BARRIER WITH MIN. 11kN/m STRENGTH ON 50mm LAYER OF COMPACTED SAND BLINDING ON 225mm LAYERS OF COMPACTED HARDCORE - TOTAL DEPTH TO BE SPECIFIED BY THE STRUCTURAL ENGINEER, PROVISIONALLY ALLOW FOR THE DEPTH INDICATED. ALL BLINDING & STONE FILL MUST BE SR 21 ANNEXE E COMPLIANT MATERIAL & EVIDENCE MUST BE SUPPLIED TO THE STRUCTURAL ENGINEER & ARCHITECT UPON DELIVERY
- 19.28 NB. - Main contractor to allow for drying of concrete floor slabs to the required moisture level for the specified floor covering prior to laying of floor covering. If the floor slab has not reached the required moisture level specified by the flooring manufacturer, the contractor must allow for supply and laying of a liquid DPM as set out in section 43 of this document, so as not to delay the overall programme for the project.

Ground Floor Slab - General

- 19.29 Allow for supply and installation of 40mm th. insulation (BS / I.S. EN ISO 13370: 2007) with 0.022w/mk thermal conductivity or better, to be laid vertically around the perimeter of the building, laid against the external walls as shown on the architects section drawings prior to the pouring of the concrete slab.
- 19.30 Minimum cover to the reinforcement in the floor slabs is to be 50mm, using spacer blocks or other method to ensure that all reinforcement is firmly fixed in position to achieve the required minimum concrete cover depth of 50mm.
- 19.31 Finished ground floor to be 225mm over finished ground level around building unless indicated at alternative levels on the drawings.
- 19.32 Allow Part "M" threshold at all exit doors which are to be run in with a 15mm threshold step with ACO drain or equivalent across the doorway. ACO drains to be connected to surface water system.
- 19.33 Allow for forming all control joints, construction joints, and isolation joints in the new floor slab as specified by the structural engineer.

D.P.C.'s to I.S. 57 1972

- 19.34 Supply and lay "Necoflex Easi-Load" Radon DPC system along the entire length of each wall at floor level. It should be dressed down to meet the blinding or slab/substrate and return horizontally a minimum of 100 mm to ensure correct overlap and sealing with the Monarflex RMB400 radon membrane. All radon DPC's must exit at external ground level to protect the cavity from the ingress of gas. Where the length of the radon DPC down stand in the cavity is deemed insufficient, an additional stepped DPC should be added. The damp-proof course to be installed in accordance with standard practice and with the relevant clauses of 'IS 325-2:1995 Code of practice for use of masonry' or 'EN 1996-2: Eurocode 6. Design of masonry structures. To form joints between adjacent sheets of Jointing Easi-Load Radon DPC ends should be overlapped by 100 mm and sealed using a single strip of 30 mm wide Monobond RT sealant tape. Joints to the Monarflex® radon, air and moisture membrane should be minimum 150 mm and sealed with a strip of Monobond RT sealant tape

- 19.35 0.5mm th. Polythene D.P.C.'s to be laid on all external and internal walls 150mm min. above G.L. over all lintels to openings in cavity walls, 300 mm longer than whole length of heads and frames, at sides of window opes and door opes, under chimney capping's etc.
D.P.C. shall also be laid under window cills.
Cills to be wrapped in D.P.C. to extend one block longer than the width of the window ope to each side of the ope. Take care to follow special D.P.C details as shown on architects drawings.
Fit tray D.P.C. in all cavity walls where pitched roofs meet same, to prevent water penetration at a lower level. Construct full lead tray to the chimney. Coat all lead with Patination oil on completion.
All D.P.C. Materials used to comply with I.S.57 1972.

Surface Water Drainage Under Floor Slab

- 19.36 Allow for supply and installation of all surface water drainage under the new floor slab as set out on the architects drainage floor plan.

Foul Water Drainage Under Floor Slab

- 19.37 Allow for supply and installation of all foul water drainage under the new floor slab as set out on the architects drainage floor plan drawing.

External Walls (21)

New External Walls

- 21.01 The external walls to be constructed in accordance with the architects & engineers floor plan & section drawings with wall thicknesses as indicated on drawings. External walls generally to be constructed of common concrete blocks, size 440 x 215 x 100mm, with a 100mm th. outer leaf, 150mm th. cavity and a 215mm or 100mm inner leaf - see architects floor plan drawings for details.
- 21.02 All concrete blockwork to be dense solid blockwork with a minimum compressive strength as specified by the structural engineer & comply with the requirements of I.S. 20: 1987. All concrete blockwork must be manufactured by a supplier with an IS/ISO 9002/EN9002 registered quality management system.
NOTE: The main contractor must provide all necessary certification for each delivery of concrete blockwork to site to the structural engineer & the assigned certifier.
- 21.03 All blockwork shall comply with BS 5628, Code of Practice for the use of Masonry, Parts 1,2 & 3, and workmanship shall comply with the relevant clauses of B.S. 8000 Part 3.
- 21.04 Blockwork to be laid on a full bed of mortar, 10mm thick, do not furrow. Fill all cross joints and collar joints, do not tip and tail. Raise no portion of the blockwork more than 1.2m at a time. Bring both leaves of cavity walls to the same level at every course. Do not lay blocks when the air temperature is below 5 deg Celsius and falling or 2 deg. Celsius and rising, do not use frozen materials and do not lay on frozen surfaces.
- 21.05 Cavity insulation to be full fill Xtratherm Cavity Therm 150mm th. insulation with 0.021w/mk thermal conductivity (BS / I.S. EN ISO 6946: 2007) or equivalent. Insulation to be supplied and fitted strictly in accordance with the manufacturers recommendations and in accordance with relevant IAB/BBA Cert. N.B. - ensure that a vertical DPC is fitted between the insulation and the inner face of the outer leaf at all internal & external corners.
- 21.06 Great care to be taken to keep cavity and ties clean and free from droppings. The use of a lath in the laying of block work should be allowed for to prevent the fall of mortar droppings in the cavity. N.B. No section of walling to have cavities closed at reveals until inspected by Architect and/or structural engineer.
Builder \ Foreman to thoroughly check all cavities are clean and in order prior to arranging for Architects inspection.

Weepholes

- 21.07 Neatly form 10mm weepholes in horizontal joint immediately above the base of the entire cavity, all external openings and over stepped dpc's at not greater than 1000mm centres coinciding with perpend joints. Ensure that holes are not blocked. Provide not less than 2 holes over openings.

Stainless Steel Wall Ties

- 21.08 Allow for the supply and installation of stainless steel wall ties, to I.S. E.N. 845:2003 + A1: 2008, to be built into the new external walls as work proceeds. The type, thickness & length of the stainless steel wall ties are to be specified by the structural engineer. Wall ties to be positioned where specified by the structural engineer, both within the cavity wall generally and around opes etc.
- 21.09 All ties are to be bedded not less than 50mm into bed joint of each leaf of blockwork. Ensure that there is a slight slope downwards towards the outer leaf. Do not bend ties to suit coursing. Ties to be spaced evenly where specified by the structural engineer, provide additional ties around openings as per structural engineers specification.

Lead Flashings, DPC's & Cavity Tray DPCs

- 21.10 Allow for supply and laying Code 5 lead cover & counter flashing at all abutments of the roofs to new external walls & chimneys. All lead to be treated with patination oil. Ensure that there is a minimum of a 150mm upstand to all lead flashings.
- 21.11 Allow for all necessary DPC material in accordance with I.S.57 1972 is to be used for stepped DPCs, ground level DPCs, Cill DPCs, & door/window jamb DPC's where required.
- 21.12 Allow for supply and installation of polypropylene cavity tray system for use as a damp-proof course in cavity walls where flat/pitched roofs abut new walls, to be BBA/IAB approved system subject to Architects approval.
- 21.13 All cavity trays & dpc's to be installed in compliance with the relevant sections of B.S. 8215.

Construction Joints

- 21.14 Allow for forming vertical expansion joints and shrinkage control joints construction joints in the new external walls where specified by the structural engineer.
- 21.15 Ensure that all sealant materials are installed strictly in accordance with the manufacturers recommendations.

New External Wall/New flat roof abutment

- 21.23 Allow for supply and laying 5lb lead cover & counter flashing at all abutments of the new flat roof to new external walls. All lead to be treated with patination oil. The main contractor is to note that the new lead cover flashing is to be built into blockwork immediately below 225mm high continuous stepped DPC as the work proceeds & is not to be fitted afterwards.

Cavity Barrier/Closers in External Walls

- 21.16 Allow for supply and fitting Rockwool TCB fire rated cavity barrier to close the top of all cavity walls along the eaves and verges, as detailed on architects section drawings. Fire barrier to be installed strictly in accordance with the manufacturers recommendations.
- 21.17 Allow for the supply and installation of Xtratherm Close-R cavity closer or equivalent proprietary non fire rated cavity closer to be installed under the window cills of all new windows in the extension, ensuring that the cavity closers are fixed strictly in accordance with the manufacturers recommendations & including all recommended fixtures & fixings.
- 21.18 Allow for supply and installation of Xtratherm Safe-R cavity closer or equivalent proprietary 1 hour fire rated cavity closer to jambs & heads of all new doors and windows in the extension, ensuring that the cavity closers are fixed strictly in accordance with the manufacturers recommendations & including all recommended fixtures & fixings.

Background Ventilation opes

- 21.19 Allow for fitting permanent ventilation opes as per floor plan drawing. Each inner ventilation grille to provide an equivalent free area of 10,000mm². Ventilation across cavity to be provided by 150mm dia. Rigid PVC duct. Inner grills are to be Timloc 9" x 9" (or equivalent) Plastic hit & miss grille or other similar and approved pvc covers that are fully controllable. Outer grills are to be 225x225 galv steel louvered vents.

Testing

A sample test shall consist of blocks taken from one batch of delivery using the sampling method described in I.S. 20: 1971 Clause 17 the number of blocks to be used for each test to be in accordance with Table 4 of I.S. 20/1971.

Load tests of completed parts of the structure may be called for by the Engineer. The test procedure and the standard of acceptance will be specified by the Engineer. Where the results of such tests indicate that any member or part of the structure does not comply with this part of the specification that part of the structure shall be classed as defective work.

Samples of blocks, and other materials shall be submitted to the Engineers in good time for approval before the work is put in hand.

The Contractor shall when required by the Architect submit samples of any materials for testing in accordance with the Irish and British Standard Specification.

All tests and checks carried out on site shall be in the presence of or as directed by the Architect. The Contractor shall send copies of all tests results and check results to the Architect. The Contractor will not be paid for any special tests called for by the Architect in consequence of any failure by the Contractor to comply with this specification.

Window/ Door Heads

21.20 Allow for supply and fitting insulated steel lintels or precast concrete lintels over external windows & doors where indicated on the structural engineers drawings & specifications. Lintels to be suitable for a 100mm outer leaf, a 150mm cavity and a 215mm inner leaf. Lintels to be measured, designed, manufactured & supplied to site by the manufacturer accordance with BS 5977 :1983 Lintels, IS 326 :1988 Code of Practice for Structural Concrete & IS 240 :1980 Lintels.

21.21 The main contractor is to ensure that the lintel suppliers are to take all site dimensions necessary, produce all shop drawings & design calculations & submit them to the structural engineer for approval 3 weeks minimum prior to the fabrication of the steel & precast concrete lintels.

NB - No fabrication is to take place without the structural engineers consent.

Ensure that there is a stepped DPC over all window & door heads as shown on the architects detail drawings.

Precast Concrete Window Cills

21.22 Allow for supply and fit of 100mm thick concrete window sills throughout new extension & existing building where required. Cills to be precast concrete sills to current I.S. wrapped in D.P.C. Allow for painting cills with Dulux Weathershield as per the external wall painting specification, with colour to be selected.

Internal Walls (22)

Solid Internal Walls

- 22.01 All 100mm & 215mm solid internal walls to be dense solid blockwork with a minimum compressive strength as specified by the structural engineer & comply with the requirements of I.S. 20: 1987. All concrete blockwork must be manufactured by a supplier with an IS/ISO 9002/EN9002 registered quality management system.
NOTE: The main contractor must provide all necessary certification for each delivery of concrete blockwork to site to the structural engineer & the assigned certifier.
- 22.02 All blockwork to have a minimum compressive strength of 5N/sq.mm. and comply with the requirements of IS 325, all as specified by the structural engineer. Blockwork to be laid on a full bed of mortar, 10mm thick, do not furrow. Fill all cross joints and collar joints, do not tip and tail. Raise no portion of the blockwork more than 1.2m at a time.

Door Heads

- 22.03 Allow for supply & fitting of Span lite or equivalent precast concrete lintels or steel lintels above all internal door opens, as specified by the structural engineer. All lintels are to be measured, designed, manufactured & supplied to site in accordance with BS 5977 :1983 Lintels, IS 326 :1988 Code of Practice for Structural Concrete & IS 240 :1980 Lintels.
- 22.04 The main contractor is to ensure that the lintel supplier are to take all site dimensions necessary, produce all shop drawings & design calculations & submit them to the structural engineer for approval 3 weeks minimum prior to the fabrication of the lintels. **No fabrication is to take place without the structural engineer's consent.**

Control Joints in Internal Blockwork

- 22.05 Allow for forming vertical construction joints in the new internal walls where specified by the structural engineer.

New Internal Stud Partitions In New Extension & Existing Building

- 22.06 Allow for constructing all new internal partitions in the new extension & existing building where shown on the floor plan drawing, to be 102mm wide metal stud partition system made up of 70mm wide "C" metal studs at 600mm c/c with 50mm acoustic roll insulation in the cavity with 1 layer of 15mm "Gypsum Fireline MR" or equivalent plasterboard on each side, with taped & filled joints & skim plaster finish. All New partitions to extend full height from floor to ceiling.
- 22.07 At ceiling level each partition is to be fixed directly to the timber truss rafters/joists or fixed to 44x150mm timber noggings fitted at 400mm crs. in between joists.
- 22.08 Also allow for constructing new metal stud partition as specified above overhead corridor doorway, to be carried up to the underside of the roof & fire stopped. Note that the main contractor is to ensure that all services, including pipes, ducts, cables, etc., that pass through this partition must be fire stopped by a specialist sub contractor & certification of same must be supplied to the architect prior to completion of the project.

Intermediate Floors (23)

Concrete First Floor

- 23.01 First floor to be made up from precast concrete 200mm th. reinforced solid concrete floor units manufactured in accordance with IS EN 1168:2005 all to structural engineers drawings & specifications.
- 23.02 The precast concrete floor slabs must be supplied by a manufacturer with a current NSAI certificate of production control, which must be supplied to the assigned certifier/structural engineer prior to the manufacture of any flooring units.
- 23.03 The main contractor is to ensure that the concrete floor unit supplier are to take all site dimensions necessary, produce all shop drawings & design calculations & submit them to the structural engineer & assigned certifier for approval 3 weeks minimum prior to the fabrication of the flooring units. **No fabrication of the flooring units is to take place without the structural engineer's consent.**

Concrete First Floor Completion

- 23.04 Supply & pour a 75mm th. concrete screed on top of the first precast concrete floor slabs, as specified by the structural engineer.

Airtightness to First Floor

- 23.05 Allow for wrapping Pro Clima Intello PLUS airtight membrane around the ends of the concrete floor slabs where same are built in to blockwork - see architects detail drawings. Membrane to be installed strictly in accordance with the manufacturers recommendations, & include for all necessary proprietary adhesive tapes etc. as recommended by the manufacturer.
- 23.06 Main contractor to allow for applying Aracon F or equivalent flexible sealant to all junctions between membrane & floor slab - see architects detail drawings.

Roof Structure (27)

Structural Steelwork to Roofs

- 27.01 All roof structural steel work to be in accordance with the structural engineers drawings & specifications.
- 27.02 The main contractor is to ensure that the steelwork supplier is to take all site dimensions necessary, produce all shop drawings & design calculations & submit them to the structural engineer for approval 3 weeks minimum prior to the fabrication of the steel work. **No fabrication is to take place without the structural engineers consent.**
- 27.03 Main contractor to allow for all builders work associated with the supply and installation of the structural steel work, including temporary propping, inserting into existing walls and forming concrete pads for steel beams in the new & existing walls as specified by the structural engineer.

Fire Protection of Structural Steelwork

- 27.04 Main contractor to allow for applying Bollum Fireshield or equal approved FR60 intumescent paint to all structural steelwork, to be applied by a specialist contractor.
- 27.05 N.B. - Specialist contractor to provide certification upon completion which must be forwarded to the assigned certifier upon completion of this element of the works.

Timber Structural Roof Elements - General

- 27.06 Allow for supply and installation of 100 x 75mm preservative treated wall plates at the eaves of the roofs (1 no. on each leaf), fixed to the wall with galvanised steel vertical restraint straps. Holding down straps to be 30 x 5mm th. galvanised steel, and a min. of 900mm long, straps to be at 1.8m max. centres. Wall plates to be treated with Caprinol green preservative.
- 27.07 Restraint straps - Allow for 30 x 5mm th. galvanised steel straps fixed to at least 2 rafters and a noggin with 50mm long x 3.5mm dia. wire nails to be positioned at 2m centres to gable walls at rafter and ceiling level at not more than 2m centres.
NB - the straps must be built into the blockwork as work proceeds. In the case of the existing gable end wall, allow for opening up existing wall to allow for the fixing of the straps as described above. Tilting fillets to be out of 75 x 500mm pieces.
- 27.08 All new timber throughout development shall be imported and kiln dried to 15 % moisture content. Timbers to be free from large and loose knots over 18 mm diameter, waness, shakes and any other defects. All roof timbers are to be pressure treated and to be a grade as specified by the structural engineer. All timbers built into block work and all wall plates to be given three coats of Caprinol green preservative beforehand. Protect all floors from marking or staining

Timber Structural Roof Elements - Cut Timber Flat Roof

- 27.21 Main contractor to allow for the supply and installation of all roof timbers required for the cut flat roof section over head the main corridor - refer to the engineers drawings & specifications for details and location of same. All structural timber used in the flat roof to be in accordance with the structural engineers drawings & specifications & comply with the requirements of I.S. EN 1995 Eurocode 5 & SLC 1.

- 27.22 Each timber joist/rafter must be stamped with the following:
- The appropriate strength class as specified by the structural engineer.
 - The species
 - The strength grade
 - Reference to the relevant standard to which the timber was graded (i.e. either I.S. 127:2002 or I.S. EN 14081).
- The structural timber supplier must supply all relevant certification to the structural engineer prior to the delivery of the timber to site.
- 27.23 All roof timbers are to be pressure treated and to be a grade as specified by the structural engineer. All timbers built into block work and all wall plates to be given three coats Cuprinol green preservative beforehand. Protect all floors from marking or staining.
- 27.23 The main contractor is to allow for supply & fitting of proprietary masonry joist hangers as specified by the structural engineer. The joist hangers are to be fitted as blockwork proceeds, seal face of joist hanger to blockwork with Aracon F sealant.

Insulation Within Flat Roof Structure

- 27.24 Main contractor to allow for the supply and fitting of 75mm th. rockwool or equivalent insulation, with a thermal conductivity of 0.044W/m2k or better, to be packed around the steel beams as shown on the architects drawings, in order to prevent cold bridging above window and door heads, and the junction of the flat roof with the walls - refer to the architects detail drawings.

Soffits, Fascia's & Verges of new roofs

- 27.25 Main contractor to allow for supply and installation of 18mm plywood support/backing to all soffits, fascia's & verges throughout the new extension as detailed on the architects section drawings. All plywood used throughout must be "Class 2S - Plywood for use in protected exterior conditions" in accordance with IS EN 636 & IS EN 314.
- 27.26 All fascia's, soffits & verges to be finished with a proprietary powder coated seamless aluminium system as specified elsewhere in this document.

Frames (28)

Structural Steelwork

- 28.01 All structural steel - columns/beams to be in accordance with the structural engineers drawings & specifications.
- 28.02 The main contractor is to ensure that the steelwork supplier is to take all site dimensions necessary, produce all shop drawings & design calculations & submit them to the structural engineer for approval 3 weeks minimum prior to the fabrication of the steel work. **No fabrication is to take place without the structural engineers consent.**
- 28.03 Main contractor to allow for all builders work associated with the supply and installation of the structural steel work, including temporary propping, inserting into existing walls and forming concrete pads for steel beams in the new & existing walls as specified by the steel supplier.

Decoration of New Internal Steelwork

- 28.04 Preparation :
All surfaces blast cleaned to a standard equal to Swedish Standard SA2 ½ SIS 05 5900 or BS 4232 Second Quality and to bare metal. Remove all traces of loose rust, grit etc. compressed air hose or carefully clean dry brushing. Inspect for laminations and remove by careful grinding leaving a smooth surface. Dust off.
Blast Primer:
Within 2 hours of hot blast preparation apply by airless spray coat 2 pack epoxy zinc rich primer conforming to B.S. 4652 to a dry film thickness of 20 Microns. Then fabricate as necessary.
Spot Priming after Fabrication:
After fabrication carefully remove all weld flux and spatter, rough edges etc. by scraping, chipping and grinding to a smooth surface. Remove any unsound "scorched" primer around weld areas. Also remove all dust, dirt, grease etc. Wash with white spirit where necessary. Then spot prime all bare metal with blast primer. Allow to dry overnight.
- 28.05 Site Holding Primer:
Apply by airless spray to the clean dry surface.
1 coat 2 pack epoxy high build zinc phosphate primer to a dry film thickness of 50 Microns.
Allow 7 days to achieve maximum through hardness before dispatch to site.
Site Treatment:
After erection prepare and carefully spot prime all damaged areas (including bolt heads etc) with primer and allow to dry overnight.
- 28.06 Decoration:
The paint system used shall be compatible with the Architects requirements for finishing coats of intumescent Paint as described below.
Concrete encased areas:
The paint specification does not apply to the brackets and plates that are to be cast in with the concrete. These shall be primed after erection and completion of welding on the main frame.

Fire Protection of Internal Structural Steelwork

- 28.07 Main contractor to allow for applying Bollum Fireshield or equivalent FR60 intumescent paint to all exposed internal structural steelwork, to be applied by a specialist contractor. Specialist contractor to provide certification upon completion which must be forwarded to the architect & assigned certifier.

External Wall Completions (31)

External Aluminium Framed Windows

- 31.01 Allow for supply and installation of powder coated thermally broken aluminium double glazed windows to the new extension and existing building as shown on the architects window schedule drawings. Windows to be manufactured, supplied & installed in accordance with "Guidance on the Specification of Windows" published by the Dept. of Education & Science, & BS 4873:2009 - Specification for Aluminium Alloy Windows.
- 31.02 N.B. The window supplier must submit evidence to the assigned certifier/architect that the windows/doors conform to the standards set out in table 1 of "Guidance on the specification of windows".
- 31.03 The aluminium window frame types and sizes selected for this particular project must be suitable for the window dimensions indicated on the architects tender drawings. All for all necessary reinforcement etc., as may be required. Once opes have been measured on site the window manufacturer must produce detailed shop drawings for approval by the architect prior to manufacture.
- 31.04 The operation & strength characteristics of opening lights shall be in accordance with B.S. 6375 part 2.
All sashes and framing to be fully reinforced and fitted with locking handles and condensation channels.
Glazing to be fitted with glazing slips on inside of windows. Windows to be supplied by approved supplier, & sample to be provided for approval of Architects prior to supply of windows. All shop drawings are to be sent to the architect for approval 3 weeks prior to manufacture.
- 31.05 The window supplier is to allow for the supply and installation of insulated aluminium cladding around all steel posts where shown on the floor plan drawings - in RAL colour to match window frames.
- 31.06 Windows to be supplied with a Syntha Pulvin coated finish to any **matt RAL colour from the Syntha Pulvin range to BS 6496 - colour to be selected by the architect.**
- 31.07 Allow for the supply and fitting of controllable trickle vents at each opening sash to all of the new windows in the new extension & existing building.
- 31.08 Main contractor to allow for the supply and installation of Contega SL 2 ply airtightness window sealing plastering tape or equivalent all around window opes internally after fitting windows but before plastering the walls. Tape to be fitted strictly in accordance with the manufacturers recommendations.
- 31.09 Main contractor to allow for applying Orcon F flexible sealant to all junctions between the windows and walls, internally and externally, see architects section drawings, ensuring a good airtight seal.

Glazing

- 31.11 Glazing to windows/doors generally:
- 31.12 Glazing to be 28mm double glazed units, low "E" argon filled (90%) glazing units, to be 4mm outer pane and 4mm soffit coat inner pane. Safety glass to be 6.8mm laminated to BS 6262 & BS 6201- Glass in Buildings where required by current building regulations. The glazing light transmittance factor shall not be less than 0.70 for the windows generally, and a total solar transmittance (G-Value) of not more than 0.70.

- 31.13 All glazing must be installed in accordance with BS 6262 and the double glazed unit manufacturer's and system supplier's instructions, and comply with BS 5713, hermetically sealed and Kite mark certified. All windows shall contain sealed units, which shall be manufactured in accordance with EN1279 Parts 2 and 3 and carry the necessary and appropriate guarantee.
- 31.14 U-value: Design size: 1.2wide x 1.5m high top hung opening sash full size. Manufacturer to provide documentary evidence that the above sized window has a thermal performance of 1.6 W/m²K or better. The centre pane "U" Value of each sealed unit when combined with the window frame should achieve a target figure of 1.6Wm²/K when treated a single element. Each fabricator/installer must demonstrate compliant glass choice with tender return. All glazing shall conform to BS 6262. Use thermally broken warm edge spacer in the double glazed units to increase thermal efficiencies. All glazing to be Low E Hermetically Argon Filled double glazed sealed units 4/16/4mm to BS 5713:1979 with a U value ≤ 1.2 W/M²K .
- 31.15 Any perimeter taping must be transparent to permit inspection of unit edge condition. Glazing System: All double-glazed units, panels and inserts shall be supported continuously along all four edges by specialised glazing support blocks. All windows shall be dry glazed using external 'snap in' extruded aluminium beads with captive 'E' gaskets externally and wedge gasket internally. The corners of the gaskets shall be accurately mitred together and sealed to ensure an effective joint. Setting blocks and location pieces shall be fitted in accordance with BS 6262 in order to ensure the windows are maintained square and rigid.
- 31.16 **N.B. The window supplier must submit evidence to the architect that the glazing conforms to the standards set out above in table 1 of "Guidance on the specification of windows".**

Polishing Glass

- 31.17 Allow for cleaning and polishing glass internally and externally in all windows and doors.

External Aluminium Framed Doors

- 31.18 Allow for supply and installation of the powder coated thermally broken aluminium double glazed external doors as set out on the architects door schedule drawing. External doors to be manufactured, supplied & installed in accordance with "Guidance on the Specification of Windows" published by the Dept. of Education & Science, & BS 4873:2009 - Specification for Aluminium Alloy Windows. Sample to be provided for approval of Architects prior to supply of door, & the contractor is to provide evidence to the architect that the proposed doors complies with the standards set out above prior to an order being placed for the door.
- 31.19 Doors to be supplied with a Syntha Pulvin coated finish to any matt RAL colour from the Syntha Pulvin range to BS 6496 - colour to be selected by the architect.
- 31.20 All ironmongery required for the new external doors is to be supplied and fitted by the aluminium door manufacturer to include the following: Hinges, Panic bars (to B.S. EN 1125 & CE marked) in combination with keyed lock cylinders with handles to allow access from the outside, Overhead door closer on each door leaf (to B.S. EN 1154 & CE marked). All locks to be master keyed.
- 31.21 Allow for the supply and installation of electronic door access systems to the new secondary external door, refer to the ironmongery schedule, and the Service Engineers Electrical drawings & specifications.
- 31.22 All glazing to be as specified for the windows above. All glazing on doors to be laminated safety glass to BS 6262 & BS 6201- Glass in Buildings.

- 31.23 Supply and fit patent stainless steel threshold to external door – new type to conform to part “M” of building regulations.
Allow for supply & installation of ACO or similar approved drainage channel with cover suitable for pedestrian traffic or similar and approved across level access external doorway. ACO drain to be connected to surface water drainage system.
- 31.24 Main contractor to allow for the supply and installation of Contega SL 2 ply airtightness door sealing plastering tape or equivalent all around door ope internally after fitting door but before plastering the walls.
- 31.25 Main contractor to allow for applying Orcon F flexible sealant to all junctions between the doors and walls, internally and externally, see architects section drawings, ensuring a good airtight seal.

Window Boards

- 31.30 Allow for supply & fitting 25mm thick bull nosed "Medex" or equivalent moisture resistant MDF window boards to all new windows in the new extension, & painted in accordance with the internal joinery decoration specification.
- 31.31 Main contractor to allow for applying Orcon F flexible sealant to all junctions between the window boards, walls and the window frames, see architects section drawings, ensuring a good airtight seal.

Decoration of new internal window boards

- 31.32 Allow for decoration of all new window boards with Dulux or equivalent paint in accordance with the manufacturers recommendations and specification. Allow for the following painting system:
All ICI products should be delivered to the job in sealed containers bearing the brand name and name of the manufacturer.
1 coat of Primer Dulux Aluminium Wood Primer
2 coats of Finish Dulux Satinwood
When priming new or bare surfaces it may be necessary to thin the first coat, refer to the relevant product data sheet or container for thinning details.
- 31.33 Allow for decoration of all new hardwood joinery, doors, skirtings, architraves etc. with Dulux or equivalent varnish in accordance with the manufacturers recommendations and specification.
Allow for the following:
Coating System:
All ICI products should be delivered to the job in sealed containers bearing the brand name and name of the manufacturer.
3 coats of Finish Dulux Trade Diamond Glaze
When priming new or bare surfaces it may be necessary to thin the first coat, refer to the relevant product data sheet or container for thinning details.

Internal Wall Completions (32)

Internal Doors & Frames & Internal Glazed Screens

- 32.01 Main contractor to allow for ordering all new internal doors & screens as set out on the architects door schedule drawings, and for fitting same strictly in accordance with the manufacturers instructions. All New internal door frames to be in white deal frames, except where doors are indicated as fire doors, these doorways to be fitted with hardwood frames. Frames to be securely fixed in opes by main contractor.
- 32.02 All new internal doors to be 44mm solid core flush doors, with vision panels etc. as indicated on the door schedule drawing with fire rated doors where indicated on floor plan drawings. All doors to have a smooth veneer finish ready to receive paint to be applied by the main contractor in accordance with the internal joinery painting specification elsewhere in this document.
- 32.03 The main contractor is to allow for supply and fitting all ironmongery to doors as per ironmongery schedule attached in appendix of this specification.
- 32.04 Fire rated door sets where indicated on drawings must comply with the requirements of B.S. 476 & are to be certified by the door manufacturer, details of which must be supplied to Architect before certification of payment is sought by the main contractor for the internal doors.
- 32.05 The fire rated door sets must be manufactured by a registered fire door manufacturer and to have appropriate fire door marking i.e. plate or pellet fitted to door.
- 32.06 Doors fitted with smoke seals (all doors marked on the door schedule floor plan as FD30s) to achieve a leakage rate not exceeding 3m³/m/hour (head & jambs) when tested at 25pa to B.S. 476: sect 31.1.

Glazing on internal Doors

- 32.07 All glazing on the new internal doors & screens to be 7.5mm clear laminated "Pilkington Pyrodur Plus" or equivalent with impact rating "2 (B) 2" to B.S. EN 12600 and min. acoustic rating of Rw 35dB, with 30 mins. integrity & 15 mins. insulation. All glazing to be fitted into internal doors & internal screens strictly in accordance with the manufacturers recommendations.
- 32.08 All glazing to be permanently marked with its type, class & BS or EN reference during its manufacture & must be visible when fitted into the door.

Glazing on internal Window Screens

- 32.09 All glazing on the new internal window screens to be 15mm th. clear laminated "Pilkington Pyrostop" or equivalent glass with impact rating "2 (B) 2" to B.S. EN 12600 and min. acoustic rating of Rw 35dB, with 30 mins. integrity & 30 mins. insulation. All glazing to be fitted into window screens strictly in accordance with the manufacturers recommendations.
- 32.10 All glazing to be permanently marked with its type, class & BS or EN reference during its manufacture & must be visible when fitted into the window screen.

Ironmongery

- 32.11 Allow for supply and fitting of all Ironmongery as listed on the ironmongery schedule in the specification appendix 1 document, and for all necessary wiring, power supply units, accessories and connections to the existing fire alarm system as required for the new internal corridor door set, and the new external aluminium framed door sets fitted with new electro mechanical door operators.

- 32.12 Allow for installing commissioning and leaving fully operational, all new over head door operators in accordance with the manufacturers recommendations for the corridor door set. Provide a 240v fused spur adjacent to each door leaf at high level, and connecting to door operator with 3 core mains flex cable. Make good to all existing finishes and touch up existing paint finishes where necessary.
- 32.13 Assemble & fit carefully all ironmongery using fastenings with matching finish supplied by the ironmongery supplier. Prevent damage to ironmongery & adjacent surfaces. Prior to handover ensure that all ironmongery functions correctly, in particular the door closers & locks.

Keys

- 32.14 Allow for supplying two sets of keys for all locks in doors etc to Architect for handing over to client. All locks to be master keyed.

Architraves

- 32.15 Where the door frame is being located within a 215mm wall, the doorframe will be installed flush to hallway side on the wall and no architrave is required to classroom side of the wall. In all architraves are to be 75 x 20mm. in white deal (painted in accordance with the internal joinery specification) with 5mm chamfered profile.

Encasement of Pipework, Soil Stacks & Ductwork

- 32.16 Allow for encasing all exposed internal soil stacks, ventilation ducts etc, with the Gyproc Gypliner encasement system. Faced with 2 no. layers of 15mm gypsum wallboard with taped & filled joints and skim plaster finish. Jointing & finishing of wall board to be in accordance with manufacturers recommendations & specifications. Internal soil stacks are to be wrapped with rockwool insulation.

Roof Completions (37)

Roof Completion to flat roof

- 37.01 Supply and lay a tapered insulation system onto the existing flat roof, laid onto Sika S-Vap 500E vapour control layer over felt layer, on precast concrete flat roof deck. Tapered insulation system to be "SikaTherm PIR" or equivalent tapered insulation system, consisting of a rigid thermoset polyisocyanurate (PIR) insulant with a thermal conductivity of 0.022w/m2k. Liaise with the manufacturer in relation to the tapered insulation system design & layout.

Tapered insulation system to have a minimum thickness to 100mm, a maximum thickness of 200mm & an average thickness of 150mm. The U-Value to be achieved is 0.16W/m2k. The fall on the tapered insulation is to be 1:60. Insulation system is to be laid strictly in accordance to the manufacturers recommendations.

Soffits, Fascia's & Verges to New Extension

- 37.02 The main contractor is to allow for all new 18mm EN 636 Class 2 plywood soffits, fascia's & verges of all sloped & flat roofs in the new extension to be covered with a proprietary powder coated seamless aluminium fascia, soffit & verge system, including all necessary flashings, angles, fixings & fittings required to install the system in accordance with the manufacturers recommendations. The selected fascia/soffit system must have a secret fixing detail, & must be installed strictly in accordance with the manufacturers recommendations.
- 37.03 All aluminium fascia's, soffits & verges to be made from heavy duty 2mm th. (14 gauge) aluminium Sheet to BS EN 485/515/573: Grade 1050 AH14, supplied by BS EN ISO 9002 registered stockist. Planks to be fitted perpendicular to the eaves. Also allow for fitting this soffit system to the entire soffit of the 2 no. covered areas at the new front & rear entrances. Also allow for supply & installation of the aluminium closure angles where shown on the architects detail drawings at the junctions of the fascia/soffit & the wall/soffit.
- 37.04 All aluminium is to be powder coated to a matt colour selected by the architect from the Syntha Pulvin Plus range. All powder coating to be carried out only by Syntha Pulvin approved and BS EN ISO 9002 registered coating applicators. All coating is to be in accordance with BS 6496.
- 37.05 All Soffits, fascia's and verges to be neatly detailed, finished and fitted onto 18mm th. EN 636 Class 2 plywood sheeting in accordance with the manufacturers recommendations. Sample of fascia/soffit to be provided to Architect for approval prior to fitting on site.
- 37.06 Ventilation at eaves & ridge of sloped roof - The supplier of the soffit system is to allow for forming preformed ventilation slots equal to a continuous strip 15mm wide, slots sized to stop the ingress of nesting, winged insects along the entire length of the soffit at the eaves of the sloped roof

Rainwater Gutters & Downpipes to new extension

- 37.07 Allow for supply and fitting 130 x 85mm "Alutec Evolve" or equivalent PVC coated aluminium box profile gutter system to the new extension, together with "Alutec" or equivalent 72mm square profile PVC coated aluminium rainwater downpipes - outlet positions where shown on the architects drainage floor plan drawing. Gutters and downpipes to be installed strictly in accordance with the manufacturers recommendations. Allow for all appropriate fittings to be swan neck toes eaves and wall fittings as necessary and as recommended and fully in accordance with manufacturers details. Ensure that all sealant between joints etc is strictly in accordance with manufacturers recommendations.

- 37.08 The main contractor is to note that the colour of the "Alutec Evolve" gutter system, including all gutters, downpipes & fittings etc., is to be selected by the architect to match the RAL colour of the new fascia's & soffits.
- 37.09 **N.B.** Rainwater pipes to discharge over gully traps with cast iron gratings set in 400mm x 400mm dished concrete surrounds.

Flat Roof Windows

- 37.10 Main contractor to allow for forming opes in the new flat roofs where shown on the architects drawings, in order to take new "Fakro" or equivalent electrically operable roof windows as described below. NB - ensure that the structural opes conform to the dimensions as required by Fakro.
- 37.11 The main contractor is to ensure that the flat roof joists are trimmed as directed by the structural engineer, and roof truss supplier & any additional support joists are fitted where directed by the structural engineer.
- 37.12 Allow for the supply & installation of 6 no. Fakro Electric flat roof windows, to be 1200mm wide x 1200mm high, triple glazed, with polycarbonate dome over (Code: DEZ-P2). Roof window to have a maximum U-Value of 0.72 W/m²K. Allow for forming timber framed builders upstand kerb for each of the roof windows.
- 37.13 Main contractor to allow for all electrical wiring as necessary for the roof windows, which is to be carried out by the electrical contractor. The locations of the remote control units is to be agreed with the architect prior to installation.
- 37.14 All roof windows to be weather sealed with Sika Trocal Metal upstands, minimum 150mm high, and welded to roofing membrane in accordance with Sika Trocal recommendations.

Blackout Blinds to flat Roof Windows

- 37.15 Main contractor to allow for supply and installation of electrically operated black out blinds to all of the new flat roof windows (6 no.). Colour and style to be selected by the architect.
- 37.16 Main contractor to allow for all electrical wiring as necessary for the roof window blinds, which is to be carried out by the electrical contractor. The locations of the remote control units is to be agreed with the architect prior to installation.

Light shafts to New flat Roof Windows

- 37.17 Main contractor to allow for forming 4 sided timber framed light shafts from the new roof lights down to ceiling level using 150x44mm C16 timbers at 400mm crs.
- 37.18 Allow for framing out opes in the ceilings as necessary for new light shafts.
- 37.19 Light shafts are to be lined with Pro Clima Intello plus vapour barrier membrane, to be installed in accordance with the manufacturers recommendations & finished with 62.5mm Xtratherm XT-TL MF insulated plasterboard with taped and filled joints and skim plaster finish.

External Wall Finishes (41)

Plastering of New External Walls

- 41.01 To be scud coat, first undercoat, second undercoat and final coat, plasterwork as follows. Scud coat to be of wet cement and sand mix 2:1 volume and thrown at surface of wall and left to harden. First undercoat to be 10mm, thick cement, lime and sand mix 1:1/2:4. Second undercoat to be 10mm thick of similar mix to 1st undercoat. Allow for scratching surface of coats between applications.
- 41.02 Finishing coat of sand and cement with napped plaster finish.
Note all new external walls to be painted with three coats of best quality dulux Weathershield or equivalent paint as specified elsewhere. With colours and finish to match existing building.
No plastering to be carried out in wet and frosty conditions and great care to be taken to ensure that no frost is present & sand etc.
Take care to screen all freshly plastered areas from hot sun to prevent excessively fast drying out – water spraying may be necessary in very hot weather. Cement to be Portland Cement to B.S. 12 (4) Lime to be hydrated lime to B.S. 890 (8) sand to be clean and sharp to B.S. 1199 and of grading type A.
- 41.03 A good mix of coarse and fine particles. Allow for the use of approved waterproofing agent in both undercoats of plastering. All in accordance with manufacturers recommendations. Inform architect of type of water proofing proposed to be used, for approval prior to plastering.
- 41.04 Allow for removing all residue of loose dust and particles from surface of wall to be plastered prior to plastering/scudding.
Ensure that surfaces are clean and damp before scudding. Allow for storing of all plastering materials in accordance with manufacturers recommendations.
Remove all dust and loose particles from each undercoat by brushing and wet lightly and uniformly if surface is porous and dry before application of the following coat.
Provide a good consistent texture over entire area. Great care to be taken not to show any change in finish from one section to another i.e. work to be carried out in one operation where possible.
- 41.05 Main contractor is to allow for providing all necessary stop beads, angle beads etc., required by the plasterer at all corners, plinths etc. All accessories to be uPVC or stainless steel, not galvanised steel.

Decoration of New External Walls with Napped Plaster finish

- 41.06 Allow for decoration of all external walls in the new extension which have a napped plaster finish in accordance with the following specification. Allow for 3 no. different colours of external wall paint, to be agreed with the architect prior to ordering the paint. Also allow for picking out wall plinths, plaster bands & window cills in different colours to the 3 main wall colours allowed for above.

Decoration of New External Walls - Preparation

41.07 Substrate Preparation:

Thoroughly clean down the surface to remove all dirt, grease and other contaminants. Use power washing where appropriate.

Remove all powdery, poorly adhering or defective coatings.

Surfaces that remain powdery and friable after thorough preparation or which are previously painted with cement based paint, must be sealed with the appropriate primer as specified.

Vegetable growth removal (where necessary)

Remove any surface vegetable growths.

Treat residual growths by washing with Weathershield Fungicidal Wash as directed on the container.

Making good:

Cut out and make good cracks, holes and other imperfections. Allow such making good to dry out

thoroughly. All fillers must be used in accordance with the manufacturers instructions.

Where necessary bring forward filled and /or bare areas with one coat of the coating appropriate to the chosen system.

Note: -

Common Bricks e.g. Flettons, Engineering Bricks and Glazed Bricks are not suitable for painting. If in doubt about the suitability of any type of brick for painting, consult the brick manufacturer.

Decoration of New External Walls

41.08 Allow for decoration of all new external walls which have a napped plaster finish with Dulux or equivalent paint in accordance with the manufacturers recommendations and specification. Allow for the following:

Coating System:

All ICI products should be delivered to the job in sealed containers bearing the brand name and name of the manufacturer.

1 coat of Primer Weathershield Smooth Masonry Paint (or equivalent).

2 coats of Finish Weathershield Smooth Masonry Paint (or equivalent).

When priming new or bare surfaces it may be necessary to thin the first coat, refer to the relevant product data sheet or container for thinning details.

Internal Wall Finishes (42)

Plastering of Solid Concrete Blockwork Internal walls

- 42.01 All internal walls to be plastered as follows:
- 42.02 Preparation:
Dry block wall should be well brushed down to remove any dust or loose particles from the surface. Any metal objects, such as nails, etc should be removed from the face and blockwork should be well wetted as required, to control suction in the blockwork.
Render:
Walls to be scudded, dampened periodically and allowed to dry.
Apply a single coat of sand cement render using a fine sand, floated and rubbed down with a dry sponge. Walls to be brushed down prior to decoration to remove any loose sand/cement.
- 42.03 Allow for providing all necessary stop beads, angle beads etc., required by the plasterer during the works. Also allow for supply and fitting plaster stop bead as shown on the architects section drawings, to be 125mm above finished floor level throughout all internal wall areas.

Existing External Walls now internal

- 42.04 After hacking off existing external plaster, allow for hacking/scratching existing external concrete block walls which are now internal, in order to form a good key for new plaster finish.
Preparation:
Dry block wall should be well brushed down to remove any dust or loose particles from the surface. Any metal objects, such as nails, etc should be removed from the face and blockwork should be well wetted as required, to control suction in the blockwork.
Render:
Walls to be scudded, dampened periodically and allowed to dry.
Apply a single coat of sand cement render using a fine sand, floated and rubbed down with a dry sponge. Walls to be brushed down prior to decoration to remove any loose sand/cement. Walls to be decorated as per new internal block walls as set out below
- 42.05 Allow for providing all necessary stop beads, angle beads etc., required by the plasterer during the works. Also allow for supply and fitting plaster stop bead as shown on the architects section drawings, to be 125mm above finished floor level throughout all internal wall areas.

Plastering of New Stud Partitions

- 42.06 All new metal stud partitions are to be plastered as follows:
- 42.07 Preparation: Over Gyproc plasterboards reinforce all plasterboard joints and angles with Gyproc Paper or reinforced Joint Tapes and Gyproc jointing materials as appropriate. Allow to set. If necessary apply GypPrime suction control primer, used to reduce suction on very dry, high suction backgrounds. Use diluted (up to 5 parts water to 1 part GypPrime) or undiluted if severe suction control is required. Plaster is applied after GypPrime has soaked into the background and dried.
- 42.08 Plastering: Apply a first coat of Gyproc skim coat finishing plaster with firm pressure to approximately 1mm thickness. After a short period of time apply a second coat of Gyproc skim coat plaster whilst the first coat is still wet to bring the total thickness to 2mm. As the plaster is stiffening trowel in two or three steps to a smooth matt finish. Use any additional water sparingly and only in the latter stages of trowelling.

Wall Tiling - Over Worktops & Wash Hand Basins

- 42.09 Allow for supply and laying 100 x 100mm "Pilkington Architectural Plain" or equivalent ceramic wall tiling 400mm high over the fixed worktops in each classroom, the staff room, and over the wash hand basins in each of the toilets and en-suites, as indicated on the architects finishes plan drawing.
- 42.10 Use BAL grout/adhesive with BAL Admix GT1 OEA or equivalent. Grout, adhesive, all necessary trims, fittings & perimeter beads etc. to be supplied by Contractor. Joint width to be 2mm.

Decoration of All New & Existing Internal Walls

- 42.13 Allow for complete decoration of all new internal walls in the entire extended building in accordance with the following specification and existing internal wall for rooms that are affected by the extension/refurbishment works. Allow for 5 different colours of wall paint. Respective colours and their locations to be confirmed by architect prior to decoration.

Decoration of Internal Walls - Preparation

- 42.14 Substrate Preparation:
- Thoroughly clean down the surface to remove all dirt, grease and other contaminants.
- Remove all powdery, poorly adhering or defective coatings. Surfaces that remain powdery and friable after thorough preparation must be sealed with the appropriate primer as specified.
- Vegetable growth removal (where necessary):
- Remove any surface vegetable growths. Treat residual growths by washing with Weathershield Fungicidal.
- Wash as directed on the container.
- Making good:
- Cut out and make good cracks, holes and other imperfections. Allow such making good to dry out thoroughly.
- All fillers must be used in accordance with the manufacturers instructions.
- Where necessary bring forward filled and /or bare areas with one coat of the coating appropriate to the chosen system.

Decoration of Internal Walls - Toilet & En-Suite Areas

- 42.15 Allow for decoration of internal walls of toilets with Dulux or equivalent paint in accordance with the manufacturers recommendations and specification. Allow for the following:
- Coating System:
- All ICI products should be delivered to the job in sealed containers bearing the brand name and name of the manufacturer.
- 1 coat of Primer Dulux Kitchens and Bathrooms Paint
- 2 coats of Finish Dulux Kitchens and Bathrooms Paint
- When priming new or bare surfaces it may be necessary to thin the first coat, refer to the relevant product data sheet or container for thinning details.

Decoration of Internal Walls - All other areas

- 42.16 Allow for decoration of all internal masonry walls with Dulux paint in accordance with the manufacturers recommendations and specification. Allow for the following:
Coating System:
All ICI products should be delivered to the job in sealed containers bearing the brand name and name of the manufacturer.
1 coat of Primer Dulux Vinyl soft sheen Emulsion
2 coats of Finish Dulux Vinyl soft sheen Emulsion
When priming new or bare surfaces it may be necessary to thin the first coat, refer to the relevant product data sheet or container for thinning details.

Decoration of new internal joinery

- 42.17 Allow for decoration of all new internal doors, frames, architraves, storage units, window boards etc., in the new extension and all existing joinery being retained in areas of the existing building where renovations occur (see floor finishes drawing - all existing rooms which have a new flooring finish will have all existing joinery redecorated) in accordance with the following specification. Allow for 3 different colours of doors & frames etc. Respective colours and their locations to be confirmed by architect prior to decoration.

New Internal Joinery - Surface Preparation

- 42.18 Substrate Preparation:
The surface to be coated must be clean, dry and free of dirt, grease, sap, oil, mildew or any other contaminants that may affect adhesion. Remove oils from hardwood surfaces by wiping with white spirit. If the surface is to be painted seal knots with Dulux Knotting Solution. Fill nail holes and cracks after the prime coat has been applied. If surface is to be stained or clear coated do not seal knots.
Making good:
Make good all nail-holes, open joints etc. with a suitable filler, according to the manufacture's instructions. Allow making good to dry before being rubbed down and dusted off. Bring forward made good areas with one coat of the relevant Undercoat or Satinwood as appropriate.

New Internal Joinery Generally - Decoration

- 42.19 Allow for decoration of all new softwood joinery, doors, skirtings, architraves, classroom storage units, storage unit shelving etc. with Dulux paint in accordance with the manufacturers recommendations and specification. Allow for the following:
Coating System:
All ICI products should be delivered to the job in sealed containers bearing the brand name and name of the manufacturer.
1 coat of Primer Dulux Aluminium Wood Primer
2 coats of Finish Dulux Satinwood
When priming new or bare surfaces it may be necessary to thin the first coat, refer to the relevant product data sheet or container for thinning details.

Floor Finishes (43)

Preparation of Floors - to new extension & existing floors being retained

- 43.01 The main contractor is responsible for ensuring that the surface of the new floor & all existing floors being retained are suitable to receive the floor finishes as specified below. If the architect, or the flooring manufacturers representative is dissatisfied with the floor surface of the new extension or any of the floor areas being recovered in the existing main building, the main contractor must allow for the cost of remedying the floor using levelling compound at no additional cost to the contract, to be "Forbo Europlan 960 Super" or equivalent product as recommended by the flooring manufacturers representative. Floor levelling compound to be laid strictly in accordance with the manufacturers recommendations.
- 43.02 The main contractor is also responsible for ensuring that the floor has a moisture reading of 3.5% or less immediately prior to the laying of floor coverings. If this is not the case, & if delaying the installation of floor coverings causes delay to the overall project programme & finish date, the main contractor must allow for the cost of supply and laying a liquid dpm floor surface and levelling compound throughout the entire floor of the new extension & renovated areas of the main building at no additional cost to the contract as follows:
- 43.03 Shot blast all power floated slabs.
Forbo Eurocol 021 Europrimer Reno 2 component epoxy primer DPM, lambswool roller or rubber floor wiper applied,
Apply 1 coat of Forbo 049 Primer.
Apply 3mm of Forbo self smoothing compound 990.
- 43.04 Main contractor to allow for applying Orcon F flexible sealant to all junctions between the walls and floor, see architects section drawings, ensuring a good airtight seal.

Flexible Sheet Floor Finishes to Extension & Renovated Areas in Existing Building

- 43.05 Allow for making good to all blemishes, unevenness, cracks etc. in the new & existing concrete floor slabs with Forbo Eurocol 816 Epoxy Crackfiller, trowel or putty-knife applied as necessary. Apply Forbo Eurocol smoothing and levelling compound to all areas if necessary to provide perfect floor finish. Allow for supply and fitting the following floor coverings:
- 43.06 Marlomeum Areas:
Floor finish to new circulation/corridor, classroom, SET Rooms and existing corridors & areas where shown on architects floor finishes plan - 2.5mm Forbo "Marmoleum" in a pattern of 4 selected colours from the Forbo Marmoleum Real, Dual or Vivace colour ranges in areas indicated on the floor finishes layout plan. Marlomeum to be laid strictly in accordance with the manufacturers recommendations, and all joints to be seam welded in matching colour.
- 43.07 Marmoleum Adhesive : Forbo Eurocol® Forboflex 696/414 Euroflex Lino Plus quick grab adhesive. Marmoleum Seam welding: all seams to be hot seam welded & colour matched using Marmoweld to ensure watertight seams & for decorative effect.
- 43.08 Forbo Safestep Areas:
Floor Finish to new toilets, wet areas & areas where shown on the architects floor finishes plan - 2.0mm Forbo "Safestep R10" vinyl finish in a pattern of 4 selected colours from the Forbo Safestep R10 range in wet areas indicated on the architects floor finishes layout plan.
- 43.09 Safestep Adhesive: Forbo Eurocol® 140 Euromix PU water resistant 2-compound adhesive with 045 Europrimer PU primer applied to porous, rough and sanded subfloors.
Safestep Seam welding: All Seams should be hot seam welded using colour matching step weld cable to ensure watertight seams.

- 43.10 Finished floor to be left fully true and level with no visible blemishes. Allow for supply fitting Gradus or equivalent aluminium patent edge trims to all of the junctions of the floor covering between the new and existing building.

Skirting to All Areas of New Marmoleum Flooring in Extension & Existing Building

- 43.11 In all areas of the new extension & existing buildings which are to be finished with Marmoleum, allow for supply and installation of Forbo "Marmoform S" preformed skirting with matching colour to floors & seal against plaster stop bead, see architects detail section drawings.
- 43.12 In the existing building, allow for finishing "Marmoform S" preformed skirtings with "Gradus HCS48" or equivalent capping strips, in a colour to be selected by the architect.

Skirting to All Areas of New Vinyl Flooring

- 43.13 In all areas of the new extension & existing buildings which are to be finished with Forbo Safestep, allow for returning all Safestep vinyl sheet floor finishes 150mm up all walls & sealing against plaster stop bead, see architects detail drawings (new extension).
- 43.14 In the existing building allow for finishing Forbo Safestep vinyl skirtings with "Gradus HCS48" or equivalent capping strips, in a colour to be selected by the architect.
- 43.15 Allow for the supply & fitting of "PS linoleum coving strips" or equivalent with a radius of 30mm at the junction of the floor and wall throughout before the Safestep vinyl flooring is fitted in order to support same.

Entrance Lobby Clean Off Carpet

- 43.16 Allow for forming recess in concrete floor in front of new entrance door, where shown on the architects floor finishes plan, recess to be 8mm deep. Allow for supply & fitting "Forbo Coral Duo" or equivalent entrance matting in a colour to be selected by the architect. Matting to be laid strictly in accordance with the manufacturers recommendations.

Transition Strip Between Floor Finishes

- 43.17 Allow for the supply and installation of a Gradus AR 268 Aluminium floor transition strip at the joint between the Coral clean off carpet in the entrance lobby and the main corridor, as well as a Gradus aluminium floor transition strip between the new flooring in the existing corridor and the existing floor finishes - refer to the architects floor finishes drawing.

Ceiling Finishes (45)

Airtight Membrane to Underside of All Joists

- 45.01 Allow for applying Pro Clima Intello PLUS or equivalent airtight membrane to the underside of all flat roof & Sloped roof ceilings, as shown on the architects section drawings, prior to fitting plasterboard or MF ceiling system. Membrane to be installed strictly in accordance with the manufacturers recommendations, & include for all necessary proprietary adhesive tapes etc. as recommended by the manufacturer.
- 45.02 Supply and fit timber noggings between joists at 400mm crs., in order to provide adequate fixing points for the airtightness membrane as required.
- 45.03 The main contractor is to take great care to ensure that the membrane is not punctured unnecessarily & must co-ordinate the activities of all workers on site to ensure that the membrane is kept in good condition before the plasterboard is fitted.
- 45.04 The main contractor must also allow for repairing the membrane where necessary due to the various electrical & mechanical ducts, wiring, pipes etc. that pass through the ceiling in accordance with the manufacturers recommendations, using the proprietary tapes etc. as recommended by the manufacturer.

Suspended Ceiling System with plasterboard (Where indicated)

- 45.05 Allow for supply & installation of Gypsum Casoline MF or equivalent suspended ceiling system where indicated on the finishes ceiling plan drawing. Allow for MF7 support channels, MF8 strap hangers and all other components necessary, system to be installed strictly in accordance with the manufacturers instructions. Void depth to be agreed with the architect prior to installation.
- 45.06 Allow for supply and installation of a single layer of 12.5 mm foil backed Gypsum or other similar and approved plasterboard slabs with taped & filled joints with Gypsum 3mm skim finish. Main contractor to also allow for all proprietary stop bead & trims etc as necessary.
- 45.07 Main contractor to allow for applying Orcon F flexible sealant to all junctions between the roof, walls and rooflights, see architects section drawings, ensuring a good airtight seal.

FIRE RATED CEILING (ABOVESUSPENDED CEILING AT FIRST FLOOR)

- 45.08 12.5MM GYPSUM FIRELINE WITH TAPE, FILLED JOINTS FITTED TO 50X50 TIMBER BATTENS AT 400CC OVER PRO CLIMA VAPOUR CONTROL ON UNDERSIDE OF TRUSS ROOF. Main contractor to include for all firestopping & making good as necessary to all services that pass through this ceiling. Fire stopping to be carried out by a specialist contractor & certification must be provided to the architect upon completion.

Suspended Ceiling System with acoustic tiles (Where indicated)

- 45.11 Allow for supply & installation of Gypsum Casoline MF or equivalent suspended ceiling system where indicated on the finishes floor plan drawing. Allow for prelude XL/TLS support channel, strap hangers and all other components necessary, system to be installed strictly in accordance with the manufacturers instructions.
- 45.12 supply and fit Armstrong ultima+ or equivalent acoustic suspended ceiling system with tegular edge tiles/modules of 600x600mm or 1200x600mm with various heights & locations where indicated on the finishes ceiling plan drawing.
- 45.13 contractor to allow for ceiling trim/edge as detailed on the architects drawing.

Decoration of Internal Plastered Ceilings

- 45.14 Allow for decoration of all new internal ceilings (including steel bulkheads & suspended ceilings) in the new extension and all areas in the existing building in accordance with the following specification. Allow for brilliant white paint to all ceilings.

Internal Ceilings - Preparation

- 45.15 Substrate Preparation:
Thoroughly clean down the surface to remove all dirt, grease etc.
Carefully remove plaster splashes etc.
Brush the surface to remove any loose deposits.
Making good:
Make good open joints, cracks, holes and other imperfections.
Allow such making good to dry out thoroughly.
Rub down smooth to match surrounding area and dust off.
All fillers must be used in accordance with the manufacturers recommendations.
Priming:
Spot prime any metal fixings, nail heads etc, if necessary with Dulux Metal Primer.

Decoration of Internal Ceilings

- 45.16 Allow for decoration of all internal ceilings with Dulux paint in accordance with the manufacturers recommendations and specification. Allow for the following:
Coating System:
All ICI products should be delivered to the job in sealed containers bearing the brand name and name of the manufacturer.
1 coat of Primer Dulux Vinyl Matt Emulsion
2 coats of Finish Dulux Vinyl matt Emulsion
When priming new or bare surfaces it may be necessary to thin the first coat, refer to the relevant product data sheet or container for thinning details.

Encasement of Steel Beams

- 45.17 Allow for encasing all exposed steel beams internally with Gypsum Gyplyner Encase system with a fire rating of 60 minutes. Main contractor to include for all metal clips, fixings, channels etc. as recommended by the manufacturer. Allow for supply and laying one layer of 15mm Gypsum Fire Line board with taped and filled joints with a Gypsum Pinnacle 3mm skim plaster finish. Main contractor to also allow for all proprietary stop bead & trims etc as necessary.

External Ceiling System to Exposed Soffits

- 45.18 POWDER COATED PRESSED SEAMLESS 2mm TH. ALUMINIUM SECRET FIXED FASCIA AND SOFFIT SYSTEM ON 18mm EN 636 CLASS 2 PLYWOOD BACKING on 50 x 50 mm treated battens and counter battens fixed on ROOF STRUCTURE TO STRUCTURAL ENGINEER'S DRAWINGS & SPECIFICATIONS

Roof Finishes (47)

Roof Covering for New Flat Roofs

- 47.11 Flat roof covering to be Sika Trocal "Sikaplan G20" 2mm homogenous PVC membrane, or equal & approved, to be slate grey in colour. Membrane to be installed & mechanically fixed strictly in accordance with the manufacturers recommendations, and using the manufacturers recommended products. Trocal shall be lapped and heat or solvent welded together and the joint secured with Trocal PVC sealing mastic. Fixing of the Trocal membrane shall be with SFS fixings. The number and spacing of fixings shall be calculated to comply with B.S. CP 3 Chapter 5, part 2, 1972. When fixed each fixing shall have a minimum pull-out resistance of 1.2KN or similar approved.
- 47.12 All upstands & flashings to a minimum of 150 mm above the finished roof. Flashings to all abutments, drip edges etc. shall formed from pressed Trocal laminated metal - slate grey in colour.
Upstands & Flashings next to newly constructed walls to have stepped DPC in wall overlapping same.
Roof membrane to be fitted in strict accordance with Trocal installation manual, by registered installer.
- 47.13 The main contractor is to ensure that a 15 year insurance backed guarantee is supplied to the architect on completion of the flat roof works. The Sika Trocal representatives must be notified in time in order that they can inspect the roof works to issue certification for the roof. NB This insurance backed warranty must cover all materials supplied and their installation.
- 47.14 The Sika Trocal "Type S" membrane is to be laid on 2 no layers of 75mm Xtratherm FR/ALU insulation or equivalent with 0.022w/mk thermal conductivity on Trocal ds-pe vapour check or similar on 25mm EN 636 Class 2 plywood sheeting on tapered furring pieces on pressure treated timber joists or open web ceiling trusses as specified elsewhere in this specification.

Abutment of new flat roof to new external wall

- 47.15 Supply and laying 5lb lead cover flashing and Sika Trocal Metal counter flashing at abutment of new flat roofs to new external walls. A stepped dpc & the cover flashing must be built into the blockwork as work proceeds, as shown on architects drawing . All lead treated with patination oil.

Roof Covering for pitched Roofs

- 47.16 The sloping roof of the new building shall be covered with 'Kingspan KS 1000 RW Trapezoidal Ecosafe 80mm thick roof panel'. Use a self-drilling self-tapping primary fixings with minimum 19mm Ø non-ferrous EPDM backed washer 40mm upslope from panel end. Stitcher screws with minimum 14mm Ø non-ferrous EPDM backed washer at 450mm centres. Colour to suit panel. QuadCore® Trapezoidal Roof KS1000 RW Multiple Panels Eaves to Ridge - 75mm End Lap
Ensure lower panel is bearing on to purlin by a minimum of 50mm. Ensure panel joints are pulled tight to adjacent panels to close any gaps as works progress.
Sealant application is to Class A requirements. Apply 8mm Ø air seal to ridge, verge & eaves positions. Gun-grade sealant referred to is: – non-setting butyl sealant. Note: as an alternative to using butyl air sealants, a PVC foam tape (SGV15P 20x9 PVC) can be used for an air seal.
Please
refer to Technical Update EU87 on Internal Air Seals and consult with the Kingspan Technical Services Department for further guidance. End lap 50 x 6mm butyl tape with PE foam co-laminate centre. Side lap 6 x 5mm butyl tape sealant. All sealants to suit project specification requirements. Fasteners to suit QuadCore® panel specification requirements: stainless steel. Fasteners to suit PIR panel specification requirements: stainless steel or carbon subject to project requirements. Should the panel core change from QuadCore® to PIR Core, a minimum number of main

3No. subject to wind loads.

Protective film shall be removed from external weather face of panel & internal liner, where applicable, prior to installation. For many years sealant suppliers have advised caution when using sealants in temperatures less than +5°C. For high humidity, hygiene internal environments, etc, please contact the Kingspan Technical Services Department for specification guidance.

Colour Shale Grey

Contractor to ensure all warranties are to be supplied to the architect upon completion of the roof works, kingspan representatives must be notified in time in order that they can inspect the roof works to issue certification for the roof. NB This insurance backed warranty must cover all materials supplied and their installation.

Mechanical Services Installation (51)

Central Heating & Plumbing to new extension & renovated areas

- 51.01 To be in accordance with The Service Engineers drawings and specification. Ensure that all work is carried out by qualified plumbing contractors and commissioning certificates to be supplied to architect & service engineer for all elements of installation prior to practical completion.
Main contractor to allow for general attendance's.
- 51.02 Main contractor is to allow for all builders work associated with the mechanical installation as set out in the builders work schedule issued by the service engineer as part of this tender package.
Allow for making good to all areas disturbed on completion.
- 51.03 Main contractor to include to all firestopping & making good as necessary to all services that pass through new/existing walls and cavity barriers. Fire stopping to be carried out by a specialist contractor & certification must be provided to the architect upon completion.

Drainage & refuse disposal (52)

Gutters & Downpipes to new extension

- 52.01 Allow for supply and fitting 130x85mm Alutec Evolve powder coated aluminium gutter system (or equivalent) to the new flat roof & pitched roof extension, together with Alutec 72mm square profile powder coated aluminium rainwater downpipes - outlet positions where shown on architects drainage floor plan. Gutters and downpipes to be installed strictly in accordance with the manufacturers recommendations. Allow for all appropriate fittings to be swan neck toes eaves and wall fittings as necessary and as recommended and fully in accordance with manufacturers details. Ensure that all sealant between joints etc is applied strictly in accordance with manufacturers recommendations, sealant to be Evolve JuraJoint EPDM rubber seal with Alutec silicone sealant.
- 52.02 The Alutec gutter system (or equivalent), including all gutters, downpipes & fittings etc. is to be powder coated with a BS 6496 architectural grade polyester powder coat (PPC) paint finish carried out to BS EN 12206-1:2004 in a colour to be selected by the architect.
- 52.03 N.B. Rainwater pipes to discharge over gully traps with cast iron gratings set in 400mm x 400mm dished concrete surrounds, to be supplied & fitted by the main contractor.

Surface Drainage Below Ground

- 52.04 Main contractor is deemed to accept that the locations of the existing surface water pipe runs, manholes location etc may vary from that indicated on the drawings and shall make local enquires and satisfy himself at tender stage in relation to making all necessary adjustments to the existing surface water drainage, no additional claim from the main contractor in relation to the surface water drainage will be entertained.
- 52.05 Allow for installation of surface water drainage including pipes, manholes, AJs etc., in accordance with the architects drainage & site layout plan and the structural engineers drawings & specification, and for making all necessary adjustments to the existing surface water drainage. All drains to be laid in accordance with the pipe manufacturers specification and the Department of Environment Recommendations for site development works.
- 52.06 Main contractor to allow for supply and fitting of ACO or equivalent continuous recessed drainage channels across the new doorways of the new extension, & in the other locations where indicated on the architects drainage drawings and connect to new surface water drainage system.

Foul Drainage Above Ground Internally

- 52.07 Allow for forming all foul drainage pop ups in new floor, to be in accordance with the service engineers drawings & specifications.
- 52.08 Main contractor to allow for all builders work as necessary to form opes in the rising walls and for fire stopping around the pipe with Hamron or equal approved proprietary sealing system.

Foul Drainage Below Ground

- 52.09 Main contractor is deemed to accept that the locations of the existing foul water pipe runs, manholes location etc may vary from that indicated on the drawings and shall make local enquires and satisfy himself at tender stage in relation to making all necessary adjustments to the existing foul water drainage, no additional claim from the main contractor in relation to the foul water drainage will be entertained.

- 52.10 Allow for installation of all new foul drainage, including pipes, manholes, AJs etc., in accordance with the architects drainage & site layout plan and structural engineers drawings & specifications, as well as making all necessary adjustments to the existing foul drainage. All drains to be laid in accordance with the pipe manufacturers specification and the Department of Environment Recommendations for site development works.
- 52.11 Main contractor to allow for supply and installation of gully traps for all sinks as shown on the architects drawings.

Electrical Services Installation (61)

New Electrical Installation for new extension & renovated areas

- 61.01 To be in accordance with the service engineers drawings and specification. Ensure that all work is carried out by qualified and registered electrical contractors and commissioning certificates to be supplied to architect for all of the various elements of installation prior to practical completion. Main contractor to allow for general attendance's.
- 61.02 The main contractor is to allow for all builders work in association with the electrical installation as set out on the service engineers builders work schedule. Allow for making good to all areas disturbed on completion.
- 61.03 Main contractor to include to all firestopping & making good as necessary to all services that pass through new/existing walls and cavity barriers. Fire stopping to be carried out by a specialist contractor & certification must be provided to the architect upon completion.

Display, Circulation Fittings (71)

Internal Signage Provided by Ironmongery Supplier

- 71.01 Allow for fitting internal signage being supplied as part of Ironmongery schedule to be securely fixed to walls and doors in locations to be agreed on site.

External Signage

Allow for supply and fitting external school signage fitted on feature wall as shown on the elevation. Signage to be brushed finish stainless steel fitted on stilt fixings on feature wall. **No fabrication is to take place without the architects consent.**

Assembly, Work, Play, Rest Fittings (72)

Ventilation

- 72.01 Allow for supply and fitting all extract fans/ ventilation ducts etc. as per the services engineers drawings.

Coat Hangers, Backboard & Shelf over same

- 72.02 Structural performance of coat hangers to be in accordance with BS 6222:Part 2 Grade H, with surface finishes performance to BS 6222: Part 3.
- 72.03 Allow for supply & fitting "HEWI" or equivalent coat hangars (Ref. No. 477.90.080) to be securely fixed to 175mm wide x 25mm thick Chamfered edge painted MDF backboard @ 200mm centres. MDF backboard to be securely fixed to block wall in locations to be agreed with the architect. Allow for 3.6m total length of backboards in each classroom, see architects detail drawing for locations of same. Backboards to be mounted 1m above finished floor level. Allow for painting the backboards in each classroom a different colour to be selected by the architect, boards to be painted in accordance with the architects specification for internal joinery.
- 72.04 Allow for supply & fitting of 1 no. 25mm th. 300mm wide birch ply "Grade B" shelving board, to be 2m long on 3 no. wall mounted standard duty "Spur" or equivalent white painted metal brackets, 270mm wide & fixed to the wall over the coat hanger in accordance with the manufacturers instructions. Shelf to be painted in accordance with the internal joinery specification elsewhere in this document.
- 72.05 Allow for supply & fitting "HEWI" or equivalent coat hangars (Ref. No. 477.90.080) to be securely fixed on the wall of the accessible toilet/shower room - exact location to be agreed with the architect prior to installation.

Storage Units to New Classrooms

- 72.06 Allow for supply & installation of the timber carcass for storage unit in the new classroom as detailed on the architects detail drawings for the storage units & as follows:
150 x 75mm continuous timber soffit bolted to 75 x 75mm timber posts & bracing as set out on the architects detail drawings. 145 x 18mm painted softwood timber continuous pelmet, located where shown on the architects detail drawings. 18mm Birch grade B plywood lid over storage area, painted on both sides, colour to be selected by the architect. 206mm wide stud wall to one side of storage unit to be 2245mm high, made up of 125x50 softwood stud framing & lined with painted 18mm Birch grade B plywood. Allow for supply & fitting 160 x 18mm painted softwood liner at both ends.
- 72.07 All timber framing & plywood for the timber carcass above to be painted in accordance with the architects specification for painting of internal joinery, colour to be selected by the architect. All plywood to be in accordance with BS 5268, with E1 formaldehyde emission classification.
- 72.08 Storage door system to be as follows:
4 no. sliding doors in each classroom storage unit to be 6mm Forbo Bulletin board panels (or equivalent) in colour to be selected by the architect, bonded to 9mm Medite Ecologique (or equivalent) MDF set in 30 x 30mm painted Iroko timber frames. Door sizes to be as shown on the architects detail drawings.
Complete doors including bonding to be manufactured off site.
- 72.09 Sliding door system to be "Ultraglide" or equivalent powder coated aluminium framed sliding door system, with 2 no. top & 2 no. bottom tracks, in colour to be selected by the architect. Heavy duty nylon door stops to be provided at the top & bottom of each door as buffers/finger guards. Buffers to be provided between end doors and frame of storage unit.

Shelving to Storage Units

- 72.10 Allow for supply & fitting new "Spur" or equal approved adjustable shelving system in the storage units in each of the new classrooms as follows:
6 no. double slot uprights 1980mm high, white in colour & fixed to wall in accordance with the manufacturers recommendations.
12 no. heavy duty brackets 470mm wide, white in colour & fitted to the slot uprights in accordance with the manufacturers recommendations.
12 no. standard duty brackets 270mm wide, white in colour & fitted to the slot uprights in accordance with the manufacturers recommendations.
- 72.11 Allow for the supply & fitting of the following shelving boards in each of the new classrooms as follows:
4 no. 20mm th. 300mm wide birch ply "Grade B" shelving boards & 4 no. 25mm th. 550mm wide birch ply "Grade B" shelving boards in each of the new classrooms.
Length of boards to be as shown on the architects detail drawings.
All shelving boards to be painted in accordance with the architects specification for painting of internal joinery, colour to be selected by the architect.

IT Worktop in Classroom

- 72.12 Allow for manufacture, supply and installation of IT worktops, in the new classroom in accordance with the architects detail drawings and in compliance with the following:
- 72.13 Worktops in the classroom is to comprise 40mm. thick bullnosed MDF worktop in "Formica" or equivalent laminate finish in colour to be selected by the architect. Sizes of the worktops are indicated on the architects detail drawings.
- 72.14 The main contractor is to allow for IT worktop to be fixed to wall using 7 no. "Hafele" or equivalent 470mm long worktop support brackets (Ref. No. 287.57.420). Brackets to be finished in epoxy coated steel, colour to be cream-white. Brackets to be fitted strictly in accordance with the manufacturers recommendations.

Mirrors

- 72.16 Allow for supply & fitting of a mirror in each new classroom ensuite. Mirrors to be silvered 6mm th. float glass, free from tarnishing, discolouration, scratching, etc.. Size to be 1100mm x 400mm with a polished bevelled edge & a water resistant aluminium foil backing. Mirrors to be fixed to walls with domed head chrome finish screws. Main contractor to fit mirrors securely, but without overtightening fastenings, to provide a flat surface giving a distortion free reflection.
Mirrors to be located over the wash hand basins with heights etc. to be agreed on site.

Internal Roller Blinds to Windows

- 72.28 Allow for supply & fitting of translucent roller blinds to be supplied and fitted by the main contractor. Blinds to be light coloured basket weave sunscreen material, exact opacity and colour to be selected by the client.
- 72.29 Blinds to have light transmission in the 9% to 12% range.
- 72.30 Solar absorption of the blinds is to be in the 17% to 20% range.
- 72.31 Openness factor is to be 3% to 5% range (1% for the windows nearest teaching wall in every classroom).

- 72.32 The roller blinds as installed must conform to "Internal Blinds - Performance Requirements including Safety" - EN 13120:2009+A1:2014. The manufacturer/installer must provide evidence of compliance with this standard to the client and architect prior to installation of the blinds.
- 72.33 The main contractor must allow for a full mock-up sample blind installation of 1 classroom with an interactive whiteboard & data projector in operation, & must be conducted with the client prior to the final selection of the opacity & colour of the blind material.

Noticeboards & Whiteboards

- 72.34 The supply of noticeboards and whiteboards is part of the Loose Furniture and Equipment Contract, however the Main Contractor is to allow for the installation of these boards in each of the rooms where required as follows:
- 72.35 Safe Base Classrooms (2 no.)
1 no. noticeboard (2400x1200mm) fixed between 800-900mm above FFL
2 no. whiteboards (2400x1200mm non-interactive) fixed between 800-900mm above FFL.

Culinary Fittings (73)

Built in Kitchen Unit in Classroom

- 73.01 Allow for manufacture, supply and installation of built in unit in accordance with the architects detail drawing and in compliance with the following:
- 73.02 Units to comply with BS 6222 and BS EN 1153. Structural performance to BS 6222 Part 2 Grade H, Surface finishes performance to BS 6222 part 3 & worktop classification to BS 6222 Part 3, type 2. Allow for supply & fitting lock for unit door under all sinks.
- 73.03 Base units to comprise:
40mm. thick bullnosed MDF worktop in selected Formica laminate finish; framing to unit in 25 x 50mm. softwood, primed and painted; doors to be solid timber shaker style to be selected; brushed stainless steel ironmongery including 180 degree opening hinges and 170 x 35mm. 'D' handles 10mm. diameter by Hafele ref.117.40.640 or equivalent approved; solid timber 100mm. high kicker/ plinth; 12mm. melamine finish FSC certified plywood middle and bottom shelf; include providing all necessary galvanized steel flanges; plinths; adjustable legs on clip; ironmongery, softwood timber, frame supports, etc. or any other necessary fittings; silicone mastic pointing to walls.

Sanitary Fittings (72)

Sanitary Fittings

- 74.01 Allow for supply and installation of the following Armitage Shanks or equivalent sanitaryware to blockwork, concrete or metal stud partitions backgrounds where indicated on the architects drawings in accordance with the following schedule :
Note : Main contractor is to allow for fitting the sanitaryware, wastes etc. Plumbing to be by mechanical contractor. Include for all necessary temporary fixings, removal to suit all other trades and refixing of all fittings.
- 74.02 A - WC pan in ensuite toilets
Allow for supply & fitting 1 no of the following in new classroom ensuite toilet.
Armitage Shanks Sandringham 21 close coupled WC pan with horizontal outlet - E8963(01) or equivalent.
Sandringham 21 Close Coupled 4/2.6 litre dual flush valve, bottom supply and internal overflow E8967(01).
Sandringham 21 seat and cover E9076(01).
Domex screws (pair) S9101(01) .
Isolating servicing valves reference S9000.
Allow for all necessary fittings and sealant, etc required for installation & connection.
- 74.03 B - Wash hand basin in ensuite toilets
Allow for supply & fitting 1 no. of the following in the new classroom toilets:
Armitage Shanks Portman S2910 or equivalent wash hand basin 400 x 370mm in white glazed vitreous china with two tapholes, overflow and chain stayhole.
Trap to be chrome plated 1.25 in. self venting bottle trap with 75mm anti syphon S8900 CP.
S9151 concealed bracket.
1 pair of Armitage Shanks "Avon" S7230AA or equivalent, chrome plated push taps with spray outlet and indexed hot & cold (2 no. required for each wash hand basin).
Isolating servicing valves reference S9000.
Each Wash hand basin shall be complete with one Ideal Standard TMV Thermostatic mixing valve 15mm (Ref. No. A5900(AA) or equivalent incorporating strainers and isolating valves.
- 74.04 C - Grab rails in ensuite toilets
7 no. of the following to be supplied & fitted in each classroom ensuite toilet :
Armitage Shanks Contour 21 grab rail straight 60cm long x 35mm diameter S6454(AC) or equivalent. Exact location of each grab rail to be agreed on site with the architect.
- 74.08 F - Sink in Classroom
1 no. of the following to be supplied & fitted in new classroom built in unit :
Franke or equivalent stainless steel inset sink manufactured from 0.91mm thick, austenitic stainless steel with a satin polish finish. Size to be 1000 x 500mm with 1&1/2 bowl, single drainer, tap holes at 180mm centres, integral overflow, 1.5 in dia. CP waste fittings, chains, plugs overflow assemblies, clips and silicon sealant.
Mixer tap to be Franke or equivalent chromium plated brass mixer tap, suitable for tapholes at 180mm crs. Each sink shall be complete with one Horne 15, Ref H15-21C, thermostatic mixing valve incorporating strainers and isolating valves.

Toilet roll holders

- 74.09 To be Metalex Magestic or equivalent (single item) toilet roll holder - 1 no. required for each WC.
Main contractor to also allow for fixing all toilet roll holders to the wall adjacent to each WC.

Roads, Paths & Paving's (40)

Hardcore Fill to New paving and tarmac areas

- 40.01 Main contractor to allow for the supply and laying of clause 804 hardcore fill in compacted layers in accordance with the structural engineers drawings & specifications in order to build up levels to all new tarmac paved areas as set out on the architects site layout plan, landscaping plan and finishes plan
- 40.02 NOTE: The main contractor is to note that they must to provide certification for ALL hardcore used on site, i.e. certification must be obtained for each delivery to site, and immediately submitted to the structural engineer & assigned certifier PRIOR to being used on site.

Site Access - Repairs if Necessary

- 40.03 Main contractor to allow for making good to all areas of the existing access road damaged by construction traffic during the works.
- 40.04 Main contractor to allow for replacing to all concrete kerbs, walls, piers etc. damaged by construction traffic using the access route allocated to the contractor for the duration of the works. Allow for making good to all sections of walls etc. damaged by vehicles, and touching up with paint to match if necessary.
- 40.05 No mud, clay etc., will be allowed on to the public road. The contractor is to ensure that there is a daily cleaning regime in place to ensure that the public road is kept clean at all times.

New ACO Drain Across Doorway

- 40.11 Main contractor to allow for the supply and installation of "ACO Doorway" or equivalent approved drainage system where shown on the architects drainage floor plan drawing, to include all cover gratings etc. ACO drain to be installed in accordance with the manufacturers instructions & connected to the surface water drain in accordance with the structural engineers drawings & specifications.

Surface Water Gullies to New Paved Areas

- 40.14 Main contractor to allow for the supply and installation of new Wavin yard gullies with ductile iron grating & frame, all to be fitted strictly in accordance with the manufacturers recommendations. Refer to the architect's drawings for locations of same.
- 40.15 All connections from gullies to be in uPVC pipes laid in accordance with the structural engineers drawings & specifications & connected to soakaway as specified by the structural engineer.

New welded mesh fencing

- 40.10 Allow for the supply and installation of a welded mesh fencing system to match existing to the front of the main school at the location of the temporary builders access, refer to the architects site plan drawings for the location of same. The welded mesh system is to be supplied and fitted by a specialist sub contractor.
- 40.11 Supply and Install 2.4m high 868 - twin wire Perimeter Mesh Fence System or similar. 200 x 50mm mesh with 6mm vertical wire and twin 8mm horizontal wires back and front. Posts 60 x 60mm SHS posts at 3m post centres. Mesh and posts are to be galvanised & powdercoated (Plasgalv®), colour is to be RAL (tbd) in matte finish.

Line Marking to Parking Area/Disabled Parking Bay

- 40.26 Allow for applying thermoplastic paint lines, letterings & symbols to all areas where indicated on the architects drawings . The thermoplastic paint is to be supplied and installed by the main contractor and applied hot using an extruder in accordance with IS EN 1871: Road Marking Materials. Refer to the architects drawings for colours/patterns required for the disabled parking bay.

Disabled Parking Bay Sign

- 40.27 Allow for the supply and installation of 1 no. vertical sign post, exact location to be agreed with the architect. Sign are to be manufactured to DOE TS4 specification using high intensity retro reflective finish on 3105 h38 grade aluminium sheet. Signs are to be securely mounted on 100mm dia. CHS galvanised steel poles which are cast into concrete foundation pads.
- 40.28 The signs are to be the international access symbol, with the words "PARKING ONLY" underneath. Sign size to be 400x600mm, mounted on the galvanised steel pole such that the bottom of the sign is 1m min. above finished ground level.

Site Services - Piped and Ducted (50)

Surface Water Drainage below ground

- 50.01 Main contractor is deemed to accept that the locations of the existing surface water pipe runs, manholes location etc may vary from that indicated on the drawings and shall make local enquires and satisfy himself at tender stage in relation to making all necessary adjustments to the existing surface water drainage, no additional claim from the main contractor in relation to the surface water drainage will be entertained.
- 50.02 Allow for installation of surface water drainage including pipes, manholes, AJs etc., in accordance with the structural engineers drawings & specifications, and for making all necessary adjustments to the existing surface water drainage, and all necessary backfilling & testing. All drains to be laid in accordance with the pipe manufacturers specification and the Department of Environment Recommendations for site development works.
- 50.03 All new surface drains to be Wavin sewer, diameter to be as specified by the structural engineer, laid to falls in accordance with the structural engineers drawings & specifications.
- 50.04 Bedding for new surface water pipes to be in accordance with Diagram 9 of TGD H 2010, provided the cover is a minimum of 900mm in roads, car parks & tarmac areas or 600mm in fields & gardens and is not greater than 10m. Where the cover falls outside these limits the pipes are to be concrete encased to a minimum of 150mm cover all round with a flexible joint at all couplers. Also allow for bedding pipes in concrete where pipes run adjacent to the foundations of the building, as per Diagram 13 of TGD H 2010.
- 50.05 Also allow for supply and installation all gully traps, AJs, inspection chambers, manholes, road gullies, slot drains & soakaways as indicated on the structural engineers drawings & specifications, all to be installed strictly in accordance with the manufacturers recommendations.
- 50.06 The main contractor is to allow for having a CCTV survey undertaken of the entire new surface water system upon completion, and a copy of the footage is to be supplied to the structural engineer for comment. The main contractor must allow for rectification & repair of all defects/blockages found during the survey that the structural engineer deems necessary to be carried out.
- 50.07 Main contractor to allow for supply and fitting of ACO or equivalent continuous recessed drainage channel across the doorway of the new extension and connect to surface water drainage.

Foul Drainage Below Ground

- 50.08 Main contractor is deemed to accept that the locations of the existing foul water pipe runs, manholes location etc may vary from that indicated on the drawings and shall make local enquires and satisfy himself at tender stage in relation to making all necessary adjustments to the existing foul water drainage, no additional claim from the main contractor in relation to the foul water drainage will be entertained.
- 50.09 Allow for installation of all new foul drainage, including pipes, manholes, AJs etc., in accordance with the structural engineers drawings & specifications, as well as making all necessary adjustments to the existing foul drainage. All drains to be laid in accordance with the pipe manufacturers specification and the Department of Environment Recommendations for site development works.
- 50.10 All new foul drains to be Wavin sewer, diameter to be as specified by the structural engineer, laid to falls in accordance with the structural engineers drawings & specifications.

- 50.11 Bedding for new foul water pipes to be in accordance with Diagram 9 of TGD H 2010, provided the cover is a minimum of 900mm in roads, car parks & tarmac areas or 600mm in fields & gardens and is not greater than 10m. Where the cover falls outside these limits the pipes are to be concrete encased to a minimum of 150mm cover all round with a flexible joint at all couplers. Also allow for bedding pipes in concrete where pipes run adjacent to the foundations of the building, as per Diagram 13 of TGD H 2010.
- 50.12 Also allow for supply and installation all gully traps, AJs, manholes and inspection chambers as specified on the structural engineers drawings and specification, all to be installed strictly in accordance with the manufacturers recommendations.
- 50.13 Main contractor to allow for supply and installation of gully traps for all wash hand basins & sinks as shown on the architects drawings.
- 50.14 Main contractor to allow for CCTV survey of entire new foul water system upon completion, and a copy of the footage is to be supplied to the structural engineer for comment. The main contractor must allow for rectification & repair of all defects/blockages found during the survey that the structural engineer deems necessary to be carried out.

Site Ducting - to New Waste Water Treatment System

- 50.15 Supply and lay 100mm Dia. Wavin duct from the school building to the new waste water treatment plant (refer to the architects site layout drawing for the route of same). Provide fish wires etc in same. Construct access manhole at changes in direction of the ducting.

Landscaping (80)

Existing Grassed Areas disturbed during construction

80.01 na

i General

- ii Provide for all attendance of trade upon trade and making good after each including restoration after any work done by special tradesmen engaged by employers.
The whole of the works shall be carried out in a good and workmanlike manner to the full intent and meaning of the drawings. All materials and work shall be of the respective kinds described in the specification and in accordance with the conditions of contract and all to the satisfaction of the Architect.
If any doubt should arise about dimensions, materials etc the Architect should be consulted.
No alternative either to specification or plans is to be made without the permission of the Architect.
Contractor to allow for making good to all works disturbed during the course of the works.
Allow for all Insurance's and Bond as described in the specification.
- iii The whole of the works shall be carried out in good and workmanship manner to the full intent and meaning of the drawings. Contractor tendering must make and shall be deemed to have made a thorough examination of the drawings, specification, the site and the sub-soil, dimensions, levels thereof, existing and adjoining buildings and premises, building works in course of execution on adjoining site, boundary walls, drains, sewers, water, electric cables and other things as regards any connection they have with the works, the subject of the contract, to ascertain the precise nature and the extent of the proposed works and the conditions under which they will have to be executed and as practical tradesmen satisfy themselves that the work required to be done is sufficiently shown and described as they must, of their own knowledge of the manner in which similar building work is performed, supplement and expand the knowledge given herein so that the rates set out will include for all incidental or contingent works which may be necessary to render the several complete and no charge for extra work or otherwise will be allowed in consequence of the Contractor having failed to make himself correctly acquainted with such nature, character, dimensions and levels.
Contractor to ensure that the manufacturers/ distributors instructions are followed in the use of all materials being incorporated or used on the project. Where instructions are not received with materials the Contractor should source and check on same.
Allow for cleaning and polishing glass internally and externally in all windows and fully cleaning out new building on completion of project.
- iv All items in the Estimate should be priced in ink in detail. If any items are left unpriced they shall be deemed to be included in the prices given for other items of the work.
All provisional amounts herein whether in money or quantity, are to be at the entire disposal of the Architects who may add to or deduct from same or make any alterations as they may think fit. Any difference to be adjusted at the settlement of accounts. The employer does not bind himself to accept the lowest or any tender and no Contractor will be remunerated for any trouble or expense he may have incurred in making up his tender.
Contractors should allow for waste, loss etc in their prices.
- v Ensure that no leaks occur into existing building due to disturbance etc. during the course of the works and contractor should take full responsibility for making good and any costs incurred should such an event occur.
- vi The Contractor tendering should fully acquaint themselves with the site condition, buildings to be demolished, condition of all adjoining properties, all adjoining boundaries and all other features, conditions and matters which could influence the demolition & re-construction of the property or any other works associated with carrying out the overall contract for both demolition & construction of the entire works.

- vii All timber throughout the development shall be imported and kiln dried to 15% moisture content. Timber to be free from large and loose knots over 18mm diameter, waness, shakes and any other defects.
All timbers are to be pressure treated with Protim against dry rot etc. and to be in minimum grade as specified by the structural engineer.
All timbers built into blockwork and all wall plates to be given three coats Caprinol green preservative beforehand.
No timbers to be built in or closer than 225mm to any flue liner or 50mm. Of facing concrete block chimney.
Protect all floors from staining or marking.
- vii The Contractor shall when required by the Architect submit samples of any materials for testing in accordance with the Irish and British Standard Specification. All tests and checks carried out on site shall be in the presence of or as directed by the Architect. The Contractor shall send copies of all tests results and check results to the Architect. The Contractor will not be paid for any special tests called for by the Architect in consequence of any failure by the Contractor to comply with this specification. The Contractor will be paid at rates to be agreed for any other special tests called for by the Architect unless the tests show failure by the Contractor to comply with this specification.

SPECIFICATION - APPENDIX 1
Ironmongery Schedule

SPECIFICATION - APPENDIX 2
Airtightness Test Requirements

Airtightness Testing Requirements

1.0 General Requirements

- 1.1 The main contractor is to note that the buildings airtightness is a key element of the low energy strategy applied in the design.
- 1.2 Care has to be taken by the main contractor to ensure that the building as constructed will achieve the level of air permeability required. The main elements providing protection against air infiltration (the air tightness barrier) are the buildings vapour barrier (plastered walls, composite roof panel, airtight rendered blockwork etc.) on the warm side of the wall and the roof constructions, the doors & windows and junctions/sealing between these elements. It is essential that there is a continuous seal between these elements and is not breached in any location.
- 1.3 If the integrity of the airtightness barrier is broken then it must be repaired. Particular care must be taken when constructing joints and junctions in the building envelope to ensure continuity of the airtightness barrier. Repairs using duct tape, Rockwool and expanding foam are not acceptable. Duct Tape, Rockwool and expanding foams are ineffective in maintaining a durable and airtight seal and shall not be used to maintain continuity of the air tightness barrier at junctions and between construction elements.
- 1.4 In addition to the airtightness barrier continuity care must be exercised at all envelope penetrations and junctions for windows doors, services, cables etc. applying appropriate sealing and draught barriers and sealing junctions between the airtightness layer and these elements.
- 1.5 All Site workers and subcontractors to be made aware: For the airtightness strategy to be successful it is vital that all site workers are aware of the importance of maintaining the integrity of the airtightness barrier. All subcontractors are to be briefed on the airtightness strategy and encouraged to report damage of the airtightness barrier on a "no fault" basis.
- 1.6 The main contractor shall take overall responsibility for maintaining continuity of the air tightness barrier. One member of the contractor's site team will be nominated to oversee all details of the airtightness barrier and to maintain quality control in reproducing the design details accurately.
- 1.7 The contractor shall seek clarification from the architect of any construction details junctions where the method of maintaining airtightness is not clear to him before construction of the elements takes place.

2.0 Co-ordination of Work

- 2.1 The main contractor shall ensure coordination of work between different work packages/specialist subcontractors in defining responsibility for sealing at junctions between different construction elements.
- 2.2 Areas critical in maintaining airtightness include but are not limited to;
 - At the roof eaves and gable end junctions
 - Wall to roof junction
 - Changes in level in the roof construction
 - Continuity at intermediate floor wall/floor junctions.
 - Junctions at changes in building geometry
 - Junctions between different envelop systems
 - At window/door wall junctions.
 - At service penetrations.

3.0 Air Tightness Performance

- 3.1 The building shall achieve an air permeability of (2.5m³/(hr.m)) at a test pressure of 50 Pa, when tested in accordance with the requirements BS EN 13829:2001 'Determination of air permeability of buildings, fan pressurisation method' and TS1 July 2007 'measuring air permeability of building envelopes'.
- 3.2 Airtightness Specialist - to be appointed by main contractor within one month after commencement of project.
- 3.3 The contractor shall appoint a building airtightness specialist approved by the Architect who shall be accredited by INAB (The Irish National Accreditation Board) to ISO 17025 as a testing laboratory for commercial & residential building airtightness testing. The specialist must demonstrate prior experience of works on projects of similar size and complexity. A copy of the airtightness testing specialist's INAB accredited schedule/certificate should be issued to the architect before the specialists are appointed.

4.0 Air Tightness Briefing Meeting

- 4.1 Under approval and appointment of the INAB accredited airtightness testing specialist by the main contractor, and at a very early stage in the building programme, the specialist shall hold a briefing meeting with the contractors staff and the design team. Prior to this meeting, the contractor shall identify any points in the buildings that have a high risk of air leakage and shall detail the testing procedure and work required in preparation for the test.

5.0 Site Inspections by Airtightness Specialist

- 5.1 The main contractor shall include for 4 no. site inspections at the building in their tender for the appointed airtightness specialist to visit & review the ongoing site construction works. The objective of the surveys are to review the ongoing site construction works relevant to the requirements for achieving building airtightness on each house. A visual survey of the airtight barrier, construction junctions and services penetrations etc., will be conducted by the airtightness specialist & any remedial works recommended by the airtightness specialist shall be carried out by the main contractor.
- 5.2 The site survey will begin with a meeting with a member of the main contractor's site supervisory staff to review construction progress and any general issues relating to airtightness.
- 5.3 A report will be issued detailing the findings of the survey and will include photographs/comments referenced to plans, elevation drawings and details as appropriate.
- 5.4 An A3 set of the latest architectural plans & elevations of each house and construction details will be required.
- 5.5 4 no. site visits are recommended at key stages of the project.
- 5.6 ALL REPORTS OF FINDINGS ARE TO BE ISSUED TO THE DESIGN TEAM FOR REVIEW WITHIN 2 DAYS OF SITE VISIT.

6.0 2 x Sample Room Test During Construction

- 6.1 Prototype tests of 2 x sample rooms on the external envelope, including typical construction junctions between different systems and elements are to be carried out to provide invaluable feedback to the project team before the whole building airtightness test. This is also to be carried out by the accredited airtightness testing specialists.

7.0 Airtightness Pre-test Inspection

- 7.1 The appointed airtightness specialist shall carry out a detailed pre-test inspection/snagging of the building approx. 2 weeks before the planned test date.

8.0 Whole Building INAB Accredited Airtightness Test

- 8.1 1 x preliminary site meeting with the approved accredited specialist at the start of the project to discuss airtightness detailing, approach, programme & testing schedule. Detailed envelope area calculation to be done for the building & issued to the design team before test date. 1 x pre-test site inspection of the building by the accredited airtightness testing company 2 - 3 weeks prior to the final test date to ensure that the building is properly prepared for the test.
- 8.2 Carry out 2 x accredited airtightness tests to ISO 17025 followed by 1 no. smoke test should the specification not be reached. All further airtightness tests and smoke tests required to bring the building up to the required airtightness to be at the contractor's expense.

9.0 Whole Building Thermographic Survey

- 9.1 The contractor is responsible for carrying out a thermographic survey of the completed building. The building thermography should be carried out by an individual certified as a Civil Thermographer at Level 2 or 3 under the PCN scheme (ISO 18436), and should carry out the duties permitted under ISO 18436. The thermographic equipment should be within calibration and calibration records should be issued as part of the final report.
- 9.2 The thermographic survey should be in accordance with the BS EN 13187.
- 9.3 The thermographic survey should investigate the following areas:-
- Thermal bridging of building components.
 - Potential water ingress into the building & building elements.
 - Potential air leakage & heat loss investigation.
 - Potential insulation defects within glazing systems.
 - Continuity of the insulation throughout the building.
- 9.4 It may be the case for houses which are complete in summer months that the thermographic survey is done between the months of "November" to "February" to ensure environmental conditions are reached.
- 9.5 If possible the thermographic survey should be carried out before the final airtightness test. This will only be the case depending on environmental conditions.

10.0 Airtightness Testing Preparation

- 10.1 The building shall be subject to an airtightness test at a point in the construction programme when all elements of the external envelope/airtightness barrier are complete including all penetrations, but before internal finishes have been applied in order that remedial works can be carried if necessary with minimal disruption. The test must be completed at least 3 weeks before practical completion.
- 10.2 A detailed testing method statement shall be provided to the architect a minimum of one month before the proposed test date.
- 10.3 The building shall be pressure tested to ensure compliance with the airtightness specification. The test shall be carried out by an INAB accredited airtightness testing specialist in accordance with the following:-
- CIBSE TM 232001
 - BS EN 13829 2000
 - TS1 2007

- 10.4 In the event that the specified level of air leakage is not achieved then the contractor shall carry out a whole building leak audits and further tests at the contractors expense shall be carried out until the specified values are achieved.

11.0 Main Contractor Attendances

- 11.1 The contractor shall include for all necessary attendances during the test at the building which will typically include the following;
- 11.2 All external windows, trickle vents, smoke vents and doors must be closed.
- 11.3 All internal doors must be wedged open.
- 11.4 All drainage traps must be filled with water. If traps have not been fitted then drainage pipes must be sealed with tape.
- 11.5 All mechanical ventilation systems must be shut down and intake/exhaust louvres sealed with tape/solid sheeting/corriboard. This is most effectively achieved by sealing the intake and exhaust louvres for each fan or system.
- 11.6 Any combustion appliances within the airtight building envelope should be turned off and their flues sealed.
- 11.7 The ground floor internal and external area within 5m of the fan equipment/doorway must be level, clean and clear of all loose material. Vehicular access is required to within 3.0m of entrance doorway.
- 11.8 The contractor must ensure that no external doors/windows/trickle vents are opened for the duration of the test.
- 11.9 Some temporary minor carpentry works may be required to the doorway in which the fan equipment is mounted to accommodate the fan equipment.
- 11.10 Notices must be posted at all entry and exit points to the building "Airtightness test in progress do not open".
- 11.12 The contractor will be required to provide 3 no. 32amp 110volt power sockets in the region of the doorways being used to mount the equipment, each fed from a separate transformer box.
- 11.13 allow for testing phase 1 separately with phase 2&3

SPECIFICATION - APPENDIX 4
Preliminary Inspection Plan & Inspection
Notification Framework