Section 08

Appendix A
Stakeholder Engagement

The Delivery and design of service delivery must change.

Model needs to be flexible.

- 1140 Hours

  55% of parents will sign up for a term timetable

  45% of parents will sign up for a calendar year timetable.

- Of 72 child spaces at the nursery:

  40 children will be there for the full day session

  32 children will be there for an AM half day session

  32 children will be there for a PM half day session.

- This equates to 104 sessions a day in a nursery that can accommodate 72 children at once.

- Longer hours give a less broken up, fragmented day for children.

- Gives an increased opportunity to help children in need of assistance.

Workshop 1

Question 1 - What is the Purpose of 1140 Hours?

Giving kids the best possible start and take parents along this route too.

Countering deprivation and creating equal opportunities.

Helping struggling parents.

Previous model doesn't fit the need of parents who wish to go back to work. Parents more economically active.

Giving children confidence to "Take on the world!"

Giving children more choices/freedom and developing risk awareness. Self-directed learning.

Self-risk assessment: involving kids in health and safety. Have to balance safety concerns over outdoor activities while allowing children to explore outside.

The outdoors can promote more engagement from some kids and enhance collaboration, learning and social skills. Also promotes the use of parks and outdoor space – teaching children how to be outdoor adults.

Counters an over reliance on indoor pursuits such as xbox etc. Challenging the dominance of social media.

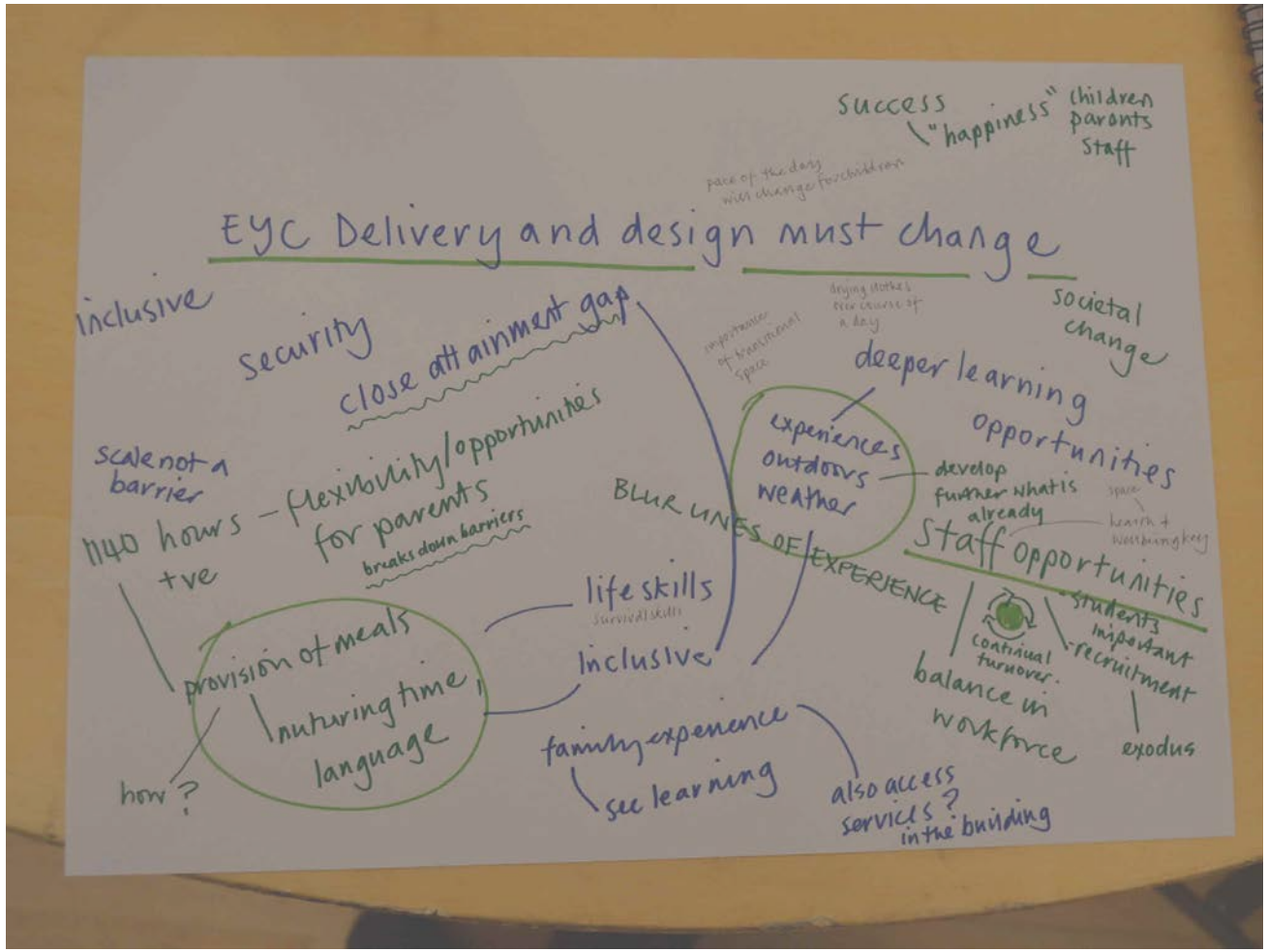
Nursery should be installing a knowledge/awareness of growing vegetables etc. Ability to produce seasonal varieties throughout the year. Improves health and wellbeing.

Lunches: Social setting for each. Promoting healthy eating food growing and cooking. Involving kids in preparation of food.

Should provide access to facilities outside of school hours. With the loss of many community facilities, the nursery could provide a social function in evenings/weekends. A place to go… A community café?

Embedding the facility into the community will make it more likely to be looked after. Community buy in.

Gives staff longer to know and support children, from the age of 2. Does this counter parents getting to know their children? Will this lead to an over reliance of the council to nurture/develop/provide care.



Success is happiness for Children, Parents & Staff

EYC Delivery and Design Must Change

Must be Inclusive – providing deeper learning opportunities, experiences (blurring lines between indoor and outdoor), security

Must provide opportunities for staff. A balance in work/life experience. Better facilities will make it easier to recruit and retain staff. Something that is difficult at the moment, a continual turnover of staff.

Should provide opportunities for the family to access services within the building.

Aims of the new facility

Build confidence / Life skills / Variety of experiences / Learning to care / Sustainability / Outdoor Rooms

Free Play – Indoor / Outdoor – Child decides where to play.

Workshop 1

Question 2 – How to Maximize Benefits

Starting at 2 years of age for eligible kids. = An early intervention for speech/language and social interaction. Also provides support for parents.

ROVIDE A SOCIAL LINK FOR PARENTS, many of whom may be isolated and not have many opportunities to engage with others. Could a café provide a social space for parents to mingle while their kids are in nursery? At the moment there is a parent's room which is well used. Parents can get involved in activities with the group, observing care delivery that could be adopted at home.

Café could become a flexible meeting space used by visiting groups, eg baby massage/teeth cleaning.

Could café operate later to allow parents to stay after pick up? Supper club?

A query over the kind of kitchen being provided, most likely a regen type kitchen. Could this be used to prepare vegetables grown on site? Kitchen could prepare lunches for the children throughout the day whilst also preparing food for a community café.

DEVELOPING SOCIAL SKILLS FOR KIDS - Confidence/ Language/Caring/Play

How do we nurture confidence? Giving children the confidence to take on the world! The learning environment will go a long way to engaging children: Space/Light/Noise/Materials

The graduation between indoor and outdoor will be crucial. Trying to blur the lines between each. Indoor Space > Covered Outdoor Space > External Space. Boot room/transition space required to clean off outdoor clothes.

Large, airy, bright spaces that can be as flexible as possible. Smaller, more intimate spaces will be required for children that can find noise problematic. A variety of spaces that encourage exploring and discovery. Smaller spaces to rest/sleep/calm down/read. The nursery should be a stimulating space and most importantly, it should be a fun place that is appealing to the children. Interesting spaces… Angles and curves.

In comparison to what is available currently. This should be something different!

What is fun? Slides/Steps/Tunnels/Climbing (Has to be inclusive and accessible.)

Colours and materials will be carefully considered. Not just austere white plasterboard walls. Types of play: Creative/ Discovery/Exploration/Role Play/ onstruction & Maths

Digital learning is on wheels and can be used flexibly.

Role of the Care Inspectorate should be understood and engaged with as early as possible. The focus will be on the quality of outcomes for children

Workshop 1

Question 2 – How to Maximize Benefits

ENTRANCE

Should be welcoming and attractive. Bright and airy. Should not be intimidating to the parent and especially not to the child. Parents/children should feel uplifted upon entering the facility.

Should entrance route go past the external play area? An active/ joyous environment. Or would this be problematic for children seeing their parents leaving if they are not fully settled? External play area should be the back garden for children. Should be an alternative social space at the entrance for parents to engage with other parents/teachers etc. Would like parents to engage with the nursery as a whole, not just dropping off children and leaving.

A café that could link the nursery to the community, providing a social space for parents to converse. Kitchen could provide lunch to nursery as well as to a small snack/coffee shop.

Could just be a larger covered space at the entrance to encourage lingering.

Does encouraging parents to stay and join in put working parents at a disadvantage?

Parents invited to group time once a month, making them more comfortable coming into the facility.

Welcoming with appropriate storage for coats and shoes (allows drying of outdoor wear) Where should this be located? An external covered zone may make this area less crushed. Combine this area with the outdoor clothes zone.

Families bringing children in makes it a busy space. Toilets available for visitors & parents in foyer? A quiet room off of the reception would be good for upset children.

Security has to be considered.

Challenge the care commission on usable space – making space work harder thus generating other spaces for the community and staff.

2 year olds - Separate room from older kids / Snooze room or space. / Own access to outside.

ARIVAL

Parking/Park and Stride/Walking/Cycling/Taxi Drop off – Will longer hours result in more arriving by car?

Currently a security door within a community centre. A very tight entrance if you are bringing in a buggy. Also, many parents may have more than one child at the nursery so it can be very congested and hectic getting coats/hats/groves on and off.

Could entrance and dining double up as the same space? Might not work depending on clash with morning kids leaving unless lunchtimes were timetabled. Thought to be a good idea to introduce a (loose) structure to the day.

Need to consider the process of arrival/drop off.

Where to position the cloak room? At the front door? Large flexible space, could close off the coat storage and reuse the room throughout the rest of the day. Would mean there would have to be separate coats to be worn into the external play space.

Positioning the cloaks at the threshold to the garden would bring the parents deeper into the nursery, however that means that the activity and disruption of pick up times are brought further into the building too!

If kids are to wear their own coats etc it develops a sense of ownership and looking after their things.

Nursery currently has a multipurpose space that is heavily used throughout the week:

Speech and Language Therapy - Tuesday

Baby Massage - Wednesday

Cookery Group - Wednesday

Parent & Toddler Group - Thursday

Parents Group Sessions - Friday

Don't currently have any fixed kitchenette but would make such a difference if they did.

Workshop 2

Internal Spaces

Different Play Areas required

- Construction Area - Boxed up lego/duplo/megablocks. Large space required.
- Role Play - Shop/Doctors/Vets
- Snack Area - Children help to prepare their snacks. Also used for tooth brushing.
- Messy Play Area - Dough/slime/water
- Arts & Crafts - Takes up a lot of storage. Easels/glue/paper. Hard flooring essential.
- Small World Play - Dolls House/Cars/Railway

Many of these spaces can double up as they just require flexible space and storage.

Not looking for a defined sleeping area. A smaller, quieter space could be used for any children that needed some quiet time. Comfy seating/bean bags.

Play area should be an open, fun space with slides/ladders nets etc

Art / Wet Play Area – Requires an amount of storage. Built into walls? Moveable units? Could the walls become display spaces? Flooring would have to be vinyl or similar.

Hard wearing / easily maintained flooring throughout. As soon as you start using different kinds of flooring, you are limiting the flexibility of an area.

Walls should not be white plasterboard throughout. Liked idea of using veneered ply in order to provide warmth and texture as well as a robust long lasting finish that is economical as well. Liked the precedent of Hazelwood School for the visually impaired, using cork to clad a central wayfinding wall. Again, a tactile, warm finish. Materials should be selected with acoustic performance in mind. Nurseries are very noisy places and too much noise can be problematic to some children.

Library

A quiet space. Different in nature to the activity and commotion of the rest of the nursery. Smaller pods/lowered ceilings. Somewhere to retreat to. Doesn't need formal seats. Better to have large cushions / bean bags that can be pulled out on the floor.

Wellbeing

Provision of quiet areas away from the rest of the children in which to have a break. Children should be able to let off steam – Drumming Sessions / Shouting / Running Around

Toilets – Centrally located and available for all age groups with changing facilities if required. Query was raised about whether the handwashing area could double as the wet play area? Concerns over privacy / dignity. Heights to suit the ages attending the nursery. Inclusion cubicle.

Location of toilets is critical. Direct access from the playroom is key. Changing facilities for the 2-3 year olds and those with additional support needs.

2 WCs for every 12 children. Toilets should be accessible from inside and out along with changing Facilities. Some changing facilities directly off of play spaces to avoid 'Walk of Shame'.

Storage

Always an important consideration.

Outdoor toys tend to be larger items so a large container type unit accessed from the garden.

Play furniture – Kitchens / Bedrooms / Hospital / Santa's Workshop

Ability to change the environment from time to time. An amount of storage in each room allows a practitioner to supervise while accessing new equipment. Currently the nursery has one large central store.

Staff Accommodation

Staff room

- Got to provide a working space. Staff get 5 hours a week to write up and plan lessons. Require a location to do this away from the children. Lounge type idea with flexible spaces and kitchenette.

- Also need to provide a space to take a break in and have lunch.

Working /Talking / Eating

A workplace for the future. National recruitment campaign while retaining best staff.

A place is required for staff to get together as a group (CTD Room). Currently use a play room before kids arrive.

Workshop 2

External Spaces

GARDEN

Covered Transitional space to the garden. Should provide shade as well as cover. This space is key to the project. Blurring the line between inside and out. How does a free flow between inside and out manifest itself? A Semi heated space? Should include a boot room to store & dry off outdoor gear. Toilet facilities that span the inside / outside divide so that you can access from both sides.

50% of time to be spent outside under new 1140 hours provision. Outside space just as important as inside space in terms of design and materiality. May be the only external experience some children get from day to day.

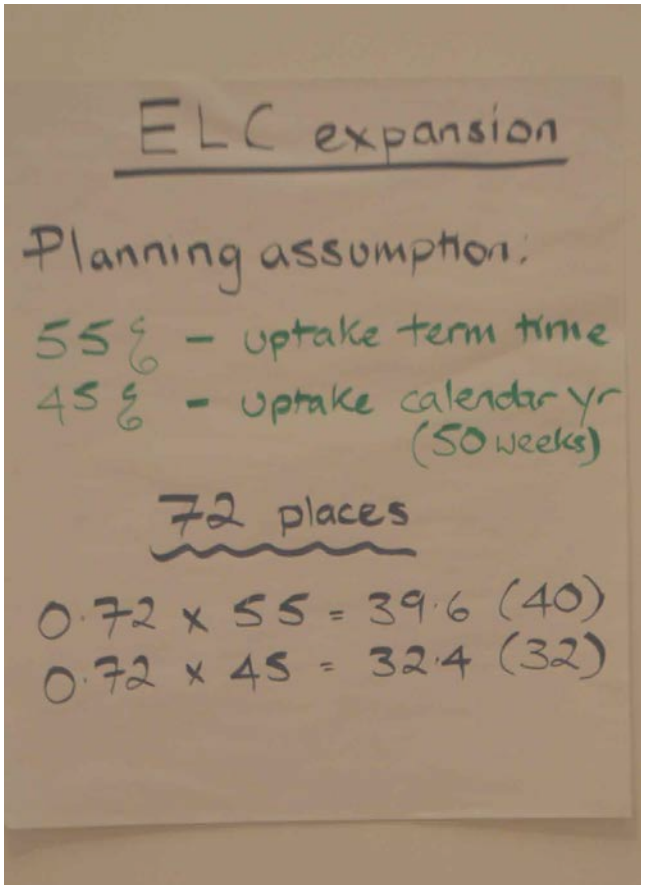
Create contours on a flat site to provide interest. Does the landscape have a theme specific to its site?

Ground maintenance, encourage community support to maintain. Should be able to see in and see out. No aversion to being an open asset. Will help embed the facility within the community.

Furniture that encourages play and imagination. Furniture should have built in storage, be weatherproof and of good quality. Should be adaptable and not fixed in terms of use and location.

Changes in level can be negotiated by ladders/nets/chutes/ climbing walls. Avoid synthetic materials such as rubber ground cover. Shouldn't have to go through play area to enter the building. Play area should be the 'back garden' to the facility. Play space should be maximized at the expense of support spaces such as offices and kitchens that should be made to work harder.

A covered garden to allow outdoor play in inclement weather. Good Drainage is essential to allow outdoor play all year round.



What should the Garden provide?

- Woodwork - Arts & Crafts Painting & Making
- Cooking & Food growing. Gardening vegetables.
- Musical Noisy Play
- Changes in level, slopes and stepping stones.
- Embracing existing natural things – Trees/Vegetation/
- Slopes/Mini beasts & Bugs
- Light – Natural light throughout the year. Summer/Winter. Artificial lighting in the evening. Feature lighting.
- Recycling and sustainability
- Accessible and child friendly. Access to toilets from the external space. Hand wash facilities. Water for cleaning
- Building structures – willow, bamboo, shelter
- Fire pit/Barbeque – Forrest School & Forrest School Training
- Events / Drama / Puppet Shows / Story Time / Education
- Eating / Seating
- Physical energetic play / Bikes / Jumps
- Transitional areas outdoor to indoor. Drying rooms/cloak rooms/coat hooks
- Outside power and water. Water for play.
- Like indoor spaces there should be a choice in terms of size and nature.
- Mud kitchen – encouraging messy play.
- Pets – chickens / rabbits / guinea pigs
- Shuttered off storage areas.
- Using roof space as play space
- Greenhouse
- Seasonality – How things grow / Tying in to the rural environment / Where food comes from / Animals
- The garden as a sensory environment.
- Sensory plants / sounds / smells.
- Wildlife – Birds / Hedgehogs / Foxes – using CCTV to watch visitors to the garden.
- Rainwater harvesting / Wind turbines / Solar Panels / Growing walls / Herbs, Fruits and Vegetables
- Hills for rolling down / climbing up. Slides & Tunnels.
- Canopies allow outdoor play all year round.
- Bike space – Hard surface.

Workshop 2

External Spaces

Outcomes

- Same learning outcomes as inside.
- Huge amount of options.
- 50/50 indoor / outdoor space

Get away from one solid building and one defined external space. Adopt a series of pods / shelters. The whole site as a learning environment. Indoor / Outdoor / Shelter. Open, easy access between each. Make moving between them fun – tunnels / slides / nets.

A set of buildings in a garden

Underground homes – Teletubby mounds with different functions.

Modular buildings that link together.

Using native trees and vegetation. Fill with woodland and carve spaces out.

Views & Communication with the external space

Roof gardens – Using available space / Take advantage of great views.

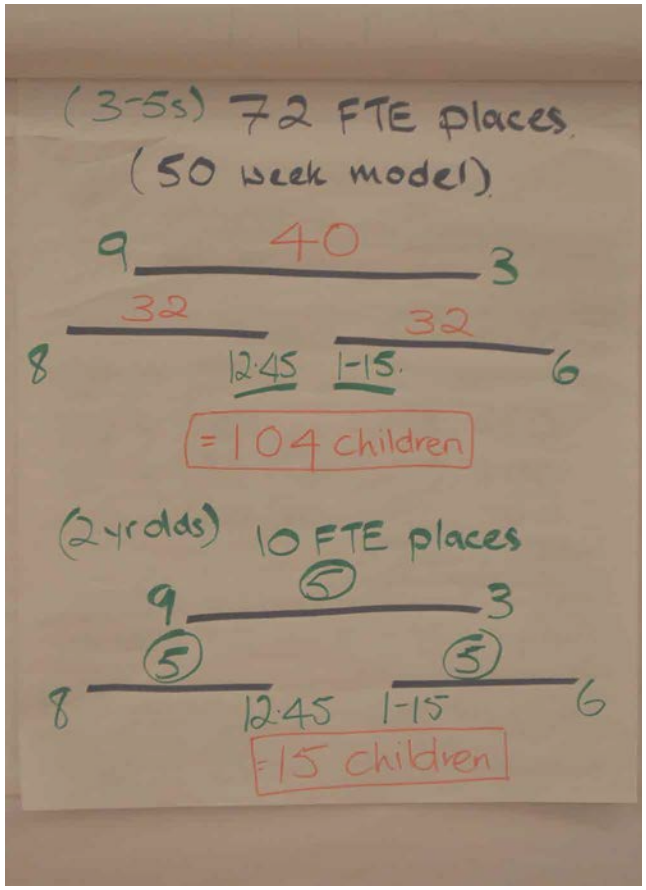
In terms of practitioners a more external based learning would have benefits:

Male / Female balance – perhaps an outdoor environment will attract more men to the profession.

Beneficial to mental health being in the fresh air.

Practitioners have to buy into the new ideas of working outside – Seating / Comfort / Attractive / Sheltered.

Outdoor materials – Pods – Moveable structures – Flexible materials.



Section 08

Appendix B
Civil & Structural Design

Early Years Reference Design Study

Civil & Structural Scope of Works

16th May 2018

Waterman Structures Limited
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Client Name: hub SouthWest / East Ayrshire Council
Document Reference: STR14503/FC/CS/FEE/G
Project Number: STR14503

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS OHSAS 18001:2007)

Issue	Date	Prepared by	Checked by	Approved by
01	16/05/2018	Michael Stevenson	Frank Chambers	Frank Chambers

Comments

Comments

Disclaimer

This report has been prepared by Waterman Structures Ltd, with all reasonable skill, care and diligence within the terms of the Contract with the client, together with incorporation of our General Terms and Condition of Business, and taking account of the resources developed to us by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

Contents

Appendices

4.1 CIVIL & STRUCTURAL

Waterman Structures were appointed to provide outline Structural Engineering input to the reference design. For the purposes of a reference design the we were requested to provide advice during the design exercise to the architectural team, to stage 1 (stage C), to inform the structural principles in terms of walls, floors, roofs and overall stability of the building framework, resulting in the most economic structural solution(s) to the proposed building design, assuming that ground conditions were favourable.

4.1.1 Superstructure Frame

The structural form of the building comprises primarily of a single storey structure to the building perimeter with a flat roof construction over. The central area rises above the main perimeter roof area to form a high level north light with the roof tapering from this north light to merge with the general flat roof to the rear area. The internal spaces around the building perimeter are generally cellular comprising a series of smaller rooms, the walls of which can be utilised as either loadbearing or can accommodate columns within the wall construction. However, the central play area is largely an open space with no internal walls or columns requiring a steel frame structure to support the roof structure and transfer loads back to the columns positioned around the perimeter of the area. The roof structure will act as a diaphragm transferring the horizontal loads to the external stability frames.

The flat roof construction extends to the southern rear area and is supported on external colonnade columns creating a sheltered entrance from the external play space to the internal building floor space. The external play space is enclosed by a boundary fence on three sides with the main building to the north.

We have considered viable construction options for the superstructure framework comprising the following construction forms:

- Timber Frame Construction
- Steel Frame Construction

Typical layouts of each are shown in the appending drawings.

We would comment on each form of construction as follows;

Timber Frame Construction (Designed in accordance with BS EN1995 and UK NAs)
Advantages
Off-site construction leading to increased quality control
Faster on site erection
Can be fabricated and erected by single contractor
Lightweight construction/reduced high point loads to foundations
Disadvantages
Reduced flexibility for future alterations. Internal shear/racking walls
Central play space requiring additional steel framing.

Steel Frame Construction (Designed in accordance with BS EN1993 and UK NAs)
Advantages
Increased quality control through European CE marking
Pitched roof can be formed in steel with secondary steel framing
Flat roofs can be formed in steel with secondary steel framing
Faster on site erection
Disadvantages
Vertical bracing co-ordination with door/window openings
Positioning of vertical bracing to suit wall build up
Infill panels (Masonry/timber/Cold Rolled Steel) between steel columns by secondary subcontractor

4.1.2 Substructure

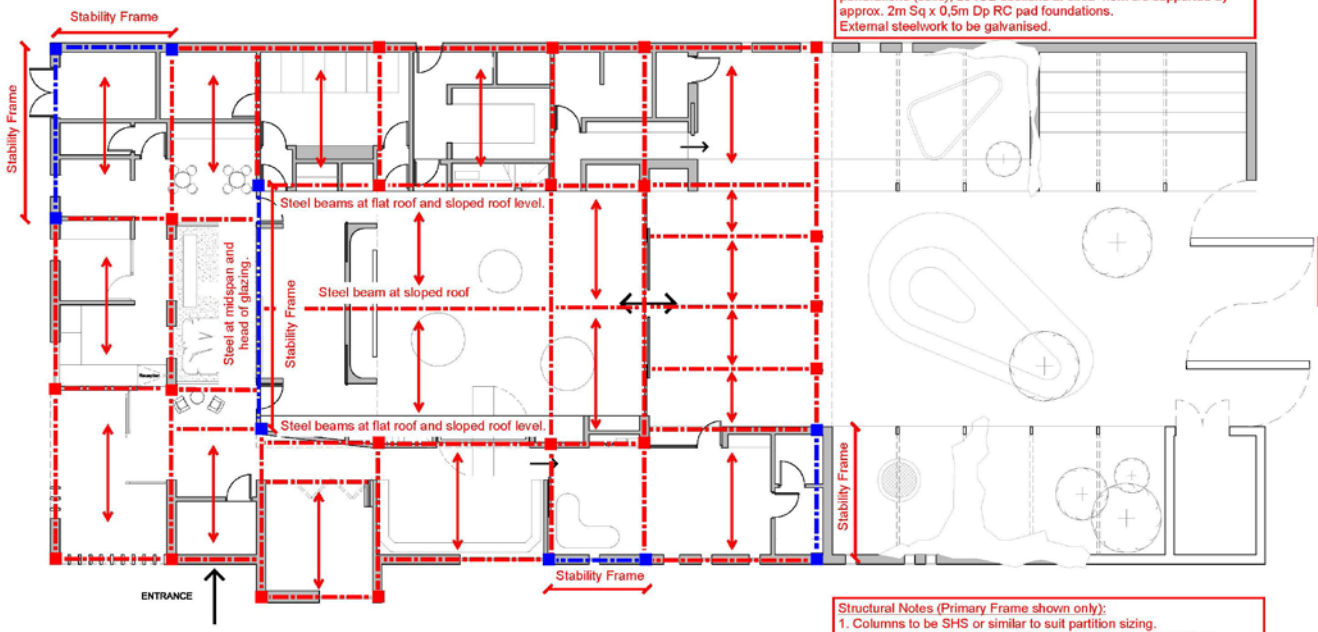
No Geotechnical/Environmental assessment information, or information relative to mineral stability of the site, has been provided on the site and as such no assessment has been made of the building substructure beyond what could reasonably be considered as normal ground conditions with an allowable safe bearing capacity of 75kN/m2. Accordingly foundations have been assumed to be traditional pad and strip footings placed at shallow depth commensurate with the building loads. Similarly the ground floor construction has been assumed to be that of a lightly reinforced concrete slab formed on compacted hardcore.

A steel frame has been incorporated at this time in the reference design, with the outline envelope design developed coordinating these requirements. The structural design of the building would develop during the next stage of the design process, initially in assessment of a site investigation exercise to establish ground conditions and therefore foundation requirements, together with a drainage design. Similarly the structural design options would be considered more fully and coordinated with the building design as the Design Team would work towards submission of Building Warrants, tender packages and production information.

Full details of the structural options are available within Appendix A.

APPENDICES

UK and Ireland Office Locations



Fence Notes:
1. Steel posts to support fence assuming 3.0m high with no perforations (solid), 254UB sections at circa 4.5m c/c supported by approx. 2m Sq x 0,5m Dp RC pad foundations.
External steelwork to be galvanised.

Gate Notes:
1. Anticipate steel columns to support entrance gates along with reinforced concrete pad foundations. Supporting structure to be developed following confirmation of gate proposals.

Structural Notes (Primary Frame shown only):
1. Columns to be SHS or similar to suit partition sizing.
2. All columns supported on reinforced concrete pad foundations anticipated to be 1750mm Sq x 500mm Dp, strip foundations to perimeter walls and load bearing walls anticipated to be 600mm W x 200mm Dp strips.
3. Bracing locations to be coordinated to avoid openings. Option to utilise timber racking in-lieu of bracing/stability frame.
4. Ground floor slab constructed of reinforced concrete ground bearing construction, assumed to be 150mm thk with 2 layers A252 mesh reinforcement with flying ends atop 50mm blinding on 250mm thk Type 1 compacted hardcore (Insulation to be confirmed by architect).
5. Internal partitions/perimeter wall inner leaf has option to be constructed of timber stud or SFS.

Steel Column
Steel beam
Denotes span of purlins. (Option - timber joists/posijoist)

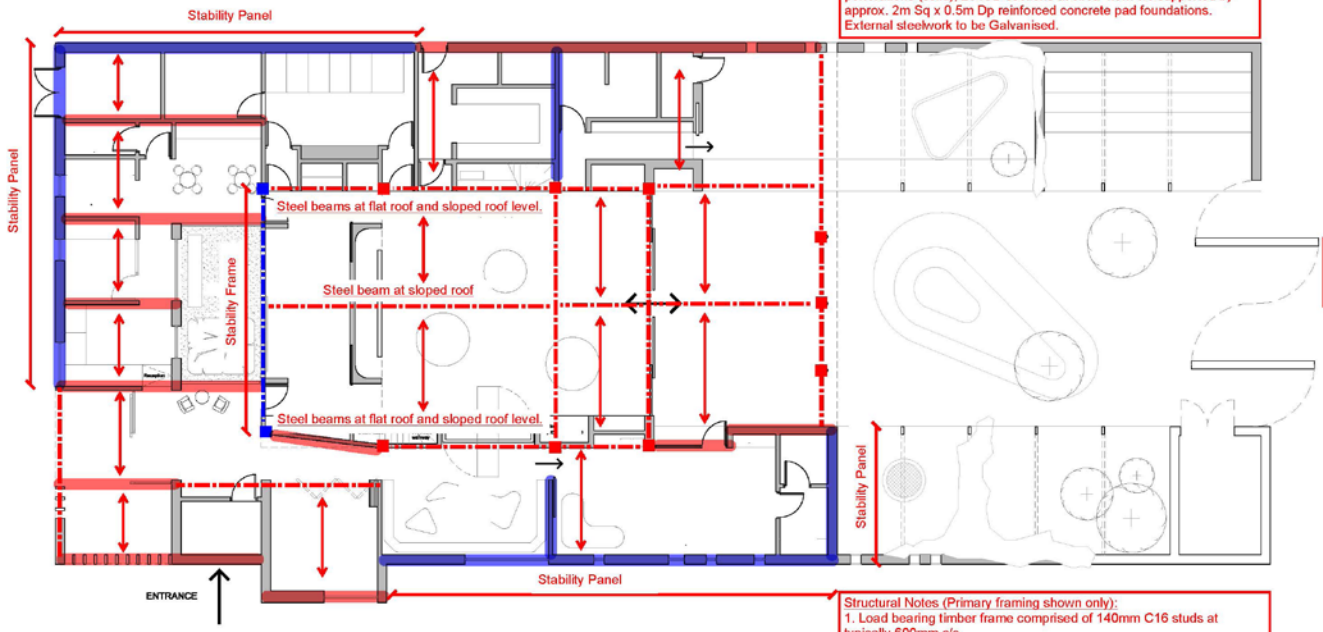
General Notes:
1. No ground investigation has been completed prior to the structural proposals shown, foundation solutions shown based on an assumed SPB 75 kN/m^2 which is to be confirmed by intrusive ground investigation works.
2. UK Coal Mining Authority map indicates site is adjacent to areas at risk of abandoned mines, this should be confirmed during intrusive ground investigative works.
3. Sufficient allowance should be made to allow for any foundation solution which differs from those noted should less than ideal ground conditions be confirmed.

Pergola Notes:
1. Options to be constructed of timber or steel depending upon aesthetics, function and cost.
2. Reinforced concrete pad foundations to support column positions.

Walkway Notes:
1. Options to support walkway with steel beams or supported from roof construction above.

STR14503-SK180307/01
Early Years Centre - Steel Option
Overmarked by WSL
07/03/18 MJS

NORR



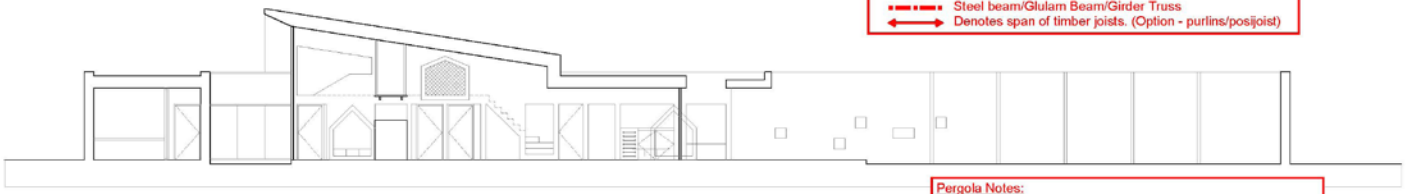
Fence Notes:
1. Steel posts to support fence assuming 3.0m high with no perforations (solid), 254UB sections at circa 4.5m c/c supported by approx. 2m Sq x 0.5m Dp reinforced concrete pad foundations. External steelwork to be Galvanised.

Gate Notes:
1. Anticipate steel columns to support entrance gates along with reinforced concrete pad foundations. Supporting structure to be developed following confirmation of gate proposals.

Structural Notes (Primary framing shown only):
1. Load bearing timber frame comprised of 140mm C16 studs at typically 600mm c/c.
2. Stability panels to be constructed of timber racking panels, options to utilise steel framing for stability in-lieu of racking panels.
2. All columns supported on RC pad foundations 1750mm Sq x 500mm Dp size, strip foundations to perimeter walls and load bearing walls anticipated to be 600 x 200mm dp strips.
4. Ground floor slab constructed of reinforced concrete ground bearing construction, assumed to be 150mm thk with 2 layers A252 mesh reinforcement with flying ends atop 50mm blinding on 250mm thk Type 1 compacted hardcore (Insulation to be confirmed by architect).

Load Bearing Line
Steel Column
Steel beam/Glulam Beam/Girder Truss
Denotes span of timber joists. (Option - purlins/posijoist)

General Notes:
1. No ground investigation has been completed prior to the structural proposals shown, foundation solutions shown based on an assumed SPB 75 kN/m^2 which is to be confirmed by intrusive ground investigation works.
2. UK Coal Mining Authority map indicates site is adjacent to areas at risk of abandoned mines, this should be confirmed during intrusive ground investigative works.
3. Sufficient allowance should be made to allow for any foundation solution which differs from those noted should less than ideal ground conditions be confirmed.



Pergola Notes:
1. Options to be constructed of timber or steel depending upon aesthetics, function and cost.
2. Reinforced concrete pad foundations to support column positions.

Walkway Notes:
1. Options to support walkway with steel beams or supported from roof construction above.

STR14503-SK180307/02A
Early Years Centre - Timber Option
Overmarked by WSL
07/03/18 MJS

NORR

Section 08

Appendix C
Mechanical & Electrical Design

Early Years Reference Design

M&E Summary Scope of Works

RIBA Stage 2

Rev NORR

16 May 2018

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ISSUE HISTORY

Issue	Date	Description
Rev NORR	16/5/18	Final

MAX FORDHAM LLP TEAM CONTRIBUTORS

Engineer	Role
Ingrid Berkeley	Sustainability Consultant
Colin Hamilton	Senior Partner
Matt Thomas	Senior Engineer/Team Leader

CONTENTS

1.0 M&E SUMMARY SCOPE OF WORKS

1.1 Incoming Services

The proposals described below are subject to final agreement with the suppliers. Allowance has been made for points of connection for the following mains utilities. It has been assumed that there is existing capacity in the network.

LV Power
A new 3 Phase low voltage electrical supply is required circa 100kVA supply if all electric heating, or about 60kVA if all gas heating. This assumes that a transformer is not required. This needs to be checked in the next stage of the design development.

Gas
A new, metered, circa 60kW gas supply is required to the new building to terminate in a meter in the plantroom. This load needs to be checked in the next stage of the design development.

Water
It is assumed that the domestic water supply can be direct from the street mains without any domestic cold water storage, water treatment or filtration. If EAC require storage or the infrastructure cannot deliver a direct supply then water storage will need to be added. This assumption and available mains pressure, quality and flow need to be checked in the next stage of the design development.

Telecomms
Telephone and data services will be required to the offices. Details to be checked in the next stage of the design development.

1.2 Building Envelope

This section is covered by the Architects specification, however is included here for coordination purposes.

The following table details the current maximum area weighted average U-values required for new buildings as set out in Section 6 from the Scottish Building Standards and our target values for best practice for this new building:

Element	2017 Area Weighted Av / U-value ($W/m^2/K$)	Target U Value ($W/m^2/K$)
Wall	0.27	0.15
Floor	0.22	0.16
Roof	0.2	0.15
Glazing	2.0	1.5

Air permeability testing has not been enforced under the Building Standards for new developments; however design issues are likely to be required so as to achieve the current 43% reduction in carbon dioxide as set out within the Regulations and it is recommended that buildings be designed to achieve a value of $10m^3/hr/m^2$ @50Pa.or better. We recommend reducing this target to $5m^3/hr/m^2$ @50Pa as it will reduce the quantity of renewables required. Use accredited construction details rather than default PSI values as this will reduce the quantity of renewables required.

1.3 Equipment

N13 Sanitary Appliances / Fittings
Sanitaryware will be assessed and selected based on performance, suitability, efficiency of water use and running costs. For example, where possible, sanitaryware such as low flush toilets and sensor controlled taps will be used to minimise water usage. Fixtures and fittings in the children's toilet area must be sufficiently robust to avoid vandalism. Size and fixing height of sanitaryware must be appropriate for its location and must incorporate the needs of disabled persons.

All appliances will be provided with local service valves and all range of appliances will be provided with isolation valves. Sensor flow taps to wash hand basins.

1.4 Disposal Systems

R10 Rainwater Installation

DESIGN PARAMETERS

- The Scottish Building Standards 2017- Section 3 (Environment)
- CIBSE Guide G: Public Health and Plumbing Engineering :2014
- BS EN12056
- Rainfall Design Intensity: to be confirmed

SYSTEM DESCRIPTION

A complete rainwater installation will be provide to convey water from the roof to the below ground drainage points provided by others. The system will be designed in accordance with BS EN 12056 with the design rainfall intensity dependent on the final design of the building. If internal rainwater pipework is installed it will be in uPVC and insulated to control noise and condensation.

R11 Above Ground Drainage

DESIGN PARAMETERS

- The Scottish Building Standards 2017 - Section 3 (Environment)
- CIBSE Guide G: Public Health and Plumbing Engineering :2014
- Water Regulations Advisory Scheme (WRAS): The Water Regulations Guide, Information and guidance notes
- BS EN12056, BS8000 part 13, BS8301 and all other relevant British Standards

SYSTEM DESCRIPTION

A complete above ground drainage installation will be provided to convey wastewater from all sanitary and other devices within the building to below ground drainage points provided by others.

All above ground drainage will be PVC where enclosed or chrome plated copper where exposed

1.5 Water & Gas Distribution

S10 Hot and Cold Water Services

DESIGN PARAMETERS

- The Scottish Building Standards 2017: Section 3 (Environment) & Section 6 (Energy)
- The Water Supply (Water Fittings) Regulations 1999
- Pressure Equipment Directive (PED) 97/23/EC, implemented in the UK through the Pressure Equipment Safety Regulations 2016
- CIBSE Guide G: Public Health and Plumbing Engineering :2014
- CIBSE Commissioning Code W: Water Distribution Systems
- CIBSE TM 13: Minimising the Risk of Legionnaires' Disease
- Building Services Research and Information Association (BSRIA)
- Variable flow Water Systems - Design, installation and commissioning guidance AG16/2002
- Commissioning Water Systems application procedures for buildings, AG 2/89.3
- Guide to Legionellosis - Operation and maintenance Log Book BAG BG/58/2015 Guide to Legionellosis - Risk assessment BAG BG/57/2015
- Cold Water Storage Tanks TN13/98
- Water Regulations Advisory Scheme (WRAS): The Water Regulations Guide, Information and guidance notes
- The Water Supply (Water Fittings) Scotland Byelaws 2014
- British Standards: BS EN806, BS8558, BS7291, BS EN 1057
- BS EN 12828
- HSC L8 - Legionnaires' Disease - Control of Legionella Bacteria in Water Systems ACOP + HSG274
- IOP Plumber's Engineering Services Design Guide 2002

SYSTEM DESCRIPTION

It is assumed that the domestic water supply can be direct from the street mains without any domestic cold water storage, water treatment or filtration. A new metered water supply will be provided to the nursery building.

Assume an indirect pressurised hot water cylinder in the plantroom for hot water production. The hot water system will be a sealed system with secondary circulation return (note that trace heating is an alternative if the council prefer).

Hot water will be distributed at least 60°C for control of legionella. Provide TMV3 approved mixing valves.

All hot and cold water services will be distributed to appliances in either copper or cross linked polyethylene pipework installed in service risers and voids. All pipework will be insulated for control of condensation, heat gain and heat loss.

S14 Irrigation

SYSTEM DESCRIPTION

Allow for two external taps provided around the building perimeter for external wet play and garden use. External taps will be key operated. Provide backflow protection in accordance with WRAS and water supply regulations.

S17 Rainwater Reclamation System

It is assumed there will be no rainwater collection and storage.

S32 Natural Gas

DESIGN PARAMETERS

- The Scottish Building Standards 2017: Section 2 (Fire), Section 3 (Environment), Section 4 (Safety)
- The Gas Safety (installations and use) Regulations 1998 (Amendment) 2018Health & Safety Commission - Approved Code of Practice and Guidance
- IGE Gas Measurement (GM) and General Procedures Regulations: IGE/TD/3 & IGE/TD/4
- Gas Safe good practice recommendations
- British Gas Guide to the safe use of gas in buildings
- Gas Safe Technical Bulletin TB008
- Pipelines Safety Regulations 1996 - Design, construction and installation of gas service pipes, L81.
- CORGI Regulations
- Institute of Gas Engineers Publication IGE/UP/2
- Gas Installations for Educational Establishments UP11, published by the Institute of Gas Engineers & Managers, 2010.
- Health & Safety - The Gas safety (Installation and Use) regulations 1994 (Amendment) 2018
- British Standards: BS 6400-1, PD CEN/TR 16061, BS EN 1775, BS EN 15001-1, BS 6173, BS EN 12279, BS EN 13611, BS 6891

Available gas pressure: TBC

SYSTEM DESCRIPTION

A new metered gas supply will be provided to a utilities meter (location to be agreed). Gas supplies will be provided to the plantroom only.

All internal gas pipework will be medium grade screwed steel painted yellow run within ventilated spaces. A shut off solenoid valve will be provided on the supply to the plantroom to isolate the entire building on fire alarm (TBC as it can be a nuisance). An emergency shut off button will be provided to the plantroom.

S60 Fire Fighting Equipment

Portable fire fighting equipment (Extinguishers, etc,) are to be provided by others.

It is assumed that no new fire hydrants are required on site (to be checked in the next stage of the design development.).

Fire strategy and provision for fire fighting to be confirmed by fire consultant JGA.

S63 Sprinklers

THE FIRE STRATEGY CONSULTANT HAS CONFIRMED THAT SPRINKLERS ARE NOT REQUIRED BY CURRENT BUILDING REGULATIONS. INDIVIDUAL COUNCILS MAY REQUIRE SPRINKLERS.

DESIGN PARAMETERS

- The Scottish Building Standards 2017: Section 2 (Fire)
- NFPA 13
- CIBSE TM13 and the HSE's Approved Code of Practice L8
- British Standards: BS EN 12845, BS EN 12259-1

SYSTEM DESCRIPTION

New standalone nursery buildings do not require sprinklers due to their type classification.
New standalone nursery buildings may require sprinklers depending on their design.
The reference designs have been assessed by architects/JGA fire consultants and are assumed not to require sprinkler systems.
Nurseries provided as part of a new school building will require a sprinkler system due to their classification.
All cases need to be assessed individually.

1.6 Heating & Cooling

T10 - Gas Boilers

DESIGN PARAMETERS

- The Scottish Building Standards 2017: Section 2 (Fire), Section 3 (Environment), Section 4 (Safety)
- Pressure Equipment Directive (PED)2014/68/EU , implemented in the UK through the Pressure Equipment Regulations 1999
- Environment Act 1995, Pollution Prevention & Control Act 1999, Pollution & Prevention Control (Scotland) Regulations 2012, , Air Quality Standards (Scotland) Regulations 2010
- Clean Air Act 1993 and Clean Air Act Memorandum
- The Gas Safety (Installation and Use) Regulations 1998 (Amendment) 2018
- CIBSE: Commissioning Code B 2002, CIBSE B guide, CIBSE AM14 Non-Domestic Hot Water Heating Systems, CIBSE KS07 Variable Flow Pipework Systems, CIBSE KS09 Commissioning Variable Flow Pipework Systems
- BSRIA:
  - Energy Efficient Pumping Systems (BG12/2011)
  - Commissioning Water Systems (BG 2/2010)
  - Pre-Commission Cleaning of Pipework Systems (BG 29/2012)
  - Water Treatment for Closed Heating and Cooling Systems (BG50/2013).
  - Variable Flow Water Systems - Design, installation and commissioning guidance (AG16/2002)
  - Selection of Control Valves in Variable Flow Systems (BG 51/2014)
- British Standards: BS 5440-2, BS 5546, BS 5854, BS 6880, BS EN 12828, BS EN 12831, BS EN 14336

Design flow temperature for heating system:	70°C max
Design return temperature for heating system:	40°C max (return temperature will be higher for hot water calorifier.
Maximum system working pressure:	3.5bar
Gas Boiler NOx Levels	less than 20mg/kWhr

SYSTEM DESCRIPTION

The heat source for space heating and hot water will be gas fired wall hung condensing boilers. Provide at least two boilers to provide continuity of heat during maintenance. Alternate the lead and sequence the starting to meet the load. The boilers will be provided with individual shunt pumps circulating water through a low loss header. Temperature compensation will be provided to maximise system efficiency.

T31 Low Temperature Hot Water Heating

DESIGN PARAMETERS

- The Scottish Building Standards 2017 : Section 3 (Environment), Section 6 (Energy)
- Pressure Equipment Directive (PED) 2014/68/EU, implemented in the UK through the Pressure Equipment Regulations 1999
- Environment Act 1995, Pollution Prevention & Control Act 1999, Pollution & Prevention Control (Scotland) Regulations 2012, , Air Quality Standards (Scotland) Regulations 2010
- Clean Air Act 1993 and Clean Air Act Memorandum
- The Gas Safety (Installation and Use) Regulations 1998 (Amendment) 2018
- CIBSE: Commissioning Code W 2010, CIBSE A guide, CIBSE B guide, CIBSE C guide, AM14 Non-Domestic Hot Water Heating Systems, KS07

Variable Flow Pipework Systems, KS09 Commissioning Variable Flow Pipework Systems, KS14 Energy Efficient Heating

- BSRIA:
  - Commissioning HVAC Systems: Guidance on the division of responsibilities (TM 1/88.1)
  - Commissioning Water Systems (BG 2/2010)
  - Commissioning Management (AG 5/2002)
  - Energy Efficient Pumping Systems (BG 12/2011)
  - Variable Flow Water Systems - Design, installation and commissioning guidance (AG 16/2002)
  - Commissioning of Pipe Work Systems (AG 20/95)
  - Pre-Commission Cleaning of Pipework Systems (BG 29/2012)
  - Water Treatment for Closed Heating and Cooling Systems (BG 50/2013).
  - Selection of Control Valves in Variable Flow Systems (BG 51/2014)
- British Standards: BS 5422, BS 6880, BS EN 12828, BS EN 12831, BS EN 14336

Internal Design Temperature Teaching spaces	21°C
Internal Design Temperature Offices /staff room	21°C
Internal Design Temperature Circulation	19°C
Internal Design Temperature stores	16°C
External Design Temperature (Note this is location specific)	-6°C
Infiltration rate (unoccupied)	1.0 AC/H
Infiltration rate (occupied)	5l/s/person
Heat emitter warm up margin	10%
LTHW flow temp	Max: 80°C
LTHW return temp	Max 70°C

SYSTEM DESCRIPTION

A sealed pressurised LTHW system will be provided. Twin head variable speed pump will circulate water from the low loss header to all LST heat emitters in the building. Separate pumped circuit to serve underfloor. All pipework will run in service voids and risers with zone valves provided to zone the building. All internal pipework will be either steel, copper or cross linked polyethylene with integral oxygen diffusion barrier.

All low level or accessible heat emitters for the building will be sized to operate at surface temperatures of max 43°C.

It is proposed that heating will be provided to the play spaces using underfloor piped water heating and LST radiators in all other areas. The underfloor heating will be in a thin screed construction or light weight timber floor construction to minimise the reaction time. Vinyl or Marmoleum floor finish or other equivalent product is anticipated.

It is proposed that temperature control will be via local thermostatic radiator valves to radiators and multiple temperature sensors to control the underfloor heating. Provide simple timeclock heating and HWS control for each circuit. Compensated flow to radiator circuits with outdoor temperature sensor. Underfloor heating control by adjustable temperature set point to enable management to adjust the set point within limits. Building is intended to be used only five days a week so the LST radiator timeclock and the underfloor heating timeclock need to be separate to reflect their different reaction times.

T60 Air Conditioning

A small IT cabinet will be provided (1.2m high) installed in an area of the office but this is not anticipated to require air conditioning (TBC). All areas would be served by a wireless hub. This means that there are no areas requiring air conditioning.

1.7 Ventilation

U10 General Supply and Extract Ventilation

DESIGN PARAMETERS

- The Scottish Building Standards 2017: Section 2 (Fire), Section 3 (Environment), Section 6 (Energy)
- Environment Act 1995, Pollution Prevention & Control Act 1999, Pollution & Prevention Control (Scotland) Regulations 2012, , Air Quality Standards (Scotland) Regulations 2010
- Clean Air Act 1993 and Clean Air Act Memorandum

- CIBSE: Commissioning Code A 2006, CIBSE A guide, CIBSE B guide, CIBSE C guide, AM10 Natural Ventilation in Non-Domestic Buildings, AM13 Mixed Mode Ventilation, KS17 Indoor Air Quality and Ventilation
- BSRIA:
  - Commissioning HVAC Systems: Guidance on the division of responsibilities (TM 1/88.1), Commissioning Management (AG 5/2002)
  - Building & Engineering Services Association BESA (formerly B&ES and formerly HVCA
  - DW143 Guide to Good Practice – Ductwork Air Leakage Testing
  - DW144 Specification for Sheet Metal Ductwork
  - DW154 Specification for Plastics Ductwork
  - TR19 Guide to Good Practice - Internal Cleanliness of Ventilation Systems
- British Standards: BS 476-24, BS 5422, BS 8233, BS 9999, BS EN 13779, BS EN 15423
- Building Bulletin 87, 93, 101
- The School Premises Scotland Regulations
- Comply with the objectives, all relevant British Standards and Codes of Practice, and the IEE Regulations (BS7671:2008)
- For guidance on ventilating catering kitchens see the following publications:
- Health and Safety Executive (2000), Catering Information Sheet No 10 www.hse.gov.uk/pubns/cais10.pdf
- Health and Safety Executive (2000), Catering Information Sheet No 11 www.hse.gov.uk/pubns/cais11.pdf

Area	Ventilation Rate
WCs/nappy change	10 air changes per hour.
Laundry/cleaners stores	10 air changes per hour.
Kitchen	Control heat and remove the products of combustion DW172

SYSTEM DESCRIPTION

The building will be predominantly naturally ventilated.

All accommodation will have openable windows under user control. Acoustically attenuated ventilation paths will be provided to allow cross ventilation through into the corridors/open plan space.

Local mechanical extract ventilation will be provided to all WCs and wet areas. Low speed constant background setting with timeclock control of boost for normal hours of use.

Electric only oven, hob and microwave/reheat facilities with extract filter hood over hob will be provided as part of the FFE. Provide ducted mechanical extract from hood in kitchen.

Provide natural make up air ventilation to lobbies or ducted make up air where controllable natural ventilation is not practical.

It is understood from the fire strategy consultant that motorised automatic smoke vents are not required.

1.8 Electrical Power, Distribution and Lighting

V10 Electrical Generation Plant

DESIGN PARAMETERS

- The Scottish Building Standards 2017 - Section 6 (Energy)
- CIBSE: CIBSE F guide, CIBSE J guide, CIBSE K guide, KS15 Capturing Solar Energy, TM38 Renewable Energy Sources for Buildings
- BSRIA: BSRIA Power quality guide (AG 2/2000), Design Checks for Electrical Services - A quality control framework for electrical engineers (BG 3/2006)
- Energy Networks Association: Connection of Generation > 3.68kW (G59)
- British Standards: BS 7430, BS7671 Wiring Regulations 18th Edition July 2018, BS EN 60947-6, BS IEC 62548
- ECA Guide to the Installation of PV Systems – 3rd Edition

SYSTEM DESCRIPTION

At this stage it is proposed that a photovoltaic system is installed to meet the council planning requirements for on-site renewable energy generation. Current proposals are for a system just short of 10kWp (to ensure that the present 4kWp-10kWp Feed-In-Tariff band is met), made up of 30No. 270W PV panels, taking up approximately 50m^2 of the proposed south facing pitched roof. This requires an option study and modelling to determine the optimum solution.

V20 Low Voltage Distribution

DESIGN PARAMETERS

- The Scottish Building Standards 2017: Section 6 (Energy)
- The Memorandum of guidance on the Electricity at Work Regulations 1989 (HSR25 3rd Edition 2015))
- IET Wiring Regulations 18th Edition, July 2018 (BS7671:2008+AMD1:2011+AMD2:2013+AMD3:2015)
- CIBSE: CIBSE K guide, CIBSE TM39: Building Energy Metering 2009
- BSRIA:
  - BSRIA Power quality guide (AG 2/2000)
  - Design Checks for Electrical Services - A quality control framework for electrical engineers (BG 3/2006)
- HSG85 Electricity at work: Safe working practices
- NICEIC Technical Guidance
- British Standards: BS 7430, BS 7671, BS EN 50085-1, BS EN 50085-2-1, BS EN 50085-2-2, BS EN 60947-6

Incoming supply, approx 60kVA 415V, to be checked in the next stage of the design development.

SYSTEM DESCRIPTION

A new utilities supply will be provided to the supply authorities meter head within the plant room.

A new MCCB will be provided adjacent to the supply head for supplies to local MCB boards, control panels and any dispersed loads such as a lift.

A final circuit panel board will be provided within plant room for final circuits. All internal sub-mains will run in service risers and voids on heavy duty cable basket or tray. Multicore XLPE insulated armoured cable will be used for internal sub-mains with separate CPC's.

V21 General Lighting

DESIGN PARAMETERS

- The Memorandum of guidance on the Electricity at Work Regulations 1989 (the Memorandum)
- IET Wiring Regulations 18th Edition, July 2018
- (BS7671:2008+AMD1:2011+AMD2:2013+AMD3:2015)
- The Scottish Building Standards 2017: Section 6 (Energy)
- CIBSE:
  - CIBSE Guide F: Energy Efficiency in Buildings
  - CIBSE Guide K: Electricity in Buildings
  - CIBSE Commissioning Code L: Lighting
  - SLL Lighting Guides
  - SLL Code for Lighting 2013
  - TM39 Building Energy Metering 2009
- BSRIA: Design Checks for Electrical Services (BG3/2006), BSRIA Power Quality Guide (AG2/2000)
- NIC/EIC: Technical Guidance
- British Standards: BS 7671, BS EN 50085-1, BS EN 50085-2-1, BS EN 50085-2-2, BS EN 60598-1
- BB87 & BB90

The uniformity ratio (min/average) across the classrooms, excluding a perimeter zone of 0.5m from the walls, must not be less than 0.6 at desk height. Uniformity over each task area must not be less than 0.8 at desk height. The illuminance of the immediate surrounding area must be related to the illuminance of the task area, with a uniformity of not less than 0.5.

The installation shall be designed to achieve a glare index of no more than 19.

An intermediate colour temperature of about 4000K and a colour rending index greater than 80 would be preferable for the play/class room areas and CAT 2 glare free diffusers for the offices and teaching spaces.

Lighting efficiency shall be >= 80 lumens/W (internal) or >= 70 lumens/W (external) and classroom general lighting shall be <= 3 W/m2 per 100 lux. Note that 60 lamp lumens per circuit Watt is currently the minimum requirement in building regulations March 2018. This is to be confirmed and developed in more detail at the next stage as there may be flexibility on efficiencies for display lighting.

Lighting levels tabulated below are at work surface level, unless stated otherwise:

Play and Teaching Spaces Generally	300lux
Circulation	150-200lux
Admin and offices	300lux
Kitchen	500lux
Store rooms	100lux
Plant Areas	150-200lux

SYSTEM DESCRIPTION

Lighting will be provided by high efficiency LED lamp sources.

Lighting in play/teaching spaces and admin areas will be predominantly linear LED tube light fittings with up/downlight distribution. This will be further developed at the next stage.

Lighting to other areas will generally be as follows:

- In areas with false ceilings such as sanitary areas, lighting will be recessed LED downlights. Appropriately rated IP rated covers will be provided to areas such as changing areas where water spray is likely.
- Feature lighting will be required at entrances and displays.
- Stairs will be lit by wall mounted circular fittings or similar
- The main kitchen will be lit by recessed fittings with appropriately IP rated and wipeable diffusers.
- Stores and plantrooms are to be generally lit by shatterproof bulkhead style LED fittings.
- Circulation and other spaces will generally be provided with high efficiency LED downlighters supplemented with localised feature lighting.

CONTROL REQUIREMENTS

The light fittings will be split into zones to allow separate control of the play/teaching/demonstration space. Each play/teaching space zone and space will be provided with simple on/off switches at low level to encourage use by staff and children as part of the learning experience. Provide a key switch for testing the emergency lighting in each area.

V22 General LV Power

DESIGN PARAMETERS

- The Memorandum of guidance on the Electricity at Work Regulations 1989 (HSR25 3rd Edition 2015 ()
- IET Wiring Regulations 18th Edition, July 2018
- (BS7671:2008+AMD1:2011+AMD2:2013+AMD3:2015)
- The Scottish Building Standards 2017: Section 6 (Energy)
- CIBSE: CIBSE K guide, CIBSE TM39: Building Energy Metering
- BSRIA: Power quality guide (AG 2/2000), Design Checks for Electrical Services - A quality control framework for electrical engineers (BG 3/2006)
- NICEIC: Technical Guidance
- British Standards: BS 7430, BS7671 Wiring Regulations 18th Edition (July 2018), BS EN 50085-1, BS EN 50085-2-1, BS EN 50085-2-2, BS EN 60947-6

SYSTEM DESCRIPTION

LV power will be provided from distribution boards to light fittings and electrical accessories with MCB/RCBO protection.

Consideration will be given to various wiring systems on the basis of whole life costs and to enable flexibility in use. Wiring systems to be considered include;

- LSF singles in trunking and conduit
- Multicore sheathed cables on cable basket tray.
- Pre-wired modular wiring systems

LV power will be provided from the distribution boards to light fittings and electrical accessories with MCB/RCBO protection. Generally LV containment will run in service risers and voids at high level. Dado trunking will be used within the offices only for power and distribution.

Provide power to powered doors and windows and rooflights.

Provide power to plantroom frost protection heater. Includes provision of plant room electric heater. Automatic temperature control frost protection to plant room.

Provide power to all controls, communications systems, CCTV, access, security, fire, refuge and disabled alarms.

V32 Uninterruptible Power Supply

There is no requirement for uninterruptible power supplies, surge protection or power factor correction.

V40 Emergency Lighting

DESIGN PARAMETERS

- The Scottish Building Standards 2017: Section 6 (Energy)
- CIBSE:
  - CIBSE Guide F: Energy Efficiency in Buildings
  - CIBSE Guide K: Electricity in Buildings
  - CIBSE Commissioning Code L: Lighting
  - SLL Lighting Guides
  - SLL Code for Lighting 2013
- Industry Committee for Emergency Lighting (ICEL)
  - ICEL 1001:1999: Scheme of Product and Authenticated Photometric data Registration for Emergency Luminaires and Conversion Modules.
  - ICEL 1004:2014: The use of Emergency Lighting Modification Units
  - ICEL 1006:2012: Emergency Lighting Guide
- Building Services Research and Information Association (BSRIA):
  - Design Checks for Electrical Services (BG3/2006)
  - BSRIA Power Quality Guide (AG2/2000)
- British Standards: BS 5266-1, BS 5499-4, BS 7671, BS 9991, BS 9999, BS EN 1838, BS EN 50172, BS EN 60598-1, BS EN 60598-2-22, BS EN 62034, BS EN 50200, BS5489

SYSTEM DESCRIPTION

It is not a requirement of building standards to provide emergency lighting in areas of schools or nurseries with natural daylighting and only used during normal school working hours. However, it is proposed to provide emergency lighting throughout the building to enable flexibility for extended working hours and community use.

Emergency lighting will be provided throughout the building. Emergency light fittings will be self-contained dedicated emergency LED fittings. Keyswitches will be provided adjacent to the MCB boards for testing.

V41 External Lighting

DESIGN PARAMETERS

- Comply with the performance objectives and:-
- The Scottish Building Standards 2017: Section 6 (Energy)
- All relevant British Standards and Codes of Practice including
- BS EN 13201-2: 2015, BS 5489-1:2013, BS 7671:2008 (IEE Regulations)
- Guidance Notes for the Reduction of Light Pollution', The Institution of Lighting Engineers (ILE), GN01 2011, www.ile.org.uk.
- Lighting and Crime', The Institution of Lighting Engineers (ILE), GN01 2011,, www.ile.org.uk.

- Lighting the Environment – A Guide to Good Urban Lighting', ILE/CIBSE.
- The guidelines in the CIBSE code for Exterior Lighting
- Guide to the Lighting of Urban Areas', Commission Internationale De L'Eclairage (CIE), 2000, CIE 136-2000.
- Recommendations for the Lighting of Roads for Motor and Pedestrian Traffic', Commission Internationale De L'Eclairage (CIE), 1995, CIE 115-1995.
- Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations', Commission Internationale De L'Eclairage (CIE), 2003, CIE 150-2003.
- Guidelines for Minimising Sky Glow', Commission Internationale De L'Eclairage (CIE), 1997, CIE 126-1997.
- Guidelines for Minimising Urban Sky Glow near Astronomical Observatories', International Astronomical Union (IAU) / Commission Internationale De L'Eclairage (CIE), 1980, Publication IAU/CIE No1:1980.
- 'Secured by Design Principles', 2014 inc. guidance for New Schools ACPO System Description

The extent of external lighting proposed will provide background and wayfinding lighting on the building to the playground areas to provide a secure, lit route to the entrance gate.

Extent and ownership of any lighting to the access road and car park areas to be confirmed by the nursery or Council.

The external lighting installation will be designed to minimise light pollution and impact to neighbouring properties, while still supporting natural surveillance of the site and operation of CCTV.

All lighting to paths, car park areas and decorative lighting control will be controlled by means of daylight sensors and timeclocks to allow lighting to be switched off between 11pm and 7am to limit light pollution and energy use.

1.9 Communications, Security and Control Systems

W11 Staff Paging/Location

It is not proposed to install any paging system.

W12 Public Address System & Sound Amplification

We have assumed no voice alarm, message system or bell system to be installed.

W15 Facilities for the Disabled

DESIGN PARAMETERS

- The Scottish Building Standards 2017: Section 2 (Fire), Section 4 (Safety)
- CIBSE D Guide
- BS 8300: 2009
- Building Bulletin 77, 91, 94
- DDA Act 1995, SENDA Act 2001
- Equality Act 2010

SYSTEM DESCRIPTION

Disabled alarms will be provided in each disabled toilet. The disabled alarm will comprise a simple pull switch located inside each disabled toilet which when operated, will activate an alarm (buzzer) and warning light outside the toilet and a call controller with on-board audible and visual indication of call and reset, in the reception or other dedicated points.

The alarm will stay activated until acknowledged or re-set by the single call controller or a reset button in the disabled WC.

Induction Loops

Allow for one number portable induction loop

W20 Radio/TV/CCTV

DESIGN PARAMETERS

- Data Protection Act 1998 + GDPR (Reguaiton (EU) 2016/679)
- The Scottish Building Standards 2017: Section 4 (Safety)
- CIBSE K Guide
- BSRIA: Guidance and Specification for Electronic Security Systems (FMS3/98)
- National Security Inspectorate (NSI): Code of Practice NCP 104 for the design, installation and maintenance of CCTV systems
- IEC 60728
- CCTV installations to BS EN 50132 and BS 8220 BS 8418.

SYSTEM DESCRIPTION

TV & RADIO

No TV or radio distribution will be provided. It is assumed that any audio/TV/projector/screen systems will be part of the FF&E.

CCTV

No CCTV will be required

W21 Projection

We understand that a mobile interactive screen will be required. We assume that any audio/TV/projector/screen systems will be part of the FF&E.

W23 Clocks

We assume that any clocks will be part of the FF&E.

W40 Access Control

DESIGN PARAMETERS

- BS EN 50133
- The Scottish Building Standards 2017*:* Section 2 (Fire)**,** Section 4 (Safety)
- CIBSE K Guide
- BSRIA: Guidance and Specification for Electronic Security Systems (FMS3/98)
- British Standards: BS 7273-4, BS 7671, BS 8300, BS EN 50486, BS EN 60839-11-1, BS EN 60839-11-2

SYSTEM DESCRIPTION

Provide video door entry control to the main entrance monitored in reception.

W41 Security, Detection and Alarm

DESIGN PARAMETERS

- The Scottish Building Standards 2015: Section 2 (Fire), Section 4 (Safety)
- CIBSE K Guide
- BSRIA:
  - BSRIA Power Quality Guide (AG2/2000)
  - Design Checks for Electrical Services (BG3/2006)
  - Guidance and Specification for Electronic Security Systems (FMS3/98)
- British Security Industry Association (BSIA): Technical Guidance
- British Standards: BS 7273-4, BS 7671, BS 8300, BS EN 50486, BS EN 60839-11-1, BS EN 60839-11-2

SYSTEM DESCRIPTION

There will be an intruder alarm system for the building with magnetic contacts on external doors and PIR detectors to ground floor corridors, staircases and perimeter rooms. The system will be controlled by a central panel with a remote keypad for staff to set and unset the system and will be zoned to allow for various parts of the building to be separately alarmed. The control panel will incorporate a digital communicator to transmit alarm signals to a manned central monitoring station. Wiring will be laid on cable tray or in conduit chased into walls.

W50 Fire Detection & Alarm

DESIGN PARAMETERS

The system shall comply with the requirements of the following standards and regulations:

- The Scottish Building Standards 2017: Section 2 (Fire), Section 4 (Safety)
- CIBSE: E Guide, K Guide
- BSRIA: AG2/2000, BG3/2006, FMS3/98
- Fire Industry Association: Technical Guidance
- British Standards: BS 7671, BS EN 54, BS 9999
- British Standard BS 5839 Part 1:2017 and Part 4, systems for Life safety class L2;
- British Standard BS 7443 Specification for sound systems for emergency purposes;
- The British Fire Protection Systems Association Code of Practice for the design, installation and servicing of voice alarm systems associated with fire detection systems;
- The requirements of Building Control and the local Fire Officer

SYSTEM DESCRIPTION

The installation will comprise an analogue addressable system with smoke or heat detectors with combined sounders and xenon beacons in all areas of the building(s) and with break glass units at final exits as required by BS5839.

A single system control and power supply panel will be provided in the main entrance.

It is understood from the fire strategy consultants that an L2 system is required. (The client or clients insurers may require an L1 system).

W51 Earthing and Bonding

DESIGN PARAMETERS

The entire LV distribution system shall be designed, installed, tested and commissioned in accordance with the requirements of the IEE Wiring regulations (18th Edition (July 2018), BS 7671:2008) and the following other standards:

- The Scottish Building Standards 2017: Section 6 (Energy)
- CIBSE K guide
- BSRIA: BSRIA Power quality guide (AG 2/2000), Design Checks for Electrical Services - A quality control framework for electrical engineers (BG 3/2006)
- Health and Safety Executive: HSG85 Electricity at work: Safe working practices, 2013
- NICEIC: Technical Guidance
- Energy Networks Association: Engineering Recommendation: Guidelines for the Provision of Low Voltage Connections to Multiple Occupancy Buildings (G87/2015), Distribution Code: Engineering Recommendation G12/4 (Requirements for the application of protective multiple earthing to low voltage networks) – a review of Engineering Recommendation G12/3
- British Standards: BS 7430, BS 7671, BS EN 62305-1, BS EN 62305-2, BS EN 62305-3, BS EN 62305-4, BIP 2118
- Local Electricity Utility supplier requirements (inc. PME Requirements)
- Electricity Association Engineering Recommendation G12/4
- Local Authority and other statutory requirements
- Electricity at Work Regulations

SYSTEM DESCRIPTION

To protect occupants and equipment from the effects of short circuits and fault currents.

W52 Lightning Protection

DESIGN PARAMETERS

- The Scottish Building Standards 2017: Section 6 (Energy)
- CIBSE: CIBSE K guide, CIBSE TM39: Building Energy Metering
- BSRIA: BSRIA Power quality guide (AG 2/2000), Design Checks for Electrical Services - A quality control framework for electrical engineers (BG 3/2006)
- Health and Safety Executive: HSG85 Electricity at work: Safe working practices
- NICEIC: Technical Guidance
- Energy Networks Association: Engineering Recommendation: Guidelines for the Provision of Low Voltage Connections to Multiple Occupancy Buildings (G87/2010), Distribution Code: Engineering

Recommendation G12/4 (Requirements for the application of protective multiple earthing to low voltage networks) – a review of Engineering Recommendation G12/3
- British Standards: BS 7430, BS 7671, BS EN 50171, BS EN 62305-4

SYSTEM DESCRIPTION

The building fabric will be utilised as far as possible as the lightning protection system. This means that structural steel and concrete reinforcement will all be bonded together and bonded to the ground floor slab, which will in turn be bonded to lightning protection ground termination network. The air termination will be by a metal roof or by aluminium air terminations if a suitable metal roof is not installed.

The earth resistance of the ground termination network will be tested to check less than 10ohms, as required by BS EN 62305. A provisional sum should be included in the construction contract for the inclusion of earth rods if further measures are required to bring the resistance to earth down to this level. Earth resistivity needs to be tested on site during ground investigations.

W60 Building Management System

There is no requirement for a Building Management System. Relay building alarms to a council central monitoring facility

W70 Structured Cabling Network

DESIGN PARAMETERS

- The Scottish Building Standards 2017: Section 4 (Fire), Section 6 (Energy)
- ANSI/E1A/T1A 568: Commercial Building Telecommunications Wiring Standard TSB
  OSI/IEC 11801: Information Technology - Generic Cabling
- BS 50174
- BS 6701 Pts 1 & 2, BS 7718 and BS 7671

SYSTEM DESCRIPTION

At present it is assumed telephony will mainly be by voice over IP technology and a separate phone lines will not be installed. Direct phone lines to critical devices including the lifts, fire and security alarms and security will be provided.

Hard wired data connections will be provided to the server rack in the office and from the rack to four data points in the office and to the nominated position in the play area for the mobile interactive screen.

All active IT equipment will be provided by the client as part of the ICT fit out.

Section 08

Appendix D
Fire Engineering

Jeremy Gardner Associates
Technical Note

Scottish Future Trust Early Years Centre – Cumnock
Fire Engineering Review

CGS322/rm/19nor
16 May 2018

Ross McEwan
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We have completed our Fire Engineering Review of the proposed single storey Early Years Centre in Cumnock. Please find below a summary of the results of our review with regards to the key fire strategy issues.

This Fire Engineering Review is intended to inform design development and is not suitable for submission to the approving authorities.

OVERHEAD PLATFORM

The overhead platform currently proposed may require additional fire safety measures, depending on its design and the Building control Officer's interpretation of the Technical Handbook. If it is an enclosed platform, it will be considered a storey and therefore a stair enclosed in 60 minutes fire resistance with final exits to outside should be provided.

However, for the overhead platform to be served by an open stair as drawn, the platform should not be enclosed and travel distances to the furthest point of the platform measured from the foot of the open stair at ground floor are no more than 15m in a single direction. Even though this complies with the recommendations of the Technical Handbook, some stakeholders may be concerned about the possibility of children being present on a walkway where they are likely to be affected by smoke from a fire sooner than the rest of the building. Therefore, as a minimum, adequately trained staff should be on the overhead platform to provide extra supervision at all times when children are present. Management procedures should be in place to ensure that staff evacuate any children on the walkway within a short period of time when the fire alarm is raised.

We recommend that some high level smoke vents are allowed for at this stage to address any potential concerns of children using the open platform.

MEANS OF ESCAPE

Occupancy Number & Escape Capacity

The occupancy of the building can be established either by using the occupancy load factors provided in the Technical Handbook, or by providing a written occupancy statement of the occupancy capacity of the room/space.

The Technical Handbook provides occupancy load factors for some areas of the proposed building, e.g. kitchen, office and staff room areas. However, recommended occupancy load factors are not provided for other areas, such as Playrooms.

The nursery will be designed to accommodate 71 children and 24 members of staff. Flexibility is required to provide an additional 20% capacity for outdoors, i.e. 12 children. To achieve enough escape capacity for a total occupancy of 107, the sliding doors opening into the garden and at the main entrance should be designed with a clear width of at least 850mm.

We understand that flexibility is required for community use within the building; therefore, these sliding doors should be designed as automatic doors which fail open and open automatically from any position when the fire alarm is raised. As an alternative to providing automatic sliding doors, pass doors could be used instead if they are located adjacent to the manual sliding doors.

The external gates from the garden should be designed for escape and open in the direction of escape with a width of at least 850mm. This would provide capacity for 225 occupants, which will exceed the maximum number of occupants expected in the building.

Inner Room Escape

The Technical Handbook recommends that escape should only need to be made through one access room. As drawn, the Head of Centre/Manager room is currently an inner-inner room as the play room will be an occupied space with fire loads. We understand that the Open Plan Admin Space will be provided with a door to outside, therefore, the escape sequencing from the Centre/Manager room will be in line with the Technical Handbook's recommendations.

Travel Distances

Travel distances within a nursery should be limited to within 15m in a single direction and 32m where more than one direction of travel is available. These travels distances are applicable after fit-out.

As drawn, travel distances measured to the sliding door opening into the garden, sliding door to the main entrance, and the door from the 0-2's room to outside are achieved within 15m in a single direction and 32m overall.

As flexibility is required for community use within the building, any doors/gates provided with locking mechanisms should be provided with suitable panic exit ironmongery.

Enclosed Nursery Garden Area

In order for the enclosed Nursery Garden area beyond the exit from the building to be considered a place of safety; there should be exits provided from the enclosed Nursery Garden area to an unenclosed area beyond that are of a width equivalent to the same width of the final exits. Based on the low occupancy of the building, an 850mm gate designed for escape should be sufficient.

COMPARTMENTATION & STRUCTURE

On the basis that the building is single-storey and forms a single compartment, it should not be necessary to fire rate the structure. However, if the structure supports any fire rated walls, the structure should achieve at least the same fire resistance period of the fire rated construction it supports.

If the plant room contains any equipment that would make it a place of special fire risk, the plant room should be enclosed with 60 minute fire rated construction.

FIRE FIGHTING

Fire Appliance Access

Based on the building's area and perimeter, fire appliance access need only be to one elevation of the building. The elevation in which the fire appliance should be able to access is where the principal entrance to the building is located.

Fire appliance access can be confirmed once a site plan has been received; and will need to be discussed and agreed with the Scottish Fire and Rescue Service.

Fire Hydrants

A fire hydrant should be provided at the front of the building. This should be located at least 6m from the building, adjacent to the fire appliance parking position and within 60m of all elevations.

AUTOMATIC FIRE DETECTION AND ALARM SYSTEM

Based on the occupancy of the building not being more 300 occupants, at least a Category L2 automatic fire detection and alarm system should be provided throughout the building.

EXTERNAL FIRE SPREAD

If the building is to be located close to other buildings around its perimeter, a detailed analysis would need to be carried out to determine whether or not the building's façades need to be fire rated to prevent external fire spread to opposing building. This can be confirmed once a site plan has been received.

FURTHER WORK

The next stage will be for us to review the site plan before preparing a Fire Strategy Report (if required) summarising the proposed fire strategy.

APPENDIX FURTHER INFORMATION

Intention of Review and Design Guidance

This Fire Engineering Review is intended to inform design development and is not suitable for submission to the approving authorities.

In line with the above, this Fire Engineering Review should be read in conjunction with Section 2: Fire of the Non-Domestic Technical Handbook. Unless otherwise noted, the fire strategy should be designed in line with the Technical Handbook's guidance.

A standalone nursery building is not considered a school as it is not a building that provides primary or secondary education; as explained in Section 2.15.0 of the Non-Domestic Technical Handbook. Therefore, it is not a mandatory requirement to provide sprinklers to a standalone nursery building.

Drawing Information Used

This review is based on the drawings received on the 15 May 2018.

Section 08

Appendix E
Interior Design

Graven®

East Ayrshire Early Years Centre
Netherthird Cumnock

Initial concept document

The project involves the design of an Early Years pilot project for 2 to 3 year olds and 3 to 5 year olds.

Graven has been asked to respond to the architecture by developing creative and practical interior design proposals that will support the objectives.

Our key considerations are:

- Safety
- Durability
- Sensory stimulation
- Flexibility
- Noise attenuation

All of these are in consideration of the range of functions and users, including staff and families.

- Tactile textures and surfaces invite curiosity and help inform use
- Natural materials such as timber and cork add warmth
- Organisation of colours & materials helps to visually define areas and their uses
- A restrained colour palette means that strong colours can be introduced with loose furniture items & the children's creativity
- Pin board surfaces support the easy display of artworks, and other information
- Writeable surfaces support creative play
- Suspended & wall mounted acoustic shapes help to control sound and add visual interest
- Modular products give flexibility including tables and carpet tiles
- Marmoleum flooring is used, with the correct slip resistance and suitable for the underfloor heating system
- Marmoleum is cove formed and runs up to dado height for lower wall durability, and ease of cleaning
- Baux wall tiles are used to help sound absorption and reduce reverberation times
- Fitted joinery formed in solid colour Valchromat panels give durability of fitted elements. Some of these may be perforated to add tactile variety
- Modular tables to allow re-formatting of the space for lunches and play time avoiding excessive movement and storage of furniture elements
- Modular carpet tiles can be swapped out easily if they become damaged
- Suspended fabric "clouds" add visual interest to the ceiling and provide sound absorption

The following pages illustrate the proposals

Early Years Centre
Look & Feel Ground

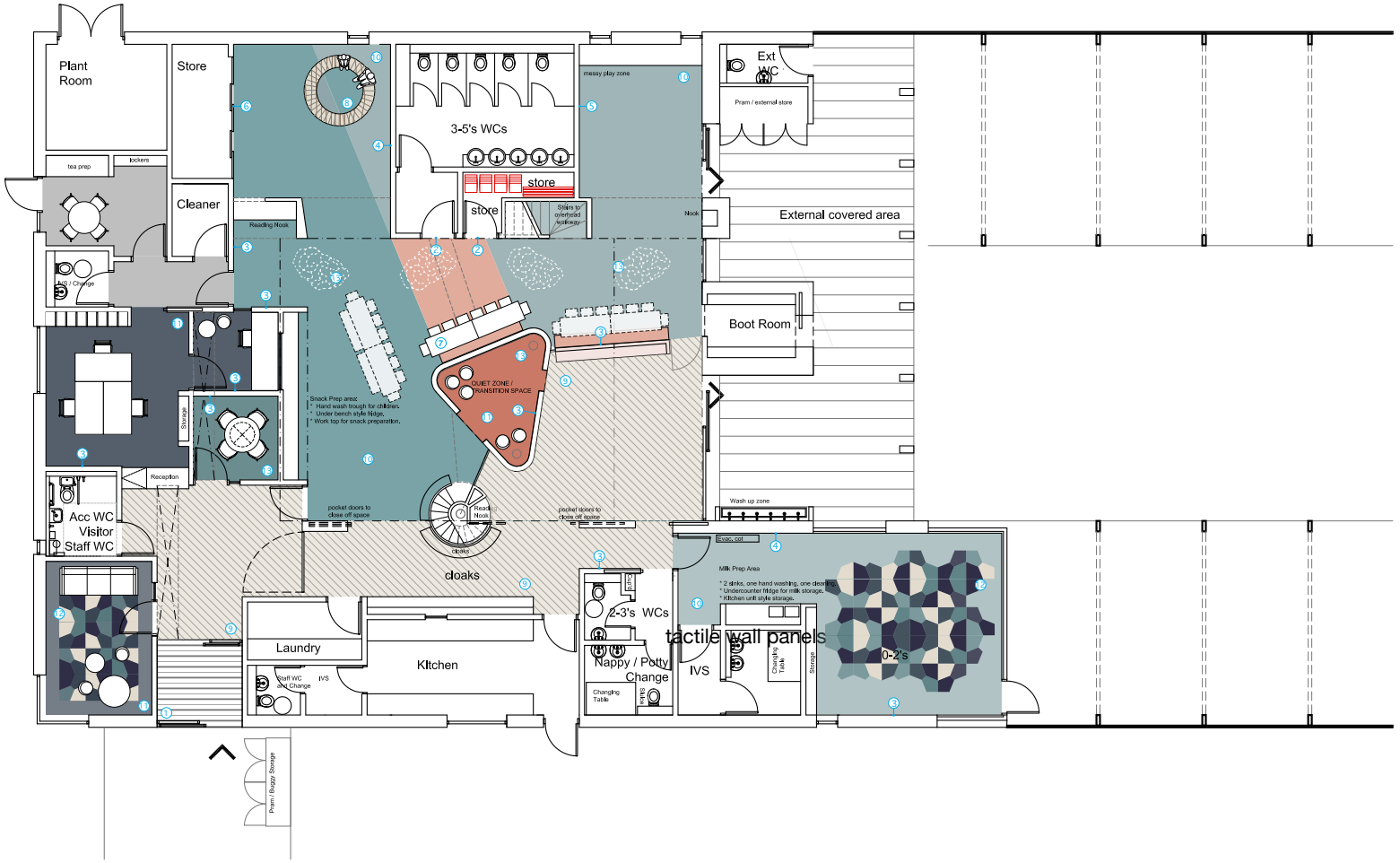






Early Years Centre
Look & Feel / Ground

Early Years Centre
Plan & Finishes



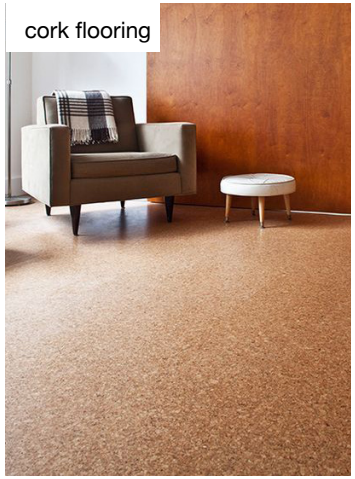
ground floor level

1. Heavy Duty Entrance Matting
2. Textured Doors
3. Acoustic Wall Panels
4. Pin-able Wall Panels
5. Writeable Wall Panel
6. Perforated Cupboard Doors
7. Mobile Benches
8. Reading Bench
9. Cork Flooring
10. Marmoleum Flooring
11. Carpet
12. Loose Carpet Tiles
13. Suspended Acoustics

Early Years Centre
Materials & Textures

external flooring

cork flooring



loose carpet tiles

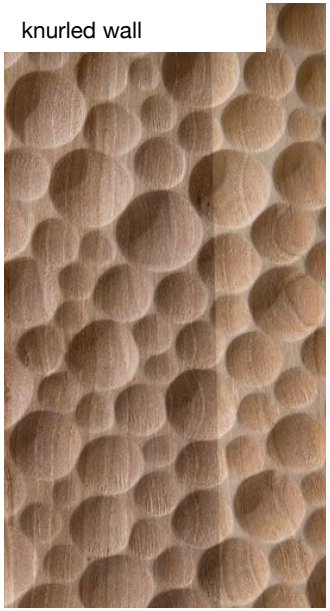
acoustic marmoleum

carpet

timber

suspended acoustic forms

knurled wall



perforated

accoustic

pin-able

routered

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Section 08

Appendix F Acoustic Design

16th May 2018

R-8104A-RGM-MI

RMP
acoustics energy vibration

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E: rmp@napier.ac.uk
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HUB SOUTH WEST SCOTLAND LTD

SCOTTISH FUTURES TRUST, EARLY YEARS REFERENCE DESIGN
ACOUSTIC DESIGN STRATAGY FOR SINGLE STORY OPTION

Providing a building with the appropriate acoustic environment to enhance children's ability to develop and learn is a key project aim.

The acoustic design of the building will follow the guidance provided in the department for education building bulletin BB93 'Acoustics design of schools: performance standards 2015 v17'.

The acoustic design of the building covers four areas:

1. Control of external noise
2. Control of reverberant sound
3. Sound insulation between spaces
4. Control of building services noise

The design criteria and strategy adopted to achieve an appropriate acoustic environment is set out below.

Control of external environmental noise

As part of the detailed design of the building, an acoustic site survey will be required to quantify the acoustic environment, establishing the presence of transport noise sources, industrial sources and specific environmental sources such as strong prevailing winds, which can be a factor on exposed sites.

The proposal is to naturally ventilate the building through openable windows. In order to achieve the internal criteria of L_{Aeq} 35 dB the external facade noise level will need to be below L_{Aeq} 55 dB. Any facades exposed to higher noise levels will require acoustically attenuated ventilation or a mechanical ventilation system, to avoid excessive noise ingress when windows are opened to provide ventilation.

The control of rain noise on the roof structure is also important to avoid excessive internal noise levels. The pitched and flat roof build up will incorporate either mineral fibre insulation slabs or ridged plastic insulation combined with an acoustic dampening membrane to control rain noise.

All roof lights will be specified as double glazed units with a laminated glass layer to the outside.

Within the development site, the building orientation and external landscaping should be designed to provide a play area with a noise level below L_{Aeq} 55 dB. The design stage external site survey will determine the influence the external noise environment will have on site design.

Control of reverberant sound

The control of reverberant noise levels is key to providing a quiet learning environment where the children can listen and communicate easily. Controlling noise build up will also ensure good speech intelligibility and help to avoid staff voice strain.

The nursery spaces should have a reverberation time of under 0.6 seconds. Offices and meeting rooms should be under 1.0 seconds and ancillary spaces such as kitchens can be under 1.5 seconds.

Within offices, meeting rooms and kitchens, the level of reverberation will be adequately controlled through the specification of an absorbent tiled ceiling of at least Class C. The 0-2 years room will be a minimum of Class A tiles.

Within the main nursery space, it is proposed to control the reverberation time by specifying minimum 60m^2 Class A acoustic tiles suspended from the ceiling.

The ceiling rafts will not provide enough absorption on its own to achieve the design target. Therefore additional absorption will be provided in the main nursery space using a cushioned vinyl on the floor and rugs covering approximately 25% of the floor area.

Additional Class C perforated plasterboard will be provided to available upper wall and ceiling areas, particularly in the double height space. Ideally an additional Class C equivalent absorption area of 80m^2 should be achieved within the main nursery space.

Sound insulation between spaces

It is important to provide a space within the nursery were private conversations can be held. A quiet room for children and families should also be available. In addition noise spill from the main nursery area into the adjacent noise sensitive spaces should be controlled.

Partitions separating noise sensitive rooms will have a minimum acoustic rating of R_w 52 dB. Partitions to corridors and separating room interconnected by doors will have a minimum acoustic rating of R_w 40 dB. The plant room wall should have a minimum acoustic rating of R_w 50 dB. All acoustic partitions should be taken to the underside of the roof, such that flanking over the partition head is avoided.

Glazed screens in walls between noise sensitive spaces will have a minimum acoustic rating of R_w 40 dB.

Doors to noise sensitive spaces will have a minimum acoustic rating of R_w 30 dB. Interconnecting doors between noise sensitive spaces should have a minimum acoustic rating of R_w 35 dB. All acoustic doors will require perimeter acoustic seals. Sliding doors between noise sensitive spaces will required acoustic seals and ironmongery specifically designed for this application to achieve R_w 35 dB.

Control of building services noise

Any building services serving the offices and nursery spaces will be designed to control noise to below L_{Aeq} 35 dB. This includes any non-natural ventilation, heating system and lighting.

Any external noise from building services equipment should be controlled to meet the local authorities planning guidelines for noise.

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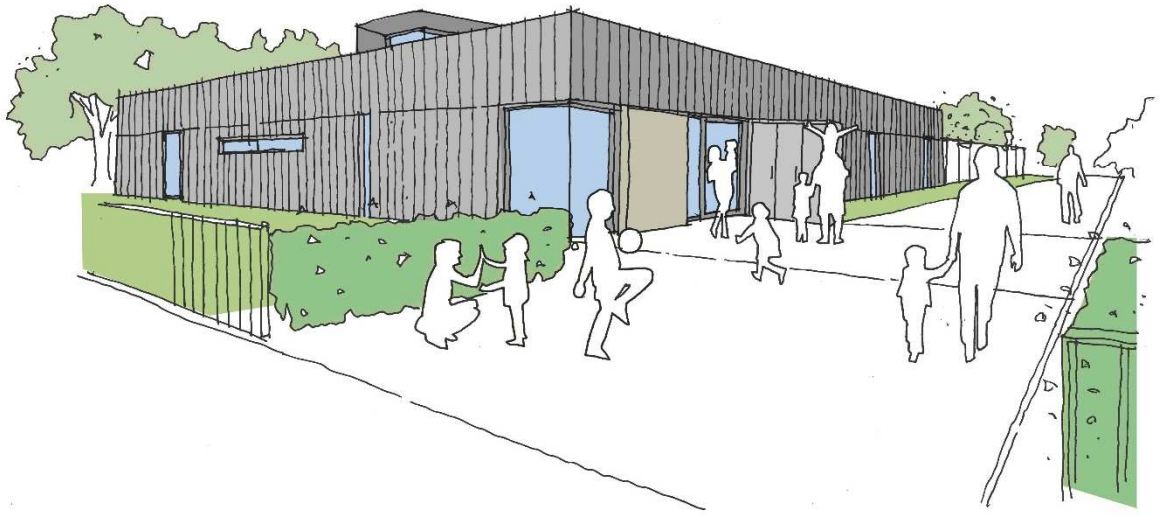
Appendix G
Outline Specification

OUTLINE ARCHITECTURAL SPECIFICATION

East Ayrshire Council Early Years Pilot Project – Netherthird, Cumnock

STAGE 2 SUBMISSION 17.05.18



NORR

Introduction

The design of the new facility generally utilises the following guidance specification for architectural elements. All materials and works shall be supplied and installed to good industry practice.

Statutory Regulations

All materials and works will comply with all relevant statutory regulations current at the time of construction. In particular all materials and works will comply with the Building (Scotland) Regulations and any amendments current at the time of application for building warrant.

Performance Specification

Air Tightness

Air permeability testing has not been enforced under the Building Standards for new developments; however design issues are likely to be required so as to achieve the current 43% reduction in carbon dioxide as set out within the Regulations and it is recommended that buildings be designed to achieve a value of 10m^3/hr/m^2 @50Pa.or better. We recommend reducing this target to 5m^3/hr/m^2 @50Pa as it will reduce the quantity of renewables required. Use accredited construction details rather than default PSI values as this will reduce the quantity of renewables required.

Thermal Insulation

Generally the building elements u-values are to adhere to the 2013 Non-Domestic Technical Standards. Based on the Section 6 modelling for the building, the maximum u-values are as follows;

Walls	0.15W/m2K
Roof	0.15W/m2K
Glazing	1.5W/m2K
Exposed floors and Ground Floor	0.16W/m2K

SUPERSTRUCTURE

Refer Structural Engineer's design.

UPPER FLOOR

Timber construction. Refer Structural Engineer.

ROOF

Timber frame construction to single storey element, with steel frame to double height space. Refer Structural Engineer, or Steel frame construction with timber joists.

Roof Coverings

Single ply finished roof; Construction comprising: specialist fabricators' specification and detail, timber roof building up with integral insulation and vapour barrier, high performance mechanically fixed single ply membrane with associated fixings and supports. Installation to include for all matching flashings, seals, fillers and fixings. Installation to have a minimum design life of 20 Years. Flat roof areas to be a minimum 1.5 degree pitch.

Aluminium metal cladding to pitch roof over double height volume;

Minimal requirement for access onto and across roof surfaces.

Rainwater Goods

Roof edge gutters will be membrane lined heavy gauge aluminium with warning overflows; and will be installed and discharged to polyester powder coated aluminium heavy gauge anti-climb rainwater down pipes and hoppers. All down pipes will be connected directly to the below ground drainage system and incorporate a rodding eye at the foot of each down pipe. Straight roof verge and parapet edges will be formed in polyester powder coated aluminium flashings to a consistent width profile. The design rate of rainfall from roof areas for gutter and down pipe design will be in accordance with the British Standard requirements for building category, return period and storm duration appropriate to each building location.

Soffits

To external covered space; 1.2mm profiled aluminium sheeting from roof sheeting manufacturer on hanger system supported from roof structure.

Rooflights

Mono-pitch roof-lights, double glazed, thermally broken PPC aluminium units. Pre-fabricated roof-light units Contractor's Design. Kerb up-stands to be pre-formed in timber with rigid insulation core and covered with single ply membrane. Roof-lights and glazing at roof level to be partially openable as required by M+E for ventilation to internal office spaces. Windows to comply with the appropriate current British Standards for manufacture and assembly; weather tightness; wind loads; and operation and strength characteristics. Double glazed units will be British Standard kite marked and incorporate safety glass where required by Building Regulation standards. Glass thickness and specification will be selected to optimise thermal performance; solar gain reduction on selected elevations; and acoustic performance standards. The complete window component assembly will have an overall U-value to achieve the building envelope energy conservation target required by Building Regulation standards. Composite cladding, with associated flashings etc. to side walls of Linear Roof-lights to u-value as required for external walls.

EXTERNAL WALLS

Wall to achieve the u-value and air seal as noted in this document. 15mm durable plasterboard on vapour barrier, (all joints lapped and taped), on metal framing. Sinusoidal insulated cladding panel, cladding rails packed with 200mm mineral wool insulation, vapour control layer as required. Facing brick base to building. Cavity barriers as required.

CURTAIN WALLING

Curtain Walling to achieve a u-value and air seal as noted within this document. PPC aluminium system, standard cap and T-shaped cap, system to incorporate tilt-and-turn windows.

System comprises:

- Double glazed insulating units to BS 5713, with toughened glass to all external panes and laminated glass to all internal panes.
- Glass thickness to be designed by the curtain walling fabricator to reflect:- Wind loads to BS 6399-2, Barrier loads (where the curtain walling system acts as a guard rail).
- Glass type and cavity width/fill to be designed to provide an overall average u-value for the curtain walling system. Glass type to be selected to eliminate the risk of thermal fracture.

- Solar control glass as required and demonstrated by thermal model.
- Top/side hung opening lights to be incorporated as required EPDM bands to be glazed in to the perimeter of all curtain wall panels.
- In addition to the specification contained under Aluminium Windows above the complete curtain walling component assembly will have an overall U-value to achieve the building envelope energy conservation target required by Building Regulation standards and the curtain walling system will be compliant with the latest edition of the Centre for Window and Cladding Technology (CWCT) standard for curtain walling.

EXTERNAL DOORS

To Curtain Walling; Doors to match glazing system – Doors to match glazing system – Aluminium doorsets PPC coated or equal with toughened / laminated double-glazing as required. Main entrance doors require to have a minimum clear effective opening width of 900mm. Doors / Door sets to be fully weather sealed and have flush door thresholds with a maximum weathering upstand of 25mm. Installation to include for all ironmongery including locks (including electromagnetic) and internal emergency release mechanism as required.

External Doors Generally

Proprietary solid or louvered panel PPC alum doorsets to be used. Doors to be fully weather sealed and provided with flush door thresholds with a maximum weathering upstand of 15mm. Doors require to have a minimum clear effective opening width of 900mm. Doors / Doorsets to be fully weather sealed and have flush door thresholds with a maximum weathering upstand of 15mm. Installation to include for all ironmongery including locks (including electromagnetic) and internal emergency release mechanism as required.
Louvered doors to plant areas to be installed with fly mesh screens behind louvres.

Ironmongery

External doors will be fitted with standardised ironmongery set packs. To be satin stainless steel and supplied by the door system manufacturer / fabricator. All components are to be classed for severe duty usage particularly lock cases and latches. Door handles will be selected for ease of use by disabled persons and will generally comprise lever action handles and d-section pull handles. Overhead door closers will generally be used in favour of floor spring closers and overhead door closers will be selected for robustness and variability of force settings.

STAIRS

play-space climbing features; MDF or plywood to Structural Engineer's specification and and to Contractor's Design. For stair finishes, refer finishes section.

BALUSTRADES

Walkway; Cargo net barrier to form enclosure to walkway to upper platform to Specialist's design.

INTERNAL WALLS

Proprietary metal stud internal wall system with one/two layers of impact resistant boarding and glass mineral wool insulation to achieve stated sound reduction levels and durability as required by BB93. Joints and junctions taped and filled to achieve smooth seamless finish. Partitions to receive paint finish. Partitions to be specified to take account of Structural, Fire and Acoustic requirements.

Proprietary Glazed Partitioning; Internal screens to be fire rated as applicable. Fire rated to BS 476-22. Sound

insulation of complete screen system in accordance with BB93/as recommended by Acoustician. Screen system to be PPC aluminium frame incorporating door where required. Glazing to be laminated safety glass with manifestations.

INT. DOORS

Solid laminated timber core doors / hollow-core where noted, faced with high pressure bonded laminate complete with hardwood lippings to all four edges, suitable for painting, smoke seals and intumescent strips as required, fire certification markings; hardwood/softwood doorset frames and facings for painting. Door leafs typically to be 926mm door leaf size to provide a clear opening width exclusive of door handles of 850mm. Vision panels to be clear glazed vision panels as required to BS 8300 and fire rating of door. Door installation to include (per leaf) 3no. steel hinges, lever handles, latch, cylinder dead lock with thumb-turn to inside, overhead door closer and 2no. “Fire Door Keep Shut” signs if required. All ironmongery to be satin anodised aluminium. Doors and glazed openings will be formed using non-acoustically tested constructions.

to corridors;

Fire rated solid laminated timber core doors faced with high pressure bonded laminate complete with hardwood lippings to all four edges, suitable for painting, full height fire rated clear laminated vision panels, beading system as recommended by fire Test Certificate, smoke seals and intumescent strips as required; fire certification markings; and hardwood/softwood doorset frames and facings for painting. Doors and glazed openings will be formed using non-acoustically tested constructions. Door leafs to be 926mm door leaf size to provide a clear opening width exclusive of door handles of 850mm. Vision panels to be clear glazed vision panels as required to BS 8300 and fire rating of door. Glazing extent to be maximum allowable by manufacturer / Fire Test Certificate. Doorsets to be fitted with (per leaf) 3 no. washered steel hinges, 1 no. set of bolt through Pull Handles, 1 no. push plates, 2 no. “Fire Door Keep Shut Signs”, 1 no. overhead door closers, 1 no. kickplate. All ironmongery to be satin anodised aluminium.

IRONMONGERY

Internal doors will be fitted with standardised ironmongery set packs. To be satin stainless steel from Laidlaw or equal. All components are to be classed for severe duty usage, particularly lock cases and latches. Door handles will be selected for ease of use by disabled persons and will generally comprise lever action handles and d-section pull handles. Overhead door closers will generally be used in favour of floor spring closers and overhead door closers will selected for robustness and variability of force settings.

CEILINGS

Cellular spaces: 600x600 module white demountable suspended mineral fibre tiled ceiling; Class A acoustic absorption with integrated service fittings, proprietary edge trim. Support structure to be as recommended by Ceiling Manufacturer.

Circulation ceiling; MF Ceiling System with 12.5mm wallboard, taped and filled joints and drywall sealer/primer finish ready for decoration. complete with integrated service fittings, proprietary edge trim.

Toilets / changing areas; MF Ceiling System with 12.5mm moisture resistant wallboard, taped and filled joints and drywall sealer/primer finish ready for decoration. complete with integrated service fittings, proprietary edge trim.

Kitchen, Laundry Ceiling; 600mm x 600mm demountable hygiene ceiling 100% RH resistant, washable tiles in an exposed grid system, Class A acoustic absorption complete with integrated service fittings, proprietary edge trim. Support structure to be as recommended by Ceiling Manufacturer.

Feature ceilings to playspaces, (as required for acoustic treatment); MF Ceiling System with 12.5mm gyptone wallboard, taped and filled joints and drywall sealer/primer finish ready for decoration, complete with integrated service fittings, proprietary edge trim. Class A Acoustic Rafts as required to provide acoustic absorption.

FLOOR FINISHES

Sheet Vinyl floor coverings / dry area; Sheet vinyl flooring with a thickness of 2.5mm – or equal approved. Joints to be net fit seam and sheet laid on approved epoxy DPM (if RH of screed is too high and approved by screed and flooring in and flooring installers) and water based smoothing / levelling compound.

Sheet Vinyl floor coverings / Wet Areas; Non slip heavy duty vinyl sheet providing slip resistance to R10 achieving >36 on the TRRL Pendulum 4S (wet) test with a thickness of 2.0mm. Joints to be hot seam welded and sheet laid on approved epoxy DPM (if RH of screed is too high and approved by screed and flooring installers) and water based smoothing / levelling compound. Flooring installation to toilets, laundry areas **a**nd cleaner's stores to be complete with coving to walls 150mm high with capping strip and cove former.

Plant spaces and external stores; High performance floor paint compliant with January 2010 VOC levels and suitable for internal and external use – Dulux Trade high performance floor paint.

Carpeting Generally; Heavy duty tufted cut pile carpet with recycled PVC backing complete with proprietary contrasting aluminium nosing with rubber insert and edge trims, coordinated nosings and trims. Joints to be as per manufacturer's recommendations and sheet laid on approved epoxy DPM (if RH of screed is too high and approved by screed and flooring installers) and water based smoothing / levelling compound as required.

Entrance lobbies; Primary barrier matting 12mm thick complete with proprietary spacer strips and ramping strips to exposed edges. Joints to be as per manufacturer's

recommendations and sheet laid on approved epoxy DPM (if RH of screed is too high and approved by screed and flooring installers) and water based smoothing / levelling compound as required.

WALL FINISHES

All paints used to be compliant for VOC levels.

Walls generally; All office, corridor and general walls to be finished with 3no. coats eggshell or equal with colour from Manufacturers Standard Range.

Acoustic wall panels; as required to play-spaces.

Feature Wall Linings: to be Class 1 FR birch Ply with a suitable sealer.

Walls to toilet areas and other damp areas including shower area low walls; Splashbacks - Glazed White Ceramic Tiles 150 x150mm module with matching colour perimeter / edge and corner trims.

Non-tiled walls; All non-tiled walls to be finished with 3no. coats eggshell paint or equal with colour from Manufacturers Standard Range.

Walls to kitchen areas; All Walls to be finished in 2.5mm thick PVCU Whiterock or equal. Installation to be applied / bonded directly to 12.5mm WBP Plywood backing in accordance with manufactures recommendations with joints sealed with PVC Flexi Joints. Installation to include for all perimeter sealing.

Plasterboard casings and enclosures to builderswork, ducts; Moisture resistant boards to all toilets, showers and kitchen areas.

WOODWORK

Internal architraves, door frames, linings, trims, sills, architraves and stops; To be prepared and primed in accordance with paint manufacturers recommendations and finished with one coat Undercoat and 2no. coats glaze satin finish varnish or equal with colour from Manufacturers Standard Range.

Skirtings and Miscellaneous Trims; To be prepared and primed in accordance with paint manufacturers recommendations and finished with one coat Undercoat and 2no. coats glaze satin finish varnish or equal with colour from Manufacturers Standard Range.

SANITARY INSTALL'N

Cleaners Sink; Birch with grate, overflow, brackets and legs. Exposed wall mounted pipework and taps.

Disabled Toilets; Doc M Standard pack comprising high rise back to wall WC, spacer box, exposed cistern, flushpipe and front cistern lever assembly, plastic seat, Domex screws, handrinse basin with lever operated thermostatic mixer, plastic strainer waste, plastic bottle trap, concealed hangers, 4 x 60cm grab rails, 45cm grab rail, back rest rail and cushion support, hinged arm support and semi-recessed toilet roll holder. To be compliant with the current version of BS 8300 and to be complete with all required handrails and grab bars.

Staff Toilets; Full width half height vanity unit with upstand, back to the wall WC, concealed cistern, flushpipe and front cistern lever assembly, plastic seat, Domex screws, semi countertop sink with 2no. lever operated aerated taps, overflow, chainstay and plug and complete

with plastic strainer waste and plastic bottle trap, mirror over sink. Installation to be complete with toilet roll holder, soap dispenser and paper towel holder.

General toilets; Cubicles and doors; High Density Solid Grade laminate (SGL) with decorative face each side. All edges radiused and polished (black). Height: available with two different heights of door and shaped partitions: Size A: 1000mm: 1250mm from FFL to lowest point including 150mm ground clearance. Size B: 1200mm: 1350mm from FFL to lowest point including 150mm ground clearance. Full height IPS system to WCs, half height vanity unit with upstand, back to the wall WC, concealed cistern, flushpipe and front cistern lever assembly, plastic seat, Domex screws, semi countertop sink with 2no. lever operated aerated taps, overflow, chainstay and plug and complete with plastic strainer waste and plastic bottle trap, mirror over sink. Installation to be complete with toilet roll holders, soap dispensers and paper towel holder.

Above ground waste pipework; All above ground drainage to be concealed with moisture resistant MDF pipe boxes.

IPS: Laminate IPS cubicle WC duct systems, and WHB vanity units; HPL.

SIGNAGE Proprietary way-finding / directory systems / decorative Graphics

FF+E Specification to meet the requirements of the brief by specialist supplier.

ENTRY SYSTEM Entry control entrance system linked to reception and play-spaces.

Section 08

Appendix H
Stage 2 Cost Estimate

EAST AYRSHIRE COUNCIL

Early Years NORR Reference Design

RIBA Stage 2 Cost Estimate

17 May 2018

FAITHFUL+GOULD

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Document Status					
Revision	**Date**	**Status or comment**	**Prepared by**	**Checked by**	**Authorised by**
0	11.05.18	Draft Issue	H McGreevy	R Gordon	B Young
1	17.05.18	Formal Issue	H McGreevy	R Gordon	B Young

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Contents

1.0 Executive Summary

1.1 Our current estimated total project cost for Norr Architect's RIBA Stage 2 Reference Design is ***£1,223,493.***

1.2 The total project cost is inclusive of Main Contractor Preliminaries, Overheads and Profit, Design Team fees, HUBCo fees and Risk.

1.3 The design has produced a Gross Internal Floor Area of ***408m2*** against the target area metric of 412m2.

1.4 The total project cost represents a cost metric of ***£2,999/m2*** against the target cost metric of £3,000/m2.

1.5 Costs are current and indexed at 2Q2018 rates and prices.

2.0 Analysis of Area Metric

2.1 Scottish Government "Space to Grow" publication June 2017 references Care Inspectorate expectations around spatial metrics and area compliance. Emphasis is placed on the balance between indoor/outdoor settings and the context of this to calculate the target area of any particular Early Years facility, where "*it is recommended that a maximum increase of 20% of the total registered number of children is considered as a guideline*".

2.2 To calculate the guideline gross internal floor area (GIFA) for the Netherthird campus, designed by Norr Architects, we have applied the following calculation:

Registered Capacity	83 nr				
20% allocation Outdoor (2-3yrs + 3-5yrs **only**)	12 nr				
80% allocation Indoor (2-3yrs + 3-5yrs **only**)	62 nr	@	***5.8 m2***	360 m2	
100% indoor (0-2yrs)	9 nr	@	***5.8 m2***	52 m2	
				412 m2	

1. where ***5.8m2*** is considered the optimum area per child.
2. Where 412m2 is therefore the optimum GIFA for the facility.

2.3 The actual GIFA of the Norr Architects design is **408m2; 4m2 below the target area metric**.

3.0 RIBA Stage 2 Cost Estimate benchmarked against Cost Metric

3.1 The cost metric established for the Early Years Reference Design is £3,000/m2 excl. VAT.

3.2 Our current estimated cost for the proposed RIBA Stage 2 Concept Design for the Netherthird campus is detailed below:

Element	Amount (£)	Cost (£/m2)	Cost (£/child)	Average %age
Substructure	£75,000	£184	£904	6.13%
Superstructure	£298,300	£731	£3,594	24.38%
Internal Finishes	£38,900	£95	£469	3.18%
Fittings, Furnishings and Equipment	£51,800	£127	£624	4.23%
Services	£224,500	£550	£2,705	18.35%
Complete Buildings and Building Units	£0	£0	£0	0.00%
Works to Existing Buildings	£0	£0	£0	0.00%
External Works	£162,400	£398	£1,957	13.27%
Facilitating Works	£0	£0	£0	0.00%
Prime Cost Total	***£850,900***	***£2,086***	***£10,252***	***69.55%***
Main Contractor's Preliminaries	£137,904	£338	£1,661	11.27%
Main Contractor's Overheads & Profit	£44,496	£109	£536	3.64%
Construction Sub-Total	***£1,033,300***	***£2,533***	***£12,449***	***84.45%***
Project/Design Team Fees	£125,443	£307	£1,511	10.25%
Other Development/Project Costs	£6,489	£16	£78	0.53%
Risk Allowance	£58,262	£143	£702	4.76%
Inflation	£0	£0	£0	0.00%
Total	***£1,223,493***	***£2,999***	***£14,741***	***100.00%***

The overall Internal Gross Floor Area (GIFA) is 408m² with a registered capacity of 83nr children.

3.3 Appendix A enhances the above breakdown and presents this in full NRM1 elemental format.

4.0 Cost Plan Commentary & Clarifications

4.1 Commentary

Facilitating Works

- No allowance for demolitions. The Early Years programme is a new build and not a replacement programme, therefore any demolition enabling works do not form part of the cost metric calculation.

Substructure

- We have assumed pad and strip foundation solution. There are no allowances for abnormal foundations such as piling, vibro compaction, trench fill etc.
- There is no allowance for any gas intervention measures such as gas membranes, void protection etc.
- We have made an allowance for under slab drainage using a cost/m2 approach.

Superstructure - Frame

- We have used structural steel design and tonnage information provided by Watermans.

Superstructure – Upper Floors

- Non-Applicable.

Superstructure – Roof

- We have allowed for a single ply membrane flat roofing system with a KS1000 insulated panel system at the pitched roof zone and rooflights per Norr design; allowing for 2nr actuator opening vents to main rooflight.
- We have made an allowance for roof rainwater drainage using a cost/m2 approach.

Superstructure – Stairs

- There is an allowance of £14,500 for the feature staircase/slide within play zones.

Superstructure – External Walls

- We have allowed for Sinusoidal insulated wall cladding with facing brick at the interface of the ground floor slab.

Superstructure – Windows and External Doors

- No comments.

Superstructure - Internal Walls and Partitions

- No comments.

Superstructure – Internal Doors

- No comments.

Internal Finishes – Wall Finishes

- Generally, emulsion paint finish throughout with hygienic wet wall to splashback only.

Internal Finishes – Floor Finishes

- Low/medium grade Forbo vinyl throughout, with exception of plant room.

Internal Finishes – Ceiling Finishes

- Gyptone acoustic ceiling finish to play and movement space; otherwise wallboard and demountable suspended ceilings throughout.

Fittings, Furnishings and Equipment

- FF&E allows for fixed and loose fittings.
- There is an allowance of £20,000 for all loose fittings within play zones.
- There is an allowance of £5,000 for domestic kitchen fitout only, with standard white goods and hob/extract unit.
- There is an allowance of £800 for tea prep area within parents room.
- There is an allowance of £500 for waste bins, storage, pin-boards, battery clocks etc.
- There is an allowance of £2,200 for internal and external signage.

Services

- We have market tested the M&E installation based on MaxFordham Stage 2 design. We have analysed the market intelligence we have gleaned and produced a normalised cost/m2 allowance of £550/m2 for full services installation.

- No allowance for sprinklers, public address system, CCTV, BMS, TV, projection and/or visual hardware (promethean boards etc), automated clock system, access control throughout the campus. The cost of these installations do not form part of the cost metric calculation.
- We have assumed an L2 Fire detection and alarm system.

External Works

- The cost assumes no contamination present.
- The cost assumes CBR results will produce a positive outcome with no requirement for structural capping fill below roads/footpaths.
- The cost allows for a nominal earthworks exercise, retaining and utilising all site won material from excavations within the site development.
- The cost allows for 24nr new car parking spaces.
- No allowance for any loose FF&E externally.
- There is no allowance for barrier pipework for incoming water pipework.
- There is an allowance for external fixtures: mud kitchen, pergola, water play and the likes.
- We have made an allowance for site wide drainage using a cost/m2 approach.
- We have made an allowance for Point of Connection for all mains utilities. We have assumed there is capacity within the existing network with no allowance for infrastructure upgrades such as substations etc.
- No allowance for utility/service diversions.

Preliminaries

- Preliminaries allowance has been established as 15% of the prime cost. This is commensurate with the market intelligence we have gathered. We appreciate the appetite of the market will dictate the level of preliminaries to be applied to a tender submission.

Overheads and Profit

- We have included an allowance of 4.5% of Prime Cost + Preliminaries for Overheads and Profit. This is commensurate with the market intelligence we have gathered. We appreciate the appetite of the market will dictate the level of margin to be applied to a tender submission.

Design Team Professional Services Fees

- We have included an allowance of 12.14% for Professional Fees.
- We have also allowed 0.56% fee for HUBCo fees.

Risk / Contingency

- We have included an allowance of 5% for Risk; commensurate with the end of a Stage 1 HUBCo gateway cost estimate.

Inflation

- No inflation allowed for. Costs are current and indexed at 2Q2018 rates and prices.

4.2 Items Assessed and not Required for this Pilot Reference Design

.1 Survey costs such as topographical and geotechnical and the like.

.2 Asbestos surveys and associated removal costs.

.3 Statutory and technical fees and charges.

.4 Demolition costs.

.5 Abnormal foundations such as piling, vibro compaction, trench fill etc.

.6 Gas intervention measures such as gas membranes, void protection etc.

.7 Public address system.

.8 CCTV.

.9 BMS.

.10 TV, projection and/or visual hardware (promethean boards etc).

.11 Automated clock system.

.12 Access control throughout the campus.

.13 Sprinkler Installation to comply with EAC specific insurers requirements. Note we anticipate the cost of a sprinkler installation inclusive of sprinkler heads, distribution pipework, sprinkler tank, pump set, GRP enclosure and sprinkler tank plinth would be in the region of £55,000 excl. VAT.

.14 Removal of ground obstructions.

.15 Removal of contaminated material.

.16 Structural fill resulting from unfavourable CBR test results.

.17 Importing and/or exporting materials to form levels.

.18 Utility and Scottish Water upgrades.

.19 Barrier pipework.

.20 Ecological surveys and associated works.

.21 Arboriculturalist surveys and associated works.

.22 Additional car parking requirements out with the 24nr car parking provision (and associated drop off, accessible parking and motorbike spaces) allowed for within the cost estimate.

.23 Any service diversions within and out with the site boundary.

.24 Legal fees and charges.

.25 Financing fees and charges.

.26 VAT.

5.0 Appendices

Appendix A - Faithful+Gould Stage 2 Elemental Cost Plan.

Appendix A

Faithful+Gould Stage 2 Elemental Cost Plan.

EARLY YEARS REFERENCE DESIGN
NORR ARCHITECTS - STAGE 2
Elemental Cost Plan

FAITHFUL+GOULD
Member of the SNC-Lavalin Group

	Cost £		Cost per m2	
0 Facilitating works		**0.00**		**0.00**
1 Substructure		**75,000.00**		**183.82**
2 Superstructure		**298,300.00**		**731.13**
2A Frame	48,500.00		118.87	
2B Upper Floors	0.00		0.00	
2C Roof	80,000.00		196.08	
2D Stairs	14,500.00		35.54	
2E External Walls	59,100.00		144.85	
2F Windows and External Doors	37,500.00		91.91	
2G Internal Walls and Partitions	38,500.00		94.36	
2H Internal Doors	20,200.00		49.51	
3 Internal finishes		**38,900.00**		**95.34**
3A Wall Finishes	8,900.00		21.81	
3B Floor Finishes	13,800.00		33.82	
3C Ceiling Finishes	16,200.00		39.71	
4 Fittings, furnishings and equipment		**51,800.00**		**126.96**
5 Services		**224,500.00**		**550.25**
6 Prefabricated buildings and building		**0.00**		**0.00**
7 Work to existing buildings		**0.00**		**0.00**
8 External works		**162,400.00**		**398.04**
9 Main contractor's preliminaries		**137,904.00**		**338.00**
10 Main contractor's overheads and profits		**44,496.00**		**109.06**
Construction Sub-Total		***1,033,300.00***		***2,532.60***
11 Project/Design Team Fees		**125,443.00**		**307.46**
12 Other Development/Project Costs		**6,489.00**		**15.90**
13 Risk Allowance		**58,261.00**		**142.80**
14 Inflation		**0.00**		**0.00**
Total		***1,223,493.00***		***2,998.76***

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Section 08

Appendix J
Accommodation Schedule

	Early Years Pilot		No. of Rooms	Area of each room m²
	Grouping	Space		
a	Support	Plant Room	1	**10.2**
b	Support	Staff WC	1	**2.4**
c	Support	Admin Space	1	**18.7**
d	Support	Head of Centre	1	**5.2**
e	Support	Visiting Services	1	**5.7**
f	Support	Staff breakout / tea prep	1	**9.2**
g	Support	Accessible WC	1	**4.3**
h	Support	Family and Community Room	1	**13**
i	Support	0-2's Nappy Change	1	**8**
j	Support	2-3's WC / Nappy Change	1	**9.3**
k	Support	Laundry	1	**5.3**
l	Support	Cleaner's Cupboard	1	**3.3**
m	Support	Kitchen	1	**16.2**
n	Support	Kitchen Staff WC, Cloaks	1	**4.2**
p	Support	3-5 WCs	1	**15.6**
q	Support	IVS	1	**3.3**
r	Playroom	0-2 Playroom	1	**34.3**
s	Playroom	Milk Prep Area	1	**1.3**
t	Playroom	0-2 Storage	1	**0.9**
u	Playroom	2-3 Playroom	1	**28**
v	Playroom	2-3 Storage	1	**0.9**
w	Playroom	3-5 Playroom including upper platform and walkways	1	**124**
x	Playroom	3-5 Storage	1	**11**
y	Playroom	Boot room	1	**4.8**
z	Playroom	Cloaks	1	**19**
aa	Circulation	Entrance, Foyer, Crush and Waiting Zone	1	**18**
bb	Circulation	Draught lobby	1	**5**
cc	Circulation	Staff IVS corridor	1	**4.1**
dd	Circulation	Corridor to 0-2, 2.3 room	1	**3**
TOTAL ACCOMMODATION				**388.2**
% CIRCULATION		30		**7.35%**
% SUPPORT		134		**32.80%**
% PLAYROOM SPACE		186		**45.50%**
GIFA				**408**

N.B. Baseline area provision is based on 71 no children @ 5.8m2/child which equates to 412m2