THE EXPANSION OF EARLY LEARNING AND CHILDCARE IN SCOTLAND

REFERENCE DESIGN

SCOTTISH FUTURES TRUST

hub

East Ayrshire Council
Comhairle Siorrachd Àir an Ear

in-house
East Ayrshire Council

FAITHFUL GOULD

Hirst
LANDSCAPE ARCHITECTS

SECTION 1.0
Introduction

ELC Reference Design Foreword

Purpose of this Document

The ambition to almost double the amount of free early learning and childcare in Scotland from 2020 is a significant opportunity to explore ways in which refurbished, extended and new facilities can offer a high-quality experience for young children. Providing a high-quality experience in facilities specifically designed for young children was at the heart of this initiative.

The development of the three reference designs was very much a collaborative exercise. East Ayrshire Council, SFT, architects, consultants and contractors all brought a wealth of experience along with a willingness to consider new ideas and test alternative solutions. The Care Inspectorate has been consulted throughout and continues to contribute to the development by providing comments on the three designs for the project to consider high quality outcomes for children can be supported by the environment.

As well as considering the experience for children indoors, the approach to this reference design work also embraces the many benefits that outdoor learning and play can offer in terms of health and well-being as well as physical and cognitive development.

Across Scotland many new nurseries will be developed over the next few years and all will reflect the needs of their local communities. This reference design provides a platform to inform local choices as to how individual nurseries can best respond to local needs and emerging operating models of early learning and childcare. It provides a reference point to show how space in particular models can be deigned in an efficient and flexible manner to provide welcoming and accessible facilities for children, staff and families whilst working within Scottish Government's ELC Programme Baseline Planning Assumptions metrics for the area and cost of new build facilities.

Many of the individual ideas and concepts that have been incorporated in each reference design have the potential to be taken on their own and used as part of a catalogue of ideas to inform options for any refurbishment, extension or new build early learning and childcare facility.

This reference design initiative could not have been completed without the commitment and dedication of all involved and the collaborative approach adopted provides a firm foundation to take the early learning and childcare expansion programme to the next stage.

Grant Robertson – Education Design Director – Scottish Futures Trust

Alex McPhee- Depute Chief Executive (Economy and Skills)- East Ayrshire Council

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Reference Design Development Work

Following the submission of each local authorities' initial ELC expansion plan in September 2017, SFT approached East Ayrshire Council to explore the potential to jointly develop reference design material for future ELC facilities. East Ayrshire Council and SFT agreed that this should be a collaborative exercise and that the outputs of this collaboration would be of benefit to the expansion programme as a whole. It was also agreed that the guidance and advice of the Care Inspectorate would be essential. The input of and guidance from the Care Inspectorate in the development of these reference designs has been greatly appreciated.

To expose this reference design to as many architectural practices as possible, it was decided to procure the required external support via the hub South West supply chain. Two separate architectural practices (which included input from specialist landscape architects) worked collaboratively to share concepts and ideas, but in turn, developed independent solutions for two separate new build projects currently being considered by EAC.

To complement this work EAC's internal design team have also developed a third option. This reference design is not attached to any site but provides a further illustration as to how an early learning and childcare facility could be developed to provide a high-quality environment for children, staff and parents alike which that adopts a flexible and efficient use of space and embraces outdoor learning.

For all three reference designs a cost consultant, civil/structural engineer, M&E engineer, an acoustician, fire engineer and interior designer were also appointed to inform the approach to design and the associated costs. A specialist illustrator was appointed to help communicate the designs and lessons learned.

Key to the success of this reference design initiative has been the consultation and engagement staff and parents. Throughout the design development process there has been on-going dialogue to ensure that proposed solutions reflect the envisaged operating model and deliver on the core objective to deliver a high-quality facility.

Background

Over the past year SFT has been working with the Scottish Government and all 32 local authorities to support the development of local Early Learning and Childcare (ELC) expansion plans to meet the ambition to almost double the provision of free early learning and childcare in Scotland from 600 to 1140 hours by 2020.

SFT wishes to encourage all stakeholders in the programme to consider new, innovative and affordable solutions for future ELC services. The current pipeline of capital projects to deliver the forecast increase in registered capacity to reflect future service models and the anticipated demand for early learning and childcare services is significant.

Whilst local service planning priorities are rooted in making best use of existing assets, it is currently forecast that the ELC expansion programme will require around 140 new-build ELC facilities across Scotland.

This expansion programme presents the opportunity for local authorities to collaborate and identify options for commonality in design and building layouts both for indoor and outdoor ELC environments. In support of this opportunity, SFT in partnership with East Ayrshire Council (EAC), has developed this reference design material for future ELC settings across Scotland. This work has been informed by consultation and engagement with the Care Inspectorate, Early Years Practitioners as well as parents of children who currently take up their funded ELC entitlement.

The priority for this reference design initiative was to develop early learning and childcare facilities that provide a high-quality environment specifically designed to address the needs of young children, ELC practitioners and parents in a manner that promotes the innovative and efficient utilisation of space. The designs were also required to respond to the requirements and guidance of Space to Grow, showing how suitable outdoor space can be accommodated as part of the design. Another key aspect of this reference design initiative was to provide an evidence base to show how high-quality ELC environments can be delivered in a manner that is compliant with the new build area and cost metrics as set out in the Scottish Government's ELC Baseline Planning Assumptions.

The Team

Client Team

Scottish Futures Trust facilitated the creation of the early years pilot project and provided expert advice and guidance throughout the process.

Hub South West generated the scope of services for the early years project and procured all consultants required for its delivery. Hub South West also facilitated engagement with Tier 1 contractors to allow market testing of costs and provide construction advice.

East Ayrshire Council provided full access to their Early Years, Capital Asset, Education, Design Services and Statutory Approvals teams. East Ayrshire Council also provided two sites to apply the pilot designs to, which provided a grounding for the projects and allowed all aspects to be thoroughly tested against a real world setting.

Design Team

A full design team were procured by Hub South West to deliver the reference design project. Two architecture practices were appointed to develop seperate projects. These practices were each supported by a practice of landscape architects. A single team of consultants were appointed to work with each set of architects. These practices were later joined by East Ayrshire Councils 'In-house' team of architects and engineers who provided a third reference model.

Architects and Landscape Architect Team 1	Anderson Bell Christie and Hirst Landscape
Architects and Landscape Architect Team 2	NORR and ERZ
Architect Team 3	East Ayrshire Council
Cost Consultants	Faithful & Gould
Mechanical and Electrical Engineers	Max Fordham
Civil and Structural Engineers	Waterman
Fire Engineer	Jeremy Gardner Associates
Acoustician	RMP
Interior Designer	Graven

Reflecting the Scottish Government's national priorities of giving all children the best start in life, local authorities across Scotland are currently developing their Early Learning and Childcare (ELC) Expansion Plans to meet the requirement to provide 1140 hours of free Early Learning and Childcare (ELC) for all three and four year olds, and eligible two year olds, from August 2020. To meet this challenge, services will require to make the best of existing assets, and to provide a number of stimulating new build ELC facilities. These will be required across Scotland in order to meet the needs of the ELC Expansion Programme.

Following the commission of Hub SW by East Ayrshire Council (EAC), and working closely with the Scottish Futures Trust (SFT) this report is the output of an exercise to develop a Reference Design and supporting cost information to assist all Local Authorities in responding to the requirements of the Early Years Expansion Programme. NORR with ERZ Landscape Architects and Anderson Bell Christie with Hirst Landscape Architects were subsequently appointed to develop appropriate reference designs. In addition, EAC in house Facilities & Property Management service, inspired by the process, engaged with Hirst Landscape Architects to develop an alternative reference design. All teams, and their supporting consultants, have worked closely with EAC, SFT and the Care Inspectorate (CI) to develop proposals which directly reflect the current requirements of the CI outlined in their recently published "Space to Grow" document.

This report provides a framework which meets the learning and environmental requirements of Space to Grow, whilst also addressing the economic requirements of the metric and budget, demonstrating that the Scottish Governtment's ELC spatial allocation of 5.8m2 per child and cost metric provision of £3,000/m2 are realistic, achievable and capable of delivering high quality environments. This has been done hand in hand with a full design team and wider stakeholder group, ensuring that a reasonable and prudent set of assumptions has been made.

All sites are however different and all have their own unique opportunities and constraints. Consequently 3 models have been developed, with each based on a set of components that can be configured in a variety of ways to suit the particular context and functional requirements.

In this instance, the report goes on to test the framework in a 'real' context, in 2 projects that East Ayrshire Council have identified as part of their current ELC Expansion Plans along with one model with a hypothetical site. This output, together with site and budgetary considerations, has resulted in simple, dynamic and efficient building design whilst also accommodating the various critical internal relationships required in order to achieve the optimum child focused environment within.

The Reference Design study sought to achieve a comprehensive RIBA Stage 2 design. The design and content of this report therefore incorporates design team input to the project noted above. Engagement was also carried out with Statutory Authorities on various aspects of the proposal throughout the process.

Whilst the Reference Design project is presented as a whole building solution, it can also be read as a collection of ideas that can be applied to a variety of settings, both new build and refurbishment. The main aim of the Reference Design was to ensure learning opportunities and outcome were at the heart of each project, they prioritise the children's development throughout and aim to provide functional fun learning spaces where pupils can feel at home whilst providing the opportunity for challenge and development. This has been achieved by ensuring a variety of spaces are provided within the schemes to cater for a multitude of learning experiences and encouraging free flow play to an enriched external landscape.

SECTION 2.0
Building the Brief

SECTION 2.0 - Building the Brief

2.1 Introduction

Overview

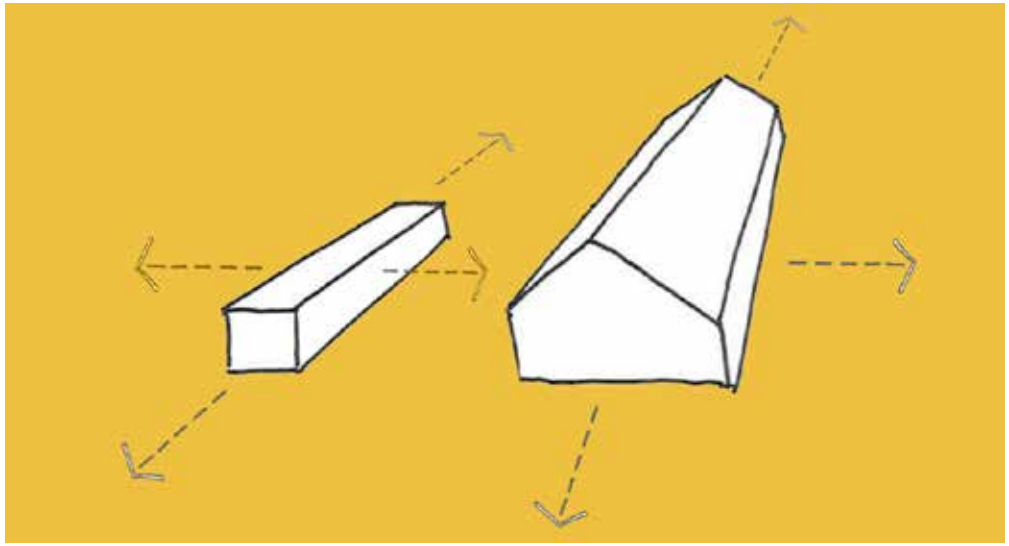
The brief is arguably the most important aspect of any project; it is the foundation from which all other decisions flow. Consequently, the team has taken great care to develop the brief in close collaboration with East Ayrshire Council, the SFT, and the Care Inspectorate, all of whom have informed its development.

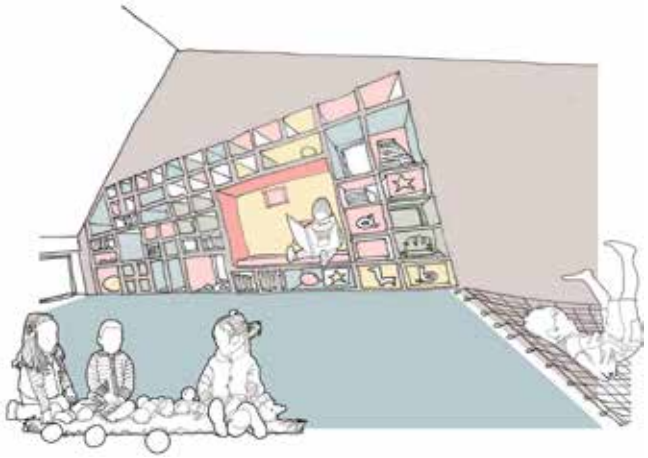
Project Objectives

The Scottish Futures Trust outlined the project objectives as the following;

- The reference designs should be innovative and efficient in space utilisation, and enable early learning and childcare to take place in good quality stimulating environments which are specifically designed to address the needs of young children staff and parents and make them “feel happy” when they visit the building.
- The designs should also respond to the requirements and guidance of the recently published Space to Grow document. Further detail on these requirements follows within this section.
- The reference designs will be required to accommodate circa 80 children and be scalable (up and down) whilst demonstrating cost affordability within an overall area metric of 5.8 m2/child (total building GIFA) and £3,000/m2 (all in rate including design and development costs as well as furniture, fixtures and equipment at 2Q 2018).

A cost plan, based on the EAC proposal is included within Appendix E





Background Demand Service Projections

"Children will be spending more time in early learning and childcare settings, and as such, the environment needs to be of a high quality to support positive outcomes for children. Research confirms that the environment can have both a positive impact on child development and improve learning outcomes for children. Early learning and childcare and out of school care settings must be provided from an environment which is fit for purpose and positively supports children to access play and learning opportunities that will impact on their development, health and well-being and happiness. The environment is also important to both parents and providers. This is a view which is supported by a recent survey carried out by the Care Inspectorate, where 69% of parents said the environment was one of the main factors when choosing the service for their child." SPACE TO GROW

The basis of the brief is developed from the total GIFA, utilising the area metric of 5.8m2/child, together with cost affordability of £3000/m2. This is outlined in the Scottish Government's Expansion Programme Baseline Planning Assumptions for new build nurseries. These planning assumptions were issued to local authorities in July 2017 by the Scottish Government as part of a wider suite of capital and revenue cost and planning assumptions.

The registered number of children utilising an Early Learning Care setting can be increased by recognition of the importance of outdoor, as well as indoor, learning and care.

The Care Inspectorate, The Scottish Government and Scottish Futures Trust have recommended that a maximum increase of 20% of the total registered number of children aged 3-5 is applicable dependent on the quality of outdoor space and plans for how it would be used.

The reference design requires to provide a comfortable environment and be inclusive for all, and particularly for those with additional support needs. The reference design will strive to create a welcoming, comfortable and considerate design through each zone of the building; from the physical spaces themselves to the lighting, acoustics, surfaces and equipment therein.

'for almost any other special need, the classroom only becomes disabling when a demand to perform a given task is made. For the child with autism, disability begins at the door' Handbury, M.(2007). Positive Behaviour Strategies to Support Children and Young People with Autism. London

SECTION 2.0 - Building the Brief

2.1 Introduction

Proposed Operating Model

The operating model may of course differ across local authorities and across different settings within a local authority. The current models being considered by East Ayrshire Council are set out below and will be delivered in either term time or full year centres which will operate from 9.00am- 3.00pm, or 8.00am- 6.00pm respectively.

Option 1

Monday to Friday 09:00 - 15.00 (6 hours) term time during the school year (38 weeks)

Option 2

5 block sessions of 4 hours 45 minutes (08.00 to 12.45 or 13.15 to 18.00) per week for 48 weeks of the year, 5 mornings, 5 afternoons or a combination of mornings and afternoons can be chosen to create full daycare.

Option 3

6 block sessions per week for 38 weeks term time for the school year.

Additional hours during the holiday periods may be purchased in blocks of 4hrs 45 minutes, where there is capacity.

Staffing

It is currently proposed by East Ayrshire Council that staff who work in full year services will work shift patterns as follows:

- 07.45hrs to 15.15hrs
- 08.45hrs to 16.15hrs; and
- 10.45hrs to 18.15hrs

The number of staff required is based on the adult: child ratio, the model of delivery and the pattern of hours across a day and a week. The ratios are as follows:

- 1:5 adult to child ratio for 2-3 year olds.
- 1:8 adult to child ratio for 3-5 year olds.

registered capacity facility as an example, the required staffing levels would equate to 3 staff for 15 no. 2-3 year olds and an additional 12 staff to supervise 94 no. 3-5 year olds.

The current proposed management structure of full year services will consist of a Head of Centre, Depute Manager, 2 x Senior early learning and childcare practitioners (ELCPs) and the number of ELCPs required to meet service delivery. There will also be an ELC support assistant and 2 x 20 hour clerical assistant posts to cover the hours of operation.

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Consultation

A Consultation day was held 02.02.18, at which a diverse range of stakeholders was invited to participate. These included key staff and parents from existing East Ayrshire Council facilities's, Local Authority stakeholders, the SFT, Hub SW, the Care Inspectorate and Hub SW Tier 1 Contractors.

The day discussed what this reference design should be about with all of the relevant parties, all in order to establish an overall vision for the reference design initiative, whilst also allowing the designers to listen and to question everyone's views as the discussion developed. The session began with a presentation on the requirement for 1140 hours and of the current model for the provision of these hours as developed by East Ayrshire Council for the facilities under consideration for this reference design initiative. The workshop then focussed on the need for the delivery and design of ELC to evolve, and on the need for the reference design to be flexible to accommodate the range of operating models that are likely to be required across Scotland. Further sessions during the day focussed on both internal and external spaces; their design, relationships and functionalities.

'it is understood that good design continuously evolves, with innovative solutions constantly being sought as to how to enhance environments in areas such as space, maximising finite resources, the best use of outdoor space, sustainability and how the physical environment can genuinely help to contribute to the best outcomes for Scotland's children. As such, it is anticipated that this guidance will also evolve as new solutions and new approaches to innovative delivery of settings are identified, allowing these to be incorporated and shared across all those working in this important sector.
' SPACE TO GROW

To commence the briefing and design process, various stakeholders were mixed at a number of tables, facilitating wider discussion on the various topics across each of the sessions. The day was split into 2 main workshops, outlined below, with particular questions raised to enable and encourage the discussion.

The following criteria were put to each group:

Workshop 1

The day started with the fundamental, philosophical basis for the increased ELC provision:

- What is the purpose of the increased ELC provision?
- What should the impact be on learner experience?
- What should the impact be on family experience?
- What is success?
- How to maximise benefits?

Workshop 2

Focused on the term “outcomes and experiences”. It is key to determining “quality” in particular for the external landscape environment but also for the learning experiences within the building itself.

Core questions applied to each theme:

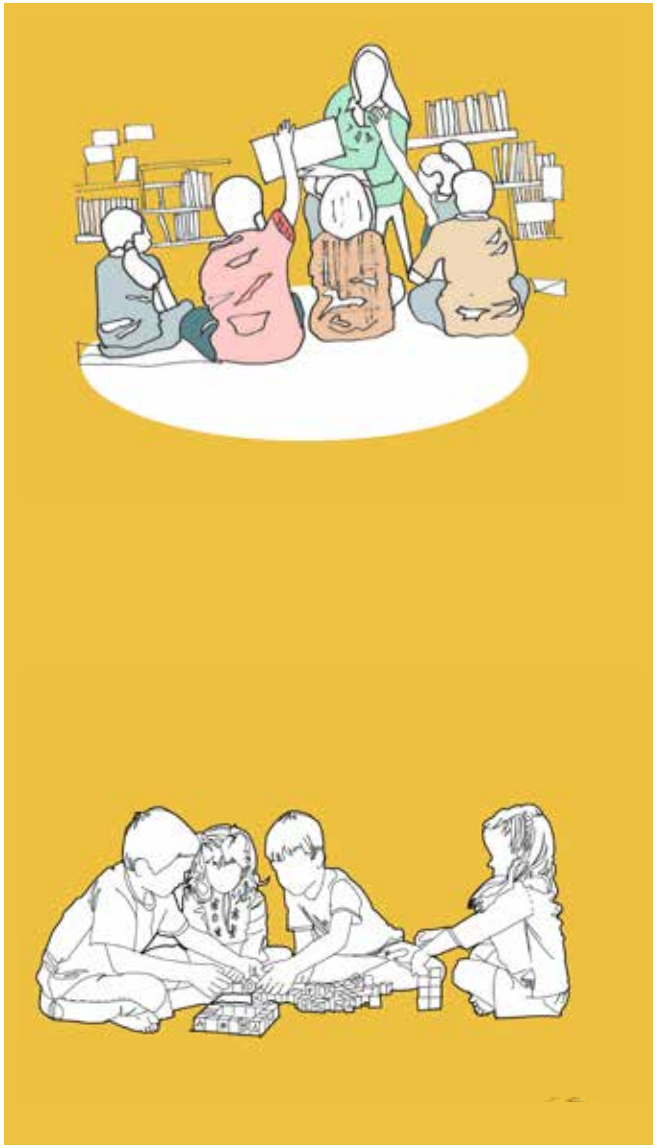
- What are the learning outcomes indoors/outdoors?
- What learning experiences should be provided indoors/outdoors?
- How could these be delivered indoors/outdoors?

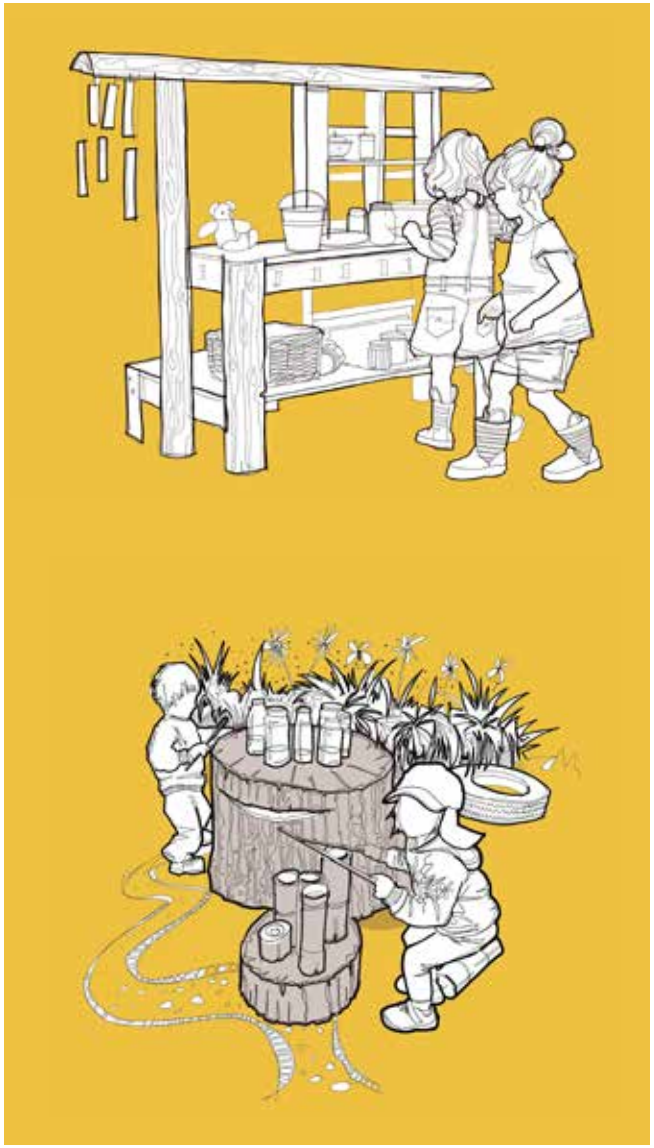
The day was energetic and full of optimism. There was generally a consensus of aspiration across all stakeholders, with the following aspects being considered key drivers which the reference design project requires to support:

- The previous model doesn’t fit with parents returning to work
- The building could become embedded into the community and used by the community after hours and weekends
- Success equals happiness for children, parents and staff
- The facility must be inclusive
- The facility must provide opportunities for staff
- The facility could be a social link for parents/carers and provide opportunities for families to access services.

Indoor space:

- The environment should provide a balance between learning experiences and opportunities inside and outside
- The learning environment must engage children through space, light, noise, materials to stimulate and nurture
- Designs should allow for free-flow between inside and outside – indeed boundary must be blurred
- Outdoor space is key in the expansion of ELC and accommodation should be built around the outdoor space
- Need for an external covered space to be used in all weathers
- Need for flexibility and a variety of spaces from small intimate spaces scaled for children and small groups to large spaces





Outdoor space:

- New early years education should provide a coherent and seamless indoor/outdoor environment. This is backed up by policy documents such as the Scottish Government's 'Play Strategy for Scotland- Action Plan' (2013) and the Care Inspectorate's 'My World Outdoors' (2016).
- Interaction with nature has a meaningful impact on a child's health and wellbeing, can promote more engagement from some children and enhance learning, collaboration and social skills.
- External space should be safe, but also offer appropriate challenges which encourage children to take more risks.
- Provide core outdoor activity of sand pit, mud kitchen, loop route for bikes and trikes, story-telling, loose parts play, performance space, shelter, sensory garden with raised beds & outdoor store.

A collation of the outcomes recorded at each of the engagement sessions can be found within Appendix C.

Space to Grow

The quality of the external environment is fundamental in determining whether the particular ELC actually satisfies the requirements of Space to Grow and can therefore register up to 20% additional capacity.

The development of outdoor settings has been increasing over recent years. Not all settings can provide solely outdoor provision, or a blended approach of outdoor and indoor learning and care in many settings. There are some existing early learning and childcare settings where account has already been taken of the quality of outdoor space and the number of registered places has been increased accordingly, all in acknowledgement of the positive experiences children have.

There is presently no agreed standard for the provision of outdoor space within ELC's. This reference design aknowledges the importance of outdoor learning in early development. The design has incorportaed outdoor space to support registration of an increased number of children within an indoor/outdoor setting. The recommended maximum increase of 20% of the total registered number of children is considered as a guideline. This is however dependent on the suitability of the outdoor space and plans for how it would be consistently used.

The quality of children's experiences and their learning outcomes are of paramount importance in the design of external spaces. This reference design therefore seeks to deliver such quality.

Meal Delivery

It is envisaged that the proposals for food preparation and delivery will vary across local authorities to cover the delivery of a lunch and high tea, as well as snacks mid-morning and afternoon.

The delivery of such meals requires careful consideration of the sequence of events around dining and the associated spatial implications, as well as the preparation/delivery to the settings and within the playroom. The model that East Ayrshire Council aim to adopt is outlined within Section 3.0.

Changing Places

Through the consultation process with East Ayrshire Council and the Care Inspectorate it was confirmed that there was no requirement for inclusion of a Changing Places facility in the proposed Reference Design. An accessible WC will be required, accessible to all building users.

Insurance

Some local authority insurance providers have specific requirements that may influence the overall design; e.g. restriction on use of combustible cladding, such as timber weather boarding, or requirement to provide sprinklers for property protection and CCTV systems. Each local authority will require to seek appropriate advice in relation to each setting.
Both sprinklers and CCTV are not a requirement in this classification of building in order to comply with the Building Standards Division Technical Guidance, and as such, these do not form part of the reference design.

Planning

As part of the development of the design the East Ayrshire Design team met with East Ayrshire Council Planning to discuss massing and general planning considerations further discussions would be expected following selection of a site in relation to context, site conditions and proposed building location. This would be a normal procedure to be followed for all buildings with any local authority. The detail and extent of dialogue will depend entirely on site location and context.

Technical Standards and Building Control

All materials and works will require to comply with all relevant statutory regulations current at the time of construction (NB the cost plan is based on current Regulations May 2018). 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.

Where manufacturers are referenced this is to be assumed as or equal or approved.

A more detailed dialogue with Building Control will be arranged during the next stage. Meetings were held with the catering team to establish requirements for the kitchen facility and food preparation.

Roads and Transport

Through consultation with Ayrshire Roads Alliance. It was confirmed that car parking standards to be applied to this reference design are based on universal parking strategies are outlined as part of Local Plans. As with other Statutory Consultees it would be a normal procedure to meet with all those relevant to each particular site. Equally the detailed and extent of dialogue will depend entirely on site location and context. Further specific detail on the reference design is covered under Section 3.0.

Scottish Fire and Rescue

Discussions / meetings will take place during the next stage of the project.

SECTION 3.0
The Reference Design

SECTION 3.0 - The Reference Design

3.1 Introduction

The Brief

The challenge faced by the design team was to provide a rich and stimulating environment which encompassed a range of accommodation requirements, with specific adjacencies, within the parameters of a defined cost and area metric.

The reference design should provide internal and external experiences that inspire children and provide them with;

- A place to be active
- A place to relax
- A place for tactile exploration
- A place for imagination
- A place that's flexible
- A place of nurture
- A place where they are happy

Cost and Area Metric

The reference design will be required to demonstrate it can be delivered within a maximum GIFA equating to 5.8m²/child at a cost not exceeding £3,000/m^2 (inclusive of design and development costs and furniture, fixtures and equipment at 2Q 2018)

Space Standards

Additionally, the Care Inspectorate's Space to Grow document defines the following minimum clear playroom space requirements;

- Children up to 2yrs require 3.7m²/child
- Children aged 2-3yrs require 2.7m²/child
- Children aged 3-5yrs require 2.3m^2/child

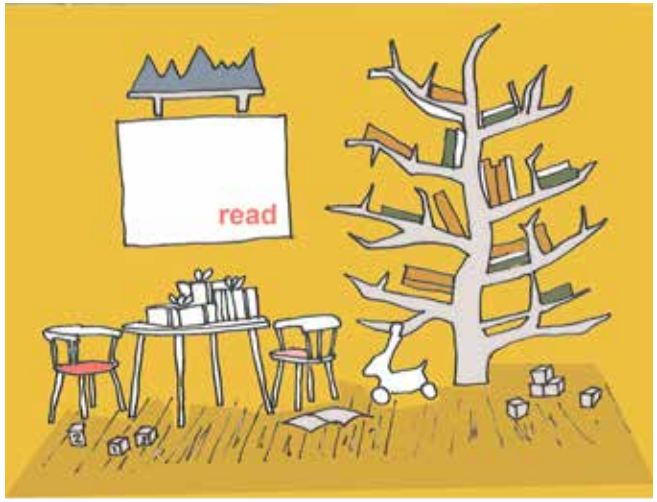
Reference Design Capacity

The building capacity is based on a figure of 91 children. Recognising the key importance of the external environment to a child's development, it is assumed 20% of children will be outdoors. Allowing the registered capacity of the facility to accomodate 109 children at any one time and 163 over the course of a day.

The building footprint is therefore based on 109 children comprising 15 no. 2-3yr olds and 94 no. 3-5yr olds with staff allocations based on these numbers.

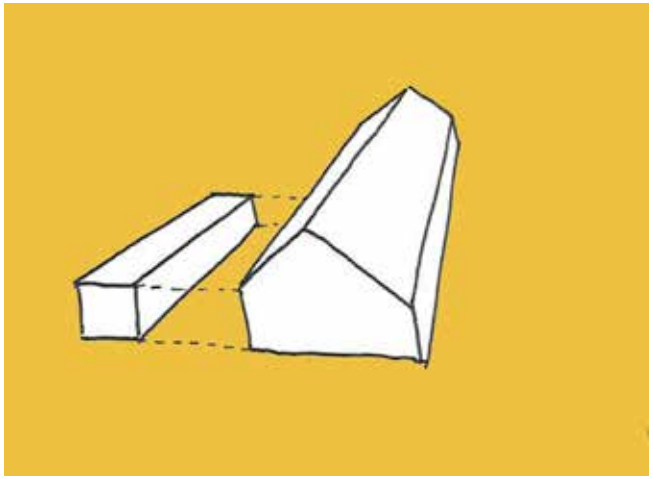
Location

The reference design has been developed without a specific site location and as such provides a generic response to the brief and is flexible to suit alternative locations, orientation and context.



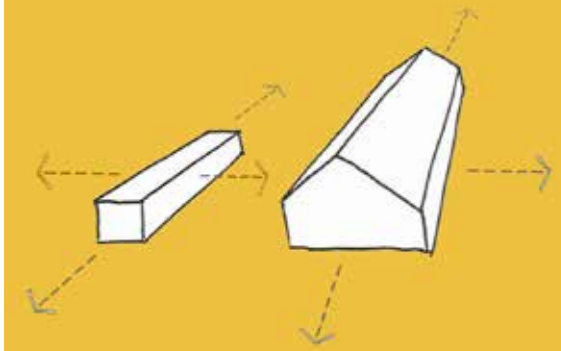
Design Concept

The concept for the reference design is to provide a building which is a simple and refined design that allows for flexibility of use and is also scalable for different capacities. A building with direct access to external landscaped areas, blurring the boundaries between. A quality environment, inside and out, that will provide a safe, nurturing setting but that will stimulate children and encourage development.

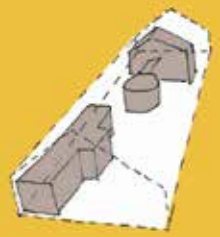


Service and Play

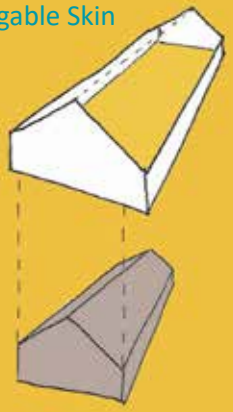
1. Scalable



2. Box of Components



3. Changable Skin

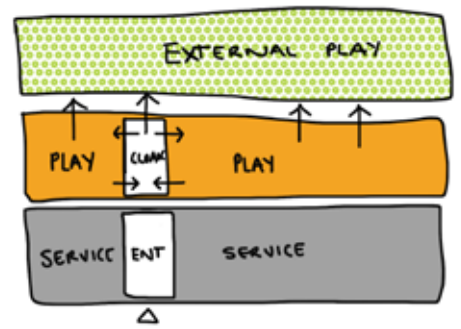


Accommodation Arrangement

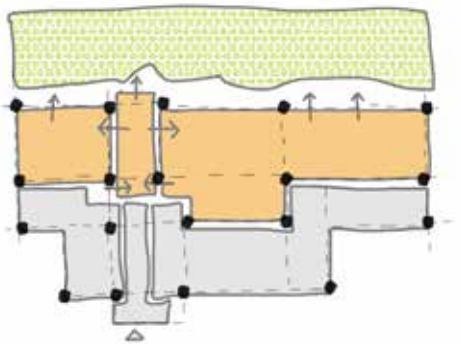
The largest areas of accommodation are the 2-3yr old and 3-5yr old Playrooms. These spaces are served by ancillary spaces and should be easily accessed from the Main Entrance and have direct link's to the external environment.

The simple diagram opposite demonstrates this arrangement.

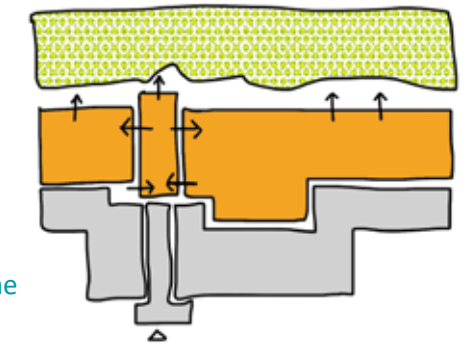
The model has been developed into the following reference design.



Zoning



Structure



Programme

Scalability and Massing

The simplicity of the model and design allows the building to scalable, easily responding to reduced or increased capacities or individual Authority requirements. Playrooms and ancillary zones can be extended or reduced linearly, maintaining the same adjacencies and dependencies.

This is demonstrated in the diagrams opposite.

Flexibility

Similarly the simplicity of the model and design allows the building to be flexible, an interchangable set of internal components and simplistic envelope, easily responding to specific site restrictions and user requirements.

Small Example 3-5 Model

Reference 2-5 Model

Large Example 0-5 Model

OPTION 1- Reference design- fibre cement panels
Suitable situations- URBAN / SUBURBAN

External Envelope

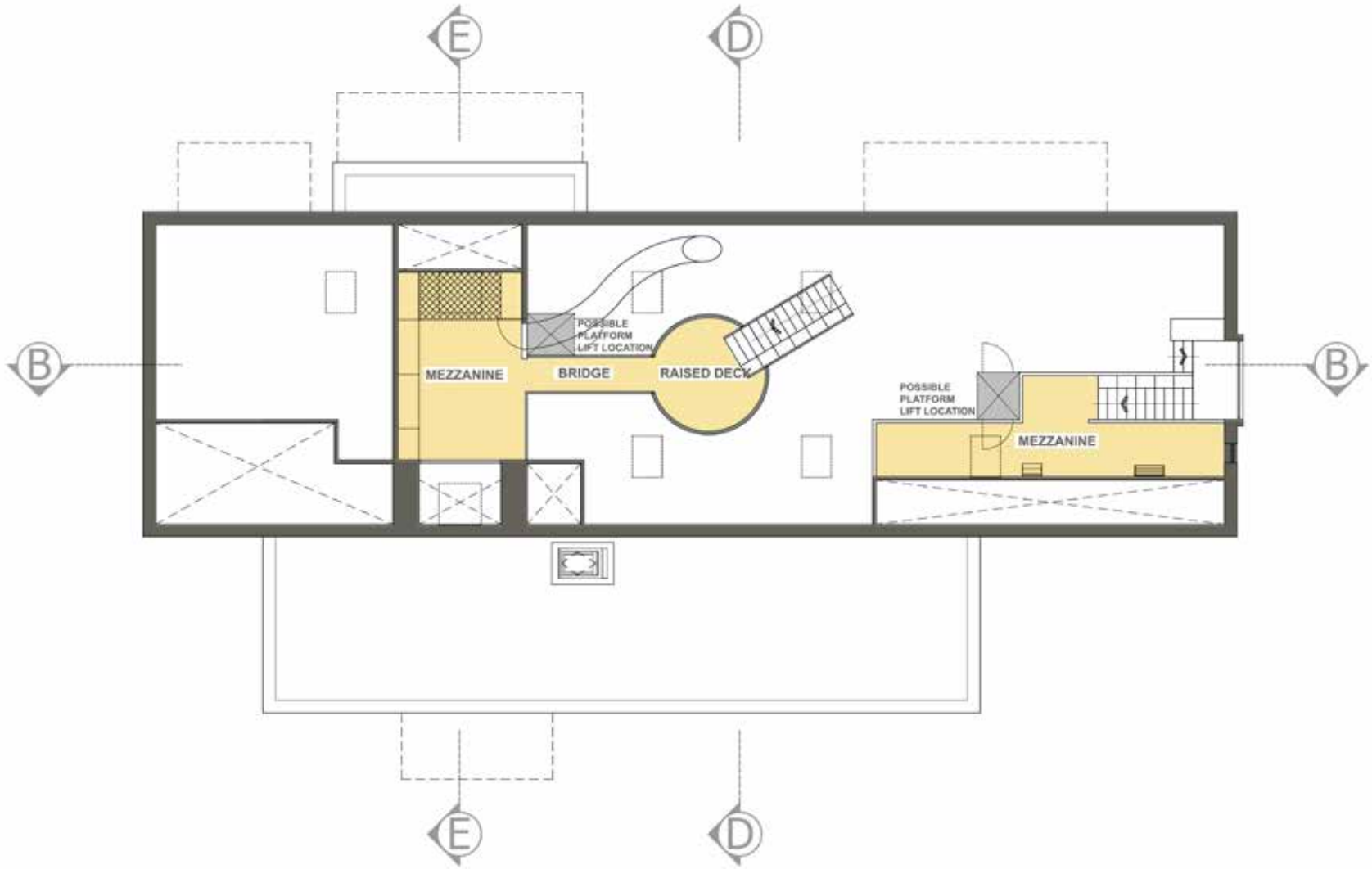
The design utilises a rain-screen cladding system which allows for a variety of external finishes including timber or brick depending on site context. The material considered for this reference design is sinusoidal fibre cement sheets which compliments the building's simple, contemporary design and used on the roof and walls gives a unified finish with a pleasing aesthetic which can be easily maintained.

OPTION 2 - Brick and Timber
Suitable situations- URBAN / SUBURBAN / COASTAL

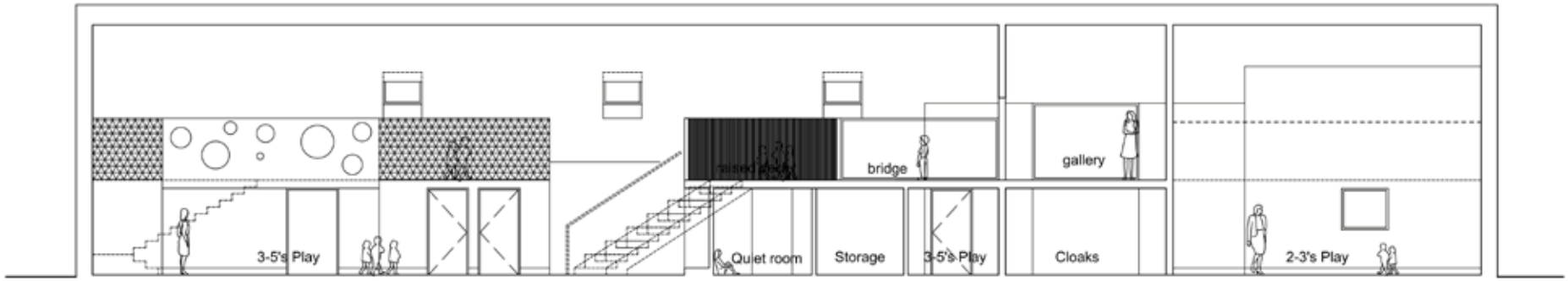
OPTION 3- Timber Shingle
Suitable situations- RURAL/ COASTAL

OPTION 4- Aluminium Cladding
Suitable situations- RURAL / URBAN / SUBURBAN

Ground Floor Plan

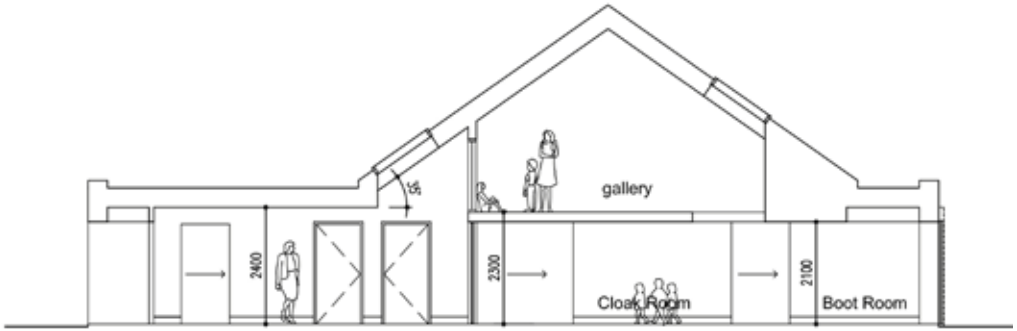


First Floor Plan



Section BB

Section DD



Section EE

Front Elevation

Rear Elevation

Side Elevations

Organisation and Use

The reference design has been developed to provide the following accommodation. The following sections define the component parts, starting with a high level approach, and then moving into the detail of the interior and outdoor spaces.

Playroom Spaces

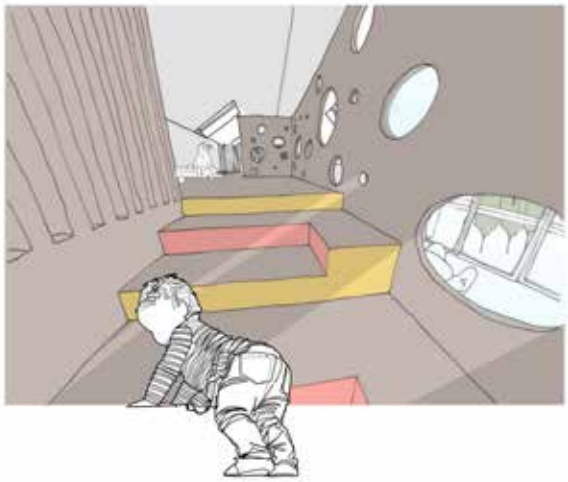
- 2-3yrs Playroom (44 m^2 clear play space)
- 3-5yrs Playroom with (197 m^2 clear play space)

Playroom Mezzanine Areas

- Active zones (31.1 m^2)
- Quiet zones (22.4 m^2)

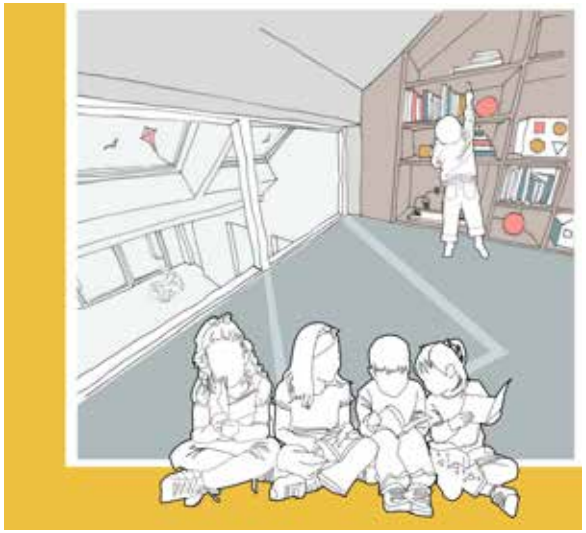
Ancillary Spaces

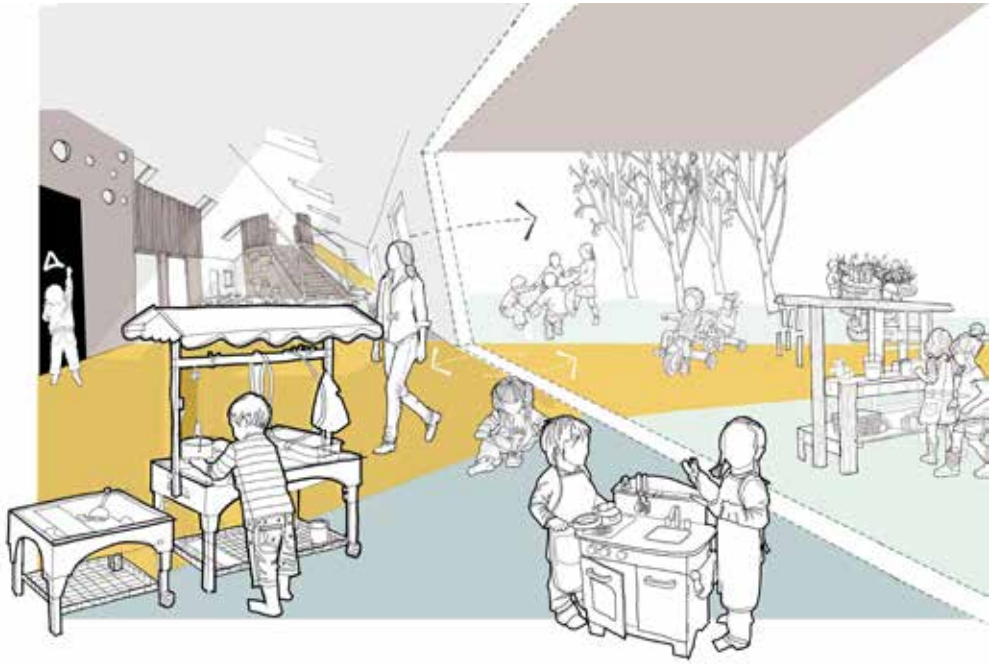
- Secure entrance lobby (this can be left open to playrooms when required)
- Reception / staff resource
- Cloakroom (flexibly used as shared play space)
- Boot room (storage of wet gear)
- Family / Community room
- Breakout / parent room (connected to Family Room)
- Head of Centre
- Staffroom (including tea making facilities)
- Servery kitchen with hatch. (lunches are prepared in central kitchen facility elsewhere).
- Quiet room
- Children's toilets (with direct access from Playrooms)
- Nappy change / potty wash
- Accessible toilet
- Cleaners store
- Staff toilets
- Catering staff toilet and change
- Table Store (dining tables)
- General store
- Laundry
- Plant room



To Explore

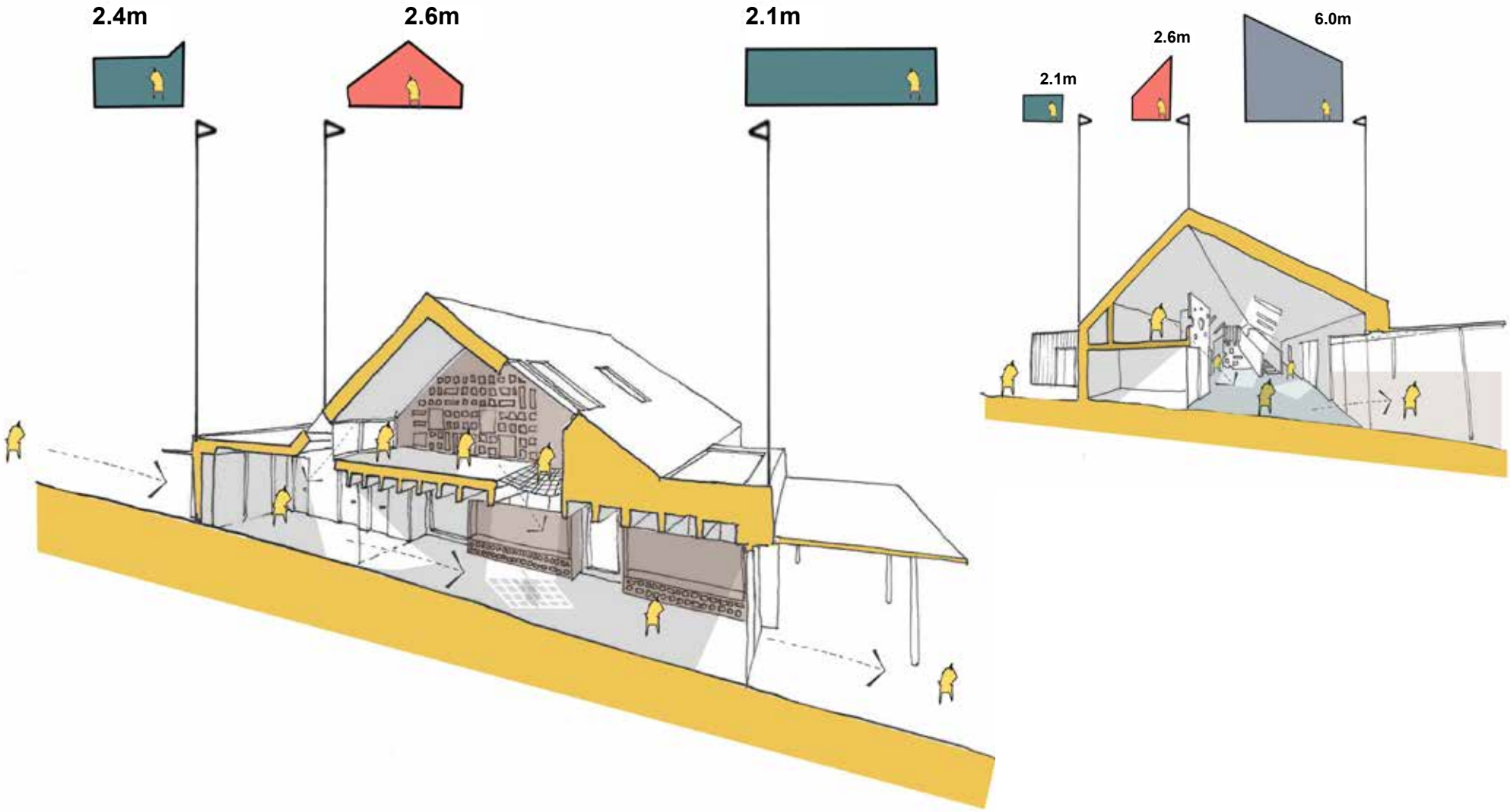
To Retreat





To Share

To Gather


2.4m
2.6m
2.1m
2.1m
2.6m
6.0m

Playrooms

The 2-3yr old and 3-5yr old playrooms are directly and independently accessed from the Cloak Room and are designed from a child's perspective to provide a supportive and stimulating setting for children at different developmental stages. The larger 3-5yr playroom is a large open plan space maximising natural light and ventilation.

Within this space thematic zones are formed using learning / play equipment for activities such as arts and crafts, messy play, literacy, role play etc. In addition, the placing of a sculptural component, in the form of a storage cylinder, further helps define separate leaning and play space at ground floor whilst exploiting the playroom's volume to provide three dimensional play with a raised deck above. This cylinder allows active play by climbing stairs, offering excitement, challenge and an element of risk along with creating smaller, more intimate spaces below. The raised deck of the cylinder is connected to another raised deck over the Cloak Room via a bridge with high level views inside and out. The journey can be completed using a slide back down to the main playroom where the circuit can then be repeated.

The raised deck over the Cloak Room includes a storage wall and sufficient space to participate in activities with visual connections to ground floor. As noted previously floor voids allow natural light into deeper parts of the plan and in one instance is infilled with a safe cargo net allowing adventure or rest with views both to lower levels and outside to the sky to watch clouds go by.

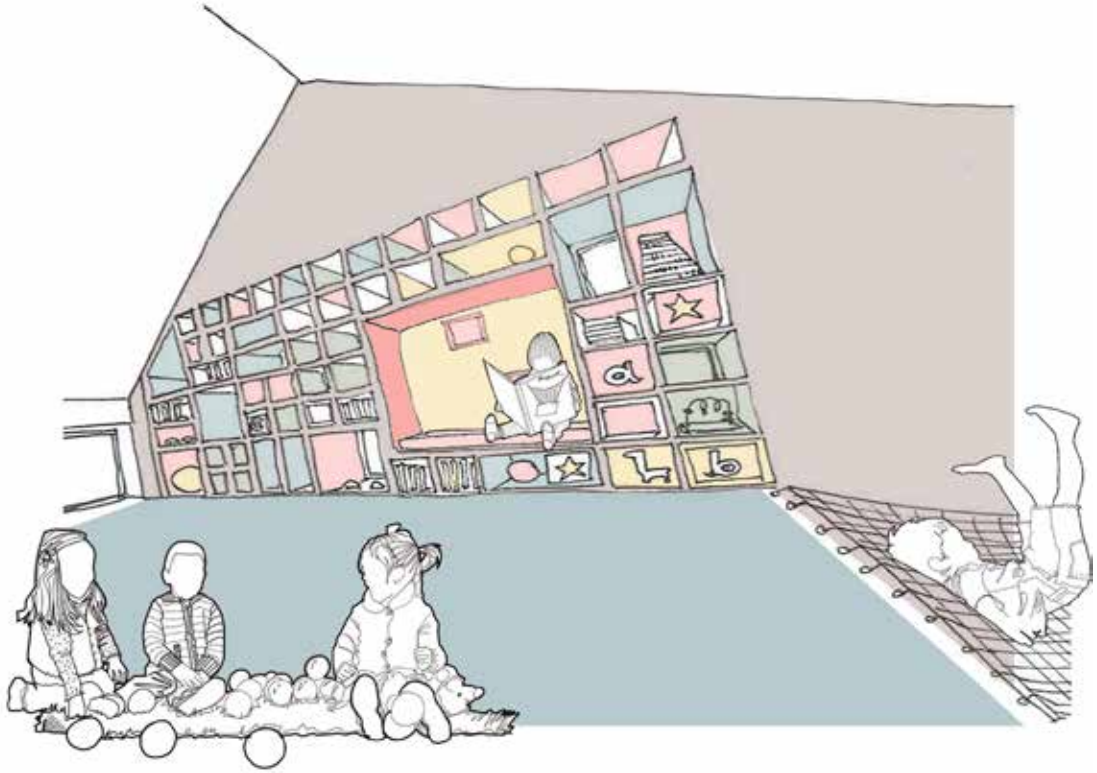
An additional raised deck is also provided within the playroom over toilet accommodation. This has been conceived as a more intimate and quiet area separate from the main busy playroom.

The use of raised areas helps to develop not only the child's proprioceptive sense enabling bodily control, but also further development of their vestibular sense through the simple act of working out how to climb a stair. Physical development occurs through using the body: moving it in space and gravity, pushing and challenging it promoting a sense of challenge and achievement, orientation and risk.

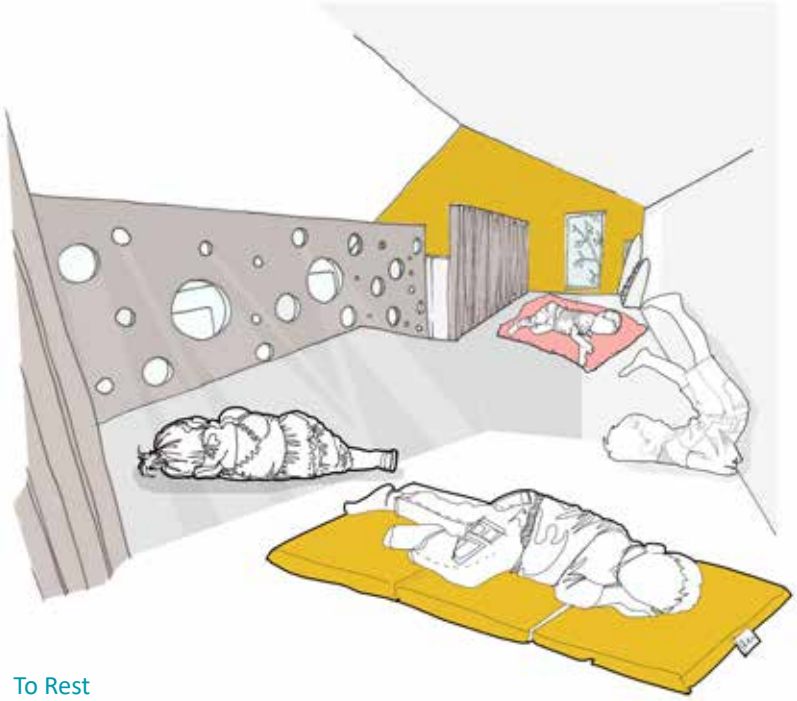
The 2-3yrs olds playroom uses the same architectural language as the 3-5yr old playroom. It is the little brother or sister of the larger space but offers the same opportunities for play, learning and rest but at a smaller, less challenging, scale recognising the age and stage of development of its users. As with the larger playroom the 2-3yr playroom has a direct free flow connection outdoors and is accessed via the Cloak Room which provides separation from the main playroom acting as a buffer. As noted further in the section the Cloak Room has flexible use allowing it to function as play or dining space providing connections between the two playrooms.

The physical environment can make a big demand on a child, particularly for children with additional support needs. Children with mobility restrictions need clear space to move in wheelchairs or walking aids. As with physical, visual or hearing impairment, for children with communication impairments it is important that reasonable adjustments are made to reduce as many barriers to leaning as possible. This is as important outside as inside the building and has been considered within the design.

Heating to the main playroom spaces is proposed to be underfloor which provides a more constant temperature and is less impacted when doors are open. Materials have been carefully considered to ensure they are durable and reflect the activities undertaken and acoustic implications have been considered by consultant engineers detailed later in the report.



To Retreat

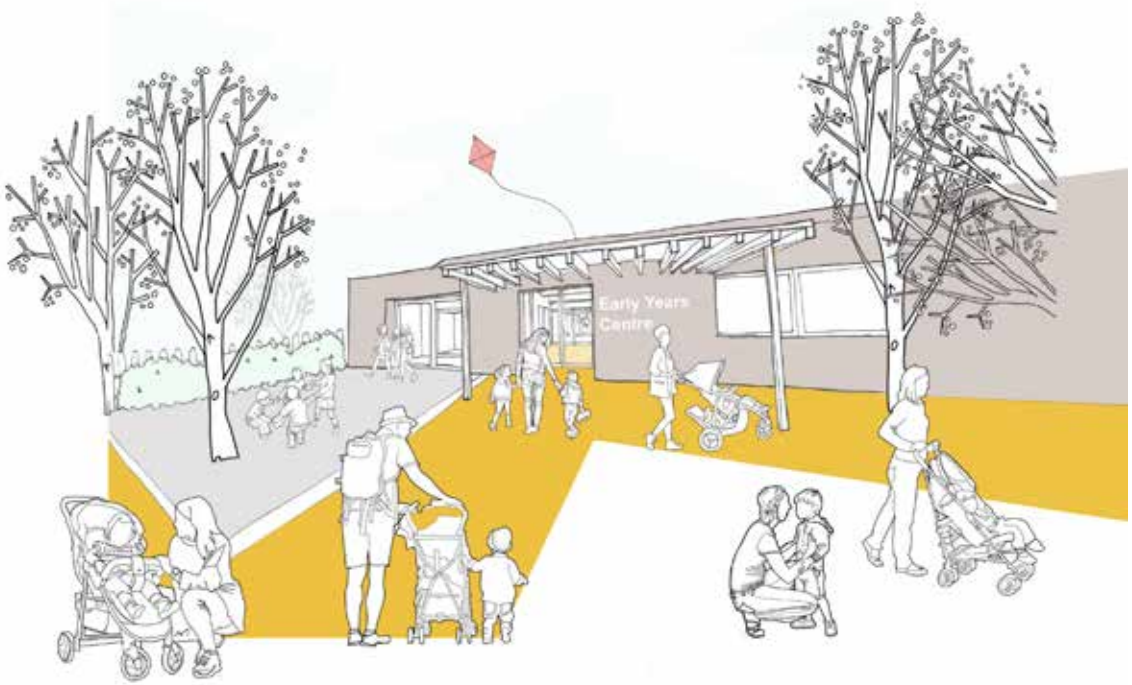


To Rest

Entrance

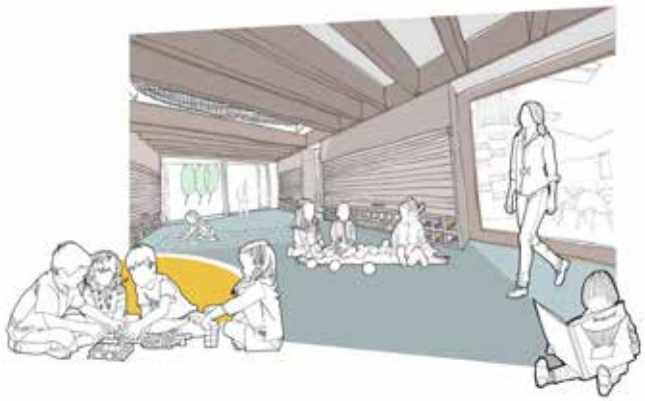
The Main Entrance is signaled by a protective canopy providing shelter at drop-off and pick-up and an area for buggies. A large Entrance Lobby provides a welcoming but secure space allowing parents and carers the opportunity to meet and chat. The Entrance Lobby also gives direct access to Parent / Breakout and Family / Community Rooms along with Reception / Clerical and the Head of Centre's Office. Sliding doors provide means of restricted access to the main areas when in operation. It is proposed that there will be a video security system at the main door allowing staff to monitor the entrance.

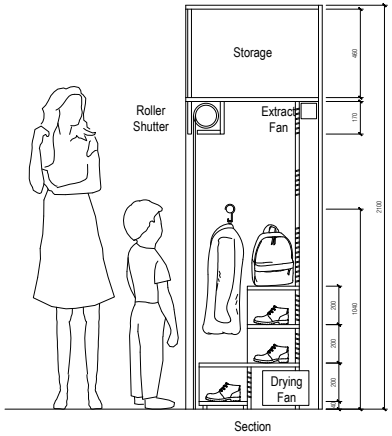
On arrival visual connections and cues are provided for the children to aid orientation and stimulate excitement. The main entrance gives views through the Cloak Room to the external areas beyond. As you progress into the building internal views start to open up to the playrooms beyond and upper gallery play space through ceiling voids. This also allows natural light to penetrate the deeper parts of the plan.



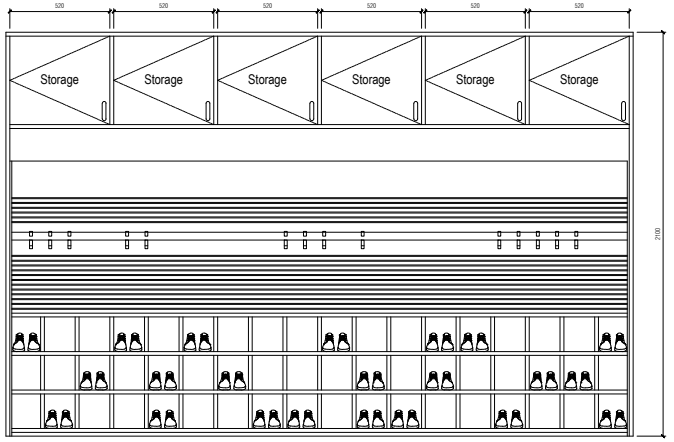
Cloak Room

This area is accessed directly from the Main Entrance and provides a transition zone for children and carers when arriving. This has been designed to allow a free flow of parents and children at the busy times of drop off and pick up. Being centrally located this space allows direct access to each playroom. Whilst providing physical and acoustic separation the space also acts as a connection between playrooms during the day when shutters are closed over coats and shoes allowing the space to be used flexibly as an additional play, reading or dining space. In addition to linking with the entrance the space opens to the Boot Room which provides access to external areas. A ceiling void with cargo net allows natural light to filter through creating changing patterns throughout the day. It also allows views both up and down reinforcing the three dimensional nature of the space.

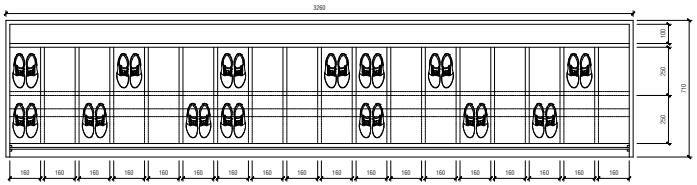




Section

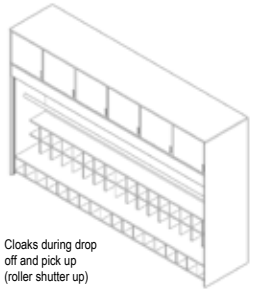


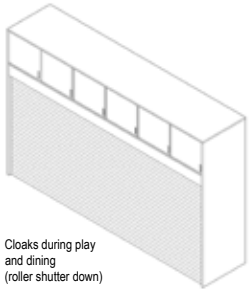
Front Elevation
(With Roller Shutter up)


Sectional Plan

Boot Room

Whilst there is direct access from playrooms to the external areas allowing free flow play and exploration a Boot Room is also provided. This allows space for wet and messy clothes during times of inclement weather and acts as a transition space to outside from each playroom. In a similar manner to the Cloak Room this space can be used flexibly for play during the day. Toilet provision is located adjacent to the Boot Room accessed externally.


Cloaks during drop off and pick up (roller shutter up)


Cloaks during play and dining (roller shutter down)

Parents / Breakout & Family / Community Rooms

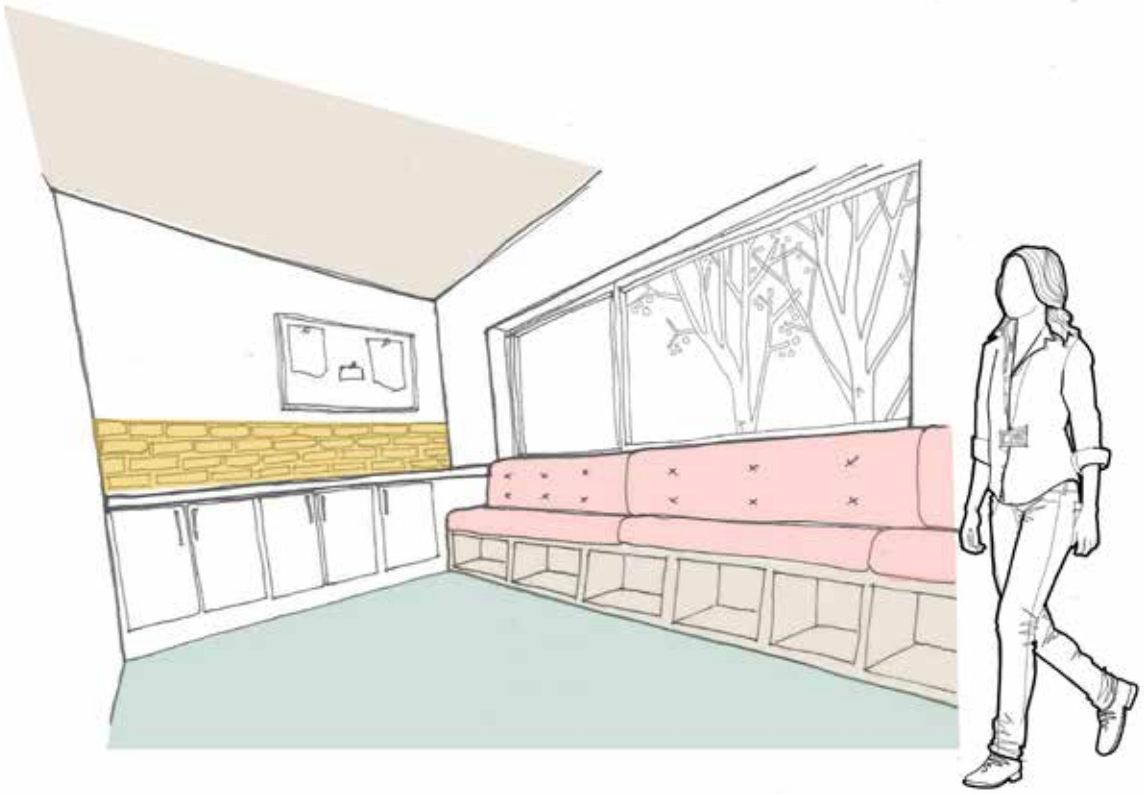
These rooms are directly accessed from the Entrance Lobby. They are provided with a sink and tea making facilities and can be used for a variety of purposes throughout the day. A sliding partition between the rooms provides further flexibility in the use of the space. Uses include private space for parents or carers to meet each other or staff, area for Visiting Services to provide direct support and breakout space for use by staff either for work or breaks.

To Gather

Staff

A staff base and work zone is provided as part of the reception facilities accessed from the Entrance Lobby with a dedicated Staff Room including kitchen facilities accessed from the Playroom. As noted above, flexible breakout space is also provided for use by Staff for breaks or work.

To Rest & Retreat



3.10 Ancillary

Toilets

Toilets are located within the ancillary service zones of the facility and are directly accessible from each playroom. In addition a nappy change facility is provided adjacent to the 2-3yr old playroom and toilets are also directly accessible from the external areas. Staff toilets are provided within the staff zones and Entrance Lobby.

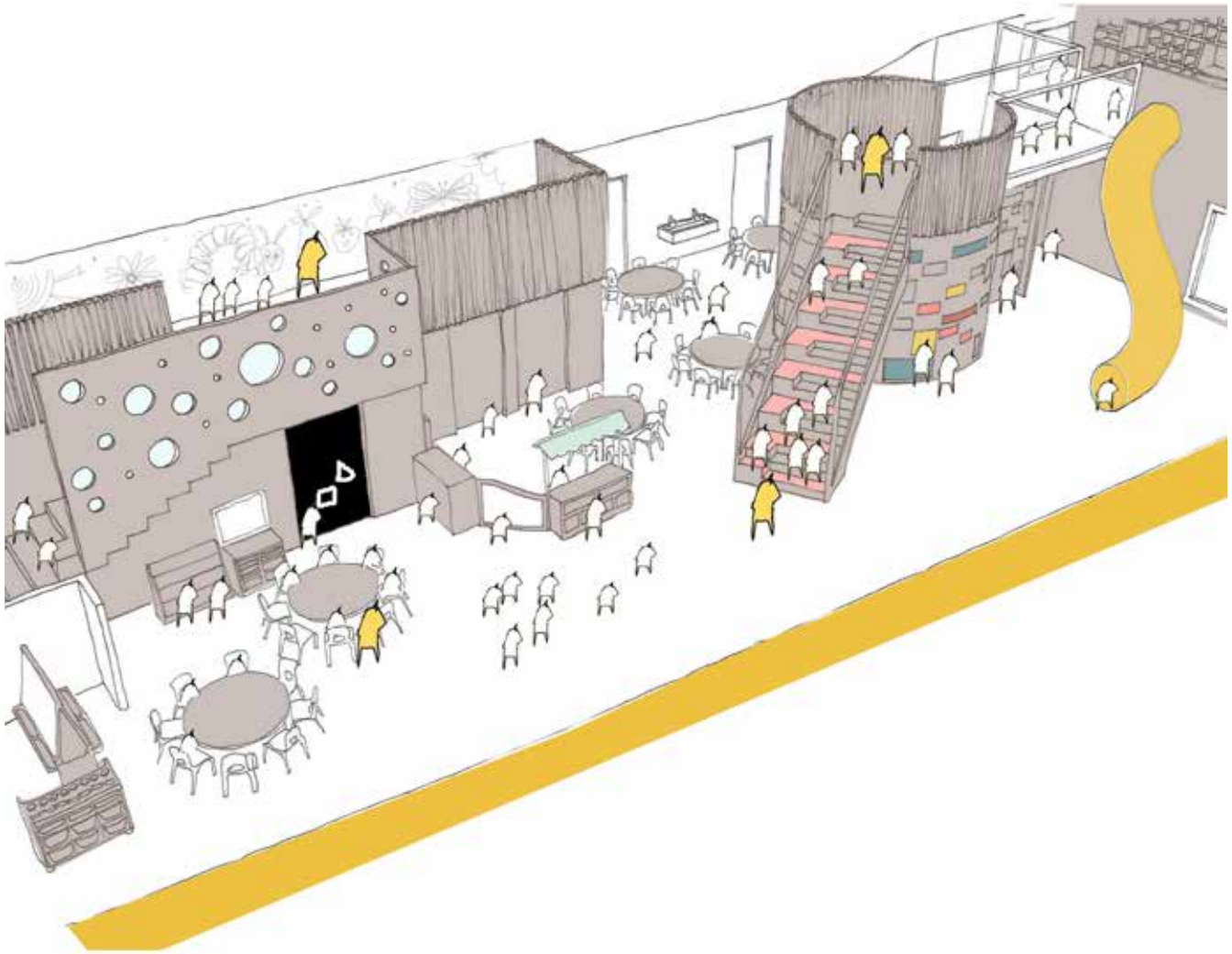
Storage

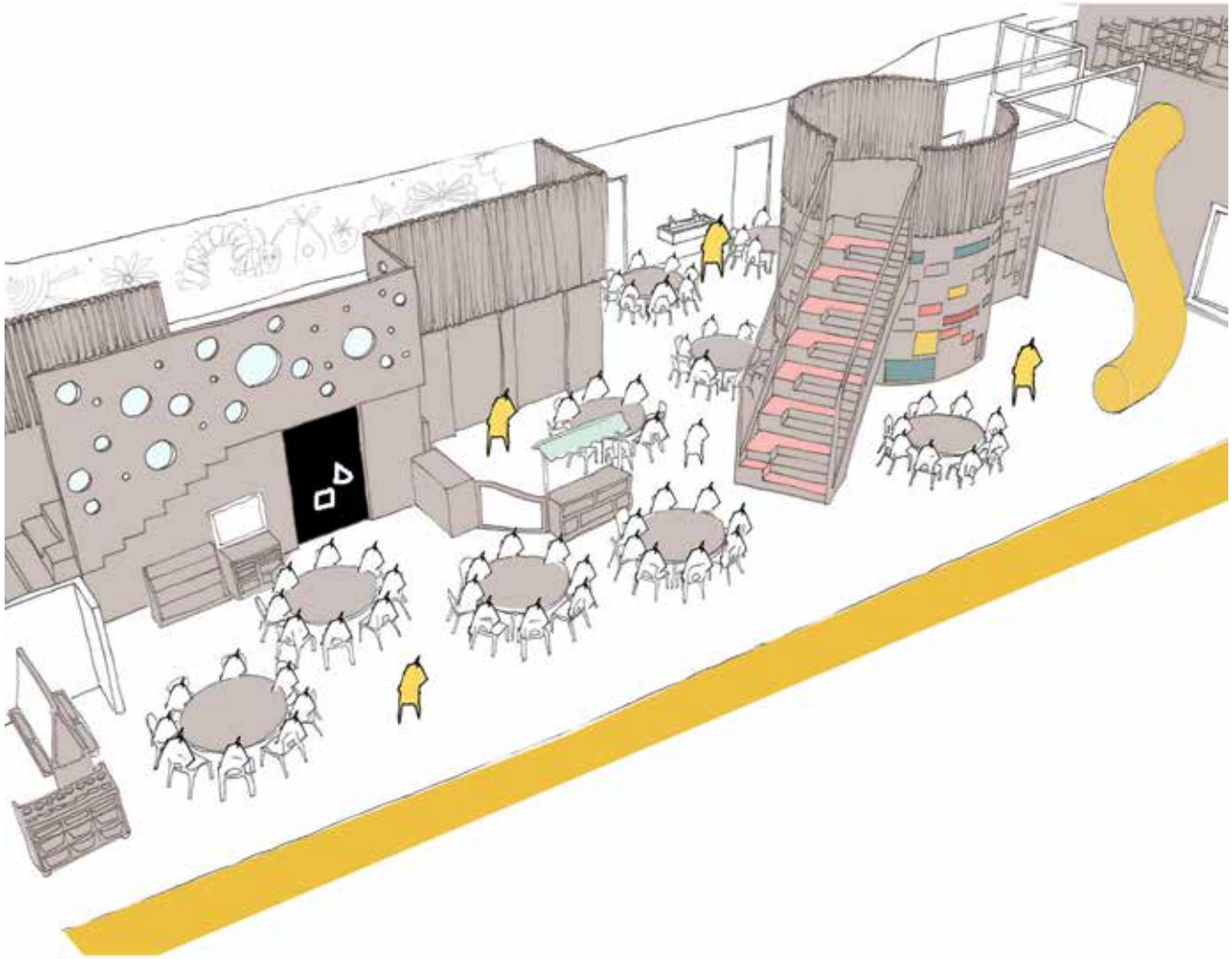
The practicality of storage is critical within the ELC setting. The storage is distributed across the building's footprint and playrooms in a variety of manners; from the buggy store at the main entrance, the cloakroom and boot room, to the storage zones within each playroom. There are 2 large stores within the 3-5 playroom for large equipment and roll away dining furniture, together with a large storage wall which provides efficient storage of smaller items.

This type of storage is also included within the 2-3 spaces.

Plant

Plant space is located within the ancillary service zone and is accessed externally.





Kitchen / Dining

The AM / PM service model requires careful consideration of the sequence of events around dining and the associated spatial implications. EAC's service model is that food will be prepared in a central kitchen off site then transported in portable appliances that keep the food at temperature. As a result the kitchen within the facility is predominantly for reheat purposes and so can be smaller and significantly lower specification than a catering kitchen. The service model requires all children to be fed lunch. The number of sittings will be determined by each Authority.

Tables and chairs must be provided to accommodate all children dining, indoors. It may also be facilitated outdoors, weather permitting. Each playroom must accommodate the children, in groups, each supervised by a member of staff. To have furniture for these numbers on the playroom floor at all times constricts the available space. To maximise the available space in the playroom storage has been provided for additional dining tables to allow single sittings if necessary.

The images opposite indicate how the space can be laid out to accomodate play and dining.

3.12 Outdoor Play

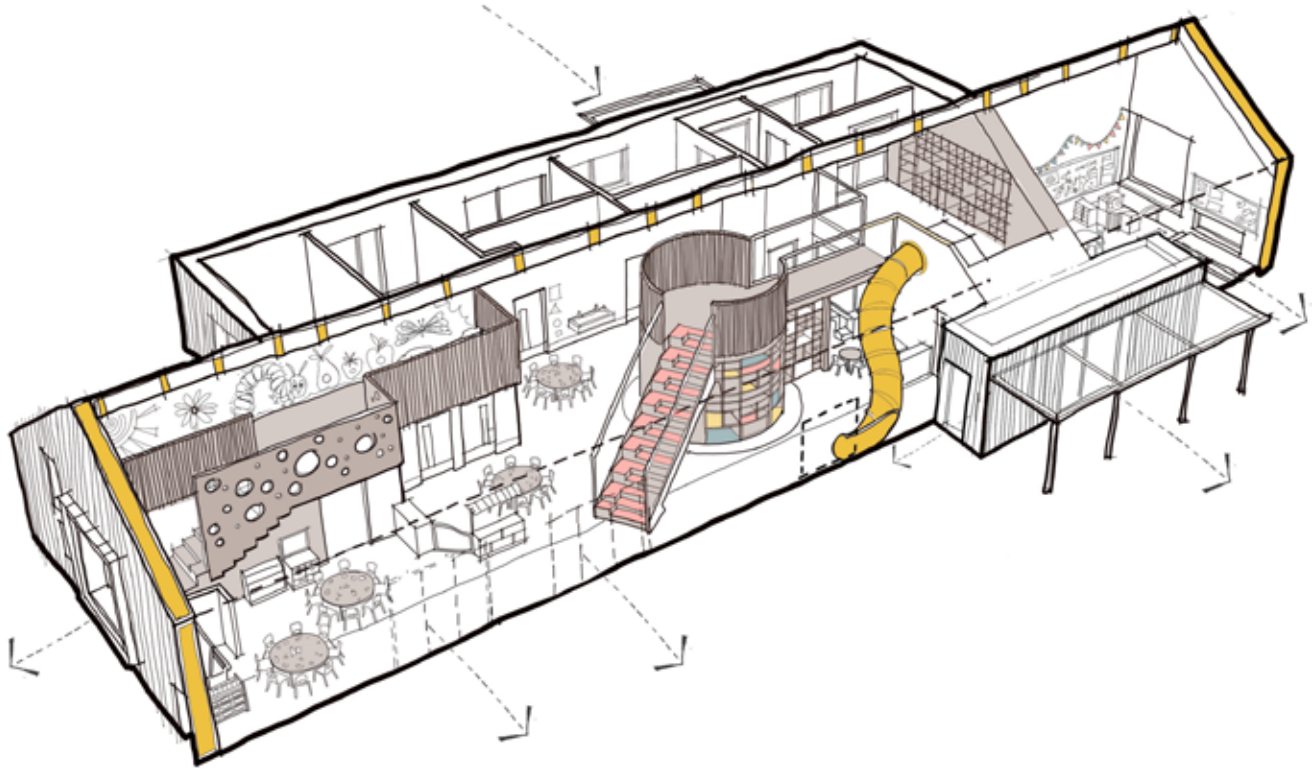
Outside Experience

As noted earlier in this section the reference design has been developed without a specific site being identified which ultimately would inform a landscape design and outdoor space. It is anticipated that each Local Authority will have its own requirements of what components are most appropriate for this and therefore a range of activities and experiences have been considered that could be used as a menu.

However, for the purpose of the report the assumed external play area has been taken as 694m^2 . An allowance of £25,642.00 has been identified to accomodate the provision of essential outdoor street furniture, storage and fencing in addition to a range of outdoor play equipment. A full list and cost breakdown of the items are contained within Appendix E.

The reference design includes an allowance for 24 staff parking spaces inclusive of a parent drop off zone.

The importance of an enhanced outdoor space is crucial to the delivery of the new 1140 programme and is highlighted in 'Space to Grow'. This space should afford a different experience from inside and should be safe but critically, children should not make children feel overprotected. The space should offer challenges and encourage children to take more risks, and importantly give them a sense of achievement. The importance in a free-flow relationship between inside and out is key, in the design with both areas having equal importance in providing learning through play for the children, and it is expected that children will spend as much time outside as they do inside. The blurring of boundaries

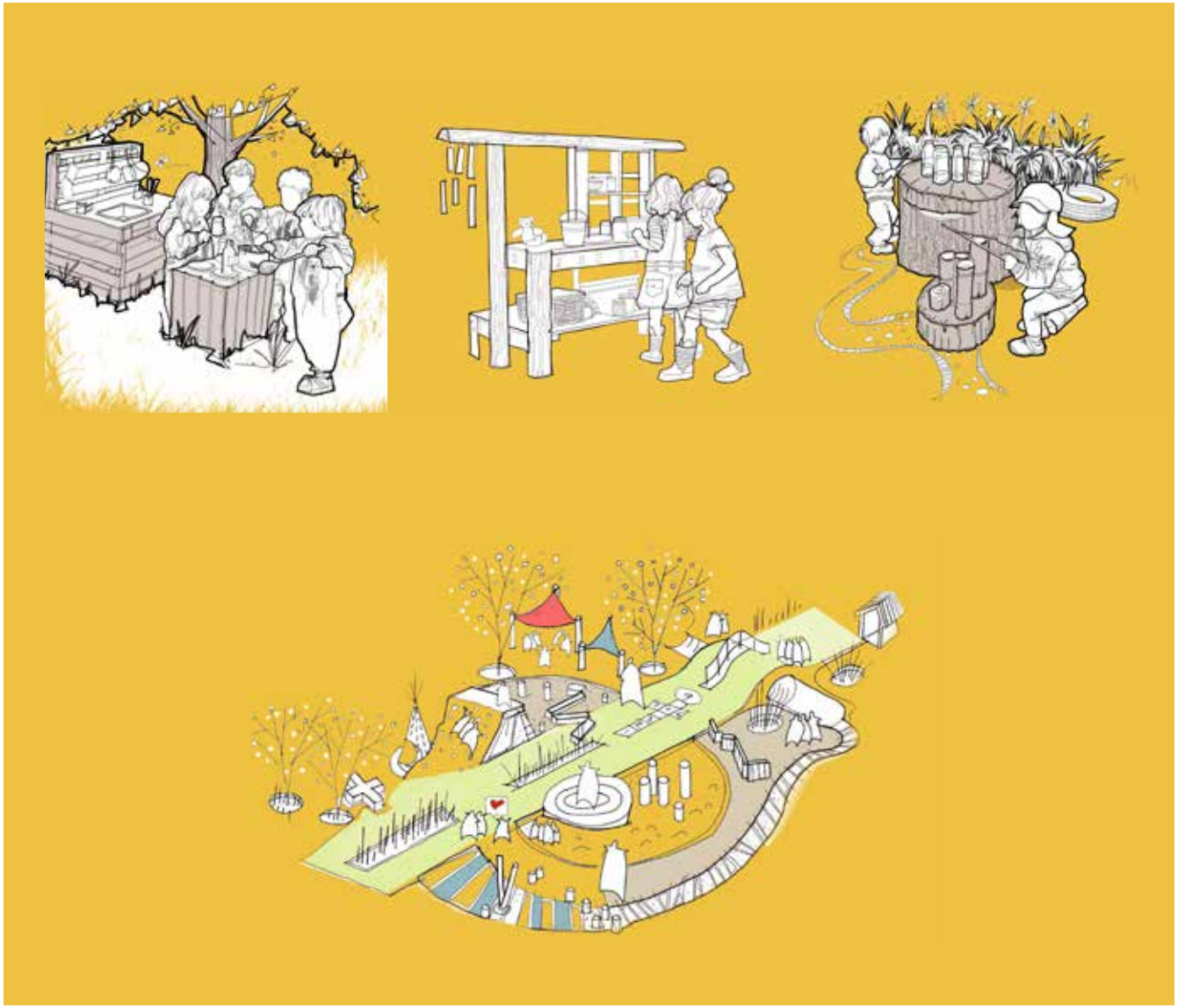


between both zones is also vital in providing a seamless transition between all play-spaces.

Experiences and benefits include;

- Offer children the chance to be noisy without disturbing others.
- Natural surroundings have a soothing quality that strengthens well-being
- Trees and shrubs form natural curves, which are very welcoming to children
- To feel the smooth roundness of a pebble, and experience how cold it might be
- Tread in squelchy mud or rub a tree's rough bark.
- Unhurried time is as important for children to make their individual discoveries
- Discover and manipulate materials in all kinds of ways: collecting, sorting, posting, transporting, fastening, detaching, enclosing, stacking, knocking down, filling, pouring…
- Direct access to toilets

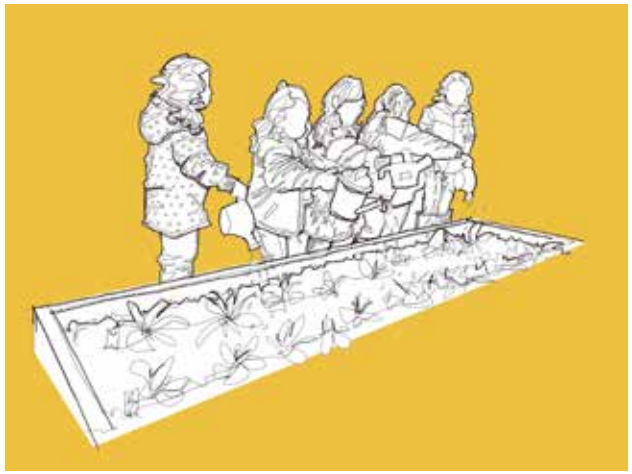
While the outdoor open areas are vital for active play, they should also include cosy nooks which invite children to withdraw and relax are also critical and should be included in all external and internal spaces. Young children love to snuggle into a secure hideaway from which to look out at the world.



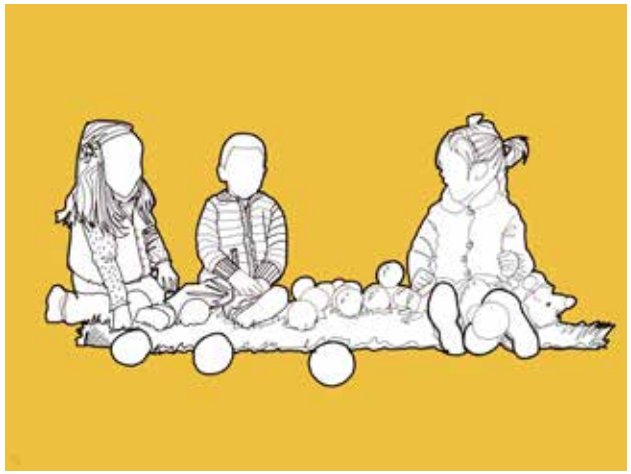
Activities could include;

- Water play
- Outdoor Store
- Sensory garden and space for growing
- Sand pit
- Fire Pit
- Mud kitchen
- Separate area for babies
- Sensory area
- Covered den
- Quiet areas
- Flexible area / loose parts play
- Storey telling corner
- Performance & climbing
- Landforms and level changes
- Access to green spaces in the community

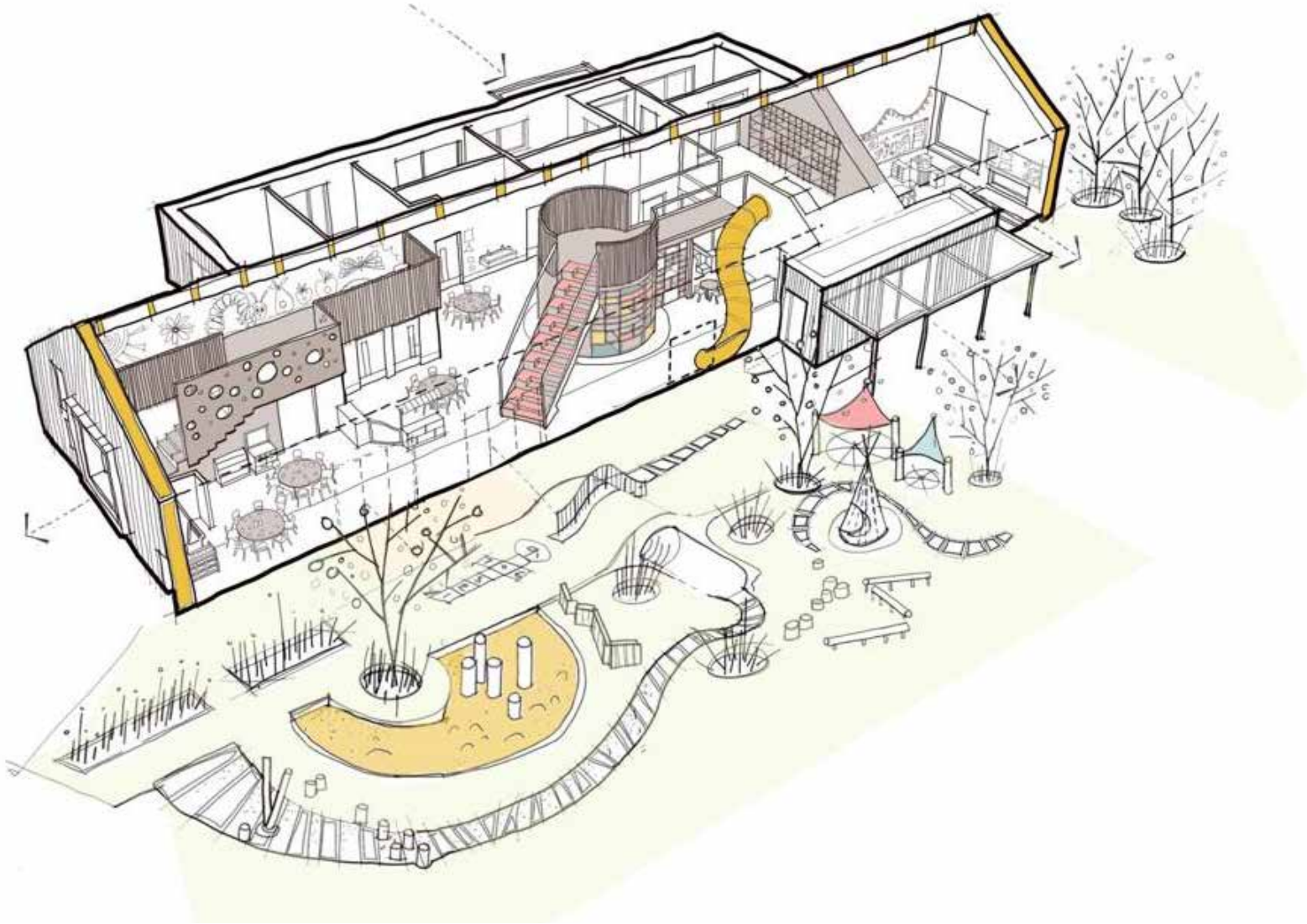
To Explore



To Grow



To Gather



SECTION 4.0

Supporting Consultants

Superstructure Frame

The structural form of the building comprises primarily of a main 1 ½ storey area comprising of largely clear ground floor area with upper floor to the main building and a single storey area adjacent. The main roof is of duo pitched form and spans from the front and rear walls of the main building to a central steel apex beam, the adjoining single storey area is generally of flat roof construction. The internal space to the single storey area is generally cellular comprising a series of smaller rooms, the walls of which can be utilised as either load-bearing or can accommodate columns within the wall construction. However, the central play area is largely an open space with the exception of a centralised quiet room which supports access to the first floor plate from the ground floor. The main roof spans over the central double height space and requires steel framing within the roof construction and is supported on columns around the perimeter area.

A number of external canopies are located along the front and rear wall lines which can be constructed of steel framing or feature timber.

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

- Timber Frame Construction
- Steel Frame Construction

We would comment on each form of construction as follows;

Timber Frame Construction(Single Storey)

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

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

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.

Full detail of structural options are available within Appendix F

The mechanical, electrical and environmental design has been prepared by East Ayrshire Council's in-house Facilities & Property Management Service. The design utilises best practice thermal envelope, solar control, day-lighting and natural ventilation to minimise the need for energy and to minimise the reliance on mechanical and electrical installations.

The mechanical and electrical installations' use contemporary products and solutions that are generally available and avoids overly sophisticated controls or technology. These are more intuitive to use, easily understood and can be maintained by local teams. The designs can be used as part of the early years learning experience about environmental and sustainable design.

Full detail of the Mechanical and Electrical proposals are available within Appendix G

SECTION 4.0 - Supporting Consultants

4.3 Fire Consultant

JGA have completed a Fire Engineering Review of the proposed single store Early Years Centre. The summary of the results of the review with regards to the key fire strategy issues is included within the appendix H. The next stage would be to review the site plan before preparing a Fire Strategy Report (if required) summarising the proposed fire strategy.

Full detail of key fire strategy issues are included within Appendix H.

Due to the very nature of the Early Years Centres the appropriate acoustic environment is particularly important.

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'. Achieving BB93 requirements.

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 in detail within the Acoustic Report appended to this document.

Please refer to Appendix I for further detail relating to the Acoustic report.

SECTION 4.0 - Supporting Consultants

4.5 Interior Design Consultant

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
- A hight quality linoleum flooring is used, with the correct slip resistance and suitable for the underfloor heating system
- The flooring should be detailed with cove formed skirting and run up to dado height for lower wall durability, and ease of cleaning
- Acoustic wall tiles are used to help sound absorption and reduce reverberation times
- Fitted joinery formed in solid colour wood fibre 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

Further detail of the design proposals are available within Appendix J.