

# Proposed 1.5FE Primary School, Penyffordd Design Presentation to Penyffordd Community Council



07.09.17

## Introductions

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Lovelock Mitchell Architects

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Ryder Landscape



## 1.0 – Initial Programme

- Design Stage (RIBA Stage 1) commenced on 04.05.17
- Planning Programme
  - Pre Application process commenced on 03.07.17 concluding on 28.07.17
  - Target Planning Application submission date 14.08.17
- Meeting with Community Council held on 26.07.17
- Presentation given to the Design Commission for Wales on 13.07.17
- Report from the commission issued on 02.08.17



## 2.0 – Key Concerns derived from the Pre-Application Process

### Community

- Traffic Impact
- Building location
- Architecture
- Materials
- Roofscape



### Design Commission for Wales

- Materials



## 1.0 – Traffic Impact

## 2.0 – The External Realm

- The Site
- Crime Prevention / Security
- Site Boundaries

## 3.0 – Building Design

- Architectural Constraints
- Concept Genesis
- GA Plans
- Built Form

## 4.0 – Sustainability

## 5.0 – Visualisations

## 6.0 – Summary



## Residents concerns with the impact of additional traffic

- Development of a Transport Statement.
- Commissioned a full 'Traffic Impact Assessment'
  - Mott Macdonald
  - Traffic Surveys commencing 6<sup>th</sup> September
    - Will cover both existing sites
    - Key arterial routes to the site
    - Immediate environs of the school
    - Key junctions around the school and on the approach to the estate roads.
- The school are currently developing an active Travel Plan.
- A full survey of current school transport modes has been completed.
- The proposed planning application submission date has been changed.
  - We will review the conclusions and incorporate the recommendations of the TIA prior to submission of the formal planning application.
- Current target date for completion of the report is the 22<sup>nd</sup> September 2017.

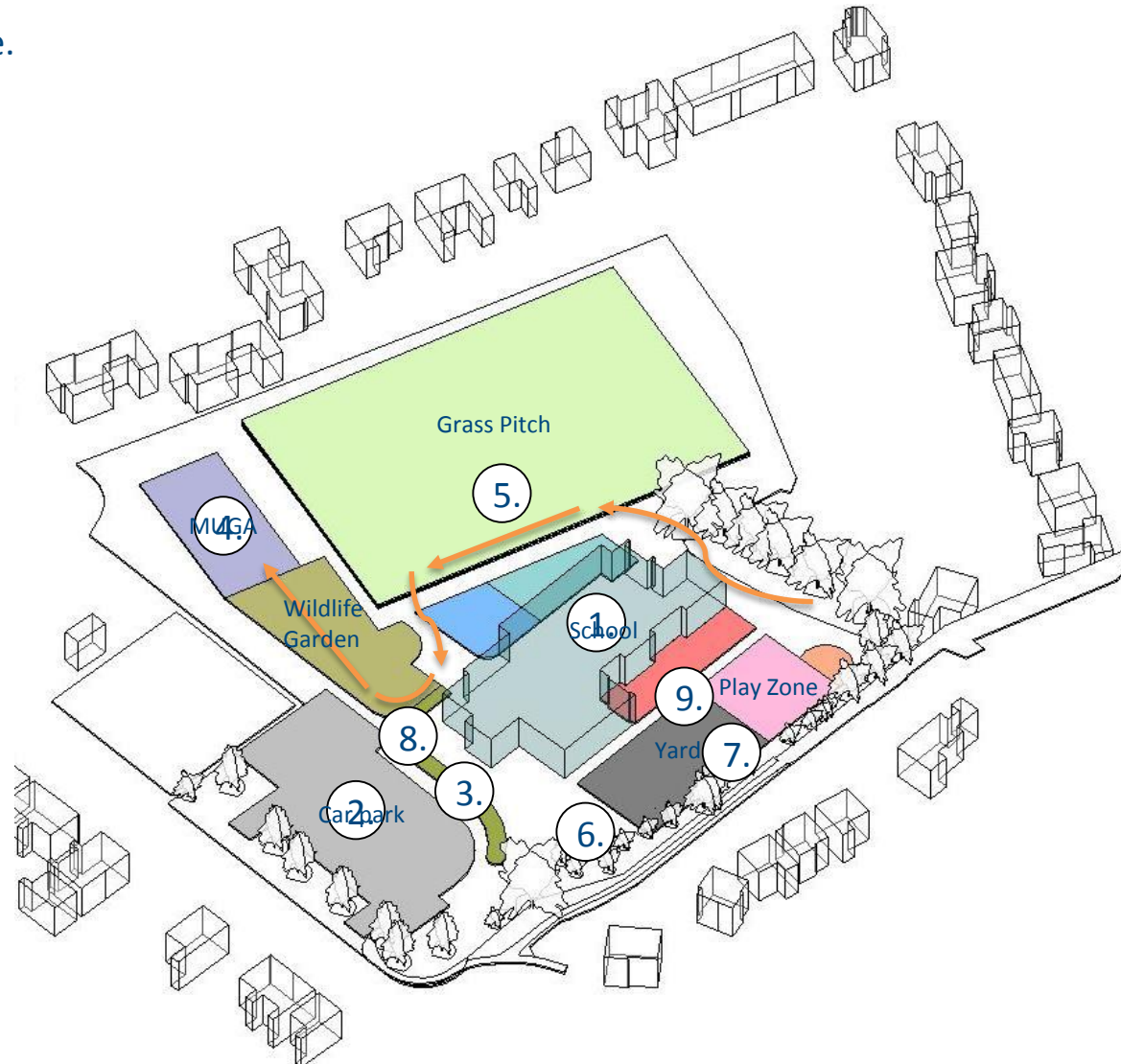
## 2.0 External Realm – The Site

### Pro's :

1. Building located centrally in the site.
2. Positive Link between Car Park and Main entrance.

### Con's :

3. Loss of central tree belt, trees approx. 150 years old. Potential challenge from planning
4. Playground adjacencies are not successful.
5. Access between KS2 and MUGA would require crossing the secure boundary via the pitch.
6. Services (sprinkler, bin store and PV battery) would be located on the western boundary.
7. Construction compound would be located along western boundary.
8. Additional fill required around the main entrance, increasing construction traffic
9. Main play area adjacent to existing properties increasing Noise pollution.



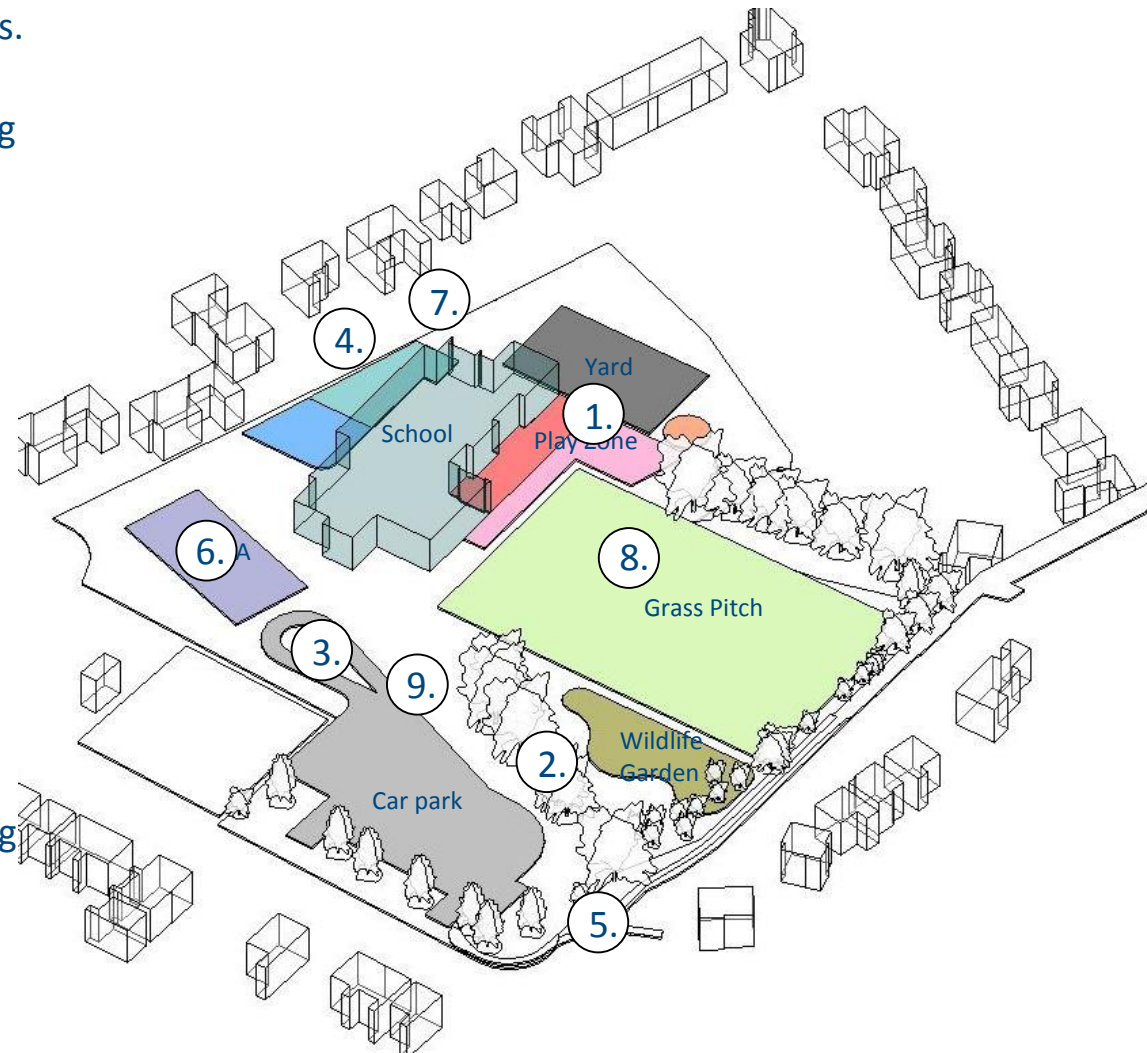
## 2.0 External Realm – The Site

### Pro's

1. Cohesive layout of year group spaces.
2. Retained central belt of trees.
3. Potential to extend drop off / turning head.

### Con's

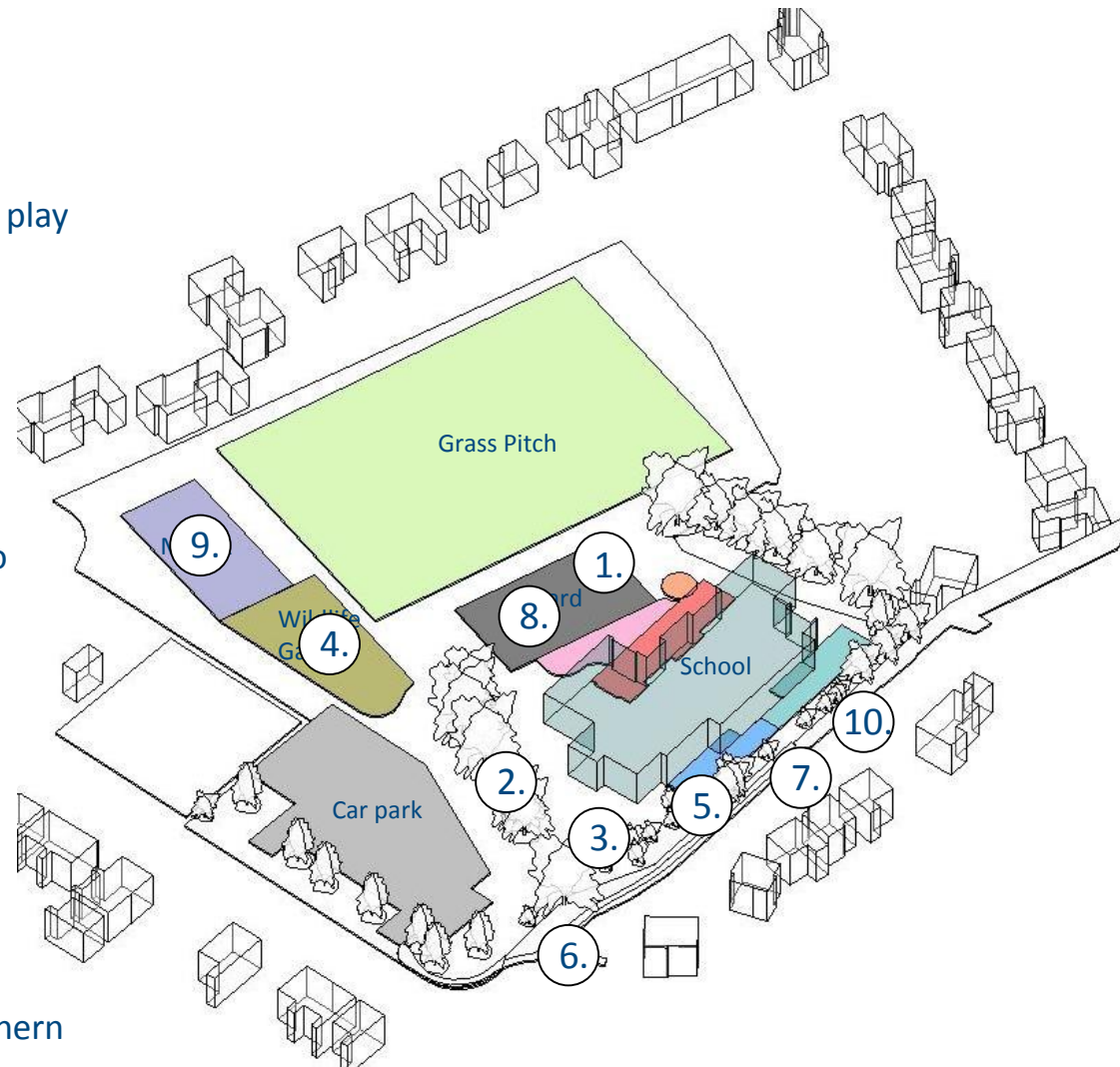
4. School located along residential boundary with limited established screening vegetation.
5. Disconnect between the Main Entrance and public site access points.
6. MUGA is disconnected from KS2 external play.
7. School building does not benefit from existing trees providing an established setting.
8. Substantial earthworks required to accommodate the new pitch, increasing construction traffic
9. Substantial earthworks required to accommodate the extended drop off, increasing construction traffic
10. Loss of Community Sports provision.



## 2.0 External Realm – The Site

### Pro's

1. Cohesive layout of year group spaces
2. Retention of central tree belt
3. The school building benefits from an established arboreal setting and screening
4. Wildlife garden is an integral part of the play spaces
5. The school building forms part of the Secure Boundary Line
6. Site legibility benefits from reception being easily accessed by the pedestrian boulevard.
7. No negative impact on 'Right to Light' to adjacent properties
8. Main play area for KS 1 & 2 located centrally minimising noise pollution to adjacent properties



### Con's

9. On a temporary basis the school will lose part of the existing play space during construction – overcome by creating MUGA first
10. Building proximity to western and southern boundary, however fully compliant with planning guidance on space around dwellings



### Key Considerations:

1. Meeting the Crime Prevention Officer, recommendations :
  - Retain existing front boundary vegetation
  - 1.8m high weld mesh fence is adequate as external boundary treatment
  - Cut back over hanging branches
  - Fill in gaps identified within existing vegetation
  - Retain boundary vegetation along Public footpath
  - Offset new fence line from existing vegetation
2. Allowing natural surveillance where possible
3. Maintain community use



# 2.0 Site Boundaries

Park Cres : retain existing frontage vegetation

Bowling Green : retained boundary

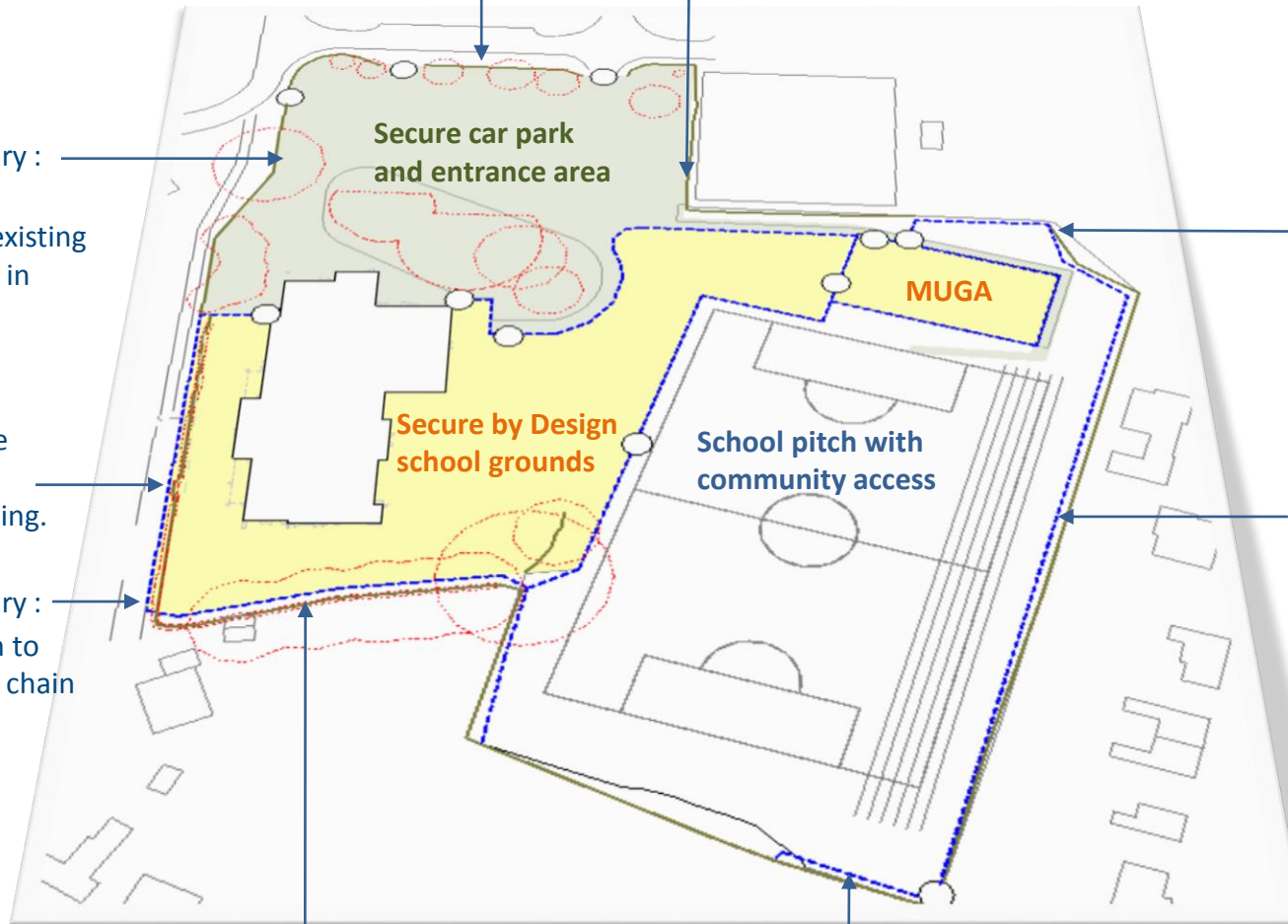
Eastern Boundary :  
New hedgerow  
planting along existing  
fence line to tie in  
with existing.

Gaps in existing  
vegetation to be  
infilled with  
hedgerow planting.

Eastern Boundary :  
New weld mesh to  
replace existing chain  
link fence.

New weld mesh fence in front of  
existing boundary vegetation.

Palisade fencing considered adequate,  
sections with chain link fencing  
reinforced with new weld mesh fence

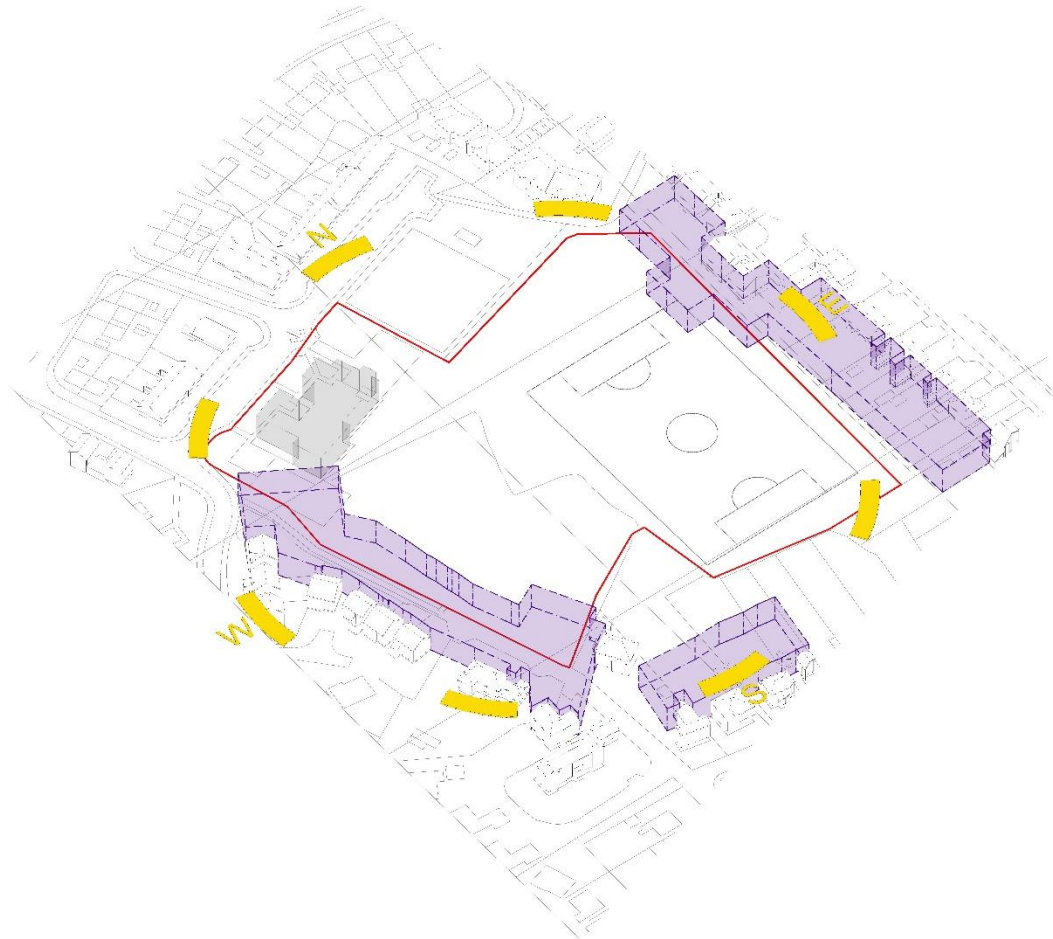


Corner : identified  
for infill planting  
and new fencing.

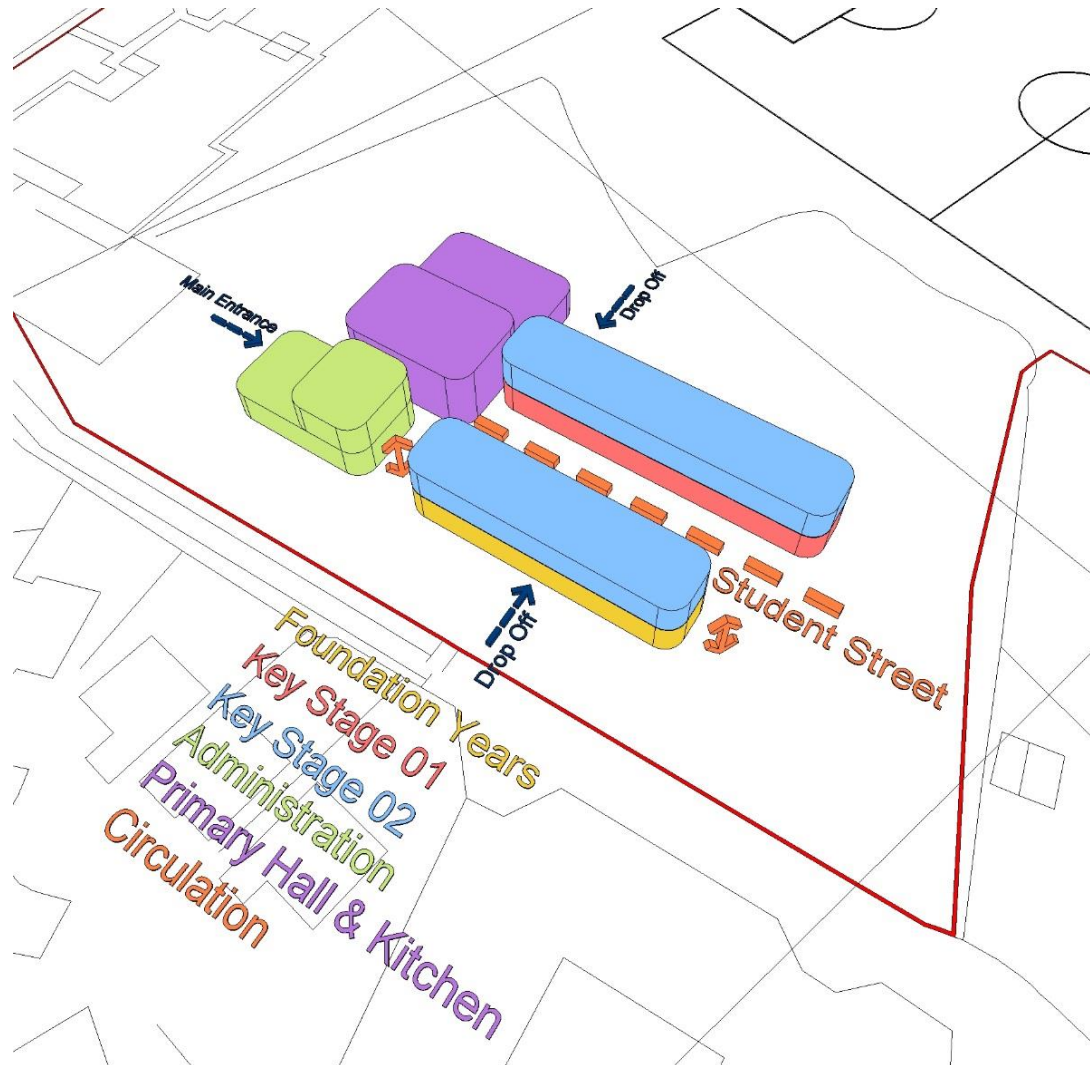
Western  
residential  
boundary :  
reinforced with  
weld mesh fence



## Architectural Constraints



## Concept Genesis



# 3.0 Building Design

## GA Plan – Ground Floor

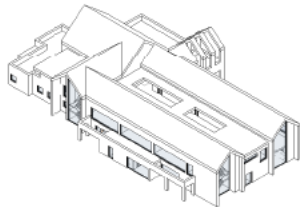
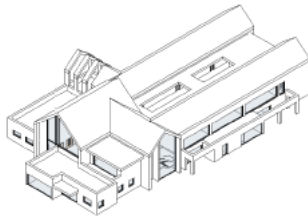
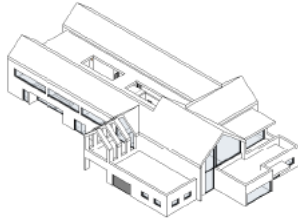


# 3.0 Building Design

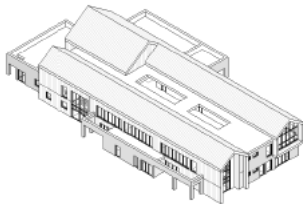
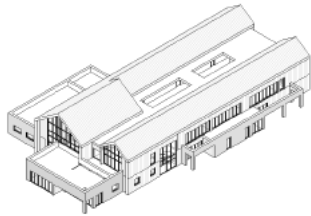
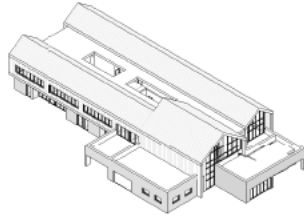
## GA Plan – First Floor



## Built Form



## Built Form





## Material Palette

### Principal Materials



Standing Seam Cladding

Render Cladding

### Background Materials

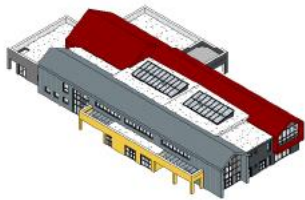
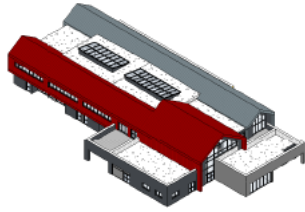


Natural Slate Cladding

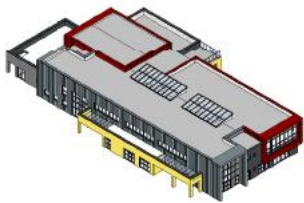
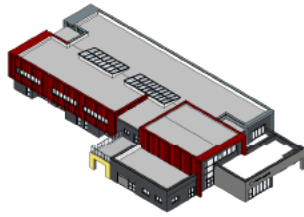


Weatherboarding

## Built Form



## Built Form



## Material Palette

### Principal Materials



Standing Seam roof Cladding



HPL Timber effect Cladding



Render Cladding

### Background Materials



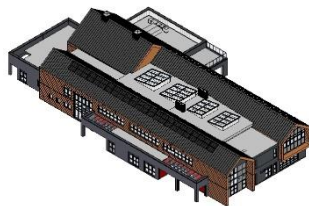
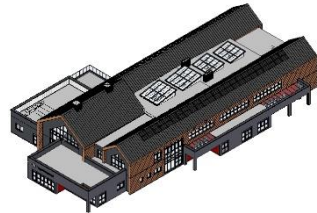
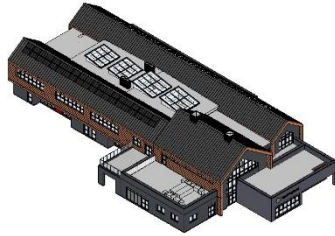
Natural Slate Cladding



Weatherboarding

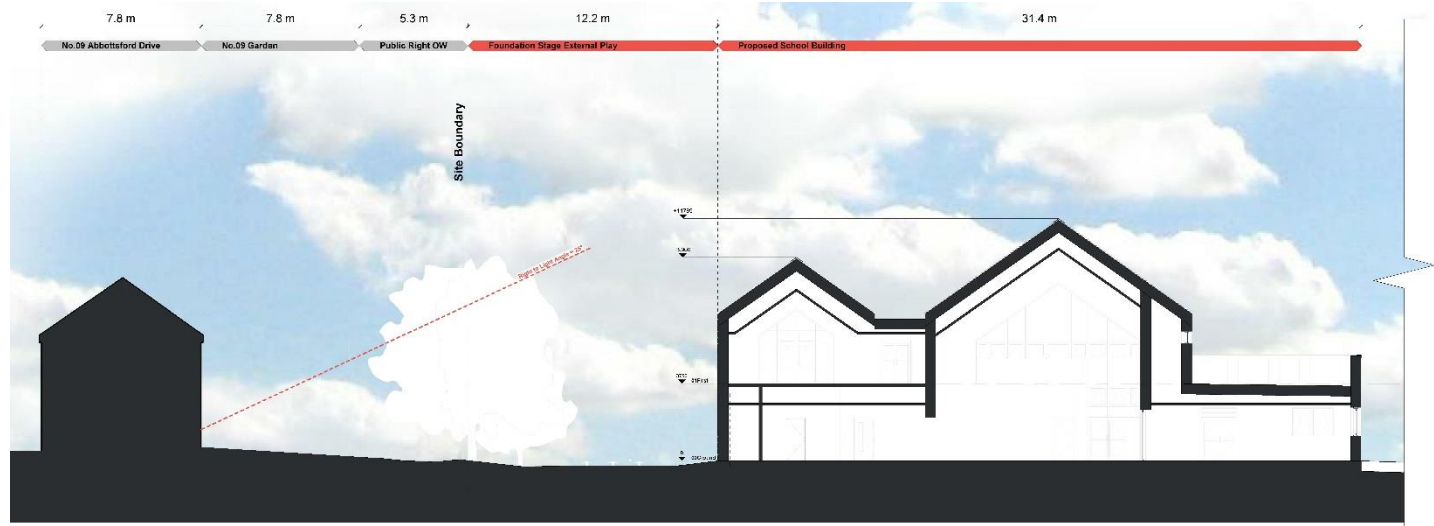


## Built Form

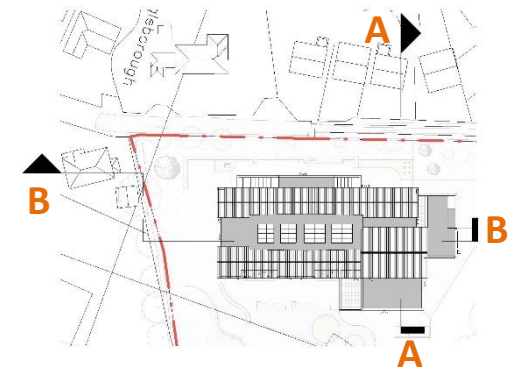
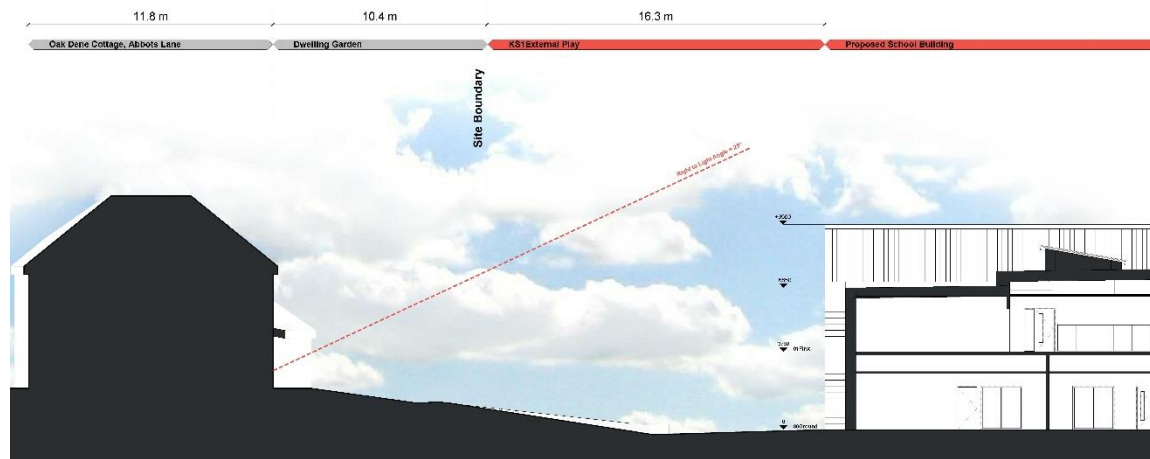


## Site Sections (Based upon OS Data)

Section A



Section B





# 4.0 Sustainability

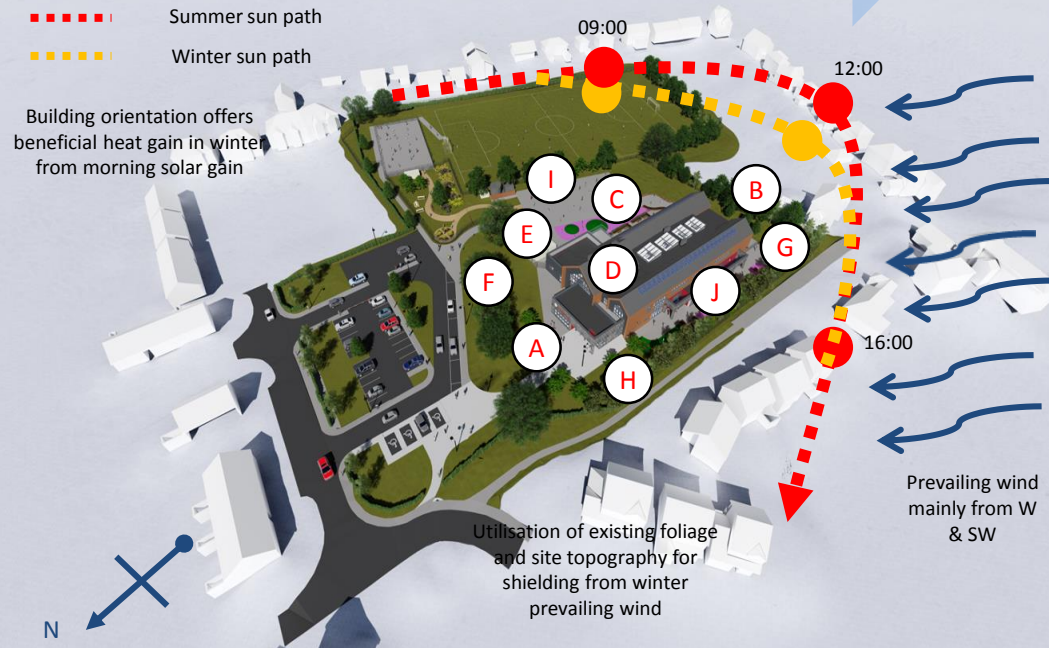
## THE ENERGY HIEARCHY

**REDUCE ENERGY DEMAND**

**MEETING ENERGY DEMAND EFFICIENTLY**

**PROVISION OF ON-SITE RENEWABLE ENERGY TECHNOLOGY**

## APPROACH TO LOW ENERGY BUILDINGS IN DESIGN AND USE



- A** Building orientation to the north limits heat loss from exposed façade in winter, protecting classroom areas. Limited classrooms with a south orientation reduced excessive heat gains in summer. Retaining existing foliage protects building from prevailing winter winds.
- B** Solar shading incorporated into building design via natural eaves and fixed solar shading to south aspect glazing
- C** High Thermal performance façade with low U-values and high air tightness for reducing heat loss in winter
- D** Maximisation of daylighting through careful design and selection of fenestration inc: size, glazing specification (g-value/LTV etc). North lights to Atrium to provide permanent quality (no glare) daylight all year round
- E** Natural ventilation to be employed as primary ventilation system reducing the need for mechanical cooling
- F** High efficiency heating plant including gas fired boiler plant and pumps
- G** High efficiency lighting and automatic controls
- H** Provision of heat recovery ventilation systems where required to ensure energy conservation in winter/heating season
- I** Provision of automatic controls systems to monitor and target energy consumption against benchmarks
- J** On site roof mounted Photovoltaics cells together with battery storage facility.

REDUCING ENERGY DEMAND

MEETING ENERGY DEMAND EFFICIENTLY

RENEWABLES

- I** Low energy low maintenance building that is simple to use, operate and maintain
- H** Fabric first approach to sustainability using passive measures as first principles
- G** 'A' Rated EPC and BREEAM Excellent rating is a requirement of the Client brief / Welsh Government Funding

## 3D Visualisations



## 3D Visualisations





## 3D Visualisations



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## 3D Visualisations



## 3D Visualisations





## 3D Visualisations



## 3D Visualisations





## 3D Visualisations



## 3D Visualisations





# 6.0 Summary

We have considered all Community and Design Commission feedback provided during the Pre-Application process and, where feasible and appropriate have endeavoured to address shared concerns.

## Traffic

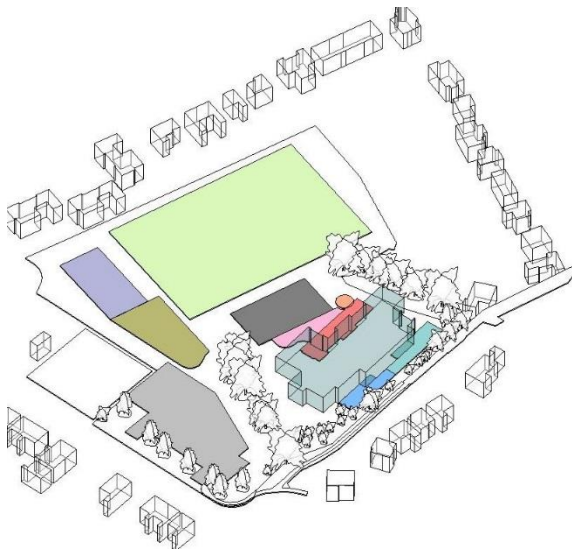
- A full Traffic Impact Assessment is currently being carried out. This will drive the final proposals for the site access, parking arrangements and any associated works to the highways infrastructure.

## Site Layout

- Conclusion of the site analysis has further reinforced the ideal building location and associated external realm adjacencies is as originally designed. This arrangement ensures the most effective environment for Education.

## Aesthetic

- Further consideration of building aesthetics based on community & DCfW feedback has concluded with a pitched roof option and a more traditional palette of materials.



Thank you for listening

