



KELLYVILLE SOUTH PUBLIC SCHOOL

21 – 23 Fairway Drive
Kellyville NSW 2155

Urban Design Report

For

NSW Department of Education

Rev B
February 2017
Project No. 15 0851

Tanner Kibble Denton Architects Pty Ltd
ABN 77 001 209 392

NSW Nominated Architects
Robert Denton Registration No 5782
Alex Kibble Registration No 6015

PO Box 660 Darlinghurst NSW 1300 Australia
52 Albion St, Surry Hills NSW 2010 Australia
T +61 2 9281 4399
F +61 2 9281 4337
www.tkda.com.au

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Issue	Date	Status	Author	Approved
P1	02/12/16	Preliminary Issue for Review	IB	RD
A	15/12/16	Issue for SSD	IB	RD
B	07/02/17	Issue for SSD	IB	RD

1.0 Introduction

This Urban Report has been prepared by Tanner Kibble Denton Architects on behalf of the New South Wales Department of Education (the 'Applicant'). It accompanies an Environmental Impact Statement (EIS) prepared in support of State Significant Development Application SSD 16_7787 for the development of 'Kellyville South Public School' at Nos. 21-23 Fairway Drive, Kellyville (the 'site').

The site, Lot 11 DP 247442 and Lot 501 DP 1130020 is located within the Hills Shire Local Government Area at the Balmoral Road Release Area. The site is rectangular in shape, has a total area of 35,004m² and contains a 180m street frontage to Fairway Drive to the east.

Kellyville South Public School (the 'School') is proposed to facilitate up-to 1000 students to take enrolment pressure off surrounding primary schools exceeding student capacity. The primary school will contain high quality classrooms, collaborative learning spaces, open play spaces, sports courts and associated facilities.

The purpose of this Urban Design Report is to analyse the existing urban character and provide a summary of the urban design response and strategies incorporated into Kellyville South Public School as detailed within the EIS.

2.0 Project Background

2.1 The Site

The site is located at 21 and 23 Fairway Drive, Kellyville NSW 2155 and located over the following sites:

- > Lot 11 DP 247442 & Lot 501 DP 1130020

Kellyville is located 33km north-west of the Sydney central business district, in the local government area of The Hills Shire. The existing site is approximately 3.5 hectares in area.

2.2 General Project Description

The objective of this project is to provide a new 40 home base, 1000 student public school catering for students in Years K to 6 in response to projected enrolment growth in the suburbs around Bella Vista and Kellyville in North Western Sydney.

2.3 Background

The new school is located in one of Sydney's highest growth areas. It is adjacent to the North West Growth Centre, one of two strategic growth corridors established by NSW Government in the early 2000's to meet housing shortages in and around Sydney. Growth continues at above average levels in the area with The Hills Shire Council forecasting population growth of almost 41% across The Hills District from the 2011 census to 2036.

Significant population growth in the LGA has already put significant pressure on existing schools in the area. The new school will allow for DoE to re-align school catchment boundaries to create a new catchment area and take enrolment pressure off existing schools. The catchment area will take in parts of the suburbs of Baulkham Hills, Kellyville and Bella Vista.

3.0 Site Analysis

3.1 Existing Urban Character

The site and surrounding area is currently characterised by large semi-rural family house allotments and hobby farms. The site largely consists of grassed paddocks spread below remnant native canopy trees with minimal understorey planting.

The site for Kellyville South Public School is located within a rapidly developing area of western Sydney. The site is located within the Bella Vista Station Precinct and is part of the Sydney Metro Northwest Priority Urban Renewal Corridor, which aims to create new centres around the Sydney Metro Northwest stations.

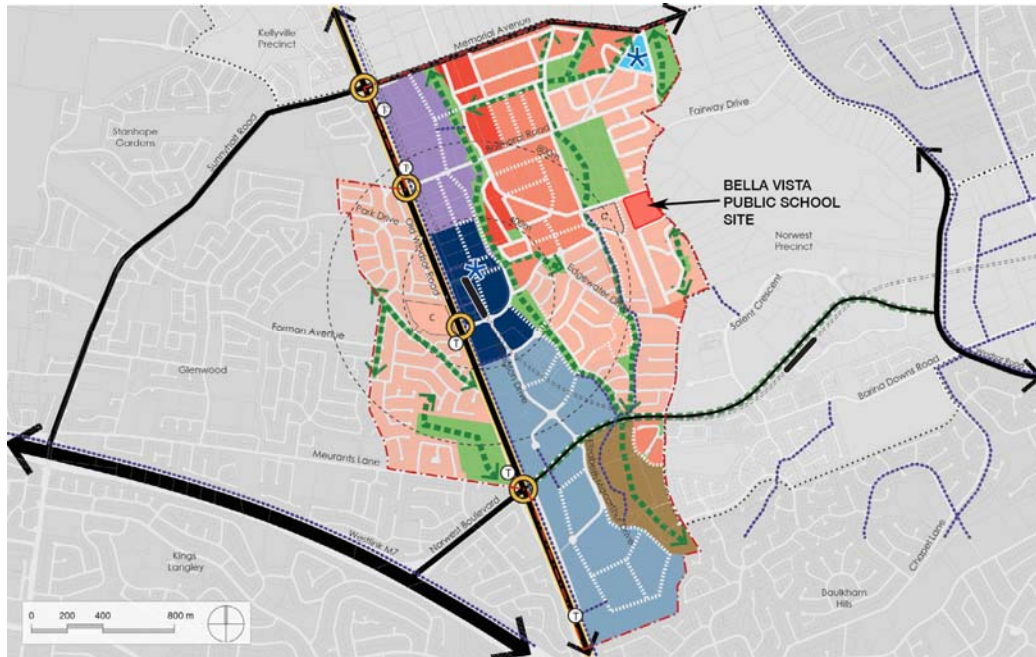
The site is in an area of transition. Selected areas around the site have been subdivided and are being developed into higher density two storey residential individual housing on smaller suburban lots. The area around the school is zoned to be developed in this way with two storey residential development surrounding the site.

A large area of land to the north west of the site and across Free Settlers Drive is to be developed by The Hills Shire Council into the Balmoral Road Sports Complex, consisting of 2 multi-purpose sports fields, 2 soccer fields, 2 cricket fields, 6 tennis courts, car parking and toilet amenities.

The urban character of the area is rapidly changing into a higher density suburban community. The school will provide a key service for this newly forming community to access and utilise.



The existing site consists largely of grassed paddocks spread below remnant native canopy trees with minimal understorey planting



Bella Vista Station Precinct Proposal, NSW Department of Planning & Environment



Balmoral Road Sports Complex Master Plan, The Hills Shire Council

3.2 Landform

The site is a naturally occurring sloping site that falls from west to east. The high point of the site is located at the centre of the western boundary and falls to the north east by approximately 8m and falls to the south east by approximately 12.5m. Site water naturally drains down this slope to a naturally occurring water course locating outside the site and to the east.

The eastern edge of the site has a steep embankment down to Fairway Drive which creates a natural barrier to accessing the site.



Steep embankment from Fairway Drive onto the site

3.3 Street Network

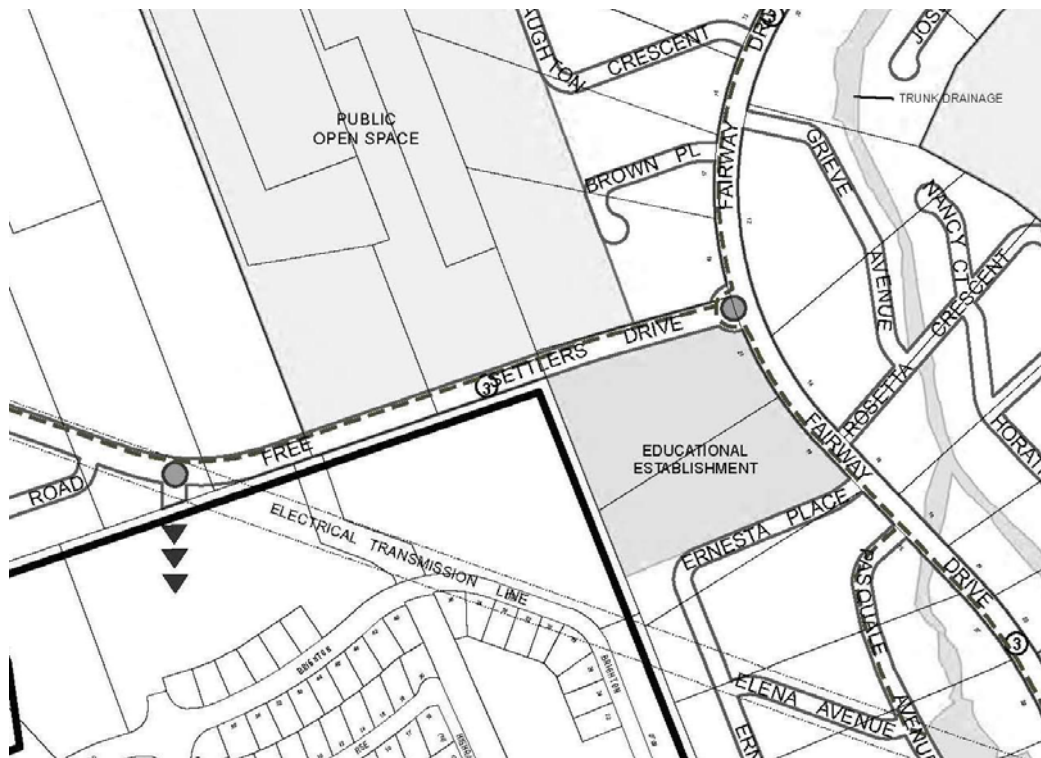
The existing site is bound by Fairway Drive to the east.

Roads around the site are currently being developed in accordance with The Hills Development Control Plan 2012 Part D Section 7 Balmoral Road Release Area.

Fairway Drive will be upgraded to an Enhanced Collector Road with a 12m wide carriageway within a 20m wide corridor allowing for cycle path and landscaping.

Free Settlers Drive is a new road that will be constructed to the north as an Enhanced Collector Road. Ernesta Place will be constructed to the south as Collector Road with a 9.5m wide carriageway within a 16.5m wide corridor.

A cycle path is to be located on the schools side of Fairway Drive and the opposite side of Free Settlers Drive.



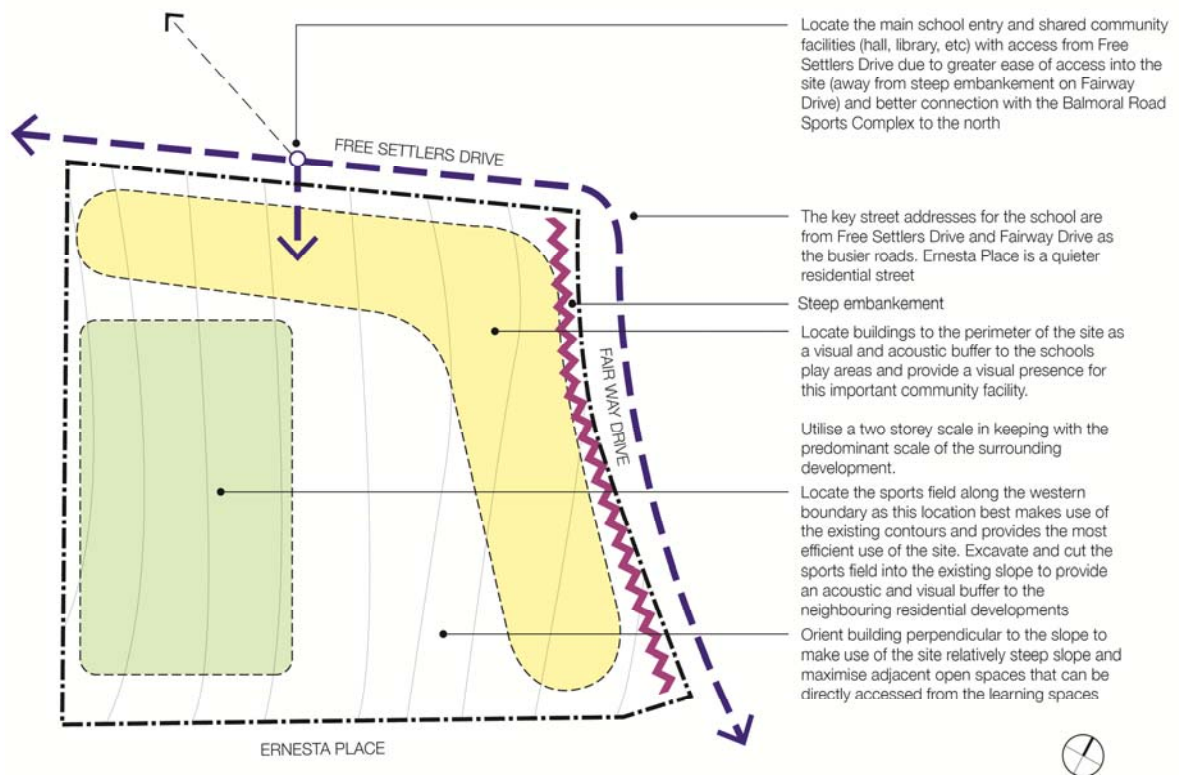
Extract from The Hills Development Control Plan 2012 Part D Section 7 Balmoral Road Release Area

4.0 Opportunities & Constraints

4.1 Opportunities & Constraints

Based on the analysis of the site provided above the following urban opportunities and constraints have been identified:

- > Utilise a two storey scale in keeping with the predominate scale of the surrounding development
- > The key street addresses for the school are from Free Settlers Drive and Fairway Drive as the busier roads. Ernesta Place is a quieter residential street
- > Locate the main school entry and shared community facilities (hall, library, etc) with access from Free Settlers Drive due to greater ease of access into the site (away from steep embankment on Fairway Drive) and potential to link with the Balmoral Road Sports Complex to the north
- > Locate buildings to the perimeter of the site as a visual and acoustic buffer to the schools play areas and provide a visual presence for this important community facility
- > Locate the schools shared sporting facilities (sports field and hall) on the western side of the site to provide a better connection to the Balmoral Road Sports Complex
- > Locate bus stops, kiss-n-drop and car parking on separate roads to reduce potential for congestion
- > Orient buildings perpendicular to the slope to make use of the sites relatively steep slope and maximise adjacent open spaces that can be directly accessed from the buildings learning spaces
- > Locate the sports field along the western boundary as this location best makes use of the existing contours and provides the most efficient use of the site. Excavate and cut the sports field into the existing slope to provide an acoustic and visual buffer to the neighbouring residential developments



Urban Design Opportunities & Constraints

5.0 Concept Design Options

In consideration of the Urban Design opportunities and constraints identified, a number of concept design options were tested.

5.1 Option 1

This option locates a 2 storey building form along the western boundary and Free Settlers Drive. The main teaching spaces are conceived as 'fingers' that cantilever over the sloping landscape. The sports field and hall are located on the eastern side of the site.

The following advantages and disadvantages were identified for this option:

- > The teaching spaces perpendicular to the slope means that direct connections from internal spaces to the outside are difficult
- > The two storey scale of the building is located adjacent to residential neighbours on the western boundary with the impact of overshadowing and overlooking from the school and loss of views for neighbours
- > Due to the shape and slope of the site, the sports field isolates a large triangular area of the site, between the sports field and Fairway Drive, and reduces the overall area of play space available to the school
- > The sports field and play spaces are less protected from surrounding roads
- > The bulk of the school is set back from the primary street addresses and the schools community presence reduced



Site Plan – Option 1

5.2 Option 2

This option locates a larger scale building of 2-3 storeys on the primary corner to Fairway Drive and Free Settlers Drive. The sports field and hall are located on the western side of the site.

The following advantages and disadvantages were identified for this option:

- > The higher scale of this option means that teaching spaces are less connected to the external spaces
- > Most of the building is located away from residential neighbours with reduced environmental impact
- > The building is located on a primary street corner with good community presence
- > The sports field location provides the most efficient use of the site and maximises the overall area of play space available to the school
- > The sports field and play spaces are better visually and acoustically protected from surrounding roads



Site Plan – Option 2

5.3 Option 3 – Preferred Option

This option provides 2 storey building wings that generally follow the contours of the site and terrace down the slope of the site. The 2 wings of the building create a central courtyard space and covered outdoor area that are a focus for the school. The sports field and hall are located on the western side of the site.

The following advantages and disadvantages were identified for this option:

- > The building wings terrace down the site and have good connections to the adjacent external spaces
- > Most of the building is located away from residential neighbours with reduced environmental impact
- > The building is located on a primary street addresses with good community presence
- > The sports field location provides the most efficient use of the site and maximises the overall area of play space available to the school
- > The sports field and play spaces are better visually and acoustically protected from surrounding roads

For the advantages described above, Option 3 was determined to respond best to the Urban Design opportunities and constraints and provide the best educational outcomes for the school. This is the preferred option and has been pursued for the SSDA.



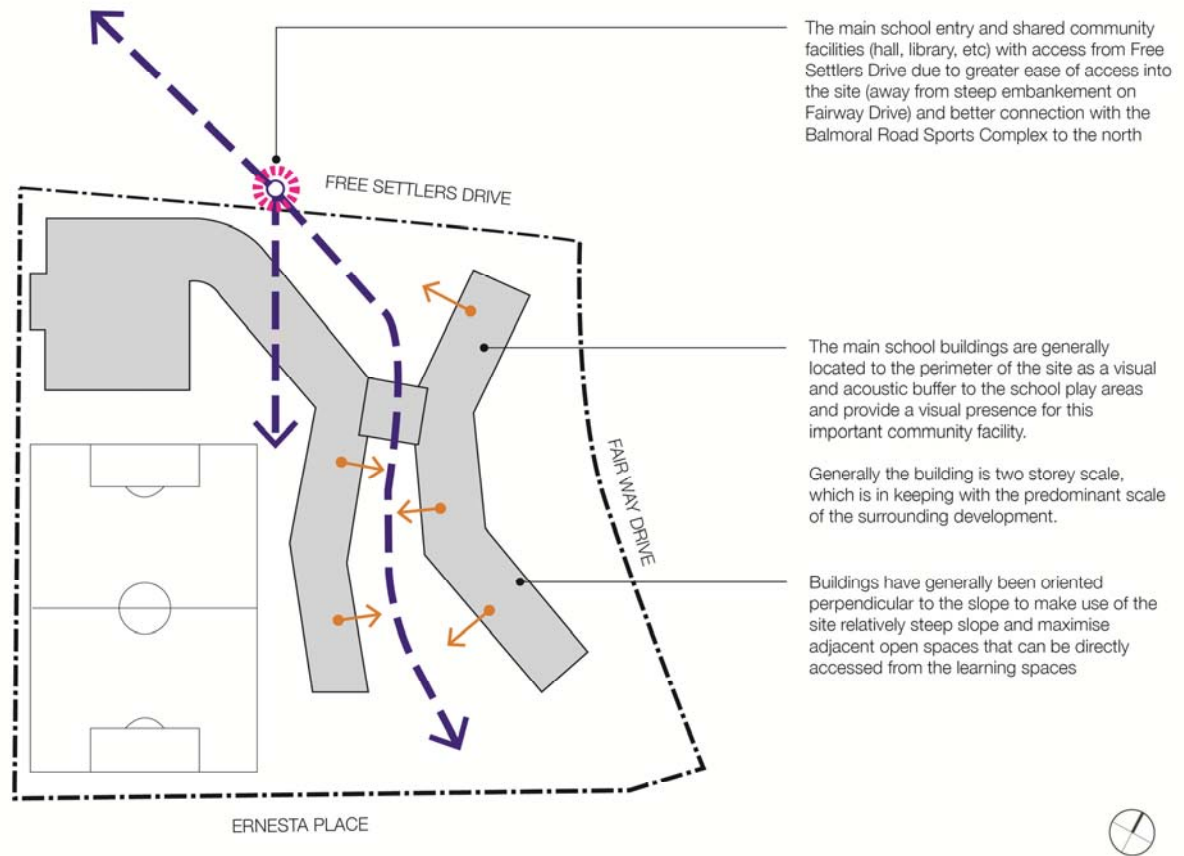
Site Plan – Option 3

6.0 Design Proposal

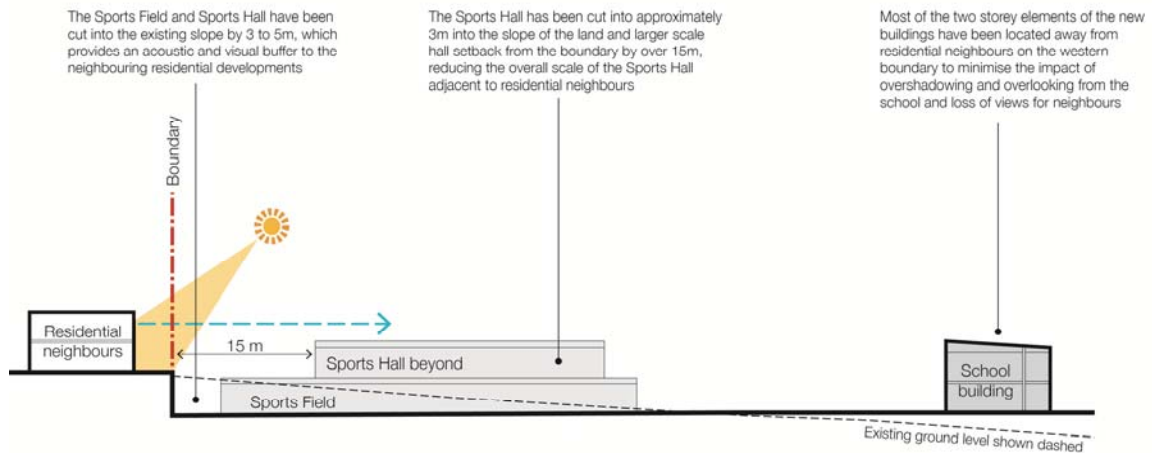
6.1 Urban Design considerations incorporated into the Design Proposal

The Design Proposal incorporates the following Urban Design considerations:

- > The building is primarily two storeys in scale, which is in keeping with the predominate scale of the surrounding development.
- > The main school entry and shared community facilities (hall, library, etc) are accessed from Free Settlers Drive due to greater ease of access into the site (away from the steep embankment on Fairway Drive) and to link with the Balmoral Road Sports Complex to the north
- > The main school buildings are generally located to the perimeter of the site as a visual and acoustic buffer to the schools play areas and to provide a visual presence for this important community facility
- > The schools shared sporting facilities (sports field and hall) are located on the western side of the site to provide a better connection to the Balmoral Road Sports Complex
- > The bus stops, kiss-n-drop and car parking are located on separate roads to reduce potential for congestion
- > Buildings have generally been orientated perpendicular to the slope to make use of the sites relatively steep slope and maximise adjacent open spaces that can be directly accessed from the learning spaces



- > The sports field has been located along the western boundary as this location best makes use of the existing contours and provides the most efficient use of the site.
- > The sports field and sports hall has been cut into the existing slope by 3 to 5m, which provides an acoustic and visual buffer to the neighbouring residential developments.
- > The Sports Hall requires an internal clear height of 7m for competition level basketball. The Sports Hall has been cut in approximately 3m into the slope of the land and larger scale hall setback from the boundary by over 15m, reducing the overall scale of the sports hall adjacent to residential neighbours
- > Most of the two storey elements of the new buildings have been located away from residential neighbours on the western boundary to minimise the impact of overshadowing and overlooking from the school and loss of views for neighbours



6.2 Facade Design and Materials

The building design utilises durable and low maintenance materials. Face brick is a rugged and hardwearing material which is generally provided at the lower levels of the building and where the facade can be accessed. Metal wall sheeting is generally used at the higher and inaccessible locations of the facade. A timber grain laminate cladding is used on the southern ends of the buildings as a richer material on the building facing Ernesta Place.

The spaces within the building are naturally ventilated and the building width has been minimised to encourage good cross ventilation. Windows have been maximised to provide good levels of natural light and high level operable louvres incorporated for ventilation.

Due to the site topography, the buildings are predominantly aligned north south, meaning that the longer building facades are orientated to the east and west. Horizontal and vertical sun shading has been incorporated over window areas to protect the building from direct sun penetration. Vertical blades have been coloured to create a vibrant façade treatment and signify the buildings use as a school.

6.3 Crime Prevention through Environmental Design (CPTED)

The following environmental design features have been incorporated to minimise crime:

- > The internal spaces of the school are open and visible from the surrounding public street network, providing good natural surveillance.
- > The shared use of the sports hall and sports field will ensure that there are people on site for large periods of the day and providing greater natural surveillance of the school.
- > Building alcoves and areas for hiding in the landscape have been minimised.
- > An open palisade fence will be provided that allows views into the site.

6.4 Integration of Services

Services have been integrated into the building design and have minimal impact. A summary of the main building services is provided below:

Electrical

- > A padmount substation is required to provide power to the site, with access from the street, and this has been located at the north west corner adjacent to Free Settlers Drive.
- > The main switchboard and electrical distribution boards have been located in cupboards and integrated into the building design.

Mechanical

- > There is no air conditioning proposed, except for a small split system required for the Communications Room.
- > Mechanical exhaust is provided where required to toilets and is integrated into the building design.
- > Gas flued heaters are provided to occupied spaces and are integrated into the building design.

Hydraulic

- > Fire hydrant water tanks, pump and booster are required to service the site and these have been located at the north west corner adjacent to Free Settlers Drive. The main water and gas connection will be located adjacent.
- > Rain water collection tanks will be used for site irrigation and have been located on the western side of the sports hall. These tanks sit below the level of the hall and adjacent retaining wall to the neighbouring residences.
- > Water supply, drainage and sewer will all be integrated into the building design.

Civil

- > Stormwater pits and grates will be located around the site to pick-up site stormwater. The stormwater system drains into the main street stormwater system located along Fairway Drive.