

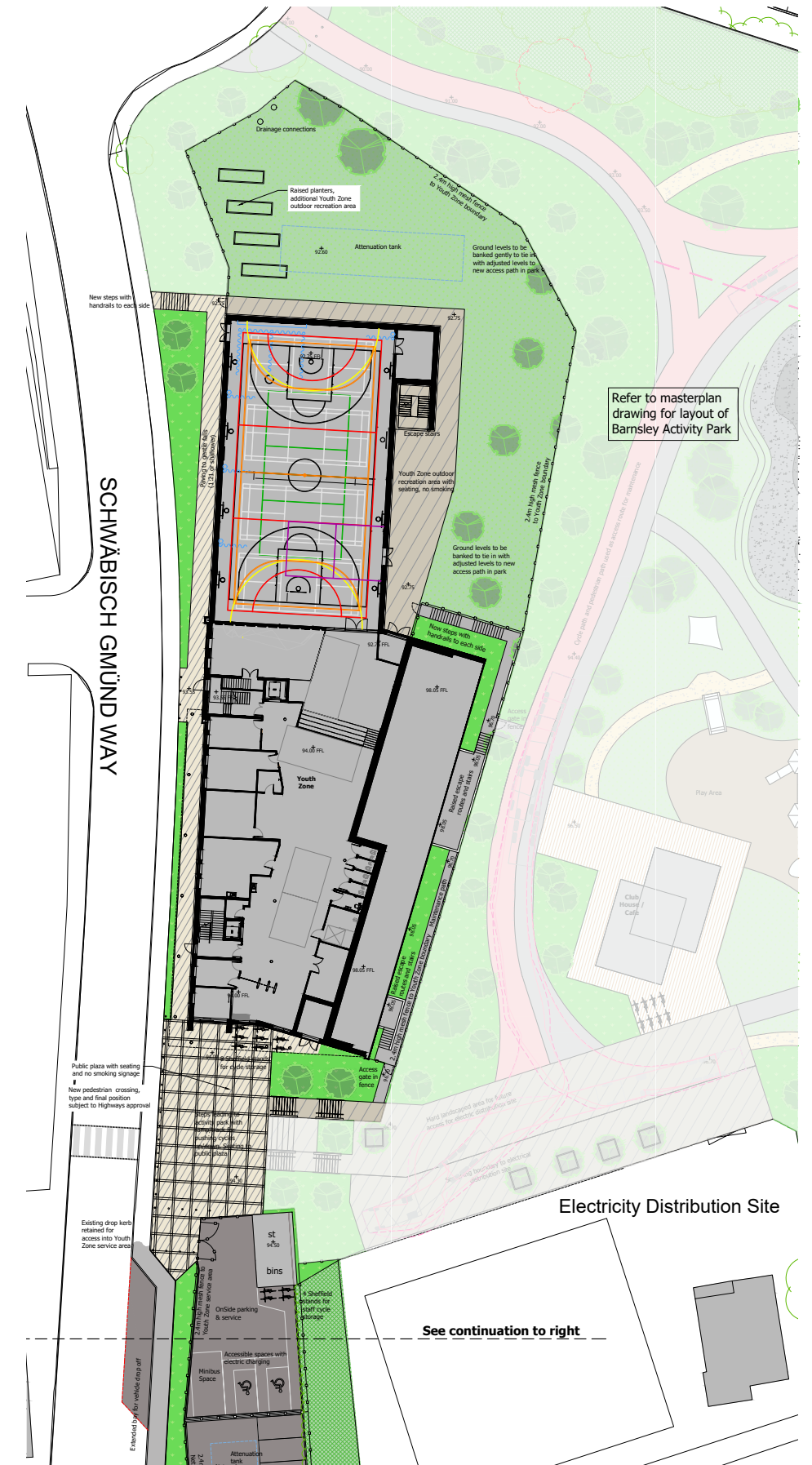
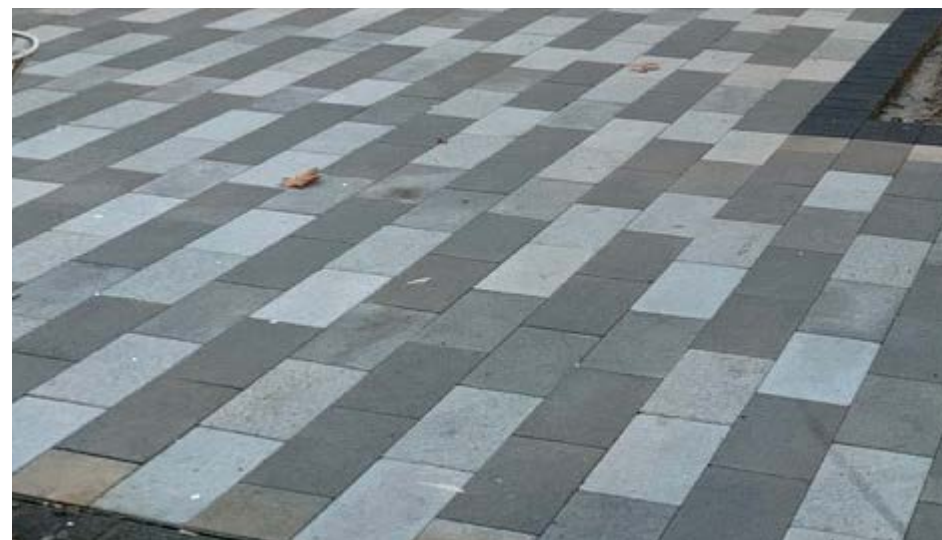
Section 6 Landscape Design

Landscape Proposal

The site has varying levels, with areas of banking, and former retaining walls with the small area to the south which is relatively flat and used as a car park for Network Rail. The road and foot path to the west follows the site levels, but falls away to the north with the banking forming this boundary. A small area of banking with some poor quality shrubs is located to the south around the parking area. The site is generally overgrown with self seeded plants interspersed with areas of hard standing.

Where the lower quality shrubs are to be removed by the proposals, these will be offset with new planting and an increased amount of soft landscaped areas to soften the site. It is proposed that wildflower meadow grass will be used in areas around the Youth Zone external amenity area along with some low maintenance shrub planting to the remainder of the site to soften the public facing boundaries

Hard landscaping will be designed to be attractive and tie in with wider proposals in the town centre, but still be distinctive to the Youth Zone and suitable for the young people. This could be the use of texture paving with some contrasting colours to form patterns to the public facing areas and with some tarmac to the recreation area.

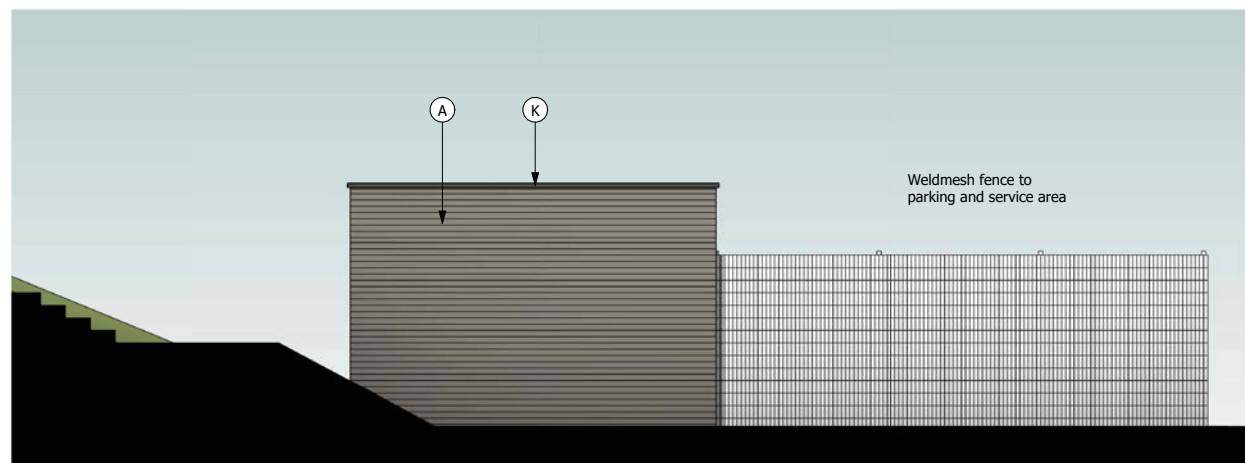


Boundary Treatment

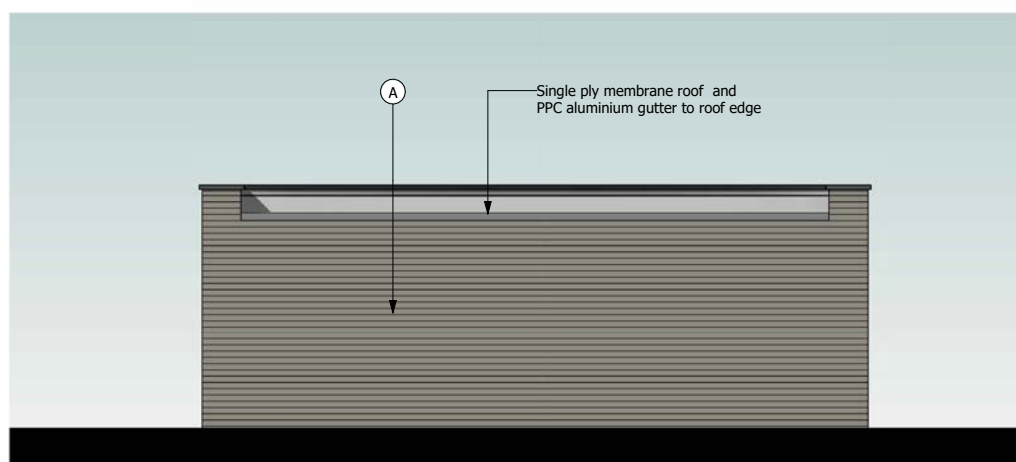
The site will be open to the front entrance and along Schwäbisch Gmünd Way, with some bollards and soft landscaping.

To the remainder of the site, from the south east corner of the building around to the north west corner of the sports hall, will be bound by a 2.4m perimeter fence along the boundary with some brick walls where escape stairs are located.

Just off the service area will be a small external brick building containing the bin stores and some maintenance storage. 4 no. 1100 ltr euro bins and 2no. 240ltr wheelie bins are proposed to be located within a designated, locked, refuse area which will have vehicular access from Schwäbisch Gmünd Way via the service yard.



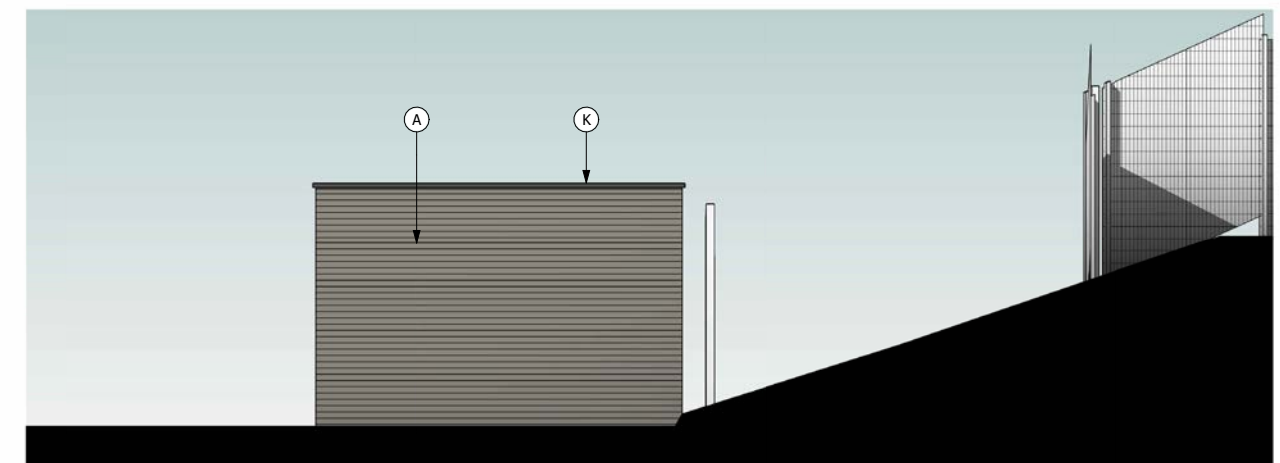
Store North Elevation



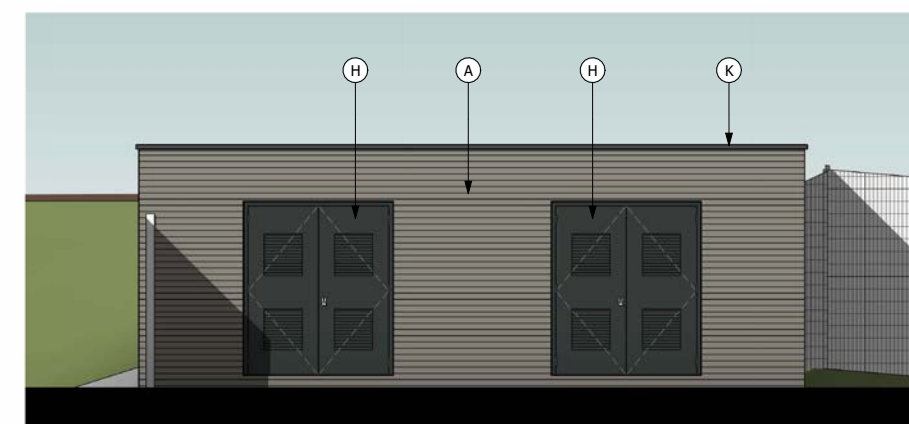
Store East Elevation

Materials Key

- (A) Dark grey brick with 10% mix of light grey brick
- (B) Dark grey brick
- (C) Light grey brick
- (D) Rockpanel mineral wool cladding, red RAL 3028, varying width boards
- (E) Rockpanel mineral wool cladding, black grey RAL 7021, with recessed feature lighting strips
- (F) PPC Aluminium / Rockpanel cladding, black grey RAL 7021
- (G) PPC Aluminium horizontal profiled cladding, black grey RAL 7021
- (H) PPC Aluminium glazing / curtain walling system / doors
- (J) Back lit polycarbonate glazing system
- (K) PPC Aluminium service doors, copings and flashings
- (L) Painted columns and exposed steelwork
- (M) Louvre plant screen
- (N) Black mesh fence to kick pitch with painted steel supporting structure



Store South Elevation



Store West Elevation

Transport & Accessibility
Transport

A major advantage of the site is its proximity to the town centre and local transport links. It can easily be accessed by a variety of modes, including on foot, by bus and train (with further walking from the nearby transport interchange). Further information on the sustainable credentials of the site is provided in the accompanying Transport Statement prepared by SK Transport Planning Ltd.

The site is exceptionally well located for access on foot and by bike as shown by the CERS and PERS analyses set out in the Transport Statement. The images under the site analysis section of this document summarise the position of the site relative to public transport links, and the supporting documentation confirms there are numerous bus and rail services that route via the interchange, which is located less than 100m from the site.

Site Accessibility

The OnSide Model is constantly evolving to reflect the changing requirements of its users. Consultation, reference and iteration are an essential part of this process. In particular, sustainable travel modes to and from the Youth Zone sites are a key consideration for OnSide, as well as the young people and staff who will visit the site. These matters have been considered in a separate Transport Statement that is included with the application.

In summary the site meets all the industry-standard accessibility guidance, being within 400m of public transport stops, as well as being easily accessible on foot with the town centre and a number of residential areas being within 2km of the site. The adjacent isochrone plan also confirms that the town and a number of surrounding villages fall within the accepted 5km cycle distance from the site.

The design iterations have all focused on delivering direct pedestrian and cycle access from Schwäbisch Gmünd Way, with the building orientated to have the main entrance at the southern end of the site to ensure the entrance is as close to being 'at grade' as possible to the existing footway on Schwäbisch Gmünd Way. Orientating the entrance to the building this way also respects the pedestrian desire line to the nearby interchange, providing visitor and staff with easy, direct access via a new formal Zebra crossing on Schwäbisch Gmünd Way.

Cycle parking for staff and visitors will also be provided adjacent to the entrance to the building. Seven Sheffield cycle stands will provide parking for 14 bicycles, and in line with OnSide's commitment to sustainable travel space is reserved for additional cycle parking, if demand exceeds supply once the facility is open.

Inclusivity

The OnSide Model as a matter of policy states that:

'Inclusivity begins at the design stage'

To this end the building has been designed and will be operated following the principle of inclusivity. This includes considering the needs of disabled users, including people with sensory, cognitive and mobility impairments, including wheelchair users.

The OnSide Model as a matter of policy further states that:

Each Youth Zone must work towards offering a core service for young people whenever schools are closed, 365 days a year.

Typically this would be:

Term Time	(Monday-Friday)	3.30pm-10.00pm
Holidays	(Monday-Friday)	8.00am-10.00pm
Weekends	(Saturday-Sunday)	9.00am-10.00pm

Junior sessions may finish earlier at around 8.30pm. Additional services may be delivered and offered during the day before 3.30pm, to target specific needs of young people and local partners.



Furthermore the OnSide Model as a matter of policy also states that:

'There should be a nominal annual and session fee with no additional charges for core activities' & 'Access to an affordable hot meal should be provided'.

Barnsley Youth Zone will follow the OnSide Model with an annual membership fee of just £5 and a nominal session fee of 50 pence per visit.

Design Principles

The proposals demonstrate a commitment to inclusive design and have been informed by the following standards and further reflect good practice:

Legislation

- The Building Regulations: Approved Document M: Access to and the use of buildings.

British Standards

- BS9999: 2008 Fire precautions in the design, construction and use of buildings - Code of Practice for Means of escape for Disabled People.
- BS8300: 2009 Design of buildings and their approaches to meet the needs of disabled people - Codes of Practice.

Drop-Off and Servicing Arrangements

A key element of every Youth Zone is having an appropriate vehicular drop-off/pick-up facility for parents and guardians to use. Whilst the vast majority of young people will walk or travel to the facility by public transport, some will be dropped off and it is important to have this dedicated bay as close to the main entrance as possible. The ability to have a clear view of the atrium and main entrance from this drop-off area is important from a safeguarding perspective, as well as minimising the walk distance for the mobility impaired.

The scheme design has also been shaped by delivering the above-mentioned access requirements. By bringing the building as close as possible to the drop-off area to the south this also allows this area to connect with a new crossing point on Schwäbisch Gmünd Way, allowing visitors and staff easy access onwards to the transport interchange. This is an important design consideration as the southern part of the site is where the levels are as close as possible to those on the adjoining highway network, meaning pedestrian access routes to the front of the building have minimal changes in gradient for those walking from the interchange, the adjacent footways and the existing drop-off bay.

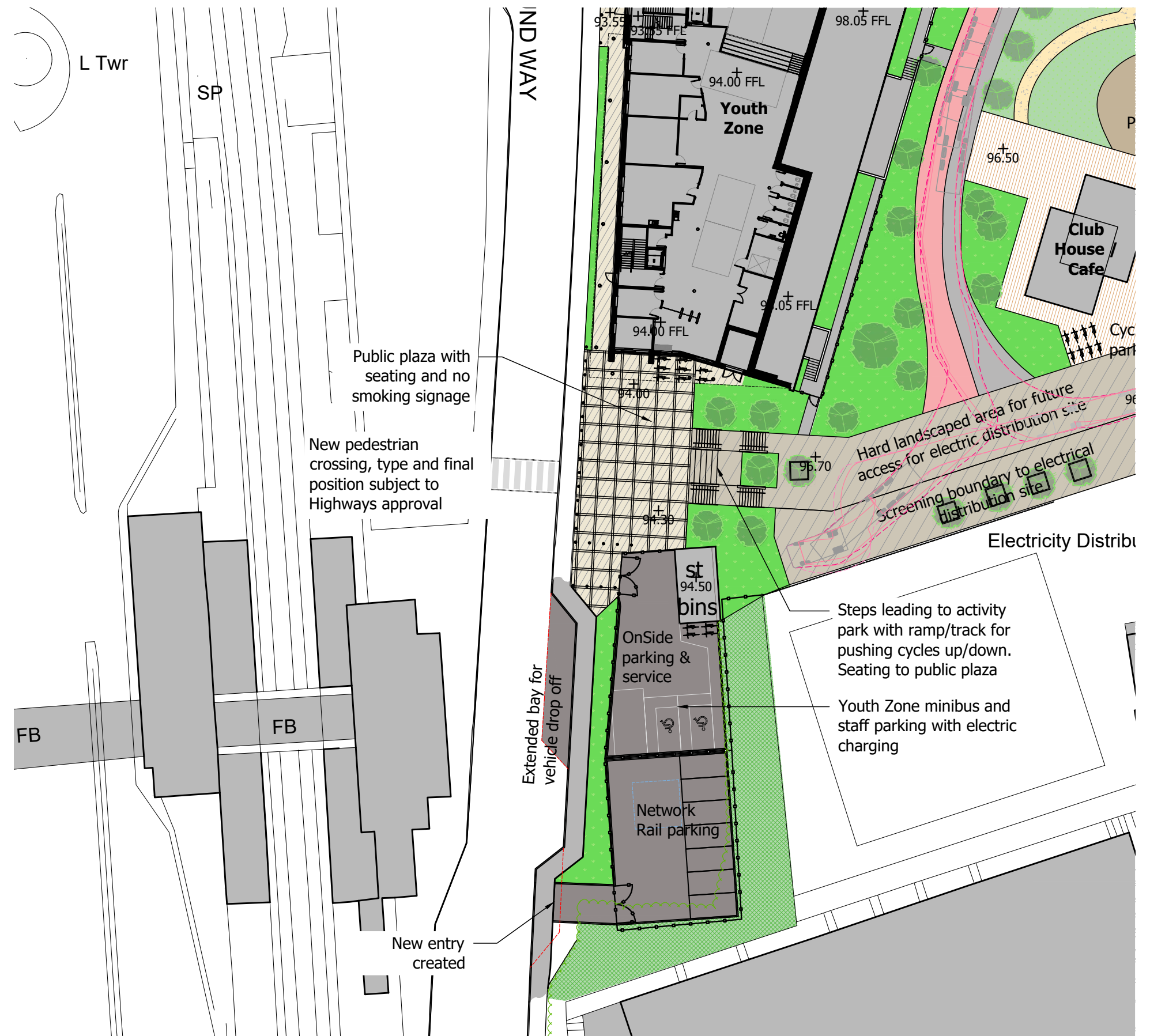
To deliver this important design element for those young people and staff who are dropped off/picked up by car the existing three vehicle parallel bay on Schwäbisch Gmünd Way has been retained. This bay is already used by rail travellers, and will also be available for Youth Zone use. Retaining this dedicated drop-off bay is a prerequisite of the OnSide Youth Zone scheme designs and will also ensure that the 'no waiting/no loading' restrictions on the rest of Schwäbisch Gmünd Way are respected.

Alongside the retention of the drop-off bay the scheme has been designed to ensure appropriate access for servicing, deliveries and disabled/minibus parking is provided. The development proposals show a secure service/essential parking area at the southern end of the development site, within what is understood to be Network Rail land (highlighted on the plan below in pink). As with the drop-off bay this is located within easy and direct access of the main entrance to the building, with limited changes in levels to allow the safe movement of deliveries, refuse and recycling.

The servicing and delivery area will also provide two disabled parking spaces for visitor and staff use, as well as parking for a minibus to deliver OnSide's outreach programme. The service area will have a secure perimeter fence, and will be accessed via a simple dropped-crossing arrangement from Schwäbisch Gmünd Way. The disabled and minibus parking spaces will also be provided with EV charging points, in line with the Council's requirements.

Typically the Youth Zone will have a twice weekly deliveries of food, daily post and parcel deliveries and weekly refuse/recycling collection. All service vehicles associated will be able to either reverse into the service yard for collections or deliveries or use the retained three car drop-off bay to access the Youth Zone.

The principles of sustainable access have been refined and enhanced through the provision of Youth Zones across the whole of the UK, and the Barnsley scheme will also benefit from a Travel Plan, managed by the facility to encourage sustainable travel in perpetuity.



Section 7 Mechanical & Electrical Design

Environmental & Services Design

Building services are the Mechanical and Electrical systems that are installed in a building to make them comfortable, functional, efficient and safe. The systems anticipated to be designed and developed for Barnsley Youth Zone will include:

- Heating, Ventilation and Air Conditioning systems
- Electric Panel Heaters
- Water, drainage and plumbing
- Building Management Systems (BMS)
- Utility Supplies (Gas, Electric, Water installations)
- Lighting (internal/external/emergency) and Controls
- Fire Detection and Alarm Systems
- Public Address Systems
- Structured Cabling System and WiFi
- Intruder, Access Control and CCTV
- Incoming Telephone and Data Services and WiFi
- Renewables and carbon emissions calculations and reduction.

Mechanical Installation Description

Comfort Cooling

Mechanical comfort cooling and heating shall be via direct expansion (DX) plant operating via a refrigerant with a Global Warming Potential (GWP) of 1900 or less and Ozone Depletion Potential (ODP) of zero. The systems shall comprise of external condensing units, fan coil units / ceiling mounted cassette units / wall mounted units and interconnecting refrigerant pipework.

Individual room controllers shall be provided offering limited control together with a central controller located within the main control panel. Areas served include fitness suite, boxing gym, multi-media, rec area and offices.

Electric Panel Heaters

As carbon factors for electricity are reducing year on year due to offshore windfarms it is proposed to heat area's of the building that aren't being comfort cooling via electric panel heaters and ceiling electric panels. These area's consist of WC's, changing area's and circulation spaces. AHU's will be provided with DX coils to help temper the air before it enters the building with electric over door heaters provided at the front entrances to prevent cold draughts. In addition, gas fired radiant tubes shall be installed to meet the demands of the heat loss within the sports hall.

Ventilation

The building shall be ventilated in accordance with Approved Document Part F of Building Regulations. The sports hall shall be ventilated via a separate AHU mounted within the store room. Mechanical ventilation shall be provided to all other areas that cannot be naturally ventilated via opening windows.

The recreation area shall be heated via the ventilation system with a DX coil provided within the AHU, heating the air to offset fresh air, fabric and infiltration losses to maintain a minimum comfortable internal room temperature.

All toilets, showers and change room areas shall be provided with mechanical extract ventilation.

Extract ventilation to the main kitchen shall be provided by a dedicated motor out of air stream extract fan located at roof level. The extract ductwork shall be fire rated where it passes through a fire compartmentation wall or floor. Make up air shall be from a dedicated supply fan located at roof level. Supply air shall be filtered G4 and F7 and heated to a minimum of 16°C Via an electric heater battery.



Area	Description	Design Requirements
Sports Hall	Mechanical ventilation with heat recovery & gas fired radiant panel heaters to provide heating.	10 l/s/pp for small groups.
Kitchens	Mechanical ventilation with heater battery.	To DW172 20°C
Toilets / Cleaners Store	Mechanical ventilation. Radiant panels provide heating.	6ACH/hr 18°C
Circulation / Store	Natural ventilation with mechanical ventilation where necessary to avoid overheating. Electric panel heaters to provide heating.	17°C
Server	Mechanical ventilation with heat recovery. Comfort cooling via ceiling cassette provides heating and cooling.	10 l/s/pp 20°C
Performing Arts / Music	Mechanical ventilation with heat recovery and comfort cooling.	10 l/s/pp 20°C (winter) 22°C (summer)
Changing / Showers	Mechanical ventilation with heat recovery. Electric panel heaters provide heating.	10ACH/hr 23°C
Office / Meeting Room	Mechanical Ventilation with heat recovery & comfort cooling	10l/s/p 21°C (winter) 23°C (summer)
Plantroom	N/A	N/A
All Other Rooms	Mechanical Ventilation with heat recovery & comfort cooling	10l/s/p 21°C (winter) 23°C (summer)
Fitness / Gym	Mechanical Ventilation with heat recovery & comfort cooling	20l/s/p 18°C (winter) 21°C (summer)

Water, Drainage and Plumbing

New incoming cold water mains pipework supply shall enter the building in the ground floor plantroom.

The cold water supplies serving all toilet areas shall be linked to PIR motion detectors operating solenoid valves installed on the cold water supplies serving these areas. These shall shut off the water supply during periods of non occupancy to meet the anticipated BREEAM criteria.

Domestic hot water generation shall be by means of gas fired calorifiers located in the plantroom.

Building Management System (BMS)

The BMS software and information shall comply to the following guides and standards:

- Approved Document Part L
- General Information Leaflet (GIL) 65
- CIBSE Guide F and TM 22

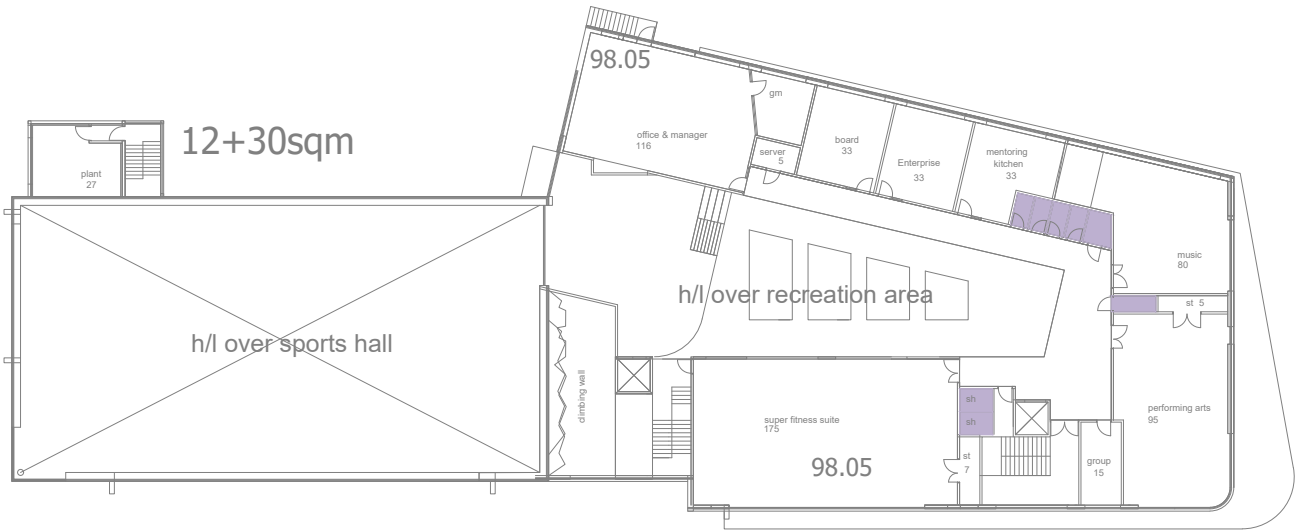
The BMS shall be site wide and shall perform a number of duties for the operation and running of the building and shall be simple in operation.

The BMS shall provide control and monitoring to the installed mechanical services, monitoring of mechanical services proprietary systems and equipment, the interlinking of mechanical services to each other and life safety systems.

Energy Supply

The building shall benefit from new gas, water and electric supplies of a suitable size in accordance with the building services design. All supplies will be suitably sized to cater for their design load with allowance for future capacity. There will be dedicated incoming plant service rooms provided in accordance with the Building Regulations.

Energy meters shall be provided to allow the recording of gas, water and electricity. Sub meters shall be provided to allow monitoring of the gas, water and electricity to the hot water, heating and ventilation systems. All sub meters shall have a pulsed output and be compatible with the BMS.



Area	Domestic water services strategy
Sanitary Facilities / Food Tech / Kitchens	Domestic Hot and Cold services fed from central storage plant. WHB to be fitted with TMV's set at 41°C

Electrical Services

Lighting (internal/external) and Controls

LED internal and external lighting installations will meet the functional objectives of the building but will also complement and respond to the building architecture in a manner which provides visual comfort and delight for the occupants. The installation shall provide artificial illumination of appropriate quantity and quality in order to allow normal activities to continue in the absence of daylight. Lighting shall be controlled in a user-friendly manner which minimizes unnecessary energy consumption. Lux levels to rooms will be designed in accordance with industry recommendations such as CIBSE.

Lighting controls will be designed to be simple, intuitive and unobtrusive operation for end users as well as being straightforward in maintenance and management of the system. It is anticipated that effective control of energy use will be by using daylight dimming and / or absence detection as appropriate in the spaces. A overall “lights off” override switch will be located at reception.

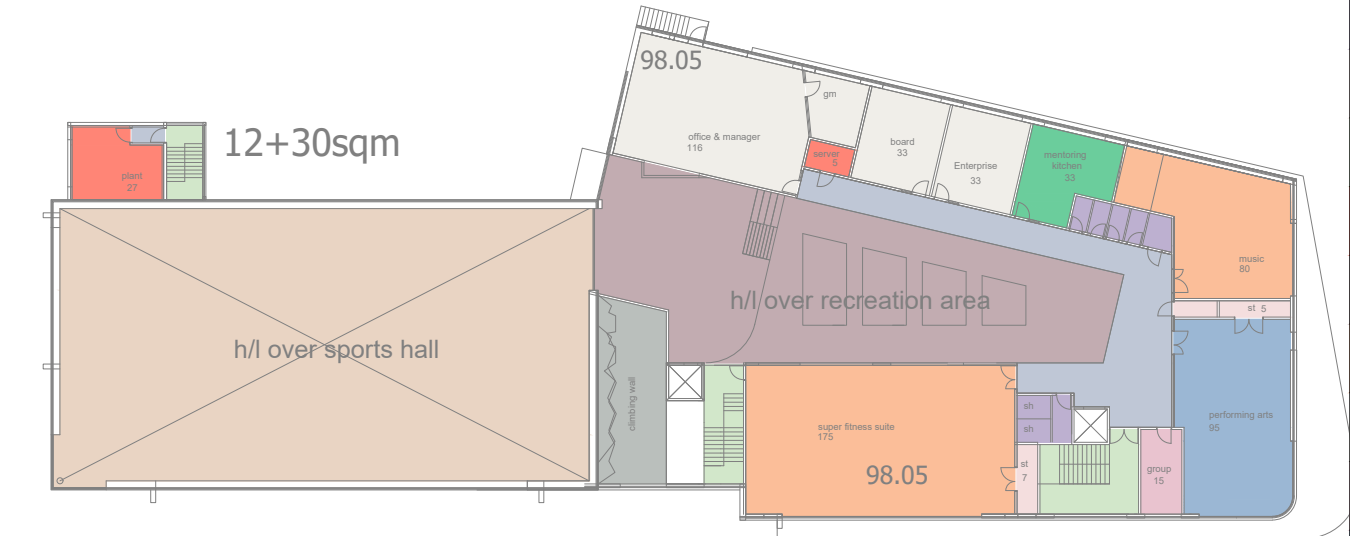
Fire Detection and Alarm Systems

The fire detection and alarm system will be a fully addressable Category L2 system designed in accordance with BS 5839-1:2008 detection category L2 BS 7671. It will provide occupants of the Youth Zone early warning of smoke or fire and raise the alarm in sufficient time to allow the occupants to escape in relative safety. Both will be linked to an off site alarm monitoring centre.

Structured Cabling System and WiFi

The Youth Zone building will be fully “flood wired” to provide a structural cable system to support the ICT network and equipment.

There will also be full WIFI coverage for staff and members.



Area	Maintained Average Luminance (Lux)	Lighting Controls
Corridors / Circulation	100	Presence Detection (daylight dimming where daylight present)
Toilets	100	Presence Detection
Stores	100	Manual
Staircases	150	Presence Detection
Plantroom / Server	200	Manual
Recreation Area	200	Key switch staff control with override on; presence on, daylight dimming (only in a daylight space) and absence off.
Fitness	300	Absence detection with manual switch. Auto-dimming of window row fittings on daylight control. Manual override switch at teachers position for override luminaires above whiteboard.
Offices / Admin / Reception Desk	300	Absence detection with manual switch. Auto-dimming of window row fittings on daylight control.
Group Rooms	300	Absence detection with manual switch. Auto-dimming of window row fittings on daylight control.
Performing Arts	300	Key switch staff control with override on; presence on, daylight dimming (only in a daylight space) and absence off.
Sports Hall	500 with ability to switch to 300	Key switch staff control with override on; presence on, daylight dimming (only in a daylight space) and absence off.
Kitchen & Servery	500	Manual
Climbing Wall / Kick Pitch	200	Manual
Arts Craft & Fashion	500	Absence detection with manual switch. Auto-dimming of window row fittings on daylight control. Manual override switch at teachers position for override luminaires above whiteboard.

Intruder, Access Control and CCTV

The Intruder Alarm System will be designed to provide comprehensive protection to all ground floor perimeter rooms, all circulation spaces, and all access routes into the building with additional protection to high-risk areas such as ICT-rich rooms. The system shall be monitored out of hours by a call monitoring station.

An access control system shall be provided to help the Youth Zone manage the flows of visitors, staff and young people and to secure the contents of the building. The system shall be software based.

The hardware shall be a mixture of online proximity card readers, electromagnetic locks (internal and external), "push to egress" buttons, green emergency break-glass-units, fire alarm interfaces, monitored power supplies and an ethernet interface.

The CCTV shall be a 24-hour colour internal and external camera system to provide coverage of the building in line with BS EN 50132, all applicable British Standards, the NACOSS Codes of Practice and the Data Protection Act. The system shall provide observation of the building facades and entrances as well as providing general coverage of internal circulation spaces. All cameras shall be of the IP type with wired for POE power routed to a dedicated cabinet located in the server space.

Public Address Systems

A public address system shall be installed within circulation areas to provide a fully integrated audible information system throughout for both staff and youths. Speakers shall be positioned to allow full audibility within activity spaces.

The main control console, microphone and all the equipment shall be housed at the main reception and a further microphone shall be installed to the staff office with a facility to broadcast to all areas from either point. Loudspeakers shall be installed as required to meet the performance requirements.

Incoming Telephone and Data Services and WiFi

A new incoming fibre and copper voice and data communications service shall be provided from the external Virgin / British Telecom network via an underground route. This shall be terminated directly into the electrical intake room with suitable containment from this position to the ICT Server Room.

Renewables and carbon emissions calculations and reduction

The Proposed OnSide Barnsley Youth Zone will deliver a resource efficient, low Carbon and sustainable learning environment in response to the OnSide design criteria and to satisfy the sustainability policies of Barnsley Council.

The following measures are anticipated to be incorporated into the design of the Youth Zone: -

- Installation of an appropriate renewable energy technology in the form Solar photovoltaic array at roof level, to achieve a minimum of 20% of the energy consumed on site.
- High standards of thermal efficiency in the building fabric to reduce Carbon emissions and running costs for the building.
- Supplementation of natural ventilation systems with Mechanical Ventilation with Heat Recovery units where appropriate.
- Commitment to meeting the latest 2018 BREEAM 'Good' standard as an independently certified rating of sustainability.
- The use of a range of water efficient fixtures and fittings to reduce water consumption.
- A site that promotes walking and cycling and design including provision of new secure cycle storage.
- Good access to existing public transport links for bus and rail to promote sustainable transport options for occupants.



BREEAM

Like other Youth Zones Barnsley has the ambition of being a sustainable development. A Very Good BREEAM rating is being targeted.

Several workshops have taken place with the design team with the BREEAM pre-assessment has demonstrated potential strategies for achieving a BREEAM ‘Very Good’ rating for the proposed Barnsley Youth Zone. An expected BREEAM score of 57.80% - ‘Very Good’ BREEAM rating shall be achieved if the recommendations are followed.

Typically, a target higher than the minimum required to achieve a particular BREEAM rating is aspired to in order to allow for any unforeseen circumstances that may result in credits targeted at the Design Stage not being possible to achieve in the Post Construction assessment. As such the project team, should investigate those credits which have been highlighted as Potential credits to determine their feasibility and inclusion into the scheme. As it stands the potential credits identified as probably achievable and not at unreasonable cost amount to 63.90%.

Barnsley Youth Zone

BREEAM New Construction 2018

Pre-assessment Stage Tracker



	CREDITS AVAILABLE	TARGETED CREDITS	% ACHIEVED	WEIGHTING	SCORE
MANAGEMENT	21	15	71.43	0.11	7.86
HEALTH & WELLBEING	17	12	70.59	0.14	9.88
ENERGY	23	8	34.78	0.16	5.57
TRANSPORT	12	7	58.33	0.10	5.83
WATER	9	6	66.67	0.07	4.67
MATERIALS	14	5	35.71	0.15	5.36
WASTE	9	7	77.78	0.06	4.67
LAND USE & ECOLOGY	13	7	53.85	0.13	7.00
POLLUTION	12	9	75.00	0.08	6.00
INNOVATION	10	1	10.00	0.10	1.00
TARGET SCORE					57.83
RATING					VERY GOOD

CREDITS ACHIEVED	% ACHIEVED	WEIGHTING	SCORE
0	0.00	0.11	0.00
1	5.88	0.14	0.82
0	0.00	0.16	0.00
0	0.00	0.10	0.00
0	0.00	0.07	0.00
1	7.14	0.15	1.07
0	0.00	0.06	0.00
0	0.00	0.13	0.00
0	0.00	0.08	0.00
0	0.00	0.10	0.00
CURRENT SCORE			1.89
RATING			UNCLASSIFIED

POTENTIAL CREDITS	% ACHIEVED	WEIGHTING	SCORE	CREDIT WEIGHTED VALUE
0	0.00	0.11	0.00	0.52%
3	17.65	0.14	2.47	0.82%
1	4.35	0.16	0.70	0.70%
0	0.00	0.10	0.00	0.83%
0	0.00	0.07	0.00	0.78%
0	0.00	0.15	0.00	1.07%
0	0.00	0.06	0.00	0.67%
3	23.08	0.13	3.00	1.00%
0	0.00	0.08	0.00	0.67%
0	0.00	0.10	0.00	1.00%
POTENTIAL SCORE				63.99
RATING				VERY GOOD

<30 %	UNCLASSIFIED
30 %	PASS
45 %	GOOD
55 %	VERY GOOD
70 %	EXCELLENT
85 %	OUTSTANDING

Section 8 Structural & Civil Engineering Design

Ground Conditions

The applicant has appointed HL Structural Engineers to advise on Civil and Structural matters to ensure that the engineering systems are built into the design from a very early stage. This section summarises key aspects of the Civil and Structural Engineering approach to the scheme.

A Phase 1 and Phase 2 ground investigation has been undertaken by GEA. This report included a review of past ground investigations for the wider site. These included a Phase 1 and Phase 2 investigation by BWB (2006) and further reviews by Hamson Barron Smith (July 2018) and the Met Consultancy Group (2019). The BWB report included a coal mining risk assessment which was also reviewed as part of GEA's work.

The geological map of the area and ground investigations indicate that the site is underlain by a limited thickness of made ground which is underlain by the Pennine Middle Coal Measures Formation. Typically, the thickness of the made ground was less than 500mm and the mudstone was found to grade as very weak to weak. The material was described as thinly laminated mudstones and siltstones with coal seams and sandstone layers.

Three coal seams outcrop through the site and despite there being no records of shallowing mining having taken place on the site ten boreholes to a maximum depth of 20m which were undertaken to further assess the risk of shallow mine workings. During the borehole drilling there was no significant loss of flush recorded and no evidence of voids or broken ground. No mine gases were encountered at the drill head. The GEA phase 2 report noted coal in various boreholes and concludes that the investigation provided 'reasonable evidence that there are no mine workings within 20m of the surface'. It states that 'the evidence for the area investigated would be sufficient to rule out the presence of shallow coal workings that might affect the development'.

As part of the GEA phase 2 ground investigation 10 samples were tested for a range of contaminants and asbestos. No asbestos was found in any of the samples taken. During the ground investigation no olfactory or significant contamination as observed. Test results from samples showed elevated concentrations of arsenic, copper and lead however none were above the generic guideline values for a commercial use.

The phase 2 ground investigation has recommended that new soft landscaped areas have 300mm of clean topsoil.

Gas monitoring of boreholes has been undertaken which has confirmed that no special gas protection measures are required for the proposed development.

Levels Strategy

The site topography is a major site constraint which has been assessed in detail as part of the design development. The proposed design has been developed to minimize the next cut and disposal of arisings off site while also ensuring the building has good access to the road and rail station.



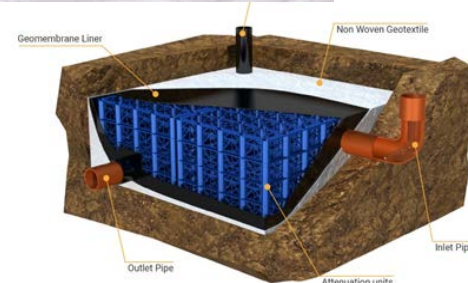
Foul Drainage Strategy

The Yorkshire Water public sewer records for the site were obtained however these appeared to be incomplete, showing no foul drainage serving the site. Record drawings from a major 2004 project to realign Schwabisch Gmund Way (supplied by the local authority highways department) indicate the presence of an existing public sewer entering the site at the northern end and the location/configuration of this drainage has been confirmed by CCTV drainage surveys. Subject to Yorkshire Water approvals (adoption of the unrecorded public sewers) it is proposed to connect to the existing foul sewer at the north of site. A new connection into an existing manhole which we believe should be adopted will need to be made.

Surface Water Disposal

Infiltration Tests have shown that soak away drainage is not suitable for the proposed development due to inadequate ground permeability. There is no watercourse within the vicinity of the site to which a surface water connection could be made. As infiltration and discharge to a watercourse are not deemed viable it is proposed that surface water from the site will be discharged into the public surface water sewer network.

Surface water flows will be attenuated using a combination of a blue roof system below the roof top kick pitch and a below ground attenuation tank. Surface suds features have not been adopted due to challenges with the site layout, levels and concerns regarding risk poses to children using the site from open water features.



Blue roof system being installed
Below ground attenuation tank

Flood Risk

The Environment Agency flood risk maps for planning have been obtained and these show that the development is wholly in flood zone 1 (low risk of flooding).

Foundations and Ground Floor

Traditional reinforced concrete pad and strip foundations are proposed for the building. These will be founded 750mm into the top weathered face of the natural rock geology on the site. Ground floor slabs will be ground bearing.

Superstructure

A number of material options for the structural frame have been considered in the development of the design, these included masonry, steel and concrete forms of construction. A braced steel frame was felt to be the most suitable design choice for the scheme.

It is proposed that suspended floors (including accessible roof areas) shall be constructed from a reinforced concrete slab laid on metal decking. For the areas of the roof where maintenance only access is needed the roof shall be formed from Kingspan Topdek panels on cold rolled steel purlins. The stairs within the building are to be constructed from precast RC units.



Kingspan Topdek panels supported on steel purlins



RC Slab on permanent metal decking construction



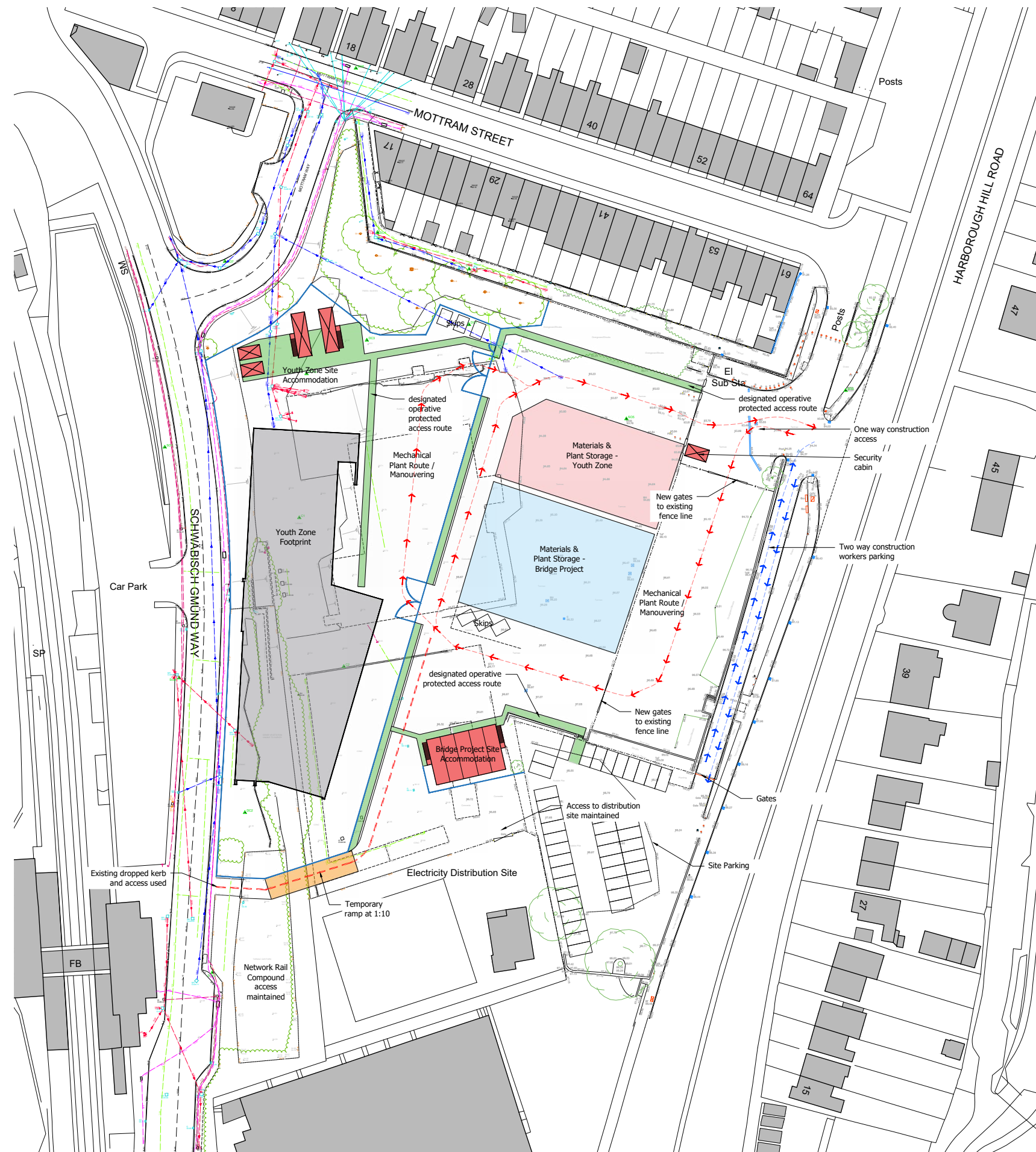
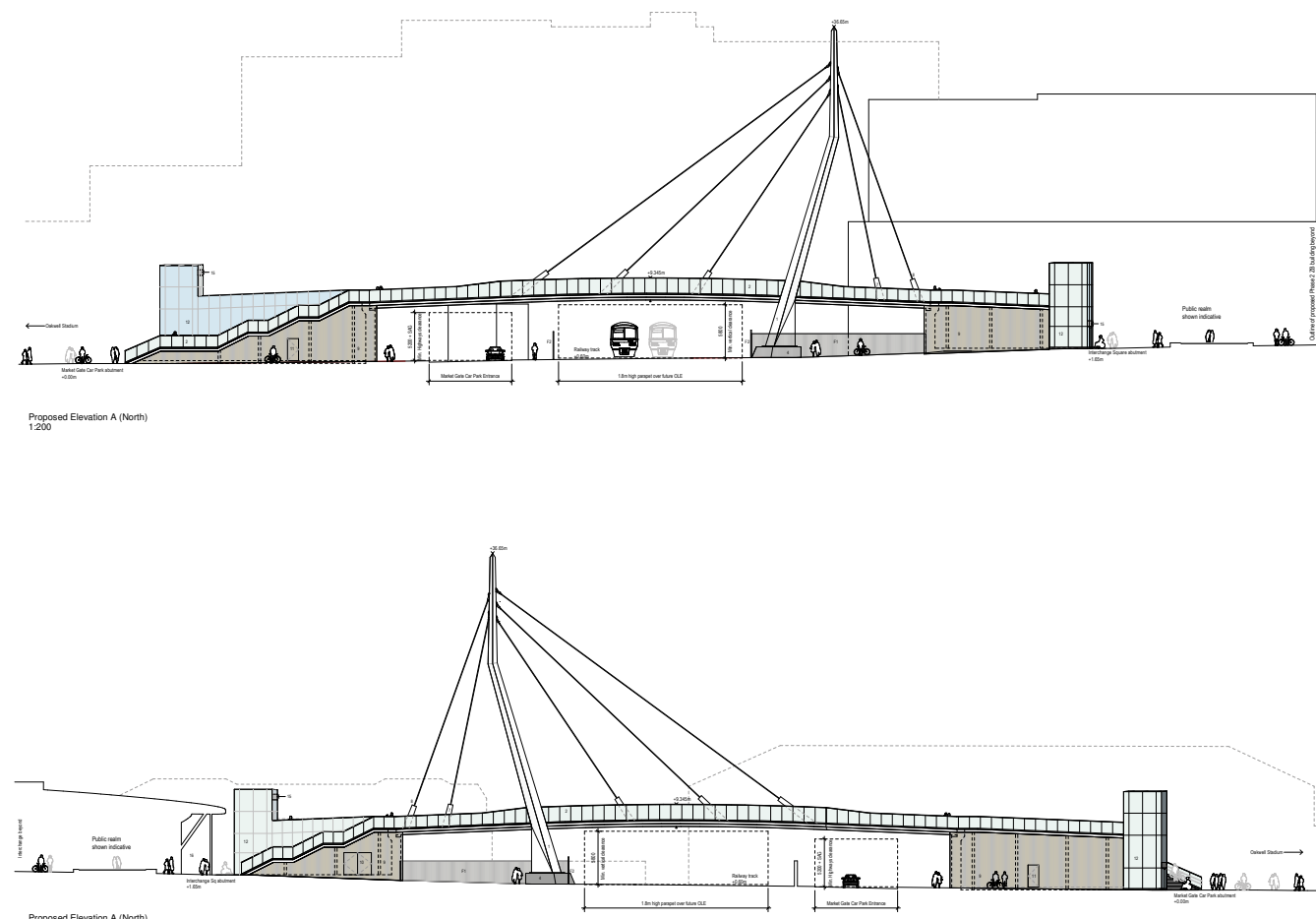
Typical precast concrete stairs supported on steel frame

Section 9 Construction Management

Barnsley Metropolitan Borough Council have advised that the new foot bridge across the railway will be in construction when the anticipated construction works will be commencing for the Youth Zone.

The bridge contractor intends to use part of the Youth Zone and Activity Park site for their site compound and materials store. We have worked with the council to produce an indicative construction plan which shows how the site can be used for both projects.

The plan involves a one way system for the construction site and deliveries using the existing access from Harborough Hill Road, with a segregated car access and parking area.



Section 10 Conclusion

The design of Barnsley Youth Zone has undergone a rigorous testing and feedback sessions with the design review panel process. This new building seeks to create a new gateway into the town with a modern and attractively vibrant building.

The following key design decisions have been made in order to address the concerns with building in such a location and difficult site.

- Building footprint kept as compact as possible. The building is kept within the proposed site area to keep the land take to a minimum allowing future development to the east for the Activity Park.
- Building footprint located as pragmatically close as possible to the street edge whilst providing some soft landscaped separation to deal with level differences and providing a reasonable construction and maintenance access zone and a setting for the building.
- The building is positioned to allow as much separation as possible to existing residential properties close to the site.
- Utilise the part of the site directly opposite the station to allow access to the Youth Zone and Activity Park and provide a focal point for the building entrance.
- The service area is distanced off to the south and uses and existing vehicular access point.
- Position the kick pitch on the sports hall roof to create and 'halo' of light and activity, but keeping this potential noise and light spill away from existing uses.
- Enhance the planting to the boundary fronting onto the highway and provide new planting and new mounded buffer between the site and the Activity Park to the east.

The design submitted for the proposed new Youth Zone in Barnsley presents a design that sits proudly in its setting creating a vibrant building for the local young people, and will sit alongside a new Activity Park for the town.

