Shropshire
Fire and Rescue Service

15219 – Telford Central Fire Station Stafford Park

Feasibility Study

bit Architecture Mechanical & Electrical Consultancy
Strategic Asset Management **Building Surveying** Cost Consultancy
Project Management Maintenance Service Delivery

a co-operative council

Telford & Wrekin COUNCIL

Shropshire Fire and Rescue Service

Feasibility Study

Telford Central Fire Station, Stafford Park

1.0 Revision Record

Issue No	Issue Date	Revisions
1	1 February 2016	First Issue
2	2 February 2016	Second Issue

2.0 Quality Assurance Approvals

Prepared By	Signature	Date
Steve Swain		20 January 2016
Approved for Issue	**Signature**	**Date**
Chris Goulson		20 January 2016

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4.0 Background

In October 2015, Shropshire Fire and Rescue Service commissioned biT to undertake a feasibility study in relation to the Telford Central Fire Station site and buildings. biT were asked to provide a number of options taking into account the current utilisation of the site and the potential for other operational units to be located in the same facility, operating in parallel with the current requirements of the Fire Service on site.

The outline brief was to focus on reviewing the viability of the current site and buildings, with a view to considering what options would be available with three differing scenarios of occupancy levels, and what the cost of these proposed options may be.

The options to be considered would include refurbishment of current buildings, new build on site, and a mixture of new build/refurbishment. Also, if it were deemed to be viable, to consider the potential sale of any proportion of the site that may be surplus to requirements following the option appraisal.

Costings were to be based on square metre rates by a biT Cost Consultant, and following identification of a preferred option this could then be more accurately costed if necessary.

Where necessary, the following teams would assist in the production of the feasibility study:

- biT Architects
- biT Cost Consultancy
- biT Strategic Asset Management
- Estates & Investment

5.0 Client Requirements

biT were provided with further details required as part of the brief for the project on 16th October 2015, and during a subsequent site visit on 11th November 2015. A detailed breakdown of accommodation requirements for the various options was made available on 13th November 2015.

A summary of the main points and requirements is set out below:

- The structural integrity of the current buildings are considered to be sound.
- In all options considered, the façade of the building will require extensive modification.
- There should be a generous allowance for staff work spaces, there is no need to squeeze into minimum space requirements. There is no hot-desking requirement for shared work space.
- External parking space should be planned to accommodate the maximum number of potential vehicles.
- The site contains large amounts of asbestos (TC-5330 Shield Re-inspection Report S14-01673 5330 – July 2014 has been made available)
- In the case of a refurbishment option, works should be considered in a similar scope to that carried out at Shrewsbury Fire Station HQ (to include internal refurbishment, new services, recladding and a pitched roof).
- To aim for BREEAM 'Very Good' assessment, and to be designed to be as efficient as reasonably practical. There is no requirement for an automated Building Management System (BMS).
- There is no requirement for a formal condition survey – most building elements are considered to be either at, or approaching the end of their useful life.

Other points to consider within the options presented:

- All design options should be mindful of the protected habitat area on the western edge of the site which contains great crested newts.

- Account should be taken of the impact of smoke from fire training on the adjacent buildings under certain weather conditions.

The following are to be considered as priorities:

Essential Outcomes

- Achieve a focus on an integrated workforce
- To be designed with an efficient process workflow in mind
- All areas to have disabled access
- To allow for the flexible use of space
- Future proofed ICT facilities and associated infrastructure
- A high level of operational resilience
- Appropriate levels of security relevant to functions on site
- Achieve a potential lifespan of between 30 to 50 years
- Optimal response deployment

Desirable Outcomes

- To maximise environmental sustainability and energy efficiency.
- The building should be able to convey messages on its external aspect.
- To creating a more welcoming, community focused building.
- To be modest but architecturally attractive, enhancing the street scene.
- To be flexible enough for use by the community potentially to allow for external lettings at some future point.

6.0 Current Site Accommodation

The site is located on Stafford Park in Telford, and occupies a location adjacent the main thoroughfare through the Industrial Estate. The access road enters the site from a side road to the east of the main building, with the car park covering most of the north east of the site, on a bank overlooking the main road. The Appliances have direct level access to the main road from the Appliance bay. The western edge of the site consists of a banked area with trees up to the boundary fence. The southern boundary is shared with Shropshire Roadsweepers Ltd.

Fig 1. Aerial view of the site looking southwards

The site currently consists of the following buildings and facilities:

The Main Building (Block 01) located on the north side of the site includes accommodation over 3 floors:

- The ground floor accommodates mostly the Fire Station including Appliance Bays, the clean training areas, toilets/showers, plant, kit rooms and reception area.

- The first floor contains a number of offices for Incident Command, toilets, Rest Rooms and Kitchen/Dining areas.

- Second floor contains open sleeping accommodation, toilets and various offices including FBU. The second floor is currently underutilised.

The Training Building (Block 02) located on the south side of the site, contains ground and first floors. One side of the building is for interior practical fire training and is used for training as a real fire facility.

- The Ground floor incorporates an appliance bay workshop, various training rooms, a smoke room, drying room, toilets/showers and a wood store.

- The first floor contains further training areas.

Temporary Training Units are located to the west of the site and are used for real fire and smoke training facilities. These mostly consist of shipping containers, which are lined with pallets which are set on fire for training purposes. Located behind this facility is a small protected habitat area for great crested newts.

The Training Tower is located adjacent to the Training Facility and is not considered currently to be included within the scope in this study unless any option deems it necessary.

The External Yard on the site is used for appliance and hose training, and additional parking when necessary, therefore the total area available is fairly restrictive. Towards the entrance is located an underground fuel tank could limit the flexibility of the space available. Between the Appliance Bay and the Temporary Training Units is a compound containing RTC training kit including a number of car wrecks. Between the Training building and the southern boundary there is space used to store wooden pallets.

7.0 Current Schedule of Accommodation

The current Schedule of Accommodation is as follows (details extracted from the current floorplan):

Main Building, Ground Floor					
Block	**Floor**	**Room**	**Use**	**Sub Use**	**Area (m2)**
Block 01	Gnd Flr	001	Appliance Bay	Appliance Bay	336.9
Block 01	Gnd Flr	002	Watch Room	Watch Rm	29.0
Block 01	Gnd Flr	003	Staff and admin spaces	Off	15.4
Block 01	Gnd Flr	006	Staff and admin spaces	Off	11.8
Block 01	Gnd Flr	007	Circulation	Circ	70.4
Block 01	Gnd Flr	008	Kit Store	Kit Sto	26.0
Block 01	Gnd Flr	009	Locker Room	Lockers	42.8
Block 01	Gnd Flr	010	Ancillary/circulation	Plant Rm	15.3
Block 01	Gnd Flr	011	Staff and admin spaces	Workshop	17.7
Block 01	Gnd Flr	012	Teaching storage	Sto	15.3
Block 01	Gnd Flr	013	Circulation	Circ	1.9
Block 01	Gnd Flr	014	Lecture Room	Lec Rm	45.1
Block 01	Gnd Flr	015	Staff and admin spaces	Off	18.5
Block 01	Gnd Flr	016	Staff and admin spaces	Recept	6.4
Block 01	Gnd Flr	017	Circulation	Entrance	8.8
Block 01	Gnd Flr	018	Toilets	Dis wc	2.9
Block 01	Gnd Flr	019	Teaching storage	Sto	6.4
Block 01	Gnd Flr	020	Drying Room	Drying Rm	11.3
Block 01	Gnd Flr	021	Ancillary/circulation	Elec	1.0
Block 01	Gnd Flr	022	Staff and admin spaces	Off	13.3
Block 01	Gnd Flr	023	Public WC	WC	11.6
Block 01	Gnd Flr	024	Teaching storage	Sto	2.6
Block 01	Gnd Flr	025	Circulation	Entrance	26.8
Block 01	Gnd Flr	026	Wash Room	Wash Rm	18.0
Block 01	Gnd Flr	027	Hose Room	Hose Rm	17.4
Block 01	Gnd Flr	028	Teaching storage	Sto	11.9
Block 01	Gnd Flr	029	Communications Room	Comms Rm	5.7
Block 01	Gnd Flr	030	Communications Room	Comms Rm	1.6
Block 01	Gnd Flr	031	Circulation	Circ	19.1
Block 01	Gnd Flr	032	Circulation	Circ	12.0
Block 01	Gnd Flr	033	Circulation	Circ	8.2
Block 01	Gnd Flr	034	Circulation	Entrance	14.0
Block 01	Gnd Flr	035	Lecture Room	Lec Rm	37.0
Block 01	Gnd Flr	036	Circulation	Stairs	9.3
Block 01	Gnd Flr	037	Staff and admin spaces	Off	16.9
Block 01	Gnd Flr	038	Staff and admin spaces	Off	19.4
Block 01	Gnd Flr	039	Staff and admin spaces	Off	13.5

Main Building, Ground Floor (Continued)					
Block	**Floor**	**Reference**	**Use**	**Sub Use**	**Area (m2)**
Block 01	Gnd Flr	040	Showers	Showers	13.7
Block 01	Gnd Flr	041	Male WC	M wc	7.5
Block 01	Gnd Flr	042	Ancillary/circulation	Plant Rm	13.0
Block 01	Gnd Flr	043	Ancillary/circulation	Plant Rm	6.3
Block 01	Gnd Flr	044	Tank Room	Tank Room	8.5
Block 01	Gnd Flr	045	Boiler Room	B	48.8
Block 01	Gnd Flr	109	Male WC	M wc	11.9
Block 01	Gnd Flr	119	Lift	Lift	1.4
Block 01	Gnd Flr	213	Showers	Showers	12.7
Block 01	Gnd Flr	214	Circulation	Circ	4.8
Block 01	Gnd Flr	215	Circulation	Stairs	4.6
Block 01	Gnd Flr	216	Rest Room	Rest Rm	6.5
Block 01	Gnd Flr	217	Teaching storage	Sto	4.7

Main Building, First Floor					
Block	**Floor**	**Reference**	**Use**	**Sub Use**	**Area (m2)**
Block 01	1st Flr	101	Circulation	Stairs	16.0
Block 01	1st Flr	102	Circulation	Circ	18.6
Block 01	1st Flr	103	Pole Drop	Pole Drop	6.0
Block 01	1st Flr	104	Male WC	M wc	2.5
Block 01	1st Flr	105	Female WC	F wc	9.0
Block 01	1st Flr	106	Ancillary/circulation	Clns	2.3
Block 01	1st Flr	107	Circulation	Circ	1.5
Block 01	1st Flr	108	Public WC	WC	7.5
Block 01	1st Flr	110	Circulation	Circ	5.6
Block 01	1st Flr	111	Bar	Bar	8.0
Block 01	1st Flr	112	Staff and admin spaces	Off	4.2
Block 01	1st Flr	113	Rest Room	Rest Rm	153.9
Block 01	1st Flr	114	Circulation	Circ	11.0
Block 01	1st Flr	115	Circulation	Circ	3.2
Block 01	1st Flr	116	Rest Room	Rest Rm	153.9
Block 01	1st Flr	117	Teaching storage	Sto	3.7
Block 01	1st Flr	118	Circulation	Circ	3.6
Block 01	1st Flr	120	Kitchen/dining	D	27.0
Block 01	1st Flr	121	Circulation	Stairs	25.3
Block 01	1st Flr	122	Circulation	Circ	14.8
Block 01	1st Flr	123	Ancillary/circulation	Server	4.9
Block 01	1st Flr	124	Female WC	F wc	6.4

Main Building, First Floor (Continued)					
Block	Floor	Reference	Use	Sub Use	Area (m2)
Block 01	1st Flr	125	Ancillary/circulation	Utility	2.4
Block 01	1st Flr	126	Circulation	Circ	2.1
Block 01	1st Flr	127	Male WC	M wc	10.0
Block 01	1st Flr	128	Staff and admin spaces	Off	11.6
Block 01	1st Flr	129	Store	Records Rm	7.4
Block 01	1st Flr	130	Staff and admin spaces	Off	14.6
Block 01	1st Flr	131	Staff and admin spaces	Off	76.2
Block 01	1st Flr	132	Circulation	Stairs	8.6
Block 01	1st Flr	133	Staff and admin spaces	Off	8.0
Block 01	1st Flr	134	Teaching storage	Sto	1.9
Block 01	1st Flr	135	Teaching storage	Sto	1.0
Block 01	1st Flr	136	Staff and admin spaces	Off	16.1
Block 01	1st Flr	137	Staff and admin spaces	Off	13.7
Block 01	1st Flr	218	Teaching storage	Sto	2.7
Block 01	1st Flr	231	Circulation	Circ	19.2
Block 01	1st Flr	232	Teaching storage	Sto	1.0

Main Building, Second Floor					
Block	Floor	Reference	Use	Sub Use	Area (m2)
Block 01	2nd Flr	201	Circulation	Stairs	13.7
Block 01	2nd Flr	202	Circulation	Circ	33.7
Block 01	2nd Flr	203	Pole Drop	Pole Drop	2.8
Block 01	2nd Flr	204	Ancillary/circulation	Clns	6.5
Block 01	2nd Flr	205	Bedroom	Dormitory	108.5
Block 01	2nd Flr	206	Staff and admin spaces	Off	26.1
Block 01	2nd Flr	207	Circulation	Stairs	28.2
Block 01	2nd Flr	208	Staff and admin spaces	Off	16.6
Block 01	2nd Flr	209	Teaching storage	Sto	7.3
Block 01	2nd Flr	210	Staff and admin spaces	Off	19.1
Block 01	2nd Flr	211	Male WC	M wc	19.8
Block 01	2nd Flr	212	Ancillary/circulation	Elec	1.3
Block 01	2nd Flr	219	Staff and admin spaces	Off	21.6
Block 01	2nd Flr	220	Staff and admin spaces	Off	46.4
Block 01	2nd Flr	230	Circulation	Circ	9.1

Training Building, Ground Floor					
Block	**Floor**	**Reference**	**Use**	**Sub Use**	**Area (m2)**
Block 02	Gnd Flr	046	Ancillary/circulation	Plant Rm	7.4
Block 02	Gnd Flr	047	Lecture Room	Lec Rm	34.9
Block 02	Gnd Flr	048	Circulation	Circ	9.9
Block 02	Gnd Flr	050	Circulation	Circ	1.8
Block 02	Gnd Flr	051	Pupil changing/toilets	Shws	14.7
Block 02	Gnd Flr	052	Male WC	M wc	4.4
Block 02	Gnd Flr	053	Public WC	WC	5.3
Block 02	Gnd Flr	054	Drying Room	Drying Rm	6.2
Block 02	Gnd Flr	055	Staff and admin spaces	Workshop	100.9
Block 02	Gnd Flr	056	Training Room	Training Rm	64.0
Block 02	Gnd Flr	057	Circulation	Stairs	8.0
Block 02	Gnd Flr	058	Ancillary/circulation	Control Rm	10.8
Block 02	Gnd Flr	059	Smoke Room	Smoke Rm	10.6
Block 02	Gnd Flr	060	Teaching storage	Sto	11.4
Block 02	Gnd Flr	061	Circulation	Circ	9.5
Block 02	Gnd Flr	063	Training Room	Training Rm	7.8
Block 02	Gnd Flr	064	Training Room	Training Rm	28.2
Block 02	Gnd Flr	065	Training Room	Training Rm	7.8
Block 02	Gnd Flr	066	Training Room	Training Rm	8.5
Block 02	Gnd Flr	221	Circulation	Stairs	3.9
Block 02	Gnd Flr	222	Teaching storage	Sto	2.8
Block 02	Gnd Flr	223	Circulation	Stairs	2.1
Block 02	Gnd Flr	224	Circulation	Stairs	3.2
Block 02	Gnd Flr	229	Circulation	Entrance	2.2
Block 02	Gnd Flr	262	Circulation	Entrance	4.8

Training Building, First Floor					
Block	**Floor**	**Reference**	**Use**	**Sub Use**	**Area (m2)**
Block 02	1st Flr	138	Training Room	Training Rm	78.7
Block 02	1st Flr	139	Circulation	Circ	6.6
Block 02	1st Flr	140	Hose Room	Hose Rm	1.1
Block 02	1st Flr	141	Training Room	Training Rm	44.6
Block 02	1st Flr	142	Circulation	Circ	5.2
Block 02	1st Flr	225	Circulation	Circ	1.1
Block 02	1st Flr	226	Circulation	Stairs	5.0
Block 02	1st Flr	227	Circulation	Stairs	3.0
Block 02	1st Flr	228	Circulation	Circ	1.4

8.0 Initial Option Requirements

The feasibility study that follows include options for refurbishment of the buildings on site with expansion where necessary, and also the consideration of each of these options as a new build. Therefore in total there will be 6 potential options presented with indicative costs.

The options presented are based upon the Full Requirements List received from SFRS which is detailed below. Each function, numbered 1 – 7, has been colour coded to correspond with the option plans:

Function	Requirement	Options		
		1	2	3
1 - Station	9 x Study Bedrooms suitable as good working spaces for Junior officers – 4 of which could be converted into 2 large offices if not required	y	y	y
1 - Station	Appliance bays with automatic doors – 5 off (2 ALP length and 3 pump length)	y	y	y
1 - Station	BA compressor room	y	y	y
1 - Station	Ensuite style bathrooms (as SY)	y	y	y
1 - Station	General Watch Office – 6 person	y	y	y
1 - Station	Kit cleaning and laundry room	y	y	y
1 - Station	Kit drying room	y	y	y
1 - Station	Multi-agency Prevention office (with meeting table) – 4 person	y	n	n
1 - Station	Station Lecture room (smart boards) - 15 person	y	y	y
1 - Station	Station Locker facilities - up to 52 persons - large enough and suitable to also accommodate bedding	y	y	y
1 - Station	Station store (to include equipment + station stores)	y	y	y
1 - Station	TC Station Commanders office (with meeting table) - 1 person	y	n	n
1 - Station	Water First Responder store (include wet room etc. as HWFRS)	y	y	y
2 - Training Dept Internal	Assurance Support Officer - 1 person	y	y	y
2 - Training Dept Internal	Development Watch Managers' office - 2 person	y	y	y
2 - Training Dept Internal	GM Training office - 1 person	y	n	n
2 - Training Dept Internal	Incident Command (Gold) Pod 1 - 4 person - 180 degree screen	y	y	y
2 - Training Dept Internal	Incident Command (Gold) Pod 2 - 4 person - 180 degree screen	y	y	y
2 - Training Dept Internal	Incident Command (Gold) Pod 3 - 4 person - 180 degree screen	y	y	y
2 - Training Dept Internal	Incident Command Control Room - 4 person with large computer requirement	y	y	y
2 - Training Dept Internal	Incident Command Lecture Room (Gold meeting room) - 25 person - able to be split in two - video conference facilities	y	y	y
2 - Training Dept Internal	Project office - 2 person	y	y	y
2 - Training Dept Internal	SM Development Office - 1 person	y	y	y
2 - Training Dept Internal	SM Training Office - 1 person	y	y	y
2 - Training Dept Internal	Spacious Training Instructors office with integrated refreshment area - 6 persons	y	y	y
2 - Training Dept Internal	Training lecture room - 20 person	y	y	y
2 - Training Dept Internal	Training/development meeting room - 4 person	y	y	y

Function	Requirement	Options		
		1	2	3
3 - Training Ops External	3rd Appliance bay as indoor training area (provides covered training area eg. line safety facility)	y	y	y
3 - Training Ops External	Appliance bays manual operation doors - 2 off ALP length (enables training area at rear)	y	y	y
3 - Training Ops External	BA equipment cleaning room - 20 person	y	y	y
3 - Training Ops External	Driving Instructors meeting room - 4 person	y	y	y
3 - Training Ops External	Driving Instructors Office - 2 person	y	y	y
3 - Training Ops External	Ops area refreshment facilities - 20 person	y	y	y
3 - Training Ops External	Ops Changing facilities - 20 person	y	y	y
3 - Training Ops External	Ops Instructor sauna facility - small	y	y	y
3 - Training Ops External	Ops lecture/briefing room - 20 person	y	y	y
3 - Training Ops External	Ops Toilets and showers to accommodate 20 persons	y	y	y
3 - Training Ops External	Other training facilities to be decided following regional discussions - making use of current space used for drill tower/hot and cold building/Real Fire facilities, plus part of drill yard as required	y	y	y
3 - Training Ops External	RTC practice area	y	y	y
3 - Training Ops External	RTC Vehicle storage area	y	y	y
4 - Integrated Ops/Control/EPU	Control equipment room	n	y	y
4 - Integrated Ops/Control/EPU	Control Locker facilities - for 16 persons	n	y	y
4 - Integrated Ops/Control/EPU	Control room - 4 workstations - large screens on walls - glass soundproof wall into Ops office	n	y	y
4 - Integrated Ops/Control/EPU	GM Ops office (with meeting table) - 1 person	n	y	n
4 - Integrated Ops/Control/EPU	GM Training office (with meeting table) - 1 person	n	y	n
4 - Integrated Ops/Control/EPU	Major Incident Room/Control Training room - similar size and functionality to Control room	n	y	y
4 - Integrated Ops/Control/EPU	Ops area toilet facilities to accommodate 20 people	n	y	n
4 - Integrated Ops/Control/EPU	Ops meeting room/T&W Silver facility - 20 persons - able to be split in two to provide an Ops Project Room as required - video conference facilities	n	y	n
4 - Integrated Ops/Control/EPU	Quiet room with rest facilities for on-call Control op	n	y	y
4 - Integrated Ops/Control/EPU	SM Control office (with meeting table) - 1 person	n	y	n
4 - Integrated Ops/Control/EPU	Spacious Ops/EPU open plan office with integrated refreshment area - 12 person	n	y	n
4 - Integrated Ops/Control/EPU	TC Station Commander Office (with meeting table) - 1 person	n	y	n
5 - Multiagency Silver/Gold	Intel cell POD (GM Training office) - 4 person close quarters during ops - 1 person spacious during daily	n	n	y
5 - Multiagency Silver/Gold	Media cell POD (GM Ops office) - 4 person close quarters during ops - 1 person spacious during daily	n	n	y
5 - Multiagency Silver/Gold	Silver agency ops room (Integrated Ops/EPU office) - 15 workstations, including ESN access points with integrated refreshment area - 30 persons during ops - 12 persons during daily	n	n	y
5 - Multiagency Silver/Gold	Silver Breakout POD 1 (SM Control office) - 4 person close quarters during ops - 1 person spacious during daily	n	n	y
5 - Multiagency Silver/Gold	Silver Breakout POD 2 (Ops Project office) - 4 person close quarters during ops - 2 person office during daily	n	n	y
5 - Multiagency Silver/Gold	Silver meeting room (Ops meeting room) - 30 person - able to be split in two - video conference and interactive acreens	n	n	y
5 - Multiagency Silver/Gold	Silver toilet facilities to accommodate 40 people (Ops/EPU toilets)	n	n	y

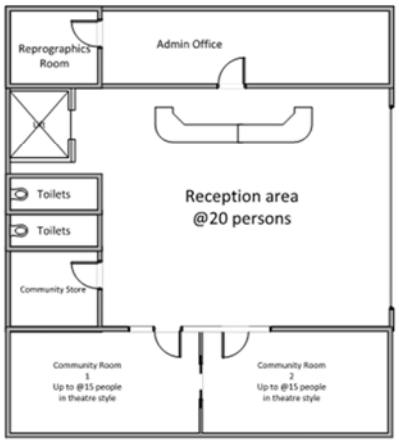
Function	Requirement	Options		
		1	2	3
6 - Community	Community room - 30 person - able to be split in two - excellent ICT facilities	y	n	n
6 - Community	Community Storeroom - chairs/tables not in use and lockable cupboards for comm. groups	y	y	y
6 - Community	Large community room - 100 person - able to be split in three to provide multi-agency prevention office as required - excellent ICT facilities	n	y	y
6 - Community	Reception area - capable of receiving up to 20 persons	y	n	n
6 - Community	Reception area - capable of receiving up to 40 persons	n	y	y
7 - Support facilities	Dining area with capacity for @ 40 people in building	y	n	n
7 - Support facilities	Dining area with capacity for @100 people in building	n	y	y
7 - Support facilities	Generator facilities to cover all essential services (server room/fire station/Control/Silver/Gold)	y	y	y
7 - Support facilities	IT server room (similar to SY)	y	y	y
7 - Support facilities	Kitchen facilities to meet needs of @ 50 people in building	n	y	y
7 - Support facilities	Kitchen facilities to meet needs of @40 people in building	y	n	n
7 - Support facilities	Passenger lift - accessed via reception	y	y	y
7 - Support facilities	Physical security at building and department level	y	y	n
7 - Support facilities	Physical security at site, building and department level	n	n	y
7 - Support facilities	Plant room	y	y	y
7 - Support facilities	Reprographics room - linked to Admin Office	y	y	y
7 - Support facilities	Training/Building Admin Office - 4 persons with admin equipment - linked to reception	y	y	y
7 - Support facilities	TV Lounge area – 20 persons	y	y	y

Relationship between Functions

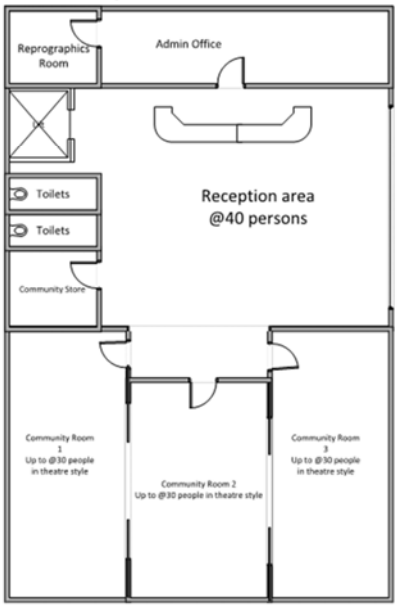
In addition to the requirements of each option listed above, it is also required that certain functions integrate together or are co-located to enable them to operate with maximum effectiveness. A guideline to these relationships between functions was provided as follows:

Community facilities

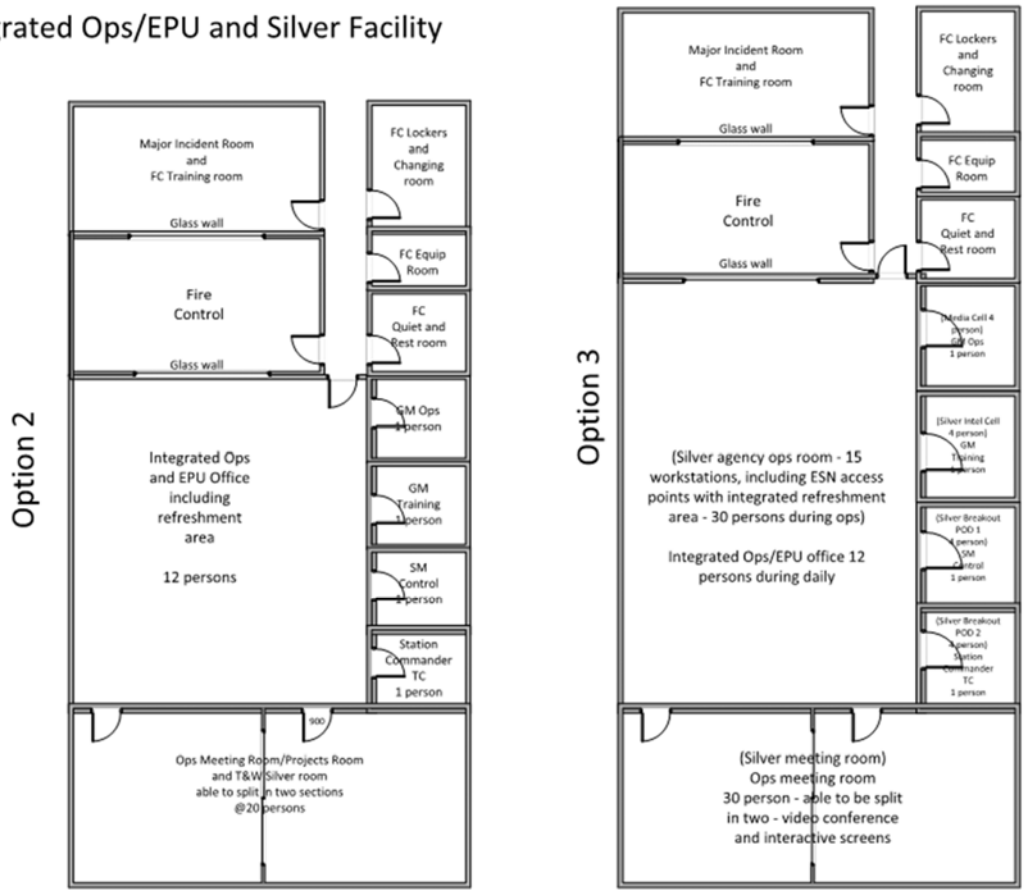
Option 1



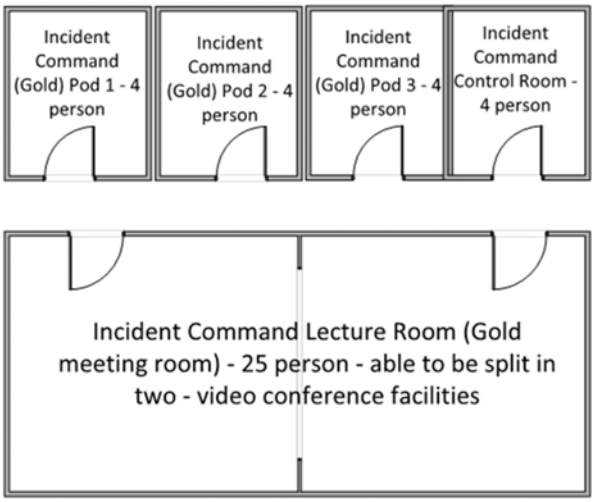
Options 2 and 3



Integrated Ops/EPU and Silver Facility



Incident Command Suite (Gold) – all options
Remote from Silver facility



9.0 Option Appraisal – Option 1: Minimum Required by SFRS

(Please refer to Appendix 1 – Option 1 Floor Plan)

This option provides for the minimum required functions to be included for consideration. The functions required consist of:

1 – Fire Station

2 – Training Department Internal

3 – Training Ops External

6 – Community Facilities (limited to: 30 person community room, store, 20 person Reception area)

7 – Support Facilities (inc. 40 person Dining and Kitchen)

General Considerations

As part of the consideration of the space required for each function and their relation to each other, wherever possible rooms have been incorporated into the current building's footprint to minimise the need for expansion. A notional amount of space has been left in each floor/wing for circulation/toilets/lifts etc. where not already specified, which would need to be considered more in depth at Concept Design stage.

The current training block has not been remodelled internally; however it will be included in the cost information for full refurbishment and replacement of the roof. The additional requirements of 'Function 3 – Training Ops External' have been proposed as a 2 storey extension on the West side of the building in each of the options presented.

This option leaves a surplus space of around 60m2 on 2nd floor.

1 – Fire Station

The Fire Station is kept mostly to the ground floor within the main building, given that the appliance bays are in the prime location for access to the main road. The appliance bay includes an extension to allow for ALP Length vehicle bay. The required study bedrooms/bathrooms are located on ground floor and incorporate toilet facilities.

Due to space restriction on ground floor, the Station Commander's Office is located on 1st floor near the stairwell, as is the Station Lecture room.

2 – Training Department Internal

In this option the Internal Training Department is locate over 2 floors, 1st floor (south wing) and 2nd floor. The 1st floor contains the majority of training facilities/offices, whilst 2nd floor houses the Incident Command rooms and some offices.

3 – Training Ops External

As in all 3 options, the current appliance bay/workshop is expanded to accommodate 3 appliance bays. The remaining External Training functions are incorporated into a 2 storey extension on the west of the current External Training Block.

There is approximately 8 metres between the current building and the western site boundary. The total area of the extension covering both floors would be approximately 200m2. The exact position of the extension would be expanded upon at Concept Design Stage.

There is currently a compressor room on ground floor level which would be incorporated into the extension.

6 – Community Facilities (limited to: 30 person community room, store, 20 person Reception area)

In this option the new Reception area is contained within the footprint of the current building. The new community room is large enough to accommodate 30 people, and is located adjacent to Reception. The community store is shown at the back of this room.

Given the space available in this ground floor wing there is scope for the actual placement of these facilities to be switched or repositioned at Concept Design stage.

7 – Support Facilities (inc. 40 person Dining and Kitchen)

The Plant Room and Generator rooms are shown on ground floor as required. As has previously been discussed, it may be that these facilities could be located externally if necessary.

The administration Office and reprographics are located adjacent to the Reception area.

Kitchen and Dining facilities are located on 1st floor, adjacent the TV room. There is enough space for these to increase in size at concept design if required. In this option the server room is also located on 1st floor.

Area of extension required in Option 1:

Fire Station Appliance Bay - 25m2

External Training Facility – 200m2

Total Area of Extension – <u>225m2</u>

10.0 Option Appraisal – Option 2: Optimal Use by SFRS

(Please refer to Appendix 2 – Option 2 Floor Plan)

This option provides for the additional functions of Integrated Operations Control, Fire Control and Emergency Planning. The functions required consist of:

1 – Fire Station (some rooms integrated into function 4)

2 – Training Department Internal

3 – Training Ops External

4 – Integrated Ops/Control/EPU

6 – Community Facilities (100 person community room, store, 40 person Reception area)

7 – Support Facilities (inc. 50 person Kitchen, 100 person Dining)

General Considerations

As with Option 1, wherever possible rooms have been incorporated into the current building's footprint to minimise the need for expansion. A notional amount of space has been left in each floor/wing for circulation/toilets/lifts etc. where not already specified, which would need to be considered more in depth at Concept Design stage.

The current training block has not been remodelled internally; however it will be included in the cost information for full refurbishment and replacement of the roof. The additional requirements of 'Function 3 – Training Ops External' have been proposed as a 2 storey extension on the West side of the building in each of the options presented.

This option leaves no substantial surplus space within the building.

1 – Fire Station (some rooms integrated into function 4)

In option 2, the Fire Station is kept completely on the ground floor within the main building, given that the appliance bays are in the prime location for access to the main road. The appliance bay includes an extension to allow for ALP Length vehicle bay. The required study bedrooms/bathrooms are located on ground floor and incorporate toilet facilities.

As required, the Station Commander's Office and the GM training office are located with Integrated Ops/Control/EPU function.

2 – Training Department Internal

In this option the Internal Training Department is locate on 2nd floor and requires an extension over the current first floor south wing of approximately 245m2. This allows for Incident Command and the Training areas to be located on the same floor.

3 – Training Ops External

As in all 3 options, the current appliance bay/workshop is expanded to accommodate 3 appliance bays. The remaining External Training functions are incorporated into a 2 storey extension on the west of the current External Training Block.

There is approximately 8 metres between the current building and the western site boundary. The total area of the extension covering both floors would be approximately 200m2. The exact position of the extension would be expanded upon at Concept Design Stage.

There is currently a compressor room on ground floor level which would be incorporated into the extension.

4 – Integrated Ops/Control/EPU

The majority of the Ops/Control/EPU function is located on 1st floor centrally and in the south wing. It is required that the 1st floor is extended by approximately 30m2 over the proposed Reception area extension (see below) in order to accommodate all the required rooms and to maintain the relationships between areas. Due to the restricted space on 1st floor in this option, the Ops meeting room and GM Training Office have been located into available space on 2nd floor.

The Ops/EPU office/refreshment area in 1st floor south wing is shown with an external circulation corridor, however this could incorporate circulation potentially to maximise area if it was needed.

6 – Community Facilities (100 person community room, store, 40 person Reception area)

In option 2 the expanded Reception area is shown as a 30m2 extension to the building entrance out into the current car park. This extension also allows extension of the 1st floor to allow for Integrated Ops/Control/EPU to be located in one area (see above).

The larger community room requirement is shown with the option to split into 3 areas, with the community store shown at the end of the wing next to the stairwell. Given the space available in this ground floor wing there is scope for the actual placement of these facilities to be switched or repositioned at Concept Design stage.

7 – Support Facilities (inc 50 person Kitchen, 100 person Dining)

The Plant Room and Generator rooms are shown on ground floor as required. As has previously been discussed, it may be that these facilities could be located externally if necessary.

The administration Office and reprographics are located adjacent to the new larger Reception area. In this option the server room is located at the end of the proposed extension to 2nd floor south wing.

The Kitchen and Dining facilities are located on 1st floor, and given the larger requirement for space these take up most of the north wing. The TV room is also located on this floor.

Area of extension required in Option 2:

Fire Station Appliance Bay - 25m2

External Training Facility – 200m2

Ground Floor Reception– 30m2

First Floor Ops/ Control/EPU – 30m2

Second Floor South Wing – 245m2

Total Area of Extension – <u>530m2</u>

11.0 Option Appraisal – Option 3: Maximal Use by SFRS and its Partners

(Please refer to Appendix 3 – Option 3 Floor Plan)

This option provides for some additional functions of Integrated Operations Control, Fire Control and Emergency Planning, and also incorporates Multiagency Silver/Gold operations. This would naturally require the most floor space. The functions required consist of:

1 – Fire Station (some rooms integrated into functions 4/5)

2 – Training Department Internal

3 – Training Ops External

4 – Integrated Ops/Control/EPU (limited to Major Incident Room, Control Locker Facilities, Quiet Room)

5 – Multiagency Silver/Gold

6 – Community Facilities (100 person community room, store, 40 person Reception area)

7 – Support Facilities (inc. 50 person Kitchen, 100 person Dining)

General Considerations

As with Option 1 and 2, wherever possible rooms have been incorporated into the current building's footprint to minimise the need for expansion. A notional amount of space has been left in each floor/wing for circulation/toilets/lifts etc. where not already specified, which would need to be considered more in depth at Concept Design stage.

The current training block has not been remodelled internally; however it will be included in the cost information for full refurbishment and replacement of the roof. The additional requirements of 'Function 3 – Training Ops External' have been proposed as a 2 storey extension on the West side of the building in each of the options presented.

This option leaves a surplus space of around 50m2 on 2nd floor.

1 – Fire Station (some rooms integrated into function 5)

In option 3, the Fire Station is kept completely on the ground floor within the main building, given that the appliance bays are in the prime location for access to the main road. The appliance bay includes an extension to allow

for ALP Length vehicle bay. The required study bedrooms/bathrooms are located on ground floor and incorporate toilet facilities.

As required, the Station Commander's Office and the GM training office are located with function 5 – Multiagency Silver/Gold.

2 – Training Department Internal

In this option the Internal Training Department is located fully on the 1st floor, but requires an extension of approximately 30m2 above the proposed Reception area on ground floor (see below). This allows for Incident Command and the Training areas to be located on the same floor, and ensures Gold and Silver functions are kept apart on separate floors. This will also allow for extension over this area on 2nd floor to accommodate Multiagency Silver/Gold function (see below).

3 – Training Ops External

As in all 3 options, the current appliance bay/workshop is expanded to accommodate 3 appliance bays. The remaining External Training functions are incorporated into a 2 storey extension on the west of the current External Training Block.

There is approximately 8 metres between the current building and the western site boundary. The total area of the extension covering both floors would be approximately 200m2. The exact position of the extension would be expanded upon at Concept Design Stage.

There is currently a compressor room on ground floor level which would be incorporated into the extension.

4 – Integrated Ops/Control/EPU (limited to Major Incident Room, Control Locker Facilities, Quiet Room)

The lesser requirement for space for this function in option 3 allows for all operational rooms to be located together on 2nd Floor.

5 – Multiagency Silver/Gold

To ensure the Multiagency functions are located together, similar to option 2, this would require an extension to 2nd floor over the 1st floor south wing, plus extension over the proposed 1st floor Internal Training Department (see above) of approximately 275m2 in total.

6 – Community Facilities (100 person community room, store, 40 person Reception area)

As with option 2, in option 3 the expanded Reception area is shown as a 30m2 extension to the building entrance out into the current car park. This extension also allows extension of the 1st floor to allow for Incident Command to be located in one area (see above).

The larger community room requirement is shown with the option to split into 3 areas, with the community store shown at the end of the wing next to the stairwell. Given the space available in this ground floor wing there is scope for the actual placement of these facilities to be switched or repositioned at Concept Design stage.

7 – Support Facilities (inc. 50 person Kitchen, 100 person Dining)

In option 3, the Plant Room and Generator rooms are again shown on ground floor as required. As has previously been discussed, it may be that these facilities could be located externally if necessary.

The administration Office and reprographics are located adjacent to the new larger Reception area.

The Kitchen and Dining facilities are located on 1st floor, and given the larger requirement for space these take up most of the north wing. The TV room and the server room are both now located within the 2nd floor north wing.

Area of extension required in Option 3:

Fire Station Appliance Bay - 25m2

External Training Facility – 200m2

Ground Floor Reception– 30m2

First Floor Incident Command – 30m2

Second Floor South Wing – 275m2

Total Area of Extension – <u>560m2</u>

12.0 New Build Options (Options 4, 5 and 6)

The Budget Feasibility Estimate provided in Section 11 includes options for new build for each of the refurbishment options detailed in sections 6, 7 and 8 above.

Option 4: New Build - Minimum Required by SFRS

This cost estimate for new build is based upon the Option 1 refurbishment requirements.

Option 5: New Build - Optimal Use by SFRS

This cost estimate for new build is based upon the Option 2 refurbishment requirements.

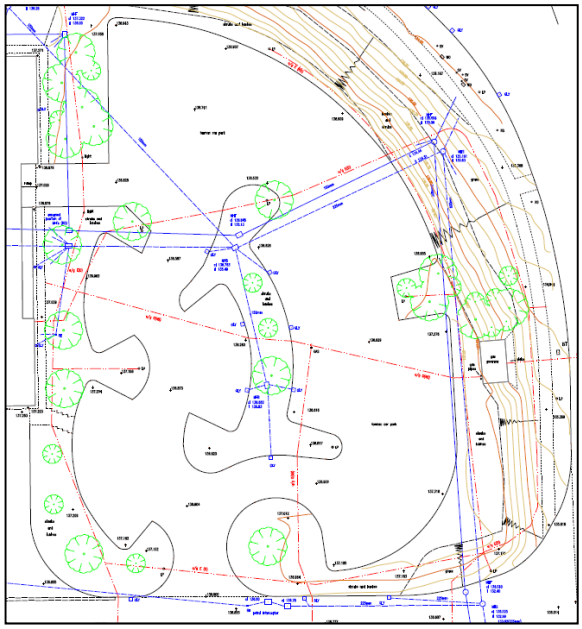
Option 6: New Build - Maximal Use by SFRS and its Partners

This cost estimate for new build is based upon the Option 3 refurbishment requirements.

Each of the options presented in the Budget Feasibility Estimate detail what is included and excluded, and what assumptions have been made.

13.0 Car Parking (included in all options)

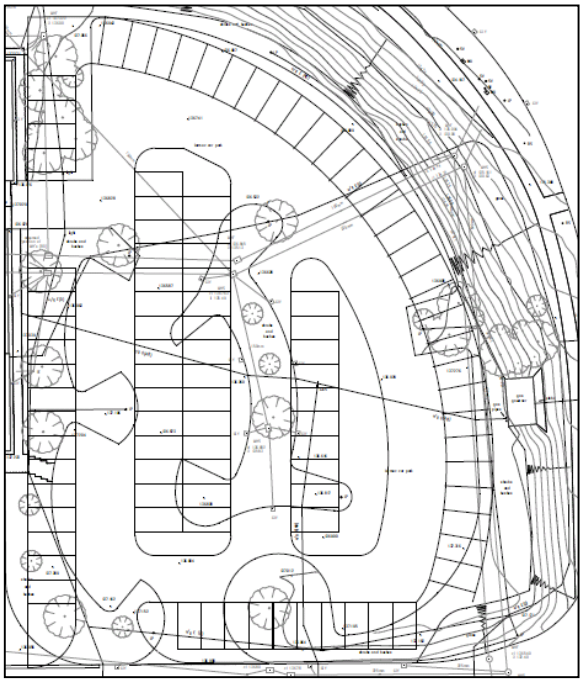
Current Car Park Layout



The current car park appears spacious but does not have any line markings denoting spaces. The training yard is currently used for overspill parking.

A calculation of the space that is currently utilised would suggest approximately 60 car parking spaces, however in reality it may actually provide less due to unsatisfactory parking in unmarked spaces.

Proposed Car Park Layout



The proposed layout would allow up to 90+ spaces (after including for disabled parking bays and access to the Reception).

It would require removal of current shrub beds and trees and relocation of the entrance to achieve the maximum number of bays.

14.0 Budget Feasibility Estimate

The costs discussed in this section are for budget setting purposes only and have been taken from published cost guides.

Inclusions

The following items <u>are included</u> in this estimate of costs:

- BiT Design and Project Management Fees including Principal Designer Fees and Sustainable Design Consultant.
- Planning and Building Regulation Fees including SBEM and EPC.
- Ground investigation and underground utility survey fees, Ecological survey and report.

Exclusions

The following items <u>are not</u> included in this estimate and allowance should be made elsewhere:

- Any Land purchase costs and associated acquisition/legal costs
- VAT
- Inflation (increase in building costs) past 1Q2017
- Diversion of any existing main foul and storm water drains and flood alleviation works
- Removal of any contaminated material off site
- Loose furniture, furnishings and equipment including ICT equipment
- Abnormal ground conditions and/or obstructions in the ground/excavating through rock
- Ground improvement works
- Ground water - dewatering and pumping
- Sprinkler system and internal/external CCTV
- Works to neighbouring properties/boundary wall/rights of way/easement agreements
- Any legal fees. BREEAM Very Good rating and BREEAM Assessor Fees
- Brise soleil/solar shading
- Any extensive Acoustic requirements
- Archaeology survey and impact on the programme of any finds
- Temporary works and approvals
- Section 104, 106 and 278 design and applications/payments
- Highway improvement works
- Secure by Design
- Design and access statements and transport and traffic reports
- Decanting staff and all equipment
- Any required temporary accommodation whilst the building works are carried out
- Any required structural repairs to the existing building structure - A structural Survey is required of the existing structure/foundations to

confirm that a second floor can be constructed over the existing first floor.

Assumptions

- Project to be procured on a single stage JCT 2011 Design and Build Contract for the new build options (4-6) and a JCT Standard Form of Contract 2011 for the refurbishment/extension options (1-3)
- Costs assume existing main services and drains are in close proximity to the site and have adequate capacity to accommodate this scheme
- Main services are budget costs only as we have no details of the actual load requirements of the existing and proposed buildings and we will need to consult with utility operators as the network may have to be reinforced before the development can be connected - these costs are excluded from this budget estimate
- Cost based on 1Q 2017 Cost levels (3.5% allowance included for increase in tender prices from 1Q2016 to 1Q2017)
- Costs based on the construction works being carried out during normal working hours
- Costs based on a level site with normal ground conditions with a reinforced concrete floor slab and concrete pad/beam foundations for the new buildings
- Costs based on the existing buildings being un-occupied during the construction works - Fire and Rescue Service are to decant from the existing premises

Information Used

- biT drawing Nr's 15219-1-A100 (Proposed Site Plan); A200 (Option 1); A201 (Option 2); A202 (Option 3) and existing site plan 223.001.S.6
- Mechanical and Electrical Engineer costs
- BCIS Average Building Costs & Spons 2015 & Cost data from other projects
- Budget costs received from contractors including demolition contractors and main contractors

Costs provided by:

Mark Young Quantity Surveyor/Project Manager
29th January 2016
biT I Commercial Services I Telford & Wrekin Council I
Wellington Civic Offices I Telford I PO BOX 457 I Sat Nav Address: TF1 1LX

15.0 Budget Feasibility Estimate – Breakdown of Costs

	1.0 EXTENSION AND REFURBISHMENT	OPTION 1				OPTION 2				OPTION 3			
		Quantity	Unit	Rate	Total	Quantity	Unit	Rate	Total	Quantity	Unit	Rate	Total
	1.1 MAIN BUILDING - 2,117 M2:												
	Refurbishment: (High Spec as Shrewsbury Fire HQ Refurbishment)												
a	Removal of Asbestos - budget allowance		Item	Say	£ 125,000		Item	Say	£ 125,000		Item	Say	£ 125,000
b	Remove existing canopy to rear of appliance bays	279.00	m2	50.00	£ 13,950	279.00	m2	50.00	£ 13,950	279.00	m2	50.00	£ 13,950
c	Full internal strip out back to the structure	2,117.00	m2	50.00	£ 105,850	2,117.00	m2	50.00	£ 105,850	2,117.00	m2	50.00	£ 105,850
d	Full internal refurbishment (building works)	2,117.00	m2	600.00	£ 1,270,200	2,117.00	m2	600.00	£ 1,270,200	2,117.00	m2	600.00	£ 1,270,200
e	New standing seam pitched roof over the existing flat roof including structure, rainwater goods	1,127.00	m2	225.00	£ 253,575	1,127.00	m2	225.00	£ 253,575	1,127.00	m2	225.00	£ 253,575
f	Re-cladding of external façade composite metal panel	1,715.00	m2	150.00	£ 257,250	1,715.00	m2	150.00	£ 257,250	1,715.00	m2	150.00	£ 257,250
g	New windows, doors, curtain walling, roller shutters		Item	Say	£ 250,000		Item	Say	£ 250,000		Item	Say	£ 250,000
h	M&E installations as Engineers estimate	2,117.00	m2	360.00	£ 762,120	2,117.00	m2	360.00	£ 762,120	2,117.00	m2	360.00	£ 762,120
i	Renewable (PV's etc) - Sustainable Design		Item	Say	£ 250,000		Item	Say	£ 250,000		Item	Say	£ 250,000
j	BWIC with M&E installations		Item	Say	£ 50,000		Item	Say	£ 50,000		Item	Say	£ 50,000
k	New canopy to rear of the appliance bay	279.00	m2	500.00	£ 139,500	279.00	m2	500.00	£ 139,500	279.00	m2	500.00	£ 139,500
					£ 3,477,445				£ 3,477,445				£3,477,445
	Extensions:		Rate/m2	1,642.63			Rate/m2	1,642.63			Rate/m2	1,642.63	
	Option 1:												
l	Appliance Bay Extension - 25m2	25.00	m2	2,400.00	£ 60,000								
	Option 2:												
m	Appliance Bay Extension - 25m2					25.00	m2	2,400.00	£ 60,000				
n	Reception Extension - 30m2					30.00	m2	2,400.00	£ 72,000				
o	1st Floor above reception - 25m2					25.00	m2	2,400.00	£ 60,000				
p	South wing 2nd floor extension -245 m2 (on top of *existing first floor - Structural Survey required !)*					245.00	m2	3,000.00	£ 735,000				
						325.00	m2						
	Option 3:												
q	Appliance Bay Extension - 25m2									25.00	m2	2,400.00	£60,000
r	Reception Extension - 30m2									30.00	m2	2,400.00	£72,000
s	South wing 2nd floor extension -300m2 (on top of *existing first floor - Structural Survey required !)*									300.00	m2	3,000.00	£900,000
										355.00	m2		
	1.2 TRAINING BUILDING - 340 M2:												
	Refurbishment: (excluding live fire wing)												
t	Removal of Asbestos - budget allowance		Item	Say	£ 25,000		Item	Say	£ 25,000		Item	Say	£ 25,000
u	Full internal strip out back to the structure	340.00	m2	50.00	£ 17,000	340.00	m2	50.00	£ 17,000	340.00	m2	50.00	£ 17,000
v	Full internal refurbishment (building works)	340.00	m2	600.00	£ 204,000	340.00	m2	600.00	£ 204,000	340.00	m2	600.00	£ 204,000
w	New standing seam pitched roof over the existing flat roof including structure, rainwater goods	340.00	m2	225.00	£ 76,500	340.00	m2	225.00	£ 76,500	340.00	m2	225.00	£ 76,500
x	Recladding of external façade composite panel	500.00	m2	150.00	£ 75,000	500.00	m2	150.00	£ 75,000	500.00	m2	150.00	£ 75,000
y	New windows, doors, curtain walling, roller shutters		Item	Say	£ 75,000		Item	Say	£ 75,000		Item	Say	£ 75,000
z	M&E installations as Engineers estimate	340.00	m2	300.00	£ 102,000	340.00	m2	300.00	£ 102,000	340.00	m2	300.00	£ 102,000
a1	Renewable (PV's etc) - Sustainable Design		Item	Say	£ 50,000		Item	Say	£ 50,000		Item	Say	£ 50,000
b1	BWIC with M&E		Item	Say	£ 10,000		Item	Say	£ 10,000		Item	Say	£ 10,000
	C/F				**£ 4,171,945**				**£ 5,038,945**				**£5,143,945**

1.0 EXTENSION AND REFURBISHMENT	OPTION 1				OPTION 2				OPTION 3			
	Quantity	Unit	Rate	Total	Quantity	Unit	Rate	Total	Quantity	Unit	Rate	Total
B/F				£ 4,171,945				£ 5,038,945				£5,143,945
1.2 TRAINING BUILDING - 340 M2:												
Extensions:												
a Two storey extension to the training building	200.00	m2	2,250.00	£ 450,000	200.00	m2	2,250.00	£ 450,000	200.00	m2	2,250.00	£ 450,000
1.3 EXTERNAL WORKS:												
b Take up existing tarmac car park, kerbs etc	2,044.00	m2	5.00	£ 10,220	2,044.00	m2	5.00	£ 10,220	2,044.00	m2	5.00	£ 10,220
c New tarmacadam car parking including excavation, hardcore base, kerbs etc (96 spaces)	2,512.00	m2	55.00	£ 138,160	2,512.00	m2	55.00	£ 138,160	2,512.00	m2	55.00	£ 138,160
d Storm water drainage to the new car park	2,512.00	m2	10.00	£ 25,120	2,512.00	m2	10.00	£ 25,120	2,512.00	m2	10.00	£ 25,120
e Allow for attenuation to the new car park		Item	Say	£ 30,000		Item	Say	£ 30,000		Item	Say	£ 30,000
f External lighting to new car park including bwic		Item	Say	£ 15,000		Item	Say	£ 15,000		Item	Say	£ 15,000
g Removal of existing lighting to car park		Item	Say	inc		Item	Say	inc		Item	Say	inc
h Landscape and planting to car park		Item	Say	£ 15,000		Item	Say	£ 15,000		Item	Say	£ 15,000
i Modifications to main services to accommodate additional extensions to the building - capacity of the existing mains to be checked - prov allowance		Item	Say	£ 50,000		Item	Say	£ 50,000		Item	Say	£ 50,000
j Allow for new paving to reception offices etc		Item	Say	£ 15,000		Item	Say	£ 15,000		Item	Say	£ 15,000
k Allow for making good existing paving		Item	Say	£ 25,000		Item	Say	£ 25,000		Item	Say	£ 25,000
l Allow for new drainage to the new extensions	225.00	m2	50.00	£ 11,250	525.00	m2	50.00	£ 26,250	555.00	m2	50.00	£ 27,750
SUB-TOTALS				£ 4,920,445				£ 5,787,445				£ 5,892,445
ADD												
PRELIMINARIES/CONTRACTORS SITE COSTS			15.00%	£ 738,067			15.00%	£ 868,117			15.00%	£ 883,867
				£ 5,658,512				£ 6,655,562				£ 6,776,312
CONTINGENCY/RISK ALLOWANCE			10.00%	£ 565,851			10.00%	£ 665,556			10.00%	£ 677,631
TOTAL CONSTRUCTION COST AT 1Q2016				**£ 6,224,363**				**£ 7,321,118**				**£ 7,453,943**
ADD												
INCREASE IN TENDER PRICES FROM 1Q2016 TO 1Q2017			3.50%	£ 217,853			3.50%	£ 256,239			3.50%	£ 260,888
TOTAL CONSTRUCTION COST AT 1Q2017				**£ 6,442,216**				**£ 7,577,357**				**£ 7,714,831**
1.4 FEES/SURVEYS ETC:												
BiT Design and Project Management Fees:			)	£ 386,533			)	£ 454,641			)	£ 462,890
(Architect, Quantity Surveyor, M&E Engineers,			)				)				)	
Structural Engineer and Project Manager Fees)			)				)				)	
BiT Principal Designer Fees				£ 10,000				£ 10,000				£ 10,000
Planning Fee				£ 14,000				£ 15,500				£ 16,000
Building Regulation Fee, SBEM EPC				£ 20,000				£ 20,000				£ 20,000
Ground Investigation, Underground Utility survey,				£ 50,000				£ 50,000				£ 50,000
Ecology Survey etc				inc				inc				inc
Sustainable Design Consultant				£ 50,000				£ 50,000				£ 50,000
TOTAL ESTIMATED COST	***OPTION 1***			**£ 6,972,749**	***OPTION 2***			**£ 8,177,498**	***OPTION 3***			**£ 8,323,721**

	2.0 NEW FIRE STATION.	OPTION 4				OPTION 5				OPTION 6			
		Quantity	**Unit**	**Rate**	**Total**	**Quantity**	**Unit**	**Rate**	**Total**	**Quantity**	**Unit**	**Rate**	**Total**
	2.1 MAIN BUILDING - 2,117 M2:												
	Demolition and construct new fire station												
a	Removal of Asbestos - budget allowance		Item	Say	£ 125,000		Item	Say	£ 125,000		Item	Say	£ 125,000
b	Remove existing canopy to rear of appliance bays	279.00	m2	50.00	£ 13,950	279.00	m2	50.00	£ 13,950	279.00	m2	50.00	£ 13,950
c	Demolition of the existing building		Item	Say	£ 150,000		Item	Say	£ 150,000		Item	Say	£ 150,000
d	Construct new fire station	2,117.00	m2	2,150.00	£ 4,551,550	2,117.00	m2	2,150.00	£ 4,551,550	2,117.00	m2	2,150.00	£ 4,551,550
e	Renewable (PV's etc) - Sustainable Design		Item	Say	£ 250,000		Item	Say	£ 250,000		Item	Say	£ 250,000
f	New canopy to rear of the appliance bay	279.00	m2	500.00	£ 139,500	279.00	m2	500.00	£ 139,500	279.00	m2	500.00	£ 139,500
					£ 5,230,000				£ 5,230,000				£ 5,230,000
	Extensions (constructed as part of new build):		Rate/m2	2,470.48			Rate/m2	2,470.48			Rate/m2	2,470.48	
	Option 1:												
g	Appliance Bay Extension - 25m2	25.00	m2	2,150.00	£ 53,750								
	Option 2:												
h	Appliance Bay Extension - 25m2					25.00	m2	2,150.00	£ 53,750				
i	Reception Extension - 30m2					30.00	m2	2,150.00	£ 64,500				
j	1st Floor above reception - 25m2					25.00	m2	2,150.00	£ 53,750				
k	South wing 2nd floor extension -245 m2					245.00	m2	2,150.00	£ 526,750				
						325.00	m2						
	Option 3:												
l	Appliance Bay Extension - 25m2									25.00	m2	2,150.00	£53,750
m	Reception Extension - 30m2									30.00	m2	2,150.00	£64,500
n	South wing 2nd floor extension -300m2									300.00	m2	2,150.00	£645,000
										355.00	m2		
	2.2 TRAINING BUILDING - 340 M2:												
	Demolition & construct new fire training building (excluding live fire wing)												
o	Removal of Asbestos - budget allowance		Item	Say	£ 25,000		Item	Say	£ 25,000		Item	Say	£ 25,000
p	Demolition of the existing building		Item	Say	£ 40,000		Item	Say	£ 40,000		Item	Say	£ 40,000
q	Construct new fire training building	340.00	m2	2,150.00	£ 731,000	340.00	m2	2,150.00	£ 731,000	340.00	m2	2,150.00	£ 731,000
r	Renewable (PV's etc) - Sustainable Design		Item	Say	£ 50,000		Item	Say	£ 50,000		Item	Say	£ 50,000
	Extensions (constructed as part of new build):												
s	Two storey extension to the training building	200.00	m2	2,150.00	£ 430,000	200.00	m2	2,150.00	£ 430,000	200.00	m2	2,150.00	£ 430,000
	2.3 EXTERNAL WORKS:												
t	Take up existing tarmac car park, kerbs etc	2,044.00	m2	5.00	£ 10,220	2,044.00	m2	5.00	£ 10,220	2,044.00	m2	5.00	£ 10,220
u	New tarmacadam car parking including excavation, hardcore base, kerbs etc (96 spaces)	2,512.00	m2	55.00	£ 138,160	2,512.00	m2	55.00	£ 138,160	2,512.00	m2	55.00	£ 138,160
v	Storm water drainage to the new car park	2,512.00	m2	10.00	£ 25,120	2,512.00	m2	10.00	£ 25,120	2,512.00	m2	10.00	£ 25,120
w	Allow for attenuation to the new car park		Item	Say	£ 30,000		Item	Say	£ 30,000		Item	Say	£ 30,000
x	External lighting to new car park including bwic		Item	Say	£ 15,000		Item	Say	£ 15,000		Item	Say	£ 15,000
y	Removal of existing lighting to car park		Item	Say	inc		Item	Say	inc		Item	Say	inc
	C/F				**£ 6,778,250**				**£ 7,423,250**				**£7,487,750**

2.0 NEW FIRE STATION.	OPTION 4				OPTION 5				OPTION 6			
	Quantity	**Unit**	**Rate**	**Total**	**Quantity**	**Unit**	**Rate**	**Total**	**Quantity**	**Unit**	**Rate**	**Total**
B/F				**£ 6,778,250**				**£ 7,423,250**				**£7,487,750**
2.3 EXTERNAL WORKS:												
a Landscape and planting to car park/making good		Item	Say	£ 25,000		Item	Say	£ 25,000		Item	Say	£ 25,000
b Allow for new drainage and modifications to the existing foul and storm water drainage	2,682.00	m2	30.00	£ 80,460	2,982.00	m2	30.00	£ 89,460	3,012.00	m2	30.00	£ 90,360
c Modifications to main services to accommodate additional extensions to the building - capacity of the existing mains to be checked - prov allowance		Item	Say	£ 100,000		Item	Say	£ 100,000		Item	Say	£ 100,000
d Allow for new paving to reception offices etc		Item	Say	£ 25,000		Item	Say	£ 25,000		Item	Say	£ 25,000
e Allow for new vehicular paving to rear yard and front entrance to appliance bay	2,998.00	m2	85.00	£ 254,830	2,998.00	m2	85.00	£ 254,830	2,998.00	m2	95.00	£ 284,810
SUB-TOTALS				£ 7,263,540				£ 7,917,540				£8,012,920
ADD												
PRELIMINARIES/CONTRACTORS SITE COSTS			15.00%	£ 1,089,531			15.00%	£ 1,187,631			15.00%	£ 1,201,938
				£ 8,353,071				£ 9,105,171				£ 9,214,858
CONTINGENCY/RISK ALLOWANCE			10.00%	£ 835,307			10.00%	£ 910,517			10.00%	£ 921,486
TOTAL CONSTRUCTION COST AT 1Q2016				**£ 9,188,378**				**£ 10,015,688**				**£ 10,136,344**
ADD												
INCREASE IN TENDER PRICES FROM 1Q2016 TO 1Q2017			3.50%	£ 321,593			3.50%	£ 350,549			3.50%	£ 354,772
TOTAL CONSTRUCTION COST AT 1Q2017				**£ 9,509,971**				**£ 10,366,237**				**£ 10,491,116**
2.4 FEES/SURVEYS ETC:												
BiT Design and Project Management Fees:			)	£ 380,399			)	£ 414,649			)	£ 419,645
(Architect, Quantity Surveyor, M&E Engineers,			)				)				)	
Structural Engineer and Project Manager Fees)			)				)				)	
BiT Principal Designer Fees				£ 10,000				£ 10,000				£ 10,000
Planning Fee				£ 14,000				£ 15,500				£ 16,000
Building Regulation Fee, SBEM EPC				£ 20,000				£ 20,000				£ 20,000
Ground Investigation, Underground Utility survey, Ecology Survey etc				£ 50,000 inc				£ 50,000 inc				£ 50,000 inc
Sustainable Design Consultant				£ 50,000				£ 50,000				£ 50,000
TOTAL ESTIMATED COST	***OPTION 4***			**£ 10,034,370**		***OPTION 5***		**£ 10,926,387**	***OPTION 6***			**£ 11,056,760**

16.0 Programme

We have sought advice from contractors on the proposed programme of works for refurbishment/extension and for new build. The advice we have been given is that, dependent on the project proposed, a construction programme of between 52 weeks to 78 weeks (12 to 18 months) is most likely. This would not include the design stage, which would increase the programme depending on complexity and the procurement process (which would fall within the threshold of the EU Procurement Directive for Public Works).

A more detailed project programme would need to be finalised as part of the development of the brief at Concept Design Stage, as there are a number of variables amongst the options presented herein.

17.0 Risks and Constraints

Building Structures

Although the structural integrity of the current buildings are considered to be sound, given that 2 of the 3 options would require significant extension above the existing ground/1st floors, a full structural engineer's report would be required.

Asbestos

Whether refurbishment or new build, the removal of asbestos from the site would necessitate relocation of the Fire Service operations and all staff to be relocated temporarily off-site for the duration of the project.

Diesel Tank and Pump Facilities

Whichever option is considered, the implication of having the fuel and pump facilities remain on site will need to be addressed in the Project Risk Assessment.

Newts/Ecology Area

Whichever option is eventually decided upon, there is likely to be some impact on the current ecology area on the west edge of the site. This may be minimal if a refurbishment option is chosen, however if a decision is taken to renew the training yard completely there could be a much larger impact on the area. This may necessitate an Ecology report to be provided for the Planning application process, if applicable.

Smoke Affecting Buildings and Ventilation

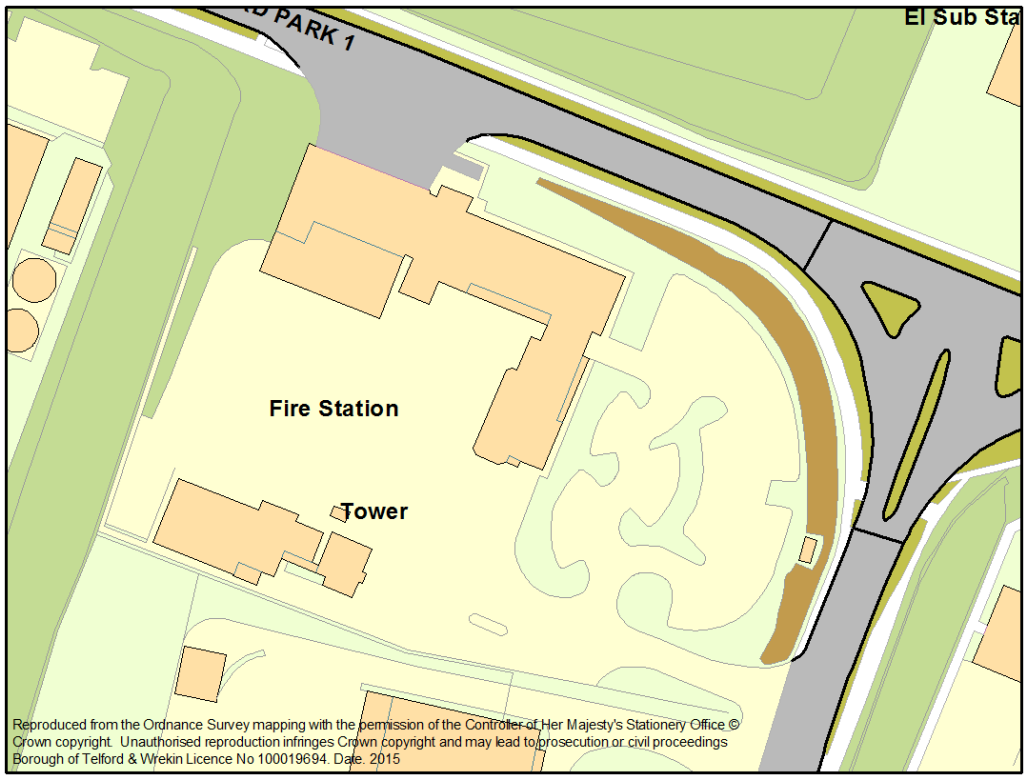
This is a current constraint due to the present use of the site for live fire training. Any Concept Design undertaken either for refurbishment or new build will need to incorporate the fact that live fire training will continue in a similar fashion on the site in future.

BREEAM Assessment

It is highly unlikely that a BREEAM 'Very Good' assessment would be achieved without a fully operating Building Management System (BMS) being incorporated into the final design. Although it is understood that SFRS would wish to avoid a complex BMS system, according to our interpretation of Part L of Building Regulations it is almost imposed that a design incorporate BLS/automatic controls to be able to achieve this standard under BREEAM. Please refer to **Section 19 – Sustainable Design** for alternatives.

18.0 Site Valuation

The present site covers approximately 2.78 acres although this does include the sloping banks and area inhabited by newts. It is situated in a prominent position on the edge of Stafford Park which is predominantly an industrial area. However nearby there are car showrooms, trade counters and office uses so subject to planning consent these uses may be acceptable.



Industrial land has risen in value over the last 18 months and currently achieves a figure of around £150,000 per acre. Given the sites position and possible alternative uses a slightly enhanced valuation of around £165,000 per acre is realistic, therefore:

2.78 acres x 165,000 = total potential value - £458,700

However, demolition costs to give a clear developable site need to be factored in and given the presence of both asbestos and the buried fuel tanks the potential cost of site remediation is abnormally high.

The following costs have been estimated from rates based on SPONs 2015 and preliminary discussions with demolition contractors (costs are including preliminaries, fees and contingency of 10%):

Asbestos removal - main building	£125,000
Demolition - Main Building	£150,000
Asbestos removal - Training building	£25,000
Demolition - Training building	£40,000
Fuel Tank removal	£15,000
Total Demolition costs	**£355,000**
Preliminaries (15%)	£53,250
Contingency (10%)	£35,500
Professional Fees	£35,500
Total Cost:	**£479,250**

This puts the potential value of the land some way below the cost of remediation of the site by around £21,250.

19.0 Sustainable Design

BREEAM is no longer a recognised goal within the construction industry. The key focus is now on constructing buildings that are airtight with a high thermal performance.

BREEAM concentrated on a points system that often missed the key principles of sustainable design i.e. the building would be scored on the closeness of the building to a cashpoint, which showed no relevance or merit to the sustainable credentials of the building.

The new focus is on Passivhaus and the use of Building Information Modelling (BIM) Please see Section 20 for further information on BIM.

Passivhaus

Passive is the fastest growing energy performance standard in the world with 30,000 buildings realised to date. The Passivhaus standards strengths lie in the simplicity of its approach; build a building that has an excellent thermal performance, exceptional airtightness with mechanical ventilation. Passivhaus adopts a robust approach to building design which allows the architect to minimise the 'Heating Demand' of the building and in some residential buildings only specify a heated towel rail as means of conventional heating, this heat can then be recovered and circulated by a Mechanical Ventilation and Heat Recovery (MVHR) unit.

There is a separate Passivhaus standard for refurbishment projects the ‘EnerPHit Standard’, this is a certification criteria for refurbished buildings. The use of Passivhaus technology for all relevant building components in existing buildings does lead to significant improvement in respect of thermal comfort, structural protection, cost-effectiveness and energy requirements.

20.0 Building Information Modelling (BIM)

Background

The Government Construction Strategy was published by the Cabinet office on 31 May 2011. The report publicised the Government's intention to require: collaborative 3D BIM (with all project and asset information, documentation and data being electronic) on its projects by 2016.

The key principles of BIM include the reduction of capital cost and the carbon burden from the construction and operation of the built environment by 20%. The construction industry is required to adopt information rich **Building Information Modelling** (BIM) technologies, process and collaborative behaviours that will unlock new more efficient ways of working at all stages of the project life-cycle.

Intelligent Building Data

A main advantage of BIM is that property related data will be captured in a COBie File. This information is essential to support operations, maintenance and asset management once the built asset is in service. The COBie file will capture and record important project data at the point of origin, including equipment lists, product data sheets, warranties, spare parts lists, and preventive maintenance schedules. The building owner will have a fully usable 3D model of their building, contained within this model will be the building asset data.

Practical Implementation

Strathclyde Fire and Rescue has pioneered a high-risk building plan system using BIM. They undertook a programme of modelling all buildings within the city which meant that fire crews can visualise a building layout before entering potentially fatal situations. BIM can be used to train firefighters and enable crews to familiarise themselves with sports stadia, for example, prior to major events.

biT and BIM

The biT Team are actively working with 3D modelling and visualisation and incorporating BIM technology into our design, project management and asset management processes. At handover, biT are able to present the Client with a fully detailed digital 3D model of the building and its associated metadata.

21.0 Client Responsibilities (CDM)

Construction (Design and Management) Regulations 2015 (CDM 2015)

The following is an extract from the HSE webpage:

http://www.hse.gov.uk/construction/cdm/2015/commercial-clients.htm

CDM 2015 makes a distinction between commercial clients and domestic clients. Client duties apply in full to commercial clients (for domestic clients the duties normally pass to other dutyholders).

A commercial client is any individual or organisation that carries out a construction project as part of a business.

Commercial clients have a crucial influence over how projects are run, including the management of health and safety risks. Whatever the project size, the commercial client has contractual control, appoints designers and contractors, and determines the money, time and other resources for the project.

For all projects, commercial clients must:

- make suitable arrangements for managing their project, enabling those carrying it out to manage health and safety risks in a proportionate way. These arrangements include:
    - appointing the contractors[2] and designers[3] to the project (including the principal designer[4] and principal contractor[5] on projects involving more than one contractor) while making sure they have the skills, knowledge, experience and organisational capability
    - allowing sufficient time and resources for each stage of the project
    - making sure that any principal designer and principal contractor appointed carry out their duties in managing the project
    - making sure suitable welfare facilities are provided for the duration of the construction work
- maintain and review the management arrangements for the duration of the project
- provide pre-construction information to every designer and contractor either bidding for the work or already appointed to the project
- ensure that the principal contractor or contractor (for single contractor projects) prepares a construction phase plan before that phase begins

- ensure that the principal designer prepares a health and safety file for the project and that it is revised as necessary and made available to anyone who needs it for subsequent work at the site

For notifiable projects (where planned construction work will last longer than 30 working days and involves more than 20 workers at any one time; or where the work exceeds 500 individual worker days), commercial clients must:

- notify HSE in writing with details of the project
- ensure a copy of the notification is displayed in the construction site office

22.0 Conclusion

The information contained within this report is purely an appraisal of the options available and is to be used for guidance purposes only. The final decision can only be made by Shropshire Fire and Rescue Service and its Partners, once the following points have been debated and agreed.

In no particular order:

- Level of Capital Investment
- Programme
- Procurement Method
- Disruption to Service Provision
- Risks
- Staff Relocation/ Disruption

The biT Team are able to offer further services including full design, project management and full project delivery, from initial project conception through the entire property lifecycle. For more information please contact us:

Telford & Wrekin Council

Commercial Services

Wellington Civic Offices

PO BOX 457

Telford

TF1 1LX

Telephone: 01952 384500

Email: bit@telford.gov.uk

Website: http://www.bit-group.co.uk/contact/

Facebook: https://www.facebook.com/biTgroupuk

Twitter: https://twitter.com/bitgroupuk

23.0 Appendices

The following plans are attached as Appendices:

Appendix 1 – Option 1 Floor Plan

Appendix 2 – Option 2 Floor Plan

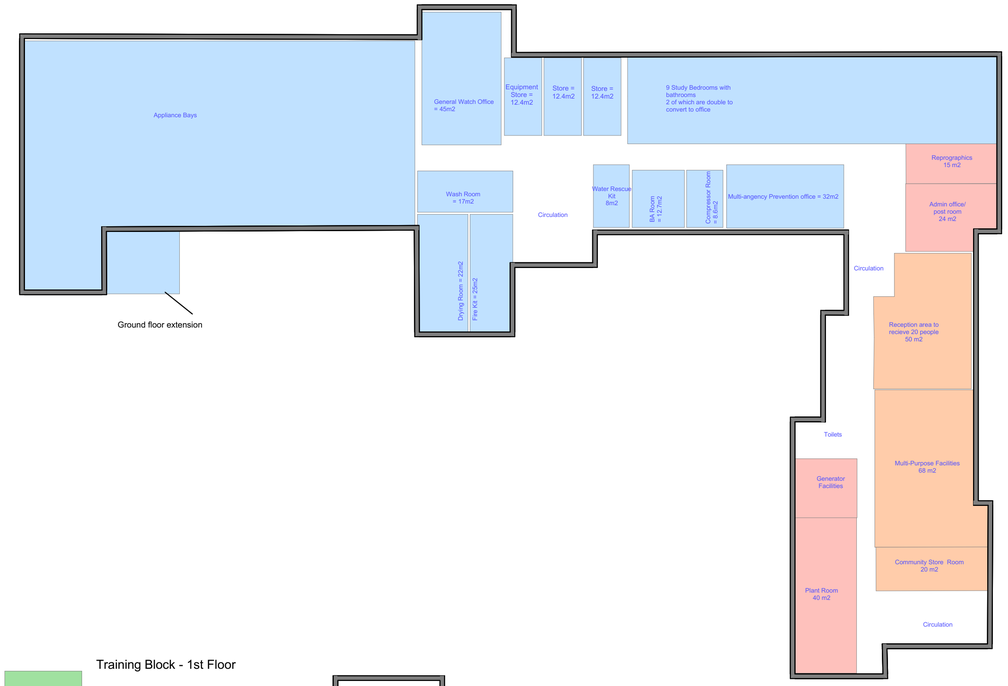
Appendix 3 - Option 3 Floor Plan

Appendix 4 - Current Floor Plan

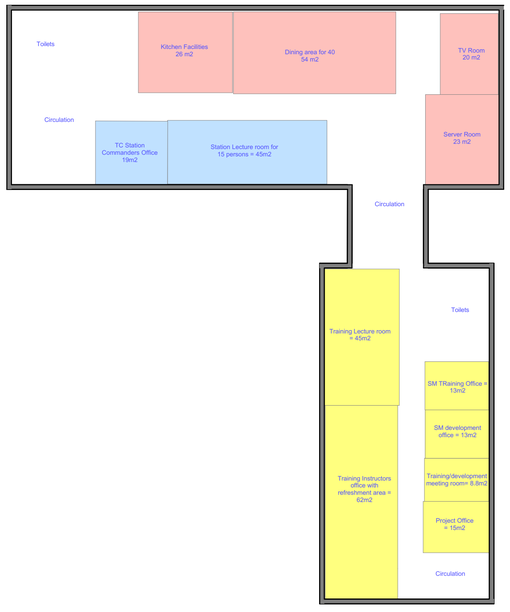
Appendix 5 - Current Site Plan

24.0 - Appendix 1 - Option 1 Floor Plan

Main Building - Ground Floor



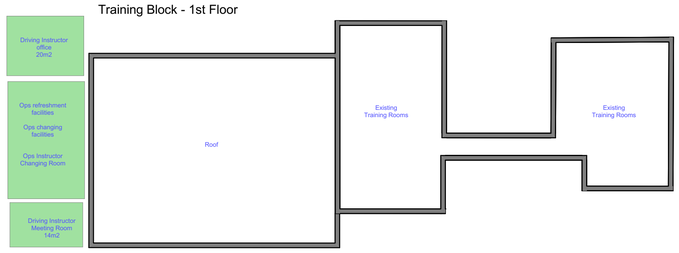
Main Building - 1st Floor



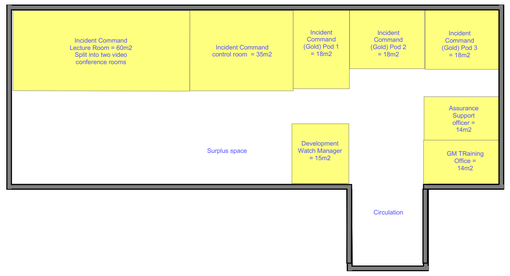
Key

- Function1 - Station
- Function 2 - Training Dept Internal
- Function 3 - Training Ops External
- Function 4 - Intergrated Ops/Control/EPU
- Function 5 - Multiagency Silver/Gold
- Function 6 - Community
- Function 7 - Support Facilities
- Existing Building Line

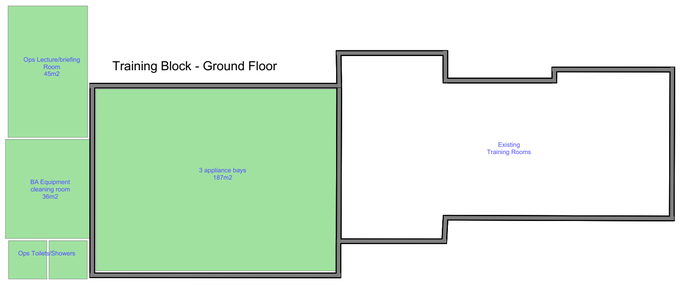
Training Block - 1st Floor



Main Building - 2nd Floor



Training Block - Ground Floor



This document and its design content is copyright ©. It shall be read in conjunction with all other associated project information including models, specifications, schedules and related consultants documents. Do not scale from documents. All dimensions to be checked on site. Immediately report any discrepancies, errors or omisions on this document to the Originator. If in doubt ASK.

Safety Health and Environmental Information Box

Construction Risks, Maintenance/cleaning Risks, Demolition/adaptation Risks

Notes:

RevID	Detail	Issued By	Issue Date

biT
Wellington Civic Offices, Larkin Way, Wellington, Telford, Shropshire, TF1 1LX
T: 01952 384500
W: www.bit-group.co.uk

Project: Telford Fire Station

Client: Shropshire Fire & Rescue

Layout Title: Option 1 (v3)

Scale @ A1: 1:200

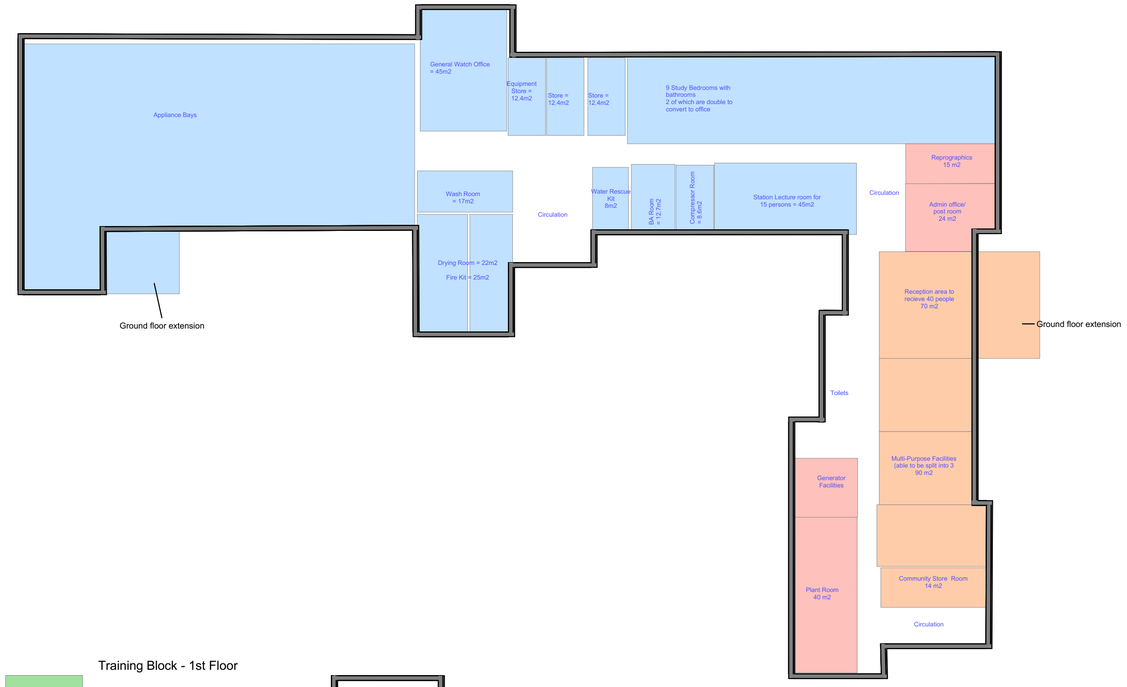
Status: Feasibility

Drawing Number

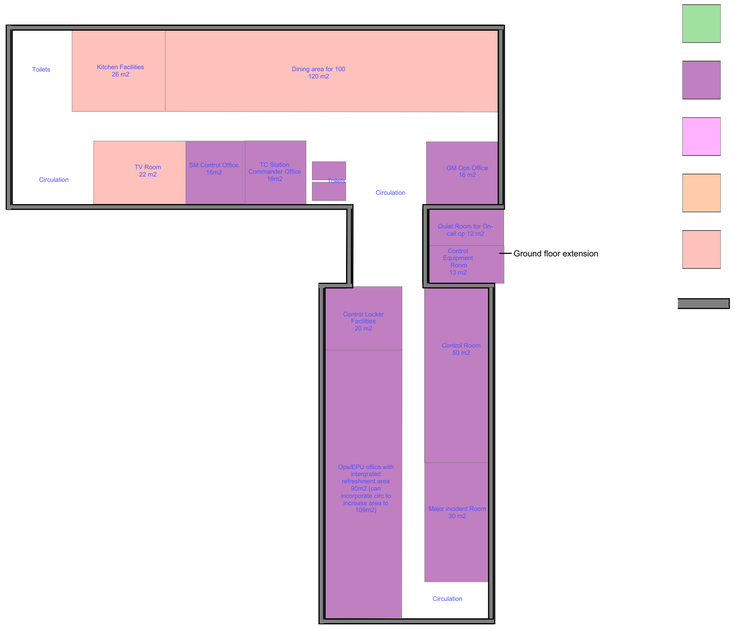
project	originator	zone	level	type	role	number	rev
15219	biT				A	A_200	

25.0 - Appendix 2 - Option 2 Floor Plan

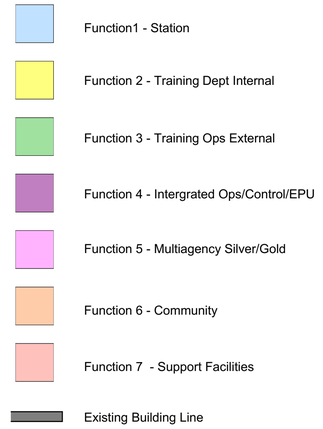
Main Building - Ground Floor



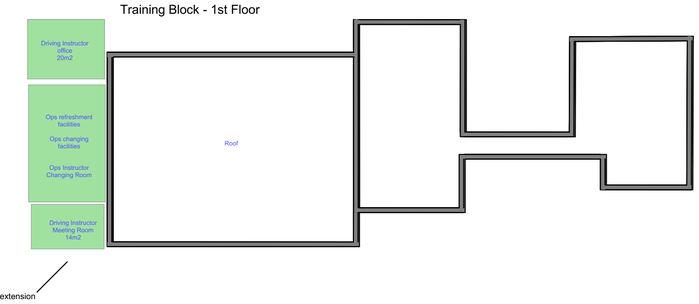
Main Building - 1st Floor



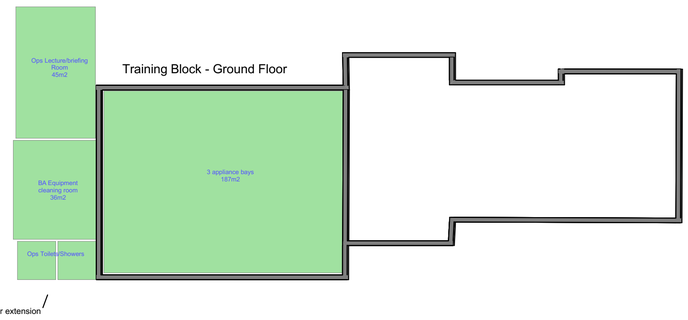
Key



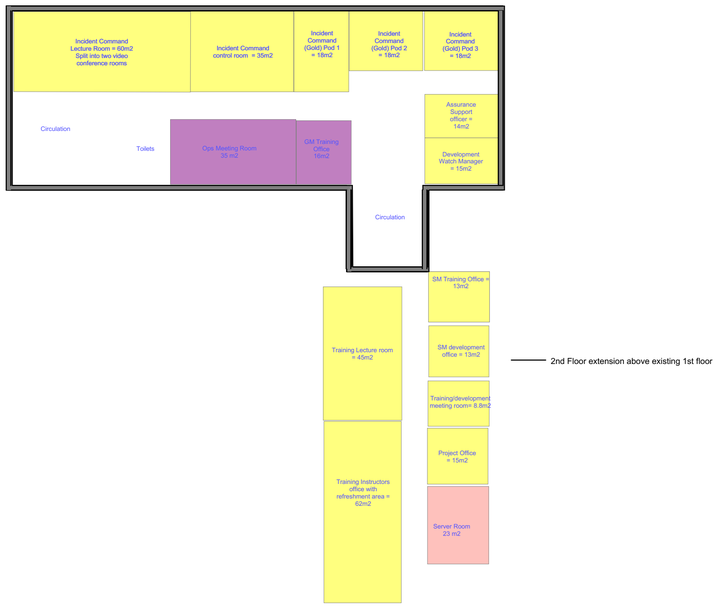
Training Block - 1st Floor



Training Block - Ground Floor



Main Building - 2nd Floor



Safety Health and Environmental Information Box

Construction Risks, Maintenance/cleaning Risks, Demolition/adaptation Risks

Notes:

RevID	Detail	Issued By	Issue Date

biT
Wellington Civic Offices, Larkin Way, Wellington, Telford, Shropshire, TF1 1LX
T: 01952 384500
W: www.bit-group.co.uk

Project: Telford Fire Station

Client: Shropshire Fire & Rescue

Layout Title: Option 2 (v3)

Scale @ A1: 1:200

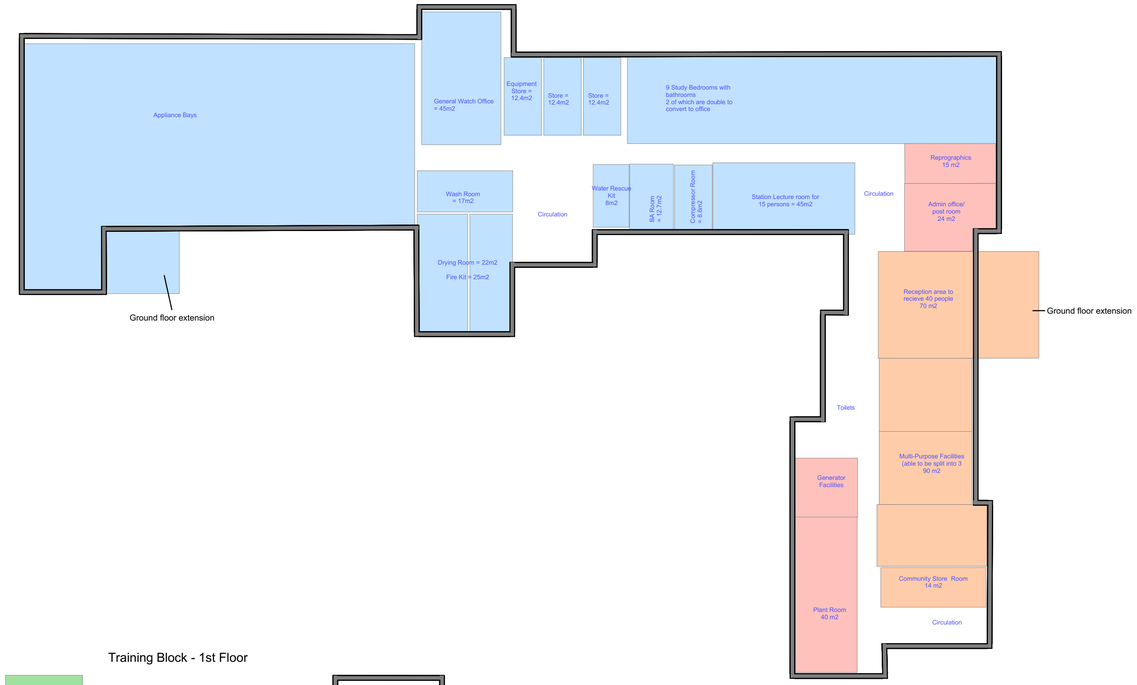
Status: Feasibility

Drawing Number

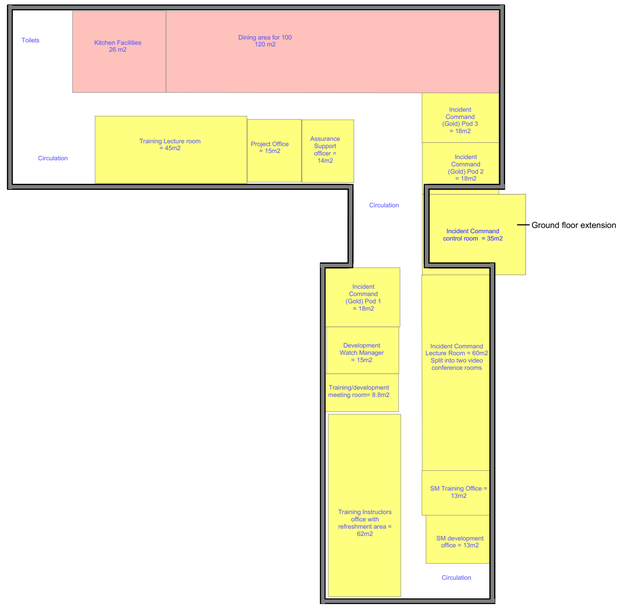
project	originator	zone	level	type	role	number	rev
15219	biT				A	A_201	

26.0 - Appendix 3 - Option 3 Floor Plan

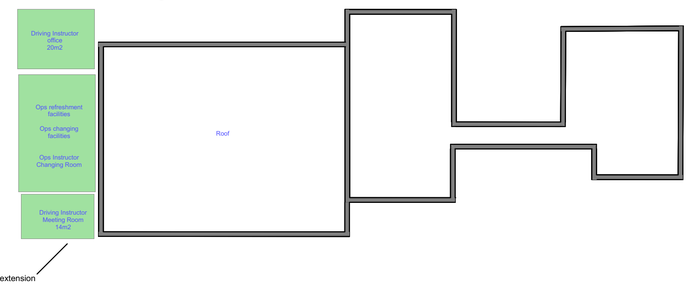
Main Building - Ground Floor



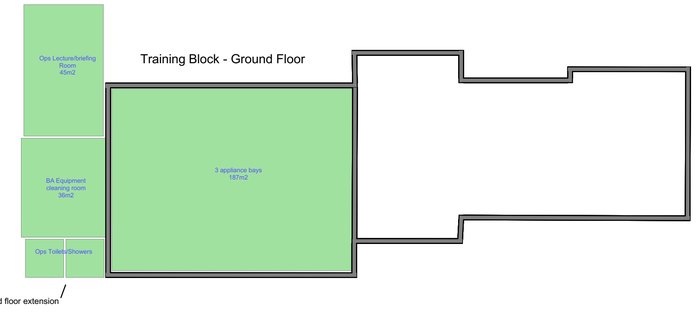
Main Building - 1st Floor



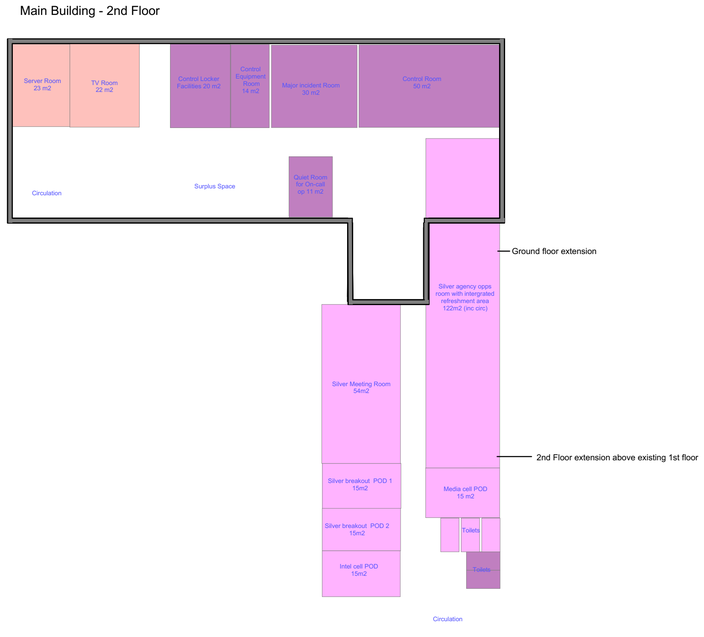
Training Block - 1st Floor



Training Block - Ground Floor



Main Building - 2nd Floor



Key

- Function1 - Station
- Function 2 - Training Dept Internal
- Function 3 - Training Ops External
- Function 4 - Intergrated Ops/Control/EPU
- Function 5 - Multiagency Silver/Gold
- Function 6 - Community
- Function 7 - Support Facilities
- Existing Building Line

Safety Health and Environmental Information Box

Construction Risks, Maintenance/cleaning Risks, Demolition/adaptation Risks

Notes:

RevID	Detail	Issued By	Issue Date

biT
Wellington Civic Offices, Larkin Way, Wellington, Telford, Shropshire, TF1 1LX
T: 01952 384500
W: www.bit-group.co.uk

Project
Telford Fire Station

Client
Shropshire Fire & Rescue

Layout Title
Option 3 (v3)

Scale @ A1
1:200

Status
Feasibility

Drawing Number

project	originator	zone	level	type	role	number	rev
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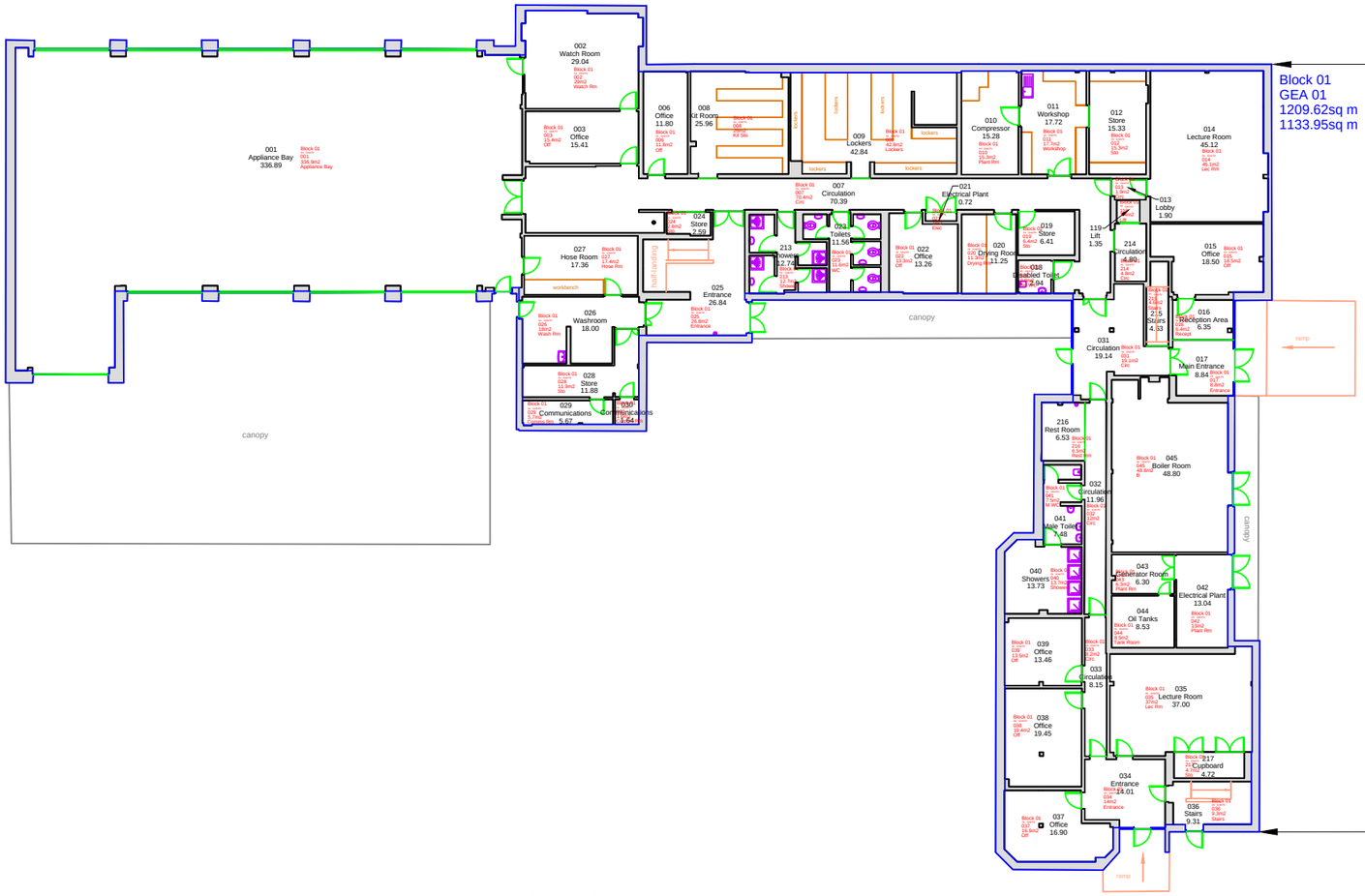

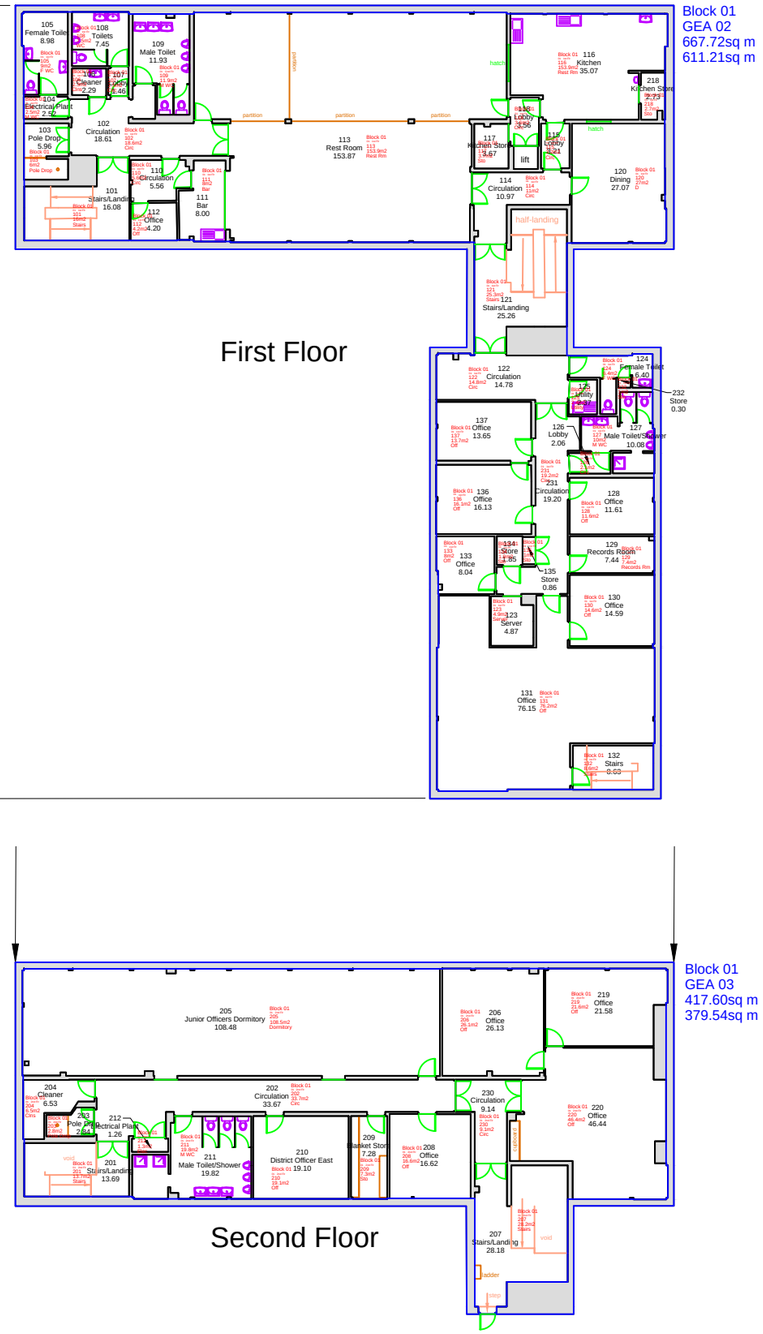

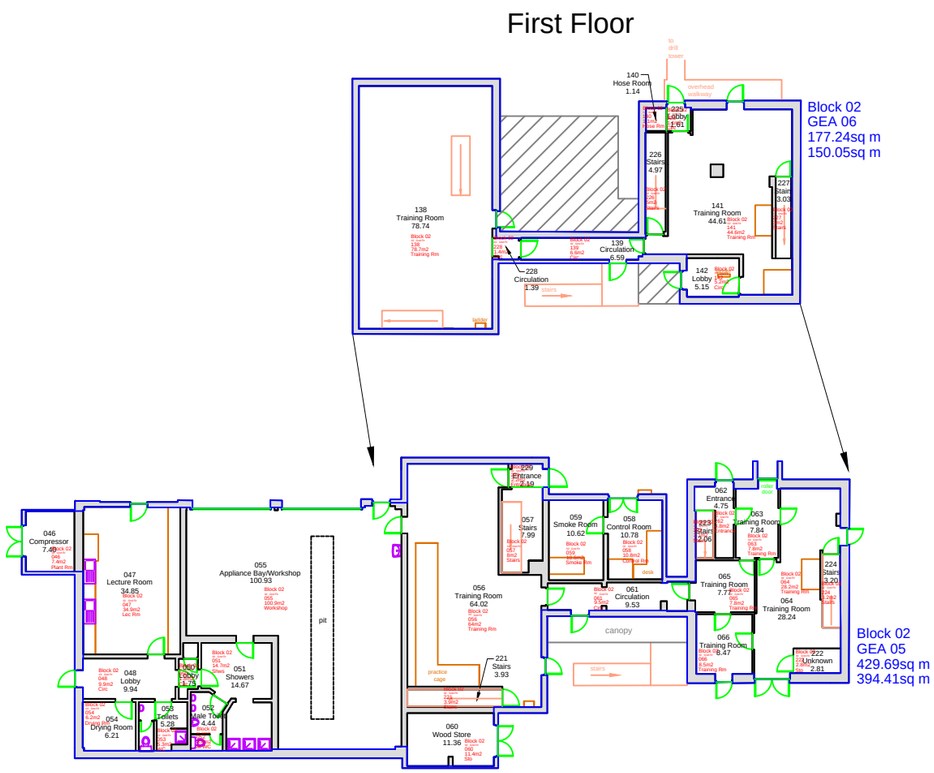

27.0 - Appendix 4 - Current Floor Plan

28.0 - Appendix 5 - Current Site Plan

N.B. levels based on OSBM situated on footbridge over Queensway value 147.43m

DRAWING TITLE : SITE PLAN

Shropshire COUNTY COUNCIL

PROJECT CODE :		SCALE : 1:200		DRAWN BY: DE/DG		DATE: 05/93
SITE : FIRE STATION AND B DIVISION HEADQUATERS STAFFORD PARK, TELFORD.						
JOB :	AREA	PROPERTY	PHASE	AE/IFS	SHEET No.	
	223	001		S	6	
	Revision suffix:					

Information on underground services is believed to be correct but no guarantee is given or implied.