

OUTLINE SPECIFICATION
Rev J
18 February 2009

BASE BUILD

ARMY AND NAVY
CHELMSFORD

CLIENT

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1.0 GENERAL

1.1 General description of works

- 1.1.1 The development consists of ground floor commercial units, an [81] bed hotel and 12 residential units, all with associated car parking and servicing access. There are 80 car parking spaces.

The ground floor commercial space is capable of being split into a number of units. The commercial aspect of the development will be completed to a 'shell' standard, with fitting out and shop fronts (for all but units A and B) being provided by the tenants.

There is a major pedestrian route between commercial units A and B and the remaining commercial space, which provides access to the rear car parking and the hotel entrance. This split in the building has been determined by the major re-routing of the drainage system that crosses the site.

The entrance to the 12 residential units (8 one bed units and 4 studio units) is at the north end of the development.

Cycle and bin storage will be provided.

The roof to the single storey commercial units A and B slopes down, providing an appropriate and neighbourly change in scale from the five storey block to the two storey residential terrace along Van Diemens Road.

The 81-bed hotel has an entrance at ground floor level, with bedrooms at first, second, third and fourth floor levels. Front of house facilities are provided on the first floor.

The massing steps back to ease the transition between the dominance of the fourth floor, providing the gateway focus and the scaling down to three storeys to relate to the surrounding residential properties. The 12 residential units at first and second floor have been located at the northern corner of the development in order to relate to the surrounding buildings, and to keep residential development away from the busiest part of the road junction.

A 1800mm high site boundary brick wall will be included between the rear of the site and most adjacent gardens to offer further security and improved amenity to all residents.

One of the influences related to the site is the road-widening scheme, which is expected to be delivered by 2009. The exact date is still to be confirmed, although the principle of the scheme has been agreed between Essex County Council and Chelmsford Borough Council. The proposed line of the road widening has determined the line of the building frontage, and the area/treatment for the hard landscaping in the front of the building.

1.1.2 This specification is for the Base Build element of a mixed-use development proposed at the Army & Navy site in Chelmsford. It forms part of a series of Outline Specifications. It should be read in conjunction with the following:

a) Archial Architects (SMC) drawings:

C496	100 A	Site Location A3
	1010	Site Plan
	1016-17	Ground Floor Plans
	1018-19	First Floor Plans
	1020-21	Second Floor Plans
	1022	Third & Fourth Floor Plans
	1023-24	Roof Plans
	1040-50	Elevations 1-11
	1026-38	Sections AA-MM

b) Outline Specification - External Works: Rev. G dated 18th February 2009

c) Outline Specification – Hotel: Rev. A dated 26th June 2007

d) Outline Specification - Commercial Units: Rev I dated 18th February 2009

e) Outline Specification - Residential Units: Rev F dated 18th February 2009

f) Libra drawings:

S101M Services and Drainage
M800A Typical Retail Unit Fit-Out

1.1.3 The works will be designed and executed in accordance with the Construction (Design and Management) Regulations 1994, the requirements of the Local Planning Authority Planning Approval, the Building Regulations current at the time of construction and all associated legislation and any special requirements enforceable by the Local Authority, Fire Officer Requirements and any other statutory bodies.

1.1.4 Construction is to be carried out using materials and components, which conform to the latest British Standards Codes of Practice. Workmanship will comply with the latest British Standards Codes of Practice and BS 8000 (Workmanship on Building Sites). Where no relevant British Standard specification exists for particular materials and components, the materials and components used shall be of the best quality reasonably obtainable. Where no British Standards Codes of Practice exists for particular operations, the workmanship will conform to the highest standards laid down by the operatives trade federation, recognized good practice and appropriate Agreement Certificates.

All services design and installations will be specified to current regulations, recommendations and standards, which will include the following: -

Standards

IEE Wiring Regulations for Electrical Installations

CIBSE Design Guide A-D

CIBSE Codes for Interior Lighting

CIBSE Lighting Guides 3 and 7

British Standards

British Standard Codes of Practice for Building Services Systems

The Institute of Plumbing, Plumbing Services Design Guide

CIBSE Commissioning Codes and Technical Memoranda

Codes and Regulations

All Building Regulations, Local Authority Regulations and Bye Laws
Applicable to the Building Concerned

The Environmental Health and Safety Officer

The Factories, Shops and Offices Act 1990

The Environmental Protection Act

Requirements of Client Insurers

Water Supply Bylaws

The Electricity at Work Regulations 1989

The Electricity Supply Regulations 1937

The Pressure System Regulations 1989

British Telecommunications Regulations

Health and Safety at Work Act

Control of Substances Hazardous to Health Regulations 1992 (COSHH)

The Petroleum Officers Requirements

The Workplace (Health, Safety and Welfare) Regulations 1992

CIBSE Technical Memorandum TM13. Minimising the Risk of
Legionnaire's Disease

CDM Regulations

Electromagnetic Compatibility Regulations

- 1.1.5 Where there is an inconsistency between this specification and any legal agreement to which it relates, the legal agreement shall take precedence.

1.2 Schedule of Areas

1.2.1 Gross Internal Areas

a) COMMERCIAL

	m ²	ft ²
Unit A	428.1	4,608
Unit B	394.9	4,251
Unit C	311.8	3,356
Unit D	461.6	4,968
Unit E	697.6	7,509
Unit F	92.9	1,000
TOTAL	2,386.8	25,692

b) HOTEL

First Floor	Front & Back of House Operations Rooms - 22 Standard, 2 Accessible
Second Floor	Rooms - 26 Standard, 2 Accessible, 1 Family, 1 Double Shower
Third Floor	Rooms - 17 Standard, 1 Accessible, 1 Family, 1 Double Shower
Fourth Floor	Rooms - 4 Standard, 1 Family, 2 Double Shower
TOTAL	Rooms - 81 Total - 69 Standard, 5 Accessible, 3 Family, 4 Double Shower

c) RESIDENTIAL

		m ²	ft ²	
First Floor	Flat 1.1	1-Bed	39.8	428
	Flat 1.2	1-Bed	46.7	503
	Flat 1.3	1-Bed	45.9	494
	Flat 1.4	1-Bed	42.3	455
	Flat 1.5	Studio	35.0	377
	Flat 1.6	Studio	35.8	385
Second Floor	Flat 2.1	1-Bed	39.8	428
	Flat 2.2	1-Bed	46.7	503
	Flat 2.3	1-Bed	45.9	494
	Flat 2.4	1-Bed	42.3	455
	Flat 2.5	Studio	35.0	377
	Flat 2.6	Studio	35.8	385
TOTAL	12 Flats	491.0	5,285	

1.2.2 Gross External Areas

	m ²	ft ²
Ground Floor Commercial & Hotel Entrance & Fire Escape Lobby	2,568.7	27,649
First Floor Hotel	982.2	10,572
Second Floor Hotel	982.2	10,572
Third Floor Hotel	710.3	7,646
Fourth Floor Hotel	302.2	3,253
Residential	758.0	8,159
TOTAL	6,303.6	67,852

1.2.3 Car Parking

80 Spaces

1.3 Consents, Permissions And Approvals

1.3.1 Planning Permission

A full planning application was submitted by Scoretower Ltd, a wholly owned subsidiary of Turnstone Estates Ltd, in respect of the Army & Navy Public House site and the J Gard & Sons Timber Yard, on Parkway/Goldlay Avenue, Chelmsford. The application was registered on 26 May 2006 with a reference number of 06/01030/FUL and a resolution to approve the application was given by Chelmsford Borough Council on 21st November 2006.

This follows approximately 2 years of consultation and design on the proposals, including a Public Exhibition held on 3 November 2005.

The planning application is for: -

“Proposed mixed use development (80 bedroom hotel, 2,357.5sq.m. of commercial space (A1/A2/A3/A4/A5/B1/D1/D2, Uses Classes in the alternative) and 12no. flats (all one bed)), together with the provision of 76 car parking spaces, bike and bin storage at ground floor level, hard and soft landscaping, together with new access from Goldlay Avenue, all at the former Army and Navy Public House and J Gard and Sons Timber Merchant yard at Parkway/Goldlay Avenue, Chelmsford.”

1.3.2 Building Regulations

The developer has instructed RBC to undertake compliance with Building Regulations and Building Control approval.

RBC and SMC have held various meetings to discuss the principles of the scheme submitted to planning to ensure that basic principles of fire and escape routes are acceptable.

1.3.3 Buildmark

An NHBC Buildmark application will be made for the Residential Development only.

1.3.4 Party Wall

Party Wall Awards will be required with some adjoining owners, and Nick Truelove of Stace is the Party Wall Surveyor undertaking awards and agreeing the boundary treatments.

1.3.5 Easements/Covenants

The setting out of the building has taken into account Easements and Covenants that are applicable to the site.

1.4 Prohibited Materials

The following materials shall not be specified for use, without client's consent.

1. High alumina cement or concrete in structural elements.
2. Wood wool slabs as permanent formwork or in structural elements.
3. Concrete or mortar additives containing calcium chloride.
4. Aggregates for use in reinforced concrete which do not comply with British Standard Specification 822.1992 and aggregates for use in concrete which do not comply with the provisions of British Standard 8110.1985.
5. Calcium silicate bricks or tiles.
6. Any products or materials containing urea formaldehyde foam or materials which may release formaldehyde in quantities which may be hazardous with reference to the limits set from time to time by the Health and Safety Executive.
7. Asbestos or asbestos containing products whatsoever.
8. Lead or any materials containing lead, which may be ingested, inhaled or absorbed except where copper alloy fittings containing lead are specifically required in drinking water pipework by any relevant statutory requirements.
9. Slip bricks.
10. Lightweight or air entrained concrete bricks and blocks.
11. Vermiculite plaster.
12. Polyisocyanurate foam.
13. Extruded polystyrene other than low ozone depletion materials.
14. Materials which are generally composed of mineral fibres either man made or naturally occurring which have a diameter of 3 microns or less and a length of 200 microns or less or which contain any fibres not sealed or otherwise stabilised to ensure that fibre migration is prevented.
15. Bitumen coated polythene save that the use of bitumen-coated polythene may be permitted for tanking and DPM but express permission must be sought from the Client.
16. Concrete that may be susceptible to alkali/silicon reaction (ASR).
17. Proprietary open web lattice joists or beams (nailable type).
18. Timber trussed rafters manufactured with truss plate connections. Bolted trusses are permitted.
19. All tropical rain forest hardwoods.

20. Any product, which contains or uses Montreal listed CFC gases in its manufacture.
21. PTFE fabrics – the only permitted use of PTFE is as a jointing tape in plumbing applications and on specialist applications such as valve seats.
22. Pre-cast concrete floors at ground floor level or ribbed floors.
23. Resin coated blocks.
24. Spectra glass or similar pre-finished blocks.
25. Wall and ceiling/roof lining products and composite panels that are either not non-combustible or do not meet the Loss Prevention Certification Board's Standard LPS 1181 or the Factory Mutual Standard FM 4880.

1.5 CDM Regulations

The development will be designed and constructed taking full account of the 1993 Construction (Design and Management) Regulations 1994.

1.6 Surveys

A measured and levelled site survey has been carried out by Randall Surveys.

Other surveys have taken place as part of the planning submission. These include Traffic Assessment, Visual Impact Assessment, Environmental Noise Survey, Ground Investigation Report, Contamination, Asbestos, Archaeology, Flood Risk Assessment and Drainage Strategy and Air Quality Report.

2.0 ENABLING WORKS

2.1 Demolition and drainage diversion

2.1.1 Demolition

Existing structures are to be demolished in accordance with BS 6187. The scope of the demolition works to include the existing buildings and their foundations, basements and drainage along with the removal of external hard pavements, planted areas, trees, tree roots, and all loose soil/topsoil down to sub-grade level.

All existing services (STATS/drains) entering/leaving the site are to be disconnected, and those running across the site removed. (Except the main SW drain.)

Any large voids left in the ground will be backfilled with compacted, granular material up to ground level. Depending on the extent and depth of the voids further treatment (vibro-compaction) may be undertaken to fully consolidate the backfill material.

If any harmful substances (e.g. asbestos) are discovered during demolition they will be carefully removed to a suitable disposal site by a specialist. Similarly if any ground contamination is discovered then the local hot spots will be removed.

After demolition a working platform of compacted granular material will be placed over the site for the piling rig to operate from.

During the works the contractor will take appropriate measures to minimise dust, noise and vibration pollution, which would affect the surrounding properties.

There is an existing public surface water sewer crossing the site. This will be diverted to beneath the passageway adjacent to commercial units A and B as part of the main contract works.

2.1.2 Hoardings

A 2,400mm high plywood decorated hoarding will be erected on the site boundary to provide a secure site.

3.0 THE WORKS

NOTE: All works described in italic sloping text and in blue will be by the tenant/fit out works and not the developer.

This element of the base build specification should be read in conjunction with the individual specifications for the hotel, commercial and residential elements. Where there is conflict the individual specifications will prevail.

3.1 Substructure

The main structural building frame and external walls will be supported on piled foundations with associated pile caps and ground beams. The site investigation suggests 450mm diameter, continuous flight auger (CFA) piles up to 15m long.

Ground floor slabs will be ground bearing, mesh reinforced insitu concrete on a compacted granular sub-base to support internal partition walls. No allowance has been made for supporting mezzanine floors off the ground floor slab.

3.2 Drainage

The surface water systems to the buildings and hardstandings will enter into the public drain within the rear hardstanding area.

There will be a private below ground foul drainage system serving all development units. This system will connect to the public foul drainage system in Goldlay Avenue.

3.3 Superstructure

The superstructure will be designed to support the following imposed loads as given in BS 6399: Part 1: -

Commercial areas at ground floor:

Floor	Uniformly distributed loads (UDL)	= 5 kN/m ²
	Point Loads (PL)	= 4.5 kN
	Partitions	= 2.5 kN/m ²
Roof	Suspended services	= 0.25 kN/m ²
	Suspended ceilings	= 0.25 kN/m ²

Residential areas

Dwelling Units	UDL	= 1.5 kN/m ²
	PL	= 1.4 kN
	Screed	= 1.8 kN/m ²
	Internal partitions	= 2.5 kN/m ²
	Services/ceilings	= 0.5 kN/m ²
Corridors	UDL	= 4 kN/m ²
	PL	= 4.5 kN
	Screed	= 1.8 kN/m ²
	Services/ceilings	= 0.5 kN/m ²

Hotel areas

Bedrooms	UDL	= 2.0 kN/m ²
	PL	= 1.8 kN
	Screed	= 1.8 kN/m ²
	Services/ceilings	= 0.5 kN/m ²
Corridors, stairs, lobby	UDL	= 4 kN/m ²
	PL	= 4.5 kN
	Screed	= 1.8 kN/m ²
	Services/ceilings	= 0.5 kN/m ²

Plant room areas

The exact weight and support arrangement for hotel plant is to be confirmed by the M&E Contractor. The values quoted are based on information given to us by the M&E Consultant and are what the floors have been designed to support.

UDL	= 7.5 kN/m ²
PL	= 4.5 kN

Roofs generally

UDL = 0.6 kN/m ² (access only for maintenance)
Snow drift loads to BS 6399: Part 3
Suspended ceiling = 0.25 kN/m ²
Suspended services = 0.25 kN/m ²

The superstructure for commercial units A and B will be a steel frame with a lightweight roof clear spanning over each unit.

The superstructure to the main building will be a steel frame.

The concrete floor slabs to the residential and hotel areas will be hand floated *“to receive screeds and finishes by others”* or as a power floated finish.

The concrete floors to the commercial units will be hand floated *“to receive screeds and finishes by others”*.

The steel framed superstructure will be fire protected (boards or intumescent paint etc) as required in Building Regulations.

Overall lateral stability to the buildings will be provided by permanent shear walls or cross bracing located in walls and around stair/lift enclosures.

3.4 External Walls

3.4.1 Commercial

Rear walls to be blockwork, cavity insulation and facing brickwork with cosmetic banding.

The shop fronts to units C-F will be left boarded up to receive the shop front by tenant.

3.4.2 Hotel

Metsec studwork, cavity insulation and facing brickwork with horizontal aluminium cover flashings at each floor level.

Sto render with support frame and insulation on Metsec stud inner skin.

3.4.3 Residential

Metsec studwork, insulation and timber cladding with horizontal galvanized steel channel at each floor level.

Sto render with support frame and insulation on Metsec stud inner skin.

3.5 Internal Walls and Partitions

See separate specifications for Commercial, Hotel and Residential

3.6 External Windows & Doors

3.6.1 Commercial

For units A & B, full height glazing to the front elevation to be Kawneer 1200S system or similar approved.

Rear access doors to be horizontal timber boarding set within a galvanized metal frame.

The single entrance door to be powered to suit automatic opening.

3.6.2 Hotel

Hotel ground floor to be provided with glazed powder coated aluminium entrance doors.

Hotel windows generally to be top hung projecting reversible windows with a combination of powder coated aluminium and timber.

3.6.3 Residential

Residential ground floor to be provided with glazed powder coated aluminium entrance doors.

Patio doors to be glazed powder coated aluminium.

Windows generally to be top hung projecting reversible windows with a combination of powder coated aluminium and timber.

3.7 Roof Elements

3.7.1 Commercial

Insulated galvanized steel sheet laid to fall to single storey units A and B.

For other units, flat roofing laid to falls to single storey projection to be a single ply membrane. The whole installation will be in accordance with the manufacturer's recommendations and provided with a 25-year guarantee on materials and workmanship. Where access is required, designated walkways will be provided with proprietary fixing to the membrane. A safety harness system will be provided where appropriate.

3.7.2 Hotel

All flat roofing laid to falls to be a single ply membrane. The whole installation will be in accordance with the manufacturer's recommendations and provided with a 25-year guarantee on materials and workmanship. Where access is required, designated walkways will be provided with proprietary fixing to the membrane. A safety harness system will be provided where appropriate.

3.7.3 Residential

All flat roofing laid to falls to be a single ply membrane. The whole installation will be in accordance with the manufacturer's recommendations and provided with a 25-year guarantee on materials and workmanship. Where access is required, designated walkways will be provided with proprietary fixing to the membrane. A safety harness system will be provided where appropriate.

3.8 Rainwater Harvesting

Provision for 'Rainwater Harvesting' will be included with collection from the roof area of Retail Units A and B. Water will be stored in a one-piece packaged unit located below the car park at the rear of the block. Consideration will also be given to taking rainwater from the rear roof of the main building to the storage unit. The stored volume will be approximately 6,500 litres and the storage unit will be complete with filtration unit and submersible pump together with all necessary controls.

The stored water will be used for irrigation of planted areas, washdown in bin store areas and also provision of 'grey water' to units A and B for toilet flushing in toilet areas. A metered mains water connection to the units shall be incorporated for 'top-up' during times of low rainfall.

3.9 Signage

The Developer will provide 'builder's work' supports for the Tenant's signage in positions shown in the signage zones or as may be otherwise agreed.

The Tenant will provide its own signage. The Tenant will be responsible for obtaining all approvals for signage from the Developers, Landlords and Local Authority Planning Department.

No submissions for signage are to be made by the Tenant until approved by the Developer/Landlord and their Architect. Such approval not to be unreasonably withheld or delayed.

The signage zones are detailed on drawings C496/116 and 117. These are approved by the Landlord, but subject to Planning Approval. Planning Permission for signage is to be obtained by the Tenant. Power to all signage to be by the Tenant.

3.10 Lifts

See separate specification for the hotel.

3.11 Stairs

Concrete or metal stairs to form vertical circulation in hotel and residential.

3.12 Finishes

See separate specifications for hotel, commercial units and residential.

3.13 M & E Services

3.13.1 Overview

The commercial units will be completed to a 'shell' specification with incoming Statutory Services and drainage as noted in the Commercial Unit Specification. All other works will be by tenants.

The Hotel will also be provided with incoming Statutory Services and drainage and will be fully fitted out as noted in the Hotel Specification.

The Residential units will also be provided with incoming Statutory Services and drainage as noted in the Residential Unit Specification.

The Landlord's areas will be provided with water supplies and electrical supplies as noted and external lighting as noted in the External Works Specification .

3.13.2 Water

A new incoming cold water main will be provided into the site.

A suitably sized cold water main will be provided into the hotel, the residential block and each of the commercial units, terminating at ground level with a stopcock and draincock.

Further distribution to be in accordance with individual element specifications.

External taps will be provided to landlord's bin store areas and for landscape watering provision (as necessary).

3.13.3 Electricity Supply

A new sub-station will be established on site by EDF Energy to serve the whole development.

Incoming supplies of adequate capacity will be arranged. These will be single-phase supplies for the Residential units and three phase supplies for the Landlord's, Commercial and Hotel elements.

For the Residential units a common supply will be brought into the ground floor meter room terminating with a multi-way head to allow distribution to individual meters for each residential unit. These arrangements are subject to agreement with EDF Energy. Further distribution to be in accordance with the Residential Unit Specification.

For the Hotel, a suitably sized supply will be brought into the ground floor meter room terminating with a cut-out, meter and then connecting to mains panel. Further distribution to be in accordance with the Hotel Specification.

For the Commercial units, a suitably sized supply will be brought into the ground floor of each unit terminating with a cut-out, meter and isolator for connection by tenant.

3.13.4 Gas

Incoming gas supplies will be arranged from the local network to a metering area in each commercial unit and the Hotel. This will be arranged in conjunction with Transco. Further distribution to be in accordance with individual element specifications.

3.13.5 Telecoms

Incoming telecoms cable routes will be provided into the site with connection to the local BT network. There will be a network of 150mm dia. ducts and drawpits where required together with 75mm dia. ducts into each Commercial unit, the Hotel and the Residential block. All ducts to have draw wires for cable installation.

3.14 **External Works**

See Outline Specification – External Works

4.0 REFUSE

4.1 Residential

Internal refuse bin storage will be provided at ground floor level for the Residential Unit.

4.2 Hotel

Separate refuse bin storage will be provided at ground floor level for the Hotel.

4.3 Commercial

Refuse storage for the commercial units will be provided and shared.

5.0 PUBLIC ART

The design team is liaising with Chelmsford Borough Council with regard to the provision of Public Art at the Army & Navy in accordance with the [draft] s.106 Agreement

6.0 DESIGN TEAM

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OUTLINE SPECIFICATION

Rev I

18 February 2009

COMMERCIAL UNITS

ARMY AND NAVY

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1.0 INTRODUCTION

1.1 This specification is for the Commercial Unit Works element of a mixed-use development proposed at the Army & Navy site in Chelmsford. It forms part of a series of Outline Specifications. It should be read in conjunction with the following:

a) Archial Architects (SMC) Drawings:

C496	100 A	Site Location A3
	1010	Site Plan
	1016-17	Ground Floor Plans
	1018	First Floor Plan
	1023-24	Roof Plans
	1040-50	Elevations 1-11
	1026-38	Sections AA-MM
	116C	Estate and Tenant Signage
	117A	Shopfront Details

b) Outline Specification – Base Build: Rev J dated 18th February 2009

c) As appropriate Outline Specifications for the following elements:

- i) Hotel
- ii) External Works
- iii) Residential Units

d) Libra drawings:

S101M Services and Drainage
M800A Typical Retail Unit Fit-Out

1.2 Schedule of Areas

	m ²	ft ²
Unit A	428.1	4,608
Unit B	394.9	4,251
Unit C	311.8	3,356
Unit D	461.6	4,968
Unit E	697.6	7,509
Unit F	92.9	1,000
TOTAL	2386.8	25,692
CAR PARKING	80 SPACES	

2.0 THE WORKS

NOTE: All works described in *Italic sloping text and in blue* will be by the tenant/fit out works and not the developer.

2.1 Substructure

The main structural building frame and external walls will be supported on a piled foundation with associated pile caps and ground beams. The site investigation suggests 450mm diameter, continuous flight auger (CFA) piles up to 15m long.

Ground floor slabs will be ground bearing, mesh reinforced insitu concrete on a compacted granular sub-base to support internal partition walls. No allowance has been made for supporting mezzanine floors off the ground floor slab.

2.2 Drainage

The surface water systems to the buildings and hardstandings will enter into the public drain within the rear hardstanding area.

There will a private below ground foul drainage system serving all development units. This system will connect to the public foul drainage system in Goldlay Avenue.

2.3 Superstructure

The superstructure will be designed to support the following imposed loads as given in BS 6399 : Part 1:-

Commercial areas at ground floor:

Floor	Uniformly distributed loads (UDL)	= 5 kN/m ²
	Point Loads (PL)	= 4.5 kN
	Partitions	= 2.5 kN/m ²

Roof	Suspended services	= 0.25 kN/m ²
	Suspended ceilings	= 0.25 kN/m ²

Plant areas *The Tenants will have to design/arrange any plant to suit these loadings.*

UDL	= 7.5 kN/m ²
PL	= 4.5 kN

Roofs generally

UDL = 0.6 kN/m² (access only for maintenance)
Snow drift loads to BS 6399: Part 3
Suspended ceiling = 0.25 kN/m²
Suspended services = 0.25 kN/m²

The superstructure for commercial units A and B will be a steel frame with a lightweight roof clear spanning over each unit.

The superstructure to the main building will be a steel frame.

The concrete floors to the commercial units will be hand floated *“to receive screeds and finishes by others”*.

The steel framed superstructure will be fire protected (boards or intumescent paint etc) as required in Building Regulations.

Overall lateral stability to the buildings will be provided by permanent shear walls or cross bracing located in walls and around stair/lift enclosures.

2.4 External Walls

- Rear walls to be blockwork, cavity insulation and facing brickwork with cosmetic banding.

2.5 Internal Walls and Partitions

- Solid Division Walls or dry lined metal studwork will be provided where shown between units.

2.6 Roof Elements

- Insulated galvanized steel sheet laid to fall to single storey units A and B.
- Flat roofing laid to falls to single storey projection at the rear of the commercial units to be a single ply membrane. The whole installation will be in accordance with the manufacturer's recommendations and provided with a 25-year guarantee on materials and workmanship. Where access is required, designated walkways will be provided with proprietary fixing to the membrane. A safety harness system will be provided where appropriate.
- All flat roofing laid to falls to be a single ply membrane. The whole installation will be in accordance with the manufacturer's recommendations and provided with a 25-year guarantee on materials and workmanship. Where access is required, designated walkways will be provided with proprietary fixing to the membrane. A safety harness system will be provided where appropriate.

2.7 External Windows and Doors

- Units A & B
Full height glazing to the front elevation to be Kawneer 1202S system or similar approved.
- The single entrance door to Unit A to be powered to suit automatic opening.
- Units A and B will have glazed fronts.
- *The shop fronts to Units C-F will be left boarded up to receive the shop front by tenant.*
- *Tenant shop fronts to Units C-F shall incorporate automatic main entrance doors to be by the tenant.*
- Rear Access doors to be timber boarding set within a galvanized metal frame.

2.8 Signage

- The Developer will provide 'builder work' supports for the Tenant's signage in positions to be agreed.
- *The Tenant will provide signage and building advertising. The Tenant will be responsible for obtaining all approvals for the building signage from the Developers, Landlords and Local Authority Planning Department.*
- *No submissions for signage are to be made by the Tenant until approved by the Developer/Landlord and their Architect. Such approval not to be unreasonably withheld or delayed.*
- *The signage zones detailed on drawings C496/116 and 117 are deemed approved by the Landlord, but subject to Planning Approval. Planning Permission for signage is to be obtained by the Tenant.*
- *Power to all signage to be by the Tenant.*

2.9 Finishes

- This is a shell only finish.

2.10 M & E Services

2.10.1 Introduction

This outline specification covers the intended level of provision of heating, ventilation, public health and electrical services to the commercial element of the proposed new multi-storey mixed use development at Army & Navy Chelmsford.

The function of this specification is to identify the basic services required within the project.

Units

Capped off drainage connections and incoming services tails for water, electric, gas and communications will be provided to allow division into smaller units.

Water for WCs in Units A and B to be provided from rainwater harvesting (see Base Build Specification).

Plant areas to be provided on flat roof above or at rear of units with route to them for services distribution and acoustic screens provided.

Areas of louvre will be provided at rear of units for air in and out.

2.10.2 Schedule of Supply Capacities for indicative divisions

	Area m ²	Water	Elec	Gas	BT	Drains
Unit A	431	25mmØ	3Ph 140KVA	40mmØ 16.5 m ³ /hr	75mmØ Duct + draw wire	9X100mmØ stub stacks
Unit B	395	25mmØ	3Ph 140KVA	50mmØ 27.0 m ³ /hr	75mmØ Duct + draw wire	8X100mmØ stub stacks
Unit C	313	25mmØ	3Ph 70KVA	32mmØ 10.0 m ³ /hr	75mmØ Duct + draw wire	7X100mmØ stub stacks
Unit D	461	25mmØ	3Ph 70KVA	32mmØ 10.0 m ³ /hr	75mmØ Duct + draw wire	11X100mmØ stub stacks
Unit E	697	25mmØ	3Ph 140KVA	40mmØ 17.0 m ³ /hr	75mmØ Duct + draw wire	15X100mmØ stub stacks
Unit F	93	25mmØ	3Ph 70KVA	32mmØ 10.0 m ³ /hr	75mmØ Duct + draw wire	2X100mmØ stub stacks

2.10.3 General M & E Specification

The commercial units are to be left as shells with capped off drainage connections, gas, water, electricity and telecom incoming services terminating in each unit.

Extract and Intake ducting cannot be run to discharge at high level.

The tenant will be responsible for providing all services installations within the unit as part of their fit-out. This will include power, lighting, emergency lighting, fire alarms, hot and cold water, waste installations, heating, ventilation and cooling (if required)

All wastes from kitchen installations shall be arranged to go to drain via a grease trap unit (supplied and fitted by tenant). This will be mounted above the slab to suit tenants fit-out arrangement.

Ingoing tenants to provide for Kitchen area ventilation to be handled by an 'Ecology' installation by Ventmaster UK Ltd.

This installation will include for an extract canopy over the cooking equipment incorporating grease filtration and Reactocell ultra-violet air cleaning modules. Air from here will then go through an extract unit containing extract fan, carbon filters and deodoriser module before being discharged externally.

This equipment all to be installed in accordance with the manufacturers recommendations.

Supply and extract air volumes will be arranged to ensure Kitchen areas are under a negative pressure to control untreated 'smells'.

Tenants will arrange for their plant to be located internally at the rear of house area. Areas of louvre will be provided in the rear wall at high level for this purpose.

It should be noted that all plant needs to be acoustically treated to ensure noise levels from plant are not excessive and do not cause a nuisance.

Air conditioning condensers, if required, would be mounted at the rear or in the designated plant area above and be provided with suitable acoustic treatment.

Suitable external noise levels will be agreed with EHO to ensure existing ambient noise levels are not exceeded by more than 2DbA, all in accordance with Condition 13 of the Planning Consent.

2.11 Acoustics

There is insitu sound reduction between the Commercial units and the hotel, which must achieve a minimum of DnT, w65db.

OUTLINE SPECIFICATION
Rev F
18 February 2009

RESIDENTIAL UNITS

ARMY AND NAVY
CHELMSFORD

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- 1.1 General
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- 2.1 Substructure, Drainage, Superstructure, External Walls and Roof Element
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- 2.6 Mechanical and Electrical Services
 - 2.6.1 Introduction
 - 2.6.2 Mechanical Services
 - 2.6.3 Services

DATA SHEET 1

1.0 INTRODUCTION

1.1 General

This specification is for the Residential Fit Out Works element of a mixed-use development proposed at the Army & Navy site in Chelmsford. It forms part of a series of Outline Specifications. It should be read in conjunction with the following:

a) Archial Architects (SMC) drawings:

C496	100 A	Site Location A3
	1010	Site Plan
	1016-17	Ground Floor Plans
	1018-19	First Floor Plans
	1020-21	Second Floor Plans
	1022	Third & Fourth Floor Plans
	1023-24	Roof Plan
	1040-50	Elevations 1-11
	1026-38	Sections AA-MM

b) As appropriate Outline Specifications for the following elements:

- i) Hotel Fit Out
- ii) External Works
- iii) Residential Shell
- iv) Base Build

Note: Where there is an inconsistency between this specification and any legal agreement to which it relates, the legal agreement shall take precedence.

1.2 Schedule of Areas

			M2	FT2
First Floor	Flat 1	1-Bed	39.8	428
	Flat 2	1-Bed	46.7	503
	Flat 3	1-Bed	45.9	494
	Flat 4	1-Bed	42.3	455
	Flat 5	Studio	35.0	377
	Flat 6	Studio	35.8	385
Second Floor	Flat 7	1-Bed	39.8	428
	Flat 8	1-Bed	46.7	503
	Flat 9	1-Bed	45.9	494
	Flat 10	1-Bed	42.3	455
	Flat 11	Studio	35.0	377
	Flat 12	Studio	35.8	385
TOTAL		12 Flats	491.0	5,285
CAR PARKING			8 SPACES	

2.0 THE WORKS

2.1 Substructure, Drainage, Superstructure, External Walls and Roof Element

See Base Build specification.

2.2 Internal Walls and Partitions

Metal Studwork and plasterboard with tape and joint finish to receive emulsion paint.

2.3 Internal Doors

- Internal circulation doors to be solid core timber veneered with vision panels.
- Internal doors to be solid core timber veneered doors.

2.4 Stairs

- Pre-cast concrete stair with stainless steel balustrading, with glass infill panels.

2.5 Finishes

- Common corridor areas and main stair will be finished in heavy-duty commercial grade carpet tile.
- The ceilings will be plasterboard to receive an emulsion paint finish.
- Wall tiles will be provided as splashbacks to lavatory basins, sinks and worktops.
- Kitchen units to be from Howdens, Greenwich Beech Range.
- Timber laminate flooring throughout.

2.6 M & E Services

2.6.1 Introduction

1.1 This outline specification covers the intended level of provision of heating, ventilation, public health and electrical services to the proposed new multi-storey mixed-use development at Army & Navy Chelmsford.

The function of this specification is to identify the basic services required within the Residential part of the project.

2.6.2 Mechanical Services

Design Criteria for residential units

See Data Sheet 1.

Staircase Ventilation

The escape stairs in the residential element will be provided with natural ventilation to avoid smoke affecting this means of escape.

2.6.3 Services

Heating and water

Heating is likely to be provided to flats via an underfloor electric system with individual room thermostats. The heating will be fed off Economy 18 electrical supplies. Hot water will be provided through an electric immersion heater with dual elements in a pressurised copper 220 litre hot water tank. (150 litres to 1 bed flats). Heating and water to have central controller. Cold water supplies are to be taken from individual mains supply direct from main to flat. Each flat will have its own water meter.

Internal plumbing to each flat may be installed in plastic pipework such as HEP²⁰ if preferred.

Stop valves shall be crutch headed to BS: 1010 and provided in the hot water cylinder cupboard in each flat.

Drain valves shall be provided at all low points.

Electricity

Each flat to have an electricity meter within the Landlord's riser cupboard at each floor level fed from a central distribution system. The meter will feed to twin circuit boards for on and off peak supplies. A new transformer is provided at ground floor level for the whole development.

Lighting

Compact inset white low voltage down lighters to all rooms, with a mixture of low energy and low voltage fittings. Kitchen cupboards to have strip lights under. Wardrobes to have strip light with actuation linked to door. All light switches to be chrome plated. Bathroom and en-suite lighting to be switched from outside room.

Stairs and hallways within common parts to be lit via wall or ceiling lights with necessary emergency fittings. Car Park, cycle stores and refuse areas to have sealed fluorescent fittings. Entrance hall to have feature lighting in ceiling.

Power

Electrical outlets as follows

Living rooms:	5 DSSO to 2 bed 4 DSSO to 1 bed Plus 2 No 5 amp outlets
Bed 1	3 DSSO plus 2 No 5 amp SO
Bed 2	2 DSSO plus 1 No 5 amp SO
Kitchen	3 DSSO (2 DSSO for 1 bed) Fused flex outlets for built in equipment 5No. (dishwasher, oven, hob, microwave, fridge/freezer) plus supply for hob extract.
Bathrooms	1 shaver outlet
Hall	1 DSSO
Washing machine cupd's	1 DSSO
MCB cupboard.	2 DSSO

All socket outlets to be white plastic (chrome plated in kitchen) kitchen appliance fused isolator switches to be in one bank in wall cupboard. Single exposed chrome plated isolator for hob and oven. Extract fan isolators to be white plastic located at high level above switches. Shaver outlets to be white plastic.

Communications

Twin Cat 5 Telephone and data outlets provided to rooms as follows:

Living Room	2 No.
Bedrooms	1 No.

Combined double TV/FM and Cable outlets provided to room as follows:

Living Room	2 No.
Bedrooms	1 No.

Telephone, TV and data outlet to be wired to central distribution board in hall cupboard with link to terrestrial and Sky and Sky+ signals. All communications outlets to be white plastic.

Security/Fire alarms

Video entry phone system to be provided for each flat linked to panel at main entrance door. Main and Bike Store entrance to have proximity key fob release system. Apartments to have mains fed smoke alarms with battery backup in hallways.

Ventilation

Bathrooms and en-suites to have extract fans linked to flat duct in ceilings. Cooker hoods also linked to flat duct in ceiling. Ducts to discharge through outside wall.

Drainage

An above ground conventional single stack plumbing system of UPVC soil and waste stacks and pipework shall be provided for the residential areas. This will apply down to first floor slab. Through the slab and running through the retail areas at ground floor high level shall be installed in cast iron pipework to BS EN 877:1999 and Timesaver joints. This will include for Rainwater provision also. Below ground drainage will be by others. WC overflow arranged internally to drain into the flush pipe shall be provided to each WC cistern. A separate discharge stack shall be provided for the discharge from the safety valve tundish fitted to the unvented hot water cylinder in each flat. This shall be installed in copper throughout and shall terminate into the SVP at high-level ground floor.

Alternatively, Hepworth HEP V0 traps may be used with connections to SVP in each flat subject to Building Control approval.

Renewable Energy Provision

The works will include a Photovoltaic panel on the roof of the residential block. This provides an area of around 30 square metres and arranged on the roof to face south at an angle of 30°. This will provide sufficient power to serve the internal common areas within the residential units together with part of the load for external lighting on the development.

Units would be linked to a battery bank located in the residential electrical switchroom to store power when electricity is not needed and give it up at night when required via an inverter to power the lighting systems.

DATA SHEET 1

Design Criteria for residential units

External Conditions

Winter	-2°C 100% Sat
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Internal Conditions

1.	<u>Residential Units</u>	
	Winter Living Rooms	21°C ± 2°C dry bulb
	Bedrooms	18°C ± 2°C dry bulb
	Bathrooms	22°C ± 2°C dry bulb
	Hall	18°C ± 2°C dry bulb
	Kitchens	18°C ± 2°C dry bulb
2.	<u>Landlords Areas</u>	
	Staircase and Lobbies	16°C ± 2°C dry bulb.

Construction Values w/m²C

Glazing	1.80 W/M ² /K
Wall	0.25 W/M ² /K
Floor	0.20 W/M ² /K
Roof	0.20 W/M ² /K

Glazing Specification

Double-glazing with clear outer and inner pane and Low 'E' glass in the inner pane.

Ventilation Standards - Fresh Air

Residential	Toilets will be ventilated at 15 l/s by individual fans discharging to outside. Kitchens will be ventilated at 30 l/s by individual fans discharging to outside.
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Infiltration Allowance (Air Changes per Hour)

<u>Residential</u>	
Winter	0.75
<u>Stairs and Lobbies</u>	
Winter	1.0

Noise Criteria (Relating to Services Design)

No specific criteria exist for residential provision other than they shall be reasonably quiet and not cause a nuisance.

**OUTLINE SPECIFICATION
Rev G
18 February 2009**

EXTERNAL WORKS

**ARMY AND NAVY
CHELMSFORD**

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- 2.1 General
- 2.2 Parkway Frontage
- 2.3 Rear Car Park

3.0 SERVICES

- 3.1 General
- 3.2 External Lighting
- 3.3 Water

4.0 HIGHWAYS

1.0 INTRODUCTION

1.1 This specification is for the External Works element of a mixed-use development proposed at the Army & Navy site in Chelmsford. It forms part of a series of Outline Specifications. It should be read in conjunction with the following:

a) Archial Architects (SMC) drawings:

C496 100A Site Location A3
1010 Site Plan

b) Outline Specification – Base Build: Rev J dated 18th February 2009

c) As appropriate Outline Specifications for the following elements:

- i) Hotel
- ii) Commercial Units
- iii) Residential Units

2.0 EXTERNAL WORKS

2.1 General

High quality soft and hard landscaping has been used throughout.

Changes of material will be used to separate and define pedestrian routes and car parking and, where possible, to separate pedestrians from cycles and motor vehicles.

Cycle provision to be in accordance with Local Authority requirements.

2.2 Parkway Frontage

The commercial frontages will be highlighted through the use of paviers edged with an engineering brick.

A degree of separation between pedestrians and traffic will be achieved using a combination of tree and shrub planting. Railings or bollards will be provided to Local Authority requirements along the kerb edge to control crossing points and prevent illegal parking.

The entrance to the hotel/walkway from the front of the site will be identified with bands of paviers. This detail links the front and rear of the site. The area between the back of the existing footpath and the line of the new paviers will be tarmac to match the footpath.

2.3 Rear Car Park

Vehicular access into the site is via Goldlay Avenue and paviers will be used to indicate pedestrian priority to vehicles entering or leaving the site. The development cannot accommodate articulated vehicles.

Tree and shrub planting will enhance the boundary conditions.

The car parking areas will be in block paviers with parking bays picked out by a contrasting block pavier. These will be 200 x 100 x 80 thick concrete block paviers laid on sand bedding on a granular sub-base to support heavy vehicle loadings.

The rear section of the car park area is covered with tarmacadam with white line markings.

1800 mm high block boundary wall will be constructed to most adjacent gardens to also improve security.

3.0 SERVICES

3.1 General

For Water and Electricity connection details see Base Build Specification.

3.2 External Lighting

The external lighting scheme to provide adequate lighting to all access paths and roads together with lighting to all parking areas will be incorporated. This will be designed to ensure a safe environment for tenants and customers.

Lighting levels will be in accordance with CIBSE Lighting Guide LG6 & BS 5489-1.

Low-level lighting will be used where possible within the rear car park area but there may be areas where some high level lighting will be required and agreed with the Local Authority for safety reasons. Where this occurs then fittings will be either building mounted or on columns. In all cases the mounting height will be kept to a minimum and suitable rear shielding to these particular light fittings will ensure an adequate degree of directed light to be provided where required, without risk of excessive scatter to the residential units adjacent.

Feature lighting will be provided to the walkway between the two main buildings and also to the front façade of the main hotel building. Final details of these to be agreed but likely to include backlit feature glass panels with coloured lights.

3.3. Water

Water connections will be provided for the cleaning of the bin stores and providing water for the soft landscaping.

4.0 HIGHWAYS

4.1 General

The site frontage onto Van Dieman's Avenue and Parkway is subject to a highway improvement scheme being designed by Mouchel Parkman on behalf of Essex County Council. The scheme includes road widening along the site frontage to provide for an additional dedicated lane between Van Dieman's Avenue and Parkway. Timing is still not clear, but the works are unlikely to be implemented before the site is redeveloped, and therefore highway works fall into two categories; 1. Those works necessary to accommodate the development based on the existing road layout; and 2. Those works necessary to accommodate the development based on the County Council's improvement scheme.

4.2 Development Based on Existing Road Layout.

The works necessary to accommodate the development based on the existing road layout are as follows:-

- Closure of the existing vehicular access points to the Army & Navy Public House and Gards timber yard, and the reinstatement of full height kerbing.
- Resurfacing of the existing footway along the Van Dieman's Avenue and Parkway frontages and the extension of the footway back to the new building frontage.
- Improvement works to the Parkway/Goldlay Avenue junction to include:
 - Improvement to the inbound kerb radius
 - New splitter island and road markings
 - Extension of bus lay-by to accommodate junction improvements and associated footway extensions
- Improvement works to Goldlay Avenue to include:
 - Provision of site access junction
 - Provision of build out adjacent to Burwood Court
 - White lining and signing as necessary
- Note: A Traffic Regulation Order will need to be made by the County Council as local highway authority in order to convert the first section of Goldlay Avenue from one-way operation as existing to two-way as proposed.

4.3 Development Based on County Council's Improvement scheme.

- The realignment of the carriageway edge along the entire site frontage and reinstatement works to provide for carriageway widening and footway reconstruction.
- Amendment to the alignment of the Parkway/Goldlay Avenue junction to include for a revised alignment of kerb radii and relocation of the proposed splitter island.
- The relocation and improvement of two existing signalised pedestrian crossings on Parkway to 'Toucan' standard.