[redacted]

BASE STANDARDS

RAF MILDENHALL
UNITED KINGDOM

SEPTEMBER 2022

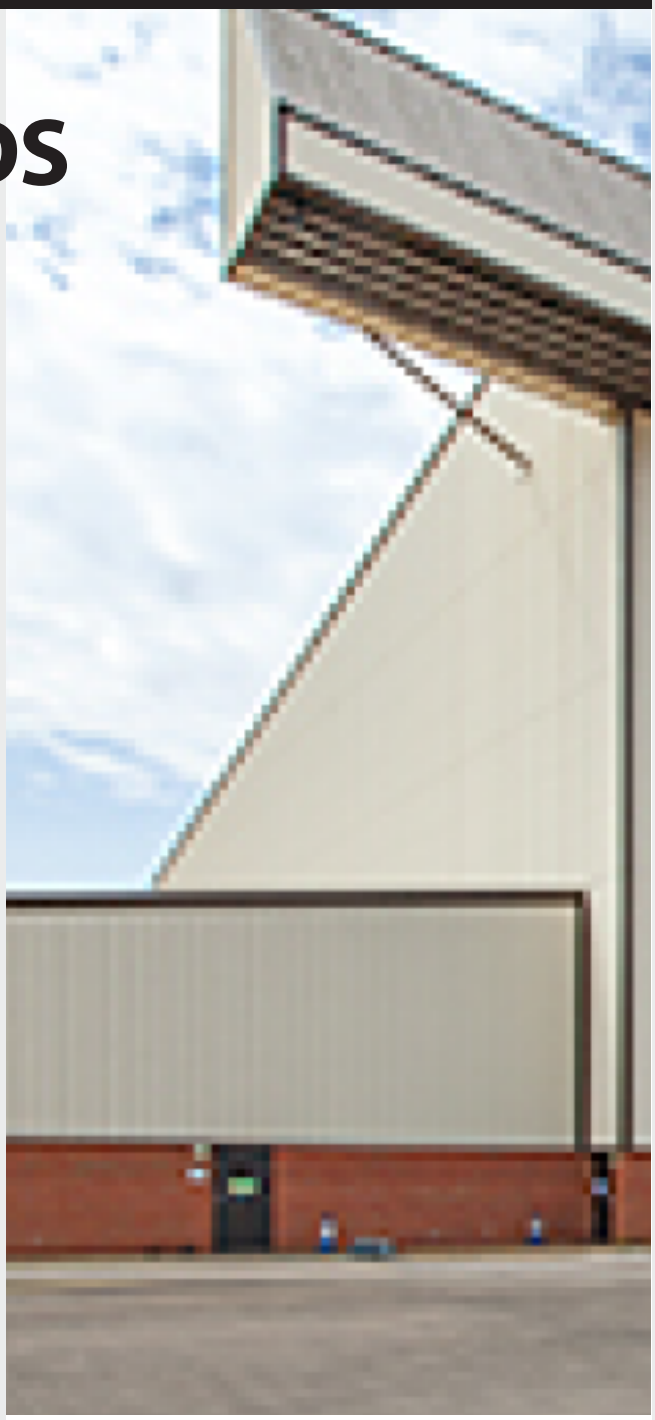


TABLE OF CONTENTS

Welcome	1.0
Front Sheet, Contents and Introduction	1.0
Contractor and A/E Responsibilities	2.0
Architectural	3.0
Civil/Structural	4.0
Environmental	5.0
Fire Protection	6.0
Engineering	7.0
Anti-terrorism/Force Protection	8.0
Communications	9.0
Miscellaneous Technical Publications from DIO	10.0

INTRODUCTION

1.3 INTRODUCTION
This describes what the Base Standards are, what they do, how and where they will be used, how they will be made available and revision procedures. Facility Managers and Technical Contributors are listed.

1.3.0 Change Management

1.3.0.1 Change Program
Standards will be distributed for comments, adjusted, reviewed and re-issued according to the following schedule.

Request updates from Commanders/Facility Managers/Contributors 1 Apr
Comments Deadline 1 Jun
Update Deadline 1 Jul
Brief BCE/CE/DIO etc. on new document 1 Aug
Final adjustments/ BCE Approval 14 Aug
Load up prior to release 1 Sept
Formal Issue to DE, Contractors etc. 1 Oct

1.3.0.2 Change management
The document is intended to be flexible, to accommodate new procedures, materials and equipment. New sections will be identified as new at the front page. 'Document Headers' identify last revision dates. Revisions will be reviewed as far as possible by the BCE, DIO, and contributors prior to issue.

1.3.1 Definition
Base Standards establish technical and aesthetic standards for the built fabric and technical installations, and working practices for A/Es and Contractors working on base. Specifications ensure technical compatibility, visual continuity, ease of maintenance, adequate services engineering, fire protection and security. Control over materials and design is also exercised by the most stringent of US Forces Regulations (such as ETLs and UFCs), and UK Building Regulations etc. Some Regulations and other sources of information are provided at Section 1.4 'References', but is not exhaustive. Note that as this is a living document it will change.

'Contractor and A/E Responsibilities' define procedures to access the Base (passes etc.), requirements to execute work ('Siting Approval' and 'Permission to Dig') and Format Standards for 'As Built' documents. 'Site Management' includes signage to be installed on compound enclosures. 'Architectural' items describe materials and colors including external windows, bollards, fences, paving, parking, benches and gazebos. Internal finishes include kitchen units, locks and ironmongery, sanitary ware, signage and blinds. 'Landscaping' provides guidance on ground reinstatement and a plant list that should survive on the sandy soils. 'Civil/Structural' includes foul and surface water drainage and hazardous waste. 'Pavements' provide a visual link between spaces that enhance the visual character of the Base. 'Environmental' describes surface water disposal in compliance with Environmental Agency requirements. 'Fire Protection' specifies extinguishers and hydrants. 'Engineering' includes Building Management Systems,

Fire Alarms and Electrical and Mechanical Installations to ensure installations are compatible with existing and 'Sustainability' to ensure project designs minimize consumption of utilities and meet LEED standards. 'Communications' includes AFRTS and Premise Wire Architecture. AT/FP measures minimize the threat of terrorism.

1.3.2 Goal

The goal is consistency and continuity in the design and construction of facility interiors, exteriors and technical installations that contribute to Installation Excellence. This will be achieved by reference to the Standards at project briefing, design and construction stages. Facility managers will consult Base Standards and appropriate governing AFIs when assembling a 332/Work Order. Design Instructions will include the statement: 'Designs must comply with the following documents' which will include the current issue of Base Standards and the agreed list of Regulations applicable to a project. At project start, 100CES Project Managers will contribute to a list of UK and US Regulations to be taken into account by the design team.
The Design Team will list all References, Regulations and the date of issue of Base Standards referred to in their Design. The Base Standards will be issued by DIO as a Contract Document for design teams and contractors during design and construction.

1.3.2 Authority

Responsibility for Base Standards is delegated by the Wing Commander to the BCE.

1.3.3 Stakeholders

Personnel that influence, or are directly influenced by, Base Standards include the following:

1.3.3.1 Facility Managers

Manage the day to day maintenance and upkeep of facilities, from a single room to a series of buildings. Facility Manager Training distributed by Customer Service includes a link to Base Standards.

1.3.3.2 Project Managers
Mildenhall CE personnel responsible for taking projects from start to finish and acting as the Mildenhall focal point for a Project Team. They ensure a current copy of Base Standards is in use at project start.

1.3.3.3 Project Team
Responsible for a particular project and includes the User, CE Project Manager, CE Technical Team, DE Project Sponsor or Project Manager, Commercial Project Manager (CPM), Contractor and Design Team.

1.3.3.4 The Technical Team
Mildenhall CE personnel that have provided material for the Base Standards. They review Design Stage submittals, monitor the construction stage and ensure compliance at completion.

1.3.4 Regulations
Base Standards are always over-ridden by the more onerous of UK Building Regulations or USAF ETLs (Engineering Technical Letters), UFCs (Unified Facilities Criteria), NFPA
(National Fire Prevention Association) or Energy Conservation Regulations. UK and USAF Regulations are updated and superseded on a regular basis and current documents must be used.

A list of references is provided at 1.4, but is not exhaustive.

1.3.5 Application
All sections in the Base Standards are Mandatory unless noted as otherwise. Where items are Mandatory, the cost of compliance is accepted. Internal finishes standards apply mainly to office areas, whether or not CE funds Maintenance and Repair costs. This controls replacement and cleaning costs, maintains continuity and ensures compliance with US and UK Regulations. The Housing Framework Contract is not included in Base Standards. Items proposed that do not meet base standards must be proven to be suitable in terms of durability, performance specification and appearance and meet USAF Regulations where applicable.
Preparing a Work Order: Facility Managers will confirm the 'User Group' of the space concerned and the Base Standards to be followed. A Waiver process is available for approval of non-Base Standard items. Waivers are submitted with a copy of the current Standard and a sample and justification for the alternative material, to the BCE for approval. The Waiver must be approved before preparing the Work Order and a copy placed in the Work Order folder.
Work Orders within the Airfield Environment: In accordance with USAFE 32-1007 Para A2.3.2, construction waiver requests must be submitted at least 45 days before the schedule construction start date, or an emergency construction waiver when 45 days are not possible. The Airfield Manager (AFM) and Flight Safety must be notified no less than 14 working days prior to beginning construction/work on the airfield. NOTE: Emergency maintenance and repair requirements and routine maintenance activities such as mowing and maintenance of airfield systems, are exempt from this requirement.

1.3.5.1 Examples of facilities where CE funds maintenance and repair costs, subject to change.
352 SOW (352MXS): B539, B586, B712, B727, B775, B782, B788, B802, B803, B804, B1381, B1541.
352 SOW (7th SOS): B720, B739, B740, B793. CE is only responsible for requested maintenance and repair under $2500, over $2500 and if work is functionally unique SOW provides funding. The exception being BMC, anything carried out under BMC then CE pay (this may or may not be relevant to this tasking).
352 SOW (352 OSS): B516, B517, B543, B619, B621, B744, B754, B755, B802, B811, B1541. 352 SOW (21 SOS): B539 (also listed with 352 MXS).

1.3.5.2 Examples of facilities where CE is reimbursed for maintenance and repair costs, subject to change.
AAFES (B163 BXtra): for functionally unique items (chandeliers etc.): this is the responsibility of the occupier. DAPS (B578 Document and Photocopying Unit)
DECA (B127 Commissary)
727/AMC (B544 Admin, B545 Warehouse, B599 Air Freight Term, B659 C17 Parts Storage Warehouse, B1376 Munitions Store)
MEDICAL (B446 Dental Clinic, B830 Surgical Clinic)
SERVICES (B436 Dining Hall, B437 Galaxy Club, B464 Middleton Hall, B160 Bowling Alley, B463 North side Sports Centre, B849 South Side Sports Centre, B288 CDC, B293 AYA, B424 , Bob Hope Club)
SDDC/Army Surface Deployment and Distribution Command (B553 Admin, B599 Air Freight Terminal - part)

1.3.5.3
Note that all information described as 'For Official Use Only' ('FOUO') in the 'Base Standards' are agreed by the Controlling Authority to being made available to the general public.

1.3.5.4 Mandatory items:
2.0 Contractor and A/E responsibilities.
3.25 Landscaping
4.0 Civil/Structural
5.0 Environmental
6.0 Fire Protection
7.0 Engineering
8.0 AT/FP
9.0 Communications

1.3.5.5 Ref 3.0 Architectural, the following items are Mandatory:
3.1 Bollards
3.6 Locks and ironmongery
3.7 Materials and colors (external)
3.10 Roads and parking
3.11 Sanitary ware

1.3.5.6 The following items are Advisory:
3.2 Doors (industrial)
3.3 Doors (internal and external)
3.4 Fence screens
3.4 Dumpster enclosures
3.5 Kitchen Units
3.8 Materials and colors (internal)
3.9 Paving
3.12 Signage (external)
3.13 Signage (internal)
3.14 Windows
3.15 Window blinds
3.16 Planters and lamp post protectors
3.1 Bollards (lit to match existing)
3.17 Post and chain
3.18 Benches
3.19 Butt cans
3.20 Cycle shelters
3.21 Gazebos
3.22 Waste bins
3.23 Fixings

1.3.6 Availability
This Base Standards document is available in two ways:
a) On CD-ROM on request from Room F30, DIO Business Support, B680, RAF Mildenhall (01638 54 2026).

b) To those with access on RAF Mildenhall SharePoint site.

1.3.7 Contract issues
DIO Mildenhall will include the document as part of the Specification for contracts at Mildenhall. Should any item herein contradict the explicit direction of the contract, the contract takes precedence.

1.3.8 Technical Team

Section 1: Front Sheet/Contents/Intro	100CES/CENPL, 238 4974
Section 2: Contractor, A/E Responsibilities	100CES/CENPL, 238 4974
	100CES/CENPL, 238 4974
	DE Manager, 238 5670
Section 3: Architectural	100CES/CENPL, 238 4974
Section 4: Civil/Structural	100CES/CEOER, 238 5665
Section 5: Environmental	100CES/CEI, 238 5637
	100CES/CEIE, 238 5831
Section 6: Fire Prevention	100CES/CEF, 238 4004/4005
	100CES/CEF, 238 3911
Section 7: Engineering	100CES/CEN, 238 5656
	100CES/CENMP, 238 5668 (electrical)
	100CES/CEOER, 238 5653 (mechanical)
	100CES/CEN (energy savings)
Section 8: Communication	100CS/SCX, 238 3410
Section 9: AT/FP	100ARW/ATO, 238 3127
Section 10: Index	100CES/CENPL, 238 4974

1.3.9 Facility Managers/Building Custodians:
Information is available from Customer Service (CEOER), 238 3918.
100CES/CEN 238 5656

1.4 REFERENCES

1.4.0 Design Teams are responsible for designing in compliance with the more stringent of relevant UK and US Regulations. These regulations take precedence over Base Standards.

1.4.1 CE PMs will research and provide a list of relevant reference documents and regulations at project start. The Base Standards Technical Team will provide specific guidance as required.
RAF Mildenhall Base Standards April 2017

1.4.2 The Design Team should list all references and regulations incorporated into the design at each design stage submission.

1.4.3 Current UK Building Regulations are available online at:
http://www.planningportal.gov.uk/england/professionals/buildingregs/technicalguidance/bcapproveddocumentslist and go to, Building Regulations, Technical Guidance, Approved Doc.

1.4.4 The Architectural Barriers Act (ABA). Where applicable, designs must comply with the 'Architectural Barriers Act Guidelines for Accessibility'. More information is available at
https://www.access-board.gov/the-board/laws/architectural-barriers-act-aba

1.4.5 The following documents are available from the Air Force ePublications website:
http://www.e-publishing.af.mil/
Air Force Design Guides (AFDG)
Air Force Engineering Technical Letters (AFETL)
Air Force Handbooks (AFH)
Air Force Instructions (AFI)
USAFE Instruction 32-1007
Air Force Manuals (AFM)
Air Force Pamphlets (AFP & AFPAM)
Air Force Regulations (AFR)
USAFE Instruction

1.4.6 Other USAF Regulations:
Other Air Force and CES publications including UFCs (United Facilities Criteria), are available at the Whole Building Design Guide website, http://www.wbdg.org/

1.4.7 The National Fire Prevention Association (NFPA) makes available a list of Codes and Standards by Document Number that are available in hard copy or on the Web by paid subscription. (http://www.nfpa.org)
100CES/CEN 238 5656

1.5 Sample Request for Approval of Waiver to Base Standard

MEMORANDUM FOR: 100CES/CENPL
100CES/CEN
100CES/CC

IN TURN
DD MMM YYYY

FROM: name, rank etc.

SUBJECT: Request Approval of Waiver to Base Standard.
1. I request approval to the use of the non-Base Standard item described at Item 3 below.
2. I attach a technical/performance specification that proves compliance with requirements.
3. Justification: Description of elected item and justification.
4. If you have any questions please contact me on

///SIGNED///
Insert name
Requestor

///SIGNED///
Andrew R. Myers, Lt Col, USAF
Base Civil Engineer

Attachment:
1. Base Standard Waiver Application Technical Back-up sheet.

Distribution:
Project Manager
Project Folder
Base Architect or Planner

CONTRACTOR RESPONSIBILITIES

2.0 (Includes A/Es and other Consultants)

2.1 Base Passes, Clearance Certificates, Siting Approvals, Design Guidance and Technical Standards

2.1.1 (MANDATORY) Base Passes, Clearance Certificates and Siting Approvals:

2.1.1.1 Entry to the Base is restricted to personnel with an appropriate pass. Contractors should coordinate with DIO or the government project manager for more information.
2.1.1.2 At least 28 days prior to "any work that may disrupt aircraft or vehicular flow, base utility services, protection by fire or intrusion alarm systems, or other routine installation activities": i.e. digging, boring or trenching, contractors must request a signed 'Base Civil Engineering Work Clearance Request AF Form 103 for the particular requirement described on the form. An emergency procedure is available. This is valid for 30 days following approval.
Should extended stoppages occur, a new Form must be processed prior to starting work. It may be practical to re-route the form through the POCs to update changes. The completed form and associated drawings must be retained at the site during the work.

2.1.1.3 Driving on the Flightline or Taxiway is restricted to persons in possession of an AF Form 483, Flightline Driving Pass, which must be renewed annually. This is available following a written and practical course of instruction and subsequent examination. Three weeks before the pass is required, contractors must request the 100CES PM to advise the Flight line Training Manager that a Flight line Driving Pass is required: courses are generally held on a weekly basis. Drivers not certified to drive on the Airfield must be escorted by a certified driver.

2.1.1.4 Contractors wishing to take a private vehicle onto Airfield areas must obtain advance permission from Airfield Management and be in possession of USAF Form 449. Forms must be requested through the 100CES PM or 100OSS/OSA Airfield Manager, tel 238 7775.

2.1.1.5 Contractors working on or around the airfield:

2.1.1.5.1 Contractors must be in possession of USAF Form 582, Airfield Waiver to comply with USAFEI 32-1007. The form must be requested from the 100CES PM, 45 (forty five) days in advance of scheduled investigations or construction start. The contractor must provide the Project Number or Works Order number, start and finish dates and phasing, location plan, a description of the works, names and contact phone numbers of personnel and details (including heights) of vehicles and equipment. The 100CES Airfield Waiver Manager (currently Tony Lawrence, tel 238 5662) must be provided with details and will request the Waiver from Airfield Management.

2.1.1.5.2 Must be in possession of a completed USAFE Form 582-ORM (Operational Risk Management) Risk Assessment, and personnel must be in possession of a USAF Restricted Area Badge.

2.1.1.5.3 Must be in possession of a completed TERPS (Terminal Procedures/Air Traffic Procedures) Evaluation Sheet, available from Tony Lawrence 238 5662.

2.1.1.5.4 Must be in possession of associated plans and programs.

2.1.1.5.5 Must check in and out with Airfield Management Operations (tel 238 7775) at the start and finish of each working day and confirm whether Airfield Management wants them to remain in permanent radio contact via the Ramp Net. Contractors must sign out a radio before entering the airfield.

2.1.1.5.6 All construction sites on the Airfield must be marked in accordance with ETL 04-2, Para 9.2 Barricades, and requirements.

2.1.1.5.7 Contractors must contact the 100CES PM to determine the specific restrictions associated with each project. Site parameters such as access, parking, utility relocation, flood plain issues, noise-proofing and environmental requirements vary with each project. Any change in the details associated with the location etc. of a project must be coordinated with the 100CES PM and agreed in writing, with an associated drawing or plan showing relevant details, and a hard copy signed by all relevant parties, a hard copy to be retained on site.

2.1.1.5.8 Contractors must keep materials and equipment within the approved Contractor's compound.

2.1.1.5.9 Proposals to close or restrict the width of any road for any length of time must be notified to the 100 CES, Requirements and Optimization at least four weeks in advance. Four weeks' notice is required to alert other base agencies and personnel of the impending closure.

2.1.1.5.10 Contractors may be asked to continue working under restrictive conditions, such as restricted access. In the event of an increased threat situation, the contractor may be required to evacuate the site and leave the Base.

2.1.1.5.11 Entry to RAF Mildenhall will be via the Main Gate. Exit will be via the Lincoln Road exit.

2.1.1.5.12 Work Orders for work within the airfield environment must be signed by the Airfield Manager and coordinated with Comm., CE, Safety, Security Forces and USAFE TERPS before work may proceed. The Airfield Manager (AFM) and Flight Safety must be notified no less than 12 working days prior to beginning construction/work on the airfield. This does not apply to emergency repairs.

DESIGN GUIDELINES & TECHNICAL STANDARDS

2.1.2. (MANDATORY)

2.1.2.1 The Architect/Engineer is responsible for obtaining information to comply with the latest design guidance and technical requirements. The most onerous of UK or US Regulations (Air Force, Navy, Army or DoD) will always apply.

2.1.2.2 The following documents are available from the 100CES PM to:
a) Provide technical information relating to existing and proposed equipment and installations.
b) Describe the selection of internal and external architectural components that ensure consistency in standards of design and construction and strengthen the fabric of the built environment.
c) Provide base personnel, A/Es and Contractors with information on civil and mechanical engineering, telecommunications and environmental technical standards for materials, installations and equipment.
d) Assist A/Es and contractors in the preparation of project design and documentation.

2.1.2.3 Facility Health and Safety Files containing 'As-Built' information for existing facilities are available from DE. They contain drawings and specifications for B&CE, M&E and other installations, Operating and Maintenance Manuals, Emergency Systems, Testing & Commissioning Certificates and Legionella and other Risk Assessments, where applicable.

2.1.2.4 Designs must comply with current Regulations, Standards and essential Design and Construction Criteria including the following USAF Regulations:
Air Force Design Guides (AFDG)
Air Force Engineering Technical Letters (ETLs)
Air Force Handbooks (AFH)
Air Force Instructions (AFI)
Air Force Manuals (AFMs)
Air Force Pamphlets (AFPs),
Air Force Regulations (AFRs),
Unified Facility Criteria (UFCs)
Engineering Guidance Letters (EGLs)
The list should not be considered exhaustive.

Refer to section 1.4 References for sources of information. Also Contractors must confirm they are in possession of all relevant Regulations before design starts.

2.1.2.5 Designs must comply with the requirements of Fire Protection, Electrical, Life Safety and Fire Alarm Codes. These are available in alternative formats on subscription to the National Fire Codes Subscription Service on 1-800-344-3555 (0800 890 011, then 1-800-344-3555 from the UK) website http://www.nfpa.org.

DESIGN GUIDELINES & TECHNICAL STANDARDS

2.1.2.6 Disabled Accessibility: See Section 3.0.26 for ABA requirements.

2.1.2.7 Facilities must be located, planned and designed in accordance with AT/FP (Anti-Terrorism/Force Protection) requirements. Contractors may request relevant material described as 'For Official Use Only' (FOUO) from the 100CES PM. Information is available from the References at Section 1.4

2.1.2.8 The Contractor shall notify the Base Civil Engineer through the 100CES PM, as part of the initial design submittal, of any structural, fire, safety, or other deficiencies in relation to local, state, national, and Air Force codes. The Base Civil Engineer shall determine which, if any, of the deficiencies not addressed in the original project definition shall be added to the project scope.

POC:
100CES/CEN
238 5656

ARCHITECTURAL

SECTION 1

DISTRICT 1: HERITAGE DISTRICT
DISTRICT 2: AVIATION DISTRICT
DISTRICT 3: COMMMUNITY
DISTRICT 4: DORMITORY
DISTRICT 5: HOUSING

3.1 BOLLARDS

3.0 ARCHITECTURAL

3.1 BOLLARDS

3.1.1 Bollard Types (ADVISORY)

This document includes details of acceptable materials. Materials from other manufacturers that meet these requirements can be submitted with evidence of comparability for review and approval.

Type 1a: basic bollard (not anti-ram). Type 1b: basic 'anti-ram' rating bollard.

Obtain CE approval in writing in advance to install any of these other bollards:

- **Type 2a** (lit bollard), not anti-ram
- **Type 2b** (lit anti-ram bollard)
- **Type 3** (coffin anti-ram bollard), manually/hydraulically operated Type 4 (telescopic anti-ram bollard)

3.1.1.2 All bollards are to be specified as 'standard' or 'ram-raid', as required. Follow manufacturer's recommendations for suitable concrete footings to provide required resistance to vehicle impact of specified weight, speed and angle of approach. AT/FP must confirm whether resistance to a 30 ton vehicle travelling at 30mph is adequate protection from the available angle of approach.

3.1.1.3 All bollards are to be finished in standard 2 pack epoxy acrylic paint system. This provides 5 – 10 years to first maintenance. Alternative special finishes must be agreed with CE. Bollards must be cleaned and the paint finish touched up on a regular basis to maintain their appearance as required. Coffin bollards must be lifted and lubricated regularly to maintain operating efficiency.

3.1.1.4 All bollards on roads or in car parks are to be finished in black with white raised rings plus white reflective tape between the top two rings to improve visibility for drivers. This must be fitted during manufacture.

3.1.1.5 All other bollards must be black with white raised rings without the reflective tape.

3.1.1.6 Install at maximum 4ft (1220mm) centers to meet AFI 32-1071.

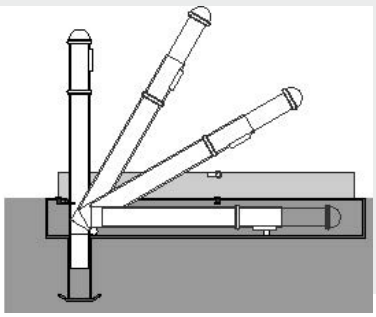
3.1.1.7 Note that costs will fluctuate with the cost of steel.

3.1.1.8 Bollards of equivalent appearance and physical properties from other manufacturers may be submitted for approval by the BCE.

BOLLARD TYPE 1A

BOLLARD TYPE 2B

BOLLARD TYPE 3



3.1 BOLLARDS

3.1.1.10 Bollard (Type 1b) Basic anti-ram bollard: 1m high, 140mm o/a diameter (CIS Ref 153rr).

3.0.1.11 Bollard (Type 2a) Lit bollard (not anti-ram): 1m high, 140mm o/a diameter, Complete with 50W High Pressure Sodium lamp (CIS Ref 153i).

3.1.1.12 Bollard (Type 2b) Lit anti-ram bollard: 1m high, 140mm o/a diameter, complete with 50W High Pressure Sodium lamp. Add a shield to restrict light output to 90, 180 or 270 degrees as required (CIS 153irr).

3.1.1.13 Bollard (Type 3) Coffin type ram-raid bollard: bollard with ground coffin box.
Bollard is 750mm high, 114mm o/a diameter, Check Lifting weight in kg. Finished in black with 3 white rings unless advised otherwise – please confirm prior to placing orders (CIS 153rr with Type 194 ground coffin box). These could be manually or hydraulically operated.
Both occur on base. Please consult 100 SFS integrated defense for instructions on which activation method is to be installed.

3.1.1.12 Bollard (Type 4) Telescopic ram-raid bollard: 670mm height above ground, 90mm diameter, (CIS Type 1903).

3.1.1.15 Installation details for Telescopic bollard:

- Determine locations
- Bore hole of suitable depth and diameter
- Fill bottom of hole with 100mm depth of 20/12mm clean chippings
- Lower post onto chippings and adjust depth until lid of post is 5mm above ground level.
- Position post central in hole and add chippings until post stands unaided.
- Withdraw sliding post and make vertical using spirit level.
- Add chippings to 500mm below ground level.
- Fill remainder of hole to surface with 4: 2:1 concrete mix and finish to fall away from post.
- Check level, retract post and lock into position.
- Leave for 24 hours to set.
- Always lower the post in a controlled manner – never allow to free fall.
- Ground works required may vary according to ground conditions.

Maintenance:

- Keep sliding post clean.
- Flush out and lubricate lock with WD40 or similar, weekly.
- Always close cover plate when not in use.
- Failure to comply with these instructions can affect operation and invalidate the Warranty.

For details of 'Charter' lit bollard, to match existing installations, see Section 3.17.

3.2 DOORS

3.2 DOORS (INDUSTRIAL)

Mar 2012: POC change, door note adjusted May 2012 amended.

3.2.0 (ADVISORY)

3.2.1 This document includes details of acceptable materials. Materials from other manufacturers that meet requirements can be submitted with evidence of comparability for review and approval.

3.2.2 All details of proposed Roller Shutter or Sectional doors must be submitted for approval.

3.2.3 All doors must have insulation and draught excluders to all edges. Roller shutter doors must have leading edge pressure sensors to reverse the doors on contact with an obstruction.

3.2.4 Suitable Sectional or Roller Shutter doors are available from Hormann UK Ltd., Kaba Henderson Bostwick, or approved equal with electrical operation and manual override.

3.3 DOORS (INTERNAL & EXTERNAL)

3.3.0 (ADVISORY)

3.3.1 Doors, frames, glazing apertures and ironmongery must be designed to meet specific requirements, such as UK and US Disabled access, Force Protection, Fire Resistance or resistance to physical attack, blast effects or noise etc..

3.3.2 The door manufacturer must operate a Quality System that meets BS EN ISO 9001.

3.3.3 Doors and frames must meet the appropriate British Standards.

3.3.4 Internal timber doors to offices to be flush faced with Crown Cut American White Oak veneer.

3.3.5 External doors and frames must be made of metal for durability.

3.3.6 Metalwork finished in white should be finished in Syntha Pulvin Plus, Matt Range ref 9016 (White) with a 25 year guarantee, or approved equal.

3.3.7 Metalwork finished in brown should be finished in Base Brown BS08B29 semi-gloss.

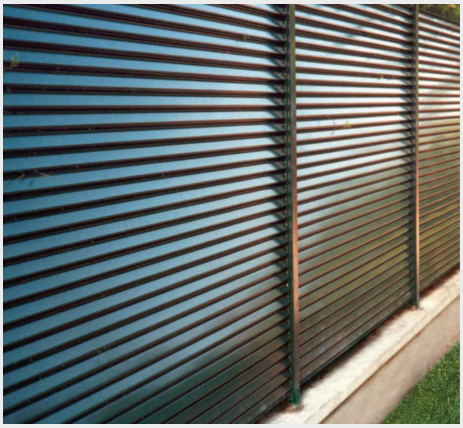
SECTION 3.4: FENCE SCREENS & DUMSTER ENCLOSURES (ADVISORY)

3.4.0 Visual screening and fencing to housing areas.

3.4.1.1 Comply with the current edition of BS 1722 for close boarded fences. Panel height 1.8m Apply 2 coats of Base Standard Johnstone's Dark Oak water base stain, or approved equal, to timber at completion.

3.4.2.2 Gates require galvanized steel posts with their feet sunk into a concrete base for support. If the gates option is required the steel posts should be included at the initial construction stage, to avoid disturbing post footings at a later date.

3.4.2.3 An alternate louvered galvanized metal screen may be suitable for particular site conditions. The powder coated Orso Grill by Lang and Fulton is in use behind B 163, and is a good example of this. The powder coating means there will be no need to paint it, or apply a further protective coating. Prior approval is required. Apply through the project manager to 100 CES/CENP.



FENCE PANEL AND SCREENING SYSTEM

CONCRETE POST AND TIMBER FENCE PANEL

SECTION 3.5: KITCHEN UNITS

3.5 KITCHEN UNITS

3.5.0 (ADVISORY)

3.5.1 Kitchen unit type.

This document includes details of acceptable materials. Materials from other manufacturers that meet these requirements can be submitted with evidence of comparability for review and approval.

All wall unit carcasses must accommodate 12 inch dia (305mm dia) dinner plates. Doors to be oak flat fronted.

Side panels and kick panels to match door color. Hinges must open 172 degrees.

Draw units to be metal sided.

Draws and doors to include 'soft-close' option.

Cornices and bottom trims are not required to wall units.

Units to meet BS 6222 Part 2 Level H 1997, or possess Furniture Industry Research Association (FIRA) Gold Award Certificate, Level H, verifying quality and performance for heavy domestic use.

Doors are to be of robust construction to BS EN 312, Part 1 and 2 1997. 10 year written Guarantee required.

Suitable kitchens: Jewsons 'Monaco, Horizon Ferrara Oak,' or approved equal. Worktop: Jewsons Bahia Beige, 40mm thickness, or approved equal.

Sink: stainless steel 1.5 bowl pattern Leisure Euroline KTSTL06 or approved equal. Taps: Franke 'Davos', 'Danube', or approved equal to client request.

Handles: 128mm fixing centers chrome D handle ref H1790000 (not as shown here).

SUGGESTED KITCHEN VISUAL

SECTION 3.6: LOCKS & IRONMONGERY

KAWNEER DOOR 350

TECHNICAL VIKING ENTRANCE DOOR

3.6 LOCKS & IRONMONGERY

3.6.0 (MANDATORY)

Section 3.0.7.1: General Information.
Section 3.0.7.2: Contract requirements and the procurement route.
Section 3.0.7.3: Model specifications and guidance for particular situations.

3.6.1 General Information

3.6.1.1 The ASSA 'Modular Locking System' is employed at RAF Mildenhall to ensure a suitable level of security. Compliance with these procedures, or approved equals, ensures compatibility with the Mildenhall master keying system.
Approval from the Base Civil Engineer is required to deviate from this standard. (ASSA Distinction pattern lever handles with Satin Chrome finish used with Crown Cut American White Oak doors, or approved equals, must provide sufficient color and luminance in contrast with the door to meet the requirements of the Disability Discrimination Act 1995 and the 2004 Edition of the Building Regulations Part M, 'Access and facilities for disabled people').

3.6.1.3 ASSA, or approved equal, door furniture sets are supplied as standard for 44/45mm thick doors, with fitting instructions.
It may be necessary for the contractor to cut fixing screws to the correct length before fixing. Generally, the screws should be no longer than (and preferably just shorter than) the thickness of the door, otherwise the fitting cannot be tightened fully. Black 'O' rings are provided to be fitted under the screw heads to prevent them coming loose.
Note that for doors of unusual thickness, the manufacturer can supply different sizes of cylinder rings and screws and extension pieces to bring the cylinder further out from the centreline of the door to ensure that the cylinder and cylinder ring finish flush with each other

3. 6.1.4 Aluminum Main Entrance Doors – General Notes

All aluminum door manufacturers are to be copied on this specification guide prior to tender. It is recommended that all aluminum doors be manufactured from sections of at least 90mm to allow sufficient room for fitting of door closers, lock cases and panic bolts to meet the latest CEN standards and DDA requirements including Doc. M of building regulations.

Sections recommended include: Kawneer 350, or approved equal
Kawneer 605 enhanced, or approved equal Glostal 2750, or approved equal
Technal Viking VED019, or approved equal Schuco 157920, or approved equal

SECTION 3.6: LOCKS & IRONMONGERY

Doors are to be hung on hinges by the door manufacturer to suit the section provided. Flush bolts for double doors are to be supplied by the door manufacturer.

Self-closing devices are to be surface mounted to allow easy access for maintenance. Slide arm closers are preferred to enable easy-action for DDA requirements and to remove the vandal/ abuse point of scissor arms.

Pull handles are generally to project architects design but should comply with recommendations of BS 8300 with length at a minimum 400mm centres and in Nylon Colored or Satin Stainless Steel finish to contrast with the door finish.

It may be required to specify wall-mounted buffers where damage may occur when handles can strike a wall surface. It is recommended that through corridors and external doors against facing brickwork, a polished black rubber "tailgate" design buffer be specified i.e. AJ 2500/002 125x47x40mm, or approved equal, "fixed at handle height to wall".

3.6.1.5 Maintenance:

Cylinders must not be lubricated with oil or graphite. Use ASSA lock spray, or approved equal, to clean, lubricate and prevent freezing during winter. Keys should be replaced when they become worn.

3.6.1.6 UK Building Regulations Part M Section 0.29, Light Reflectance Values (LRVs).

To ensure the visually impaired can identify ironmongery, the UK Building Regulations require a difference in LRV of 30 points between a door surface and ironmongery in accordance with the 'Design Guidance for Internal Built Environments' from Reading University available at http://www.rdg.ac.uk/ie/research/ironmongers/ironmongers.htm
The list below provides some LRV values of materials obtained from manufacturers: Satin Chrome: 60, American White Oak: 37
Koto: 54, Maple: 52, Ash: 49, Beech: 38, American Cherry: 34, Sapele:21, Black Walnut:17 The guidance provides the method of calculation in accordance with the Americans with Disabilities Act Guidelines Section A4.30 at http://www.rdg.ac.uk/ie/news/news.html.
The calculation is as follows:
Contrast = (B1-B2) / (B1) x100
Or 60-37 = 23/60 = .38 x 100 = 38: i.e. the contrast is satisfactory.

3.6.2 Contract requirements and procurement route for locks and keys

3.6.2.1 Please liaise with the CE locksmith prior to the purchase of any locking system.

The CE locksmith must be advised of the identity of all lock master systems installed in all buildings. The CE locksmith is available on ext. 3208, building 529.

SECTION 3.6: LOCKS & IRONMONGERY

The standard requirement is the provision of 2No keys to each lock: this may be varied by the building user.

All keys must pass the building entrance and the key holder's office.
2No Master Keys are required for each building custodian: this may be varied by the building custodians

3.6.2.2 Procurement route for locks and keys:

Contractors are responsible for the purchase of part assembled cylinders.
The manufacturer delivers the part assembled cylinders (in sealed packages) to the Mildenhall PM.
Key blanks are held by the Mildenhall locksmith.
The Mildenhall PM gives the part assembled cylinders to the CE Locksmith. The CE Locksmith pins the cylinders and cuts the keys, free of charge.
The CE locksmith provides the fully assembled cylinders and required sets of keys to the PM. The PM passes the locks to the contractor for fitting.
The contractor is not allowed to buy blank keys for the system at RAF Mildenhall.

3.6.2.3 The contractor must provide adequate notice:
1) to allow the manufacturer to supply the cylinders and keys and
2) to allow the locksmith to pin the cylinders and cut the keys, before they are required on site.

3.6.2.4 The estimated time required for the locksmith to pin the locks is as follows: 1-49 cylinders: 4 weeks
50-99 cylinders: 6 weeks
100 cylinders: 8 weeks

3.6.2.5 POC for this policy is Structures Foreman, ext. 4889.

3.6.3 Specifications and guidance notes

3.6.3.1 Cylinders

Cylinder type: ASSA Twin Combi 5600 on step 3 client exclusive side code, or approved equal.
Master key system: Reference number 9EA 404.
Cylinder shape: ASSA Scandinavian oval to BS EN 1303, or approved equal. Cylinder keys: Protected against unauthorized duplication by international Patent Law. Finish: Satin Chrome (Finish 13), or approved equal.

3.6.3.2 Lock cases

Lock case type: ASSA Modular range with 70mm backset, or approved equal.
ASSA Modular 1520 with 50mm backset, or approved equal. Special lock case for use on escape doors when used with 1125 ASSURE panic exit device, or approved equal.
Finish: Satin Chrome (Finish 13), or approved equal.

SECTION 3.6: LOCKS & IRONMONGERY

MAGNOLIA WHITE

PALE BLUE

MID ORANGE

MID BLUE

F3.6.3.3 Door furniture

Lever handles: ASSA 6650 Distinction lever handle range with bolt through fixings (no screw head cover caps), or approved equal
(Note: the return bend to the door leaf on these lever handles can collide with glazing beads at the same height. Please design glazing in doors accordingly.)
Pull handles: ASSA Scanflex Nordic range, or approved equal – Generally 400mm x 32mm to comply with DDA code of practice
Cylinder accessories: ASSA Classic range, or approved equal
External cylinder ring (Escutcheon) internal thumbturn ref 256/18, or approved equal
External and internal cylinder ring for double cylinder ref 18256/18, or approved equal
External cylinder ring internal blind rose ref 2356/18, or approved equal External blind rose internal cylinder ring ref 2256/18, or approved equal (Note: /18 denotes depth of cylinder ring. Assuming 44mm thick door and the lock fitted centrally, an 18mm deep cylinder ring will then finish flush with the face of the cylinder).
Finish: Satin Chrome (Finish 13), or approved equal.

3.6.3.4 Panic hardware Note: Push pads are not allowed under NFPA Regulations.

3.6.3.4.1 For single doors:

ASSA Assure 200 panic bar or 300 panic bar

3.6.3.4.2 For double doors

ASSA Assure 400 panic bar

3.6.3.5 Panic escape hardware. Note: Push pads are not allowed under NFPA Regulations.

Finish: Brushed stainless steel

ASSA Assure 8761 bar or 1520 bar panic latch

SECTION 3: INTERIOR MATERIALS & COLOR

MAGNOLIA WHITE

PALE BLUE

MID ORANGE

MID BLUE

3.8.2 Option 2: Admin Office Areas cont.

Sheet flooring:
2.5mm linoleum sheet in a blue/greys fleck design.
Suitable material is Forbo 'Marmoleum Real' color ref 3055 'Fresco Blue', or approved equal.

Slip Resistant sheet flooring:
Slip resisting locations require R10 slip resisting rating, color grey/blue 2mm thickness vinyl. Suitable material is Forbo Surestep original, color 17196' Steel', or approved equal.
Areas where water or oil spillages are likely require R11 or R12. Suitable material is Forbo Safestep color 8296 (R11), or approved equal.

3.8.3 Option 3: Utility Office Areas

Sheet flooring:
2.5mm linoleum sheet in a blue/greys fleck design.
Suitable material is Forbo 'Marmoleum Real' color ref 3055 'Fresco Blue', or approved equal.

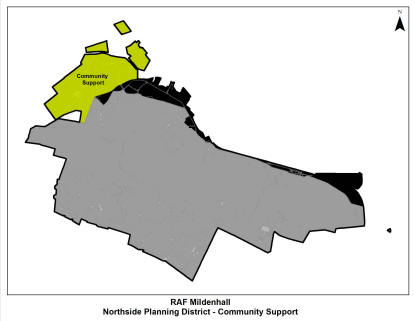
Slip Resistant sheet flooring:
Slip resisting locations require R10 slip resisting rating, color grey/blue, 2mm thickness vinyl.

Suitable material is Forbo Surestep original, color 17196' steel', or approved equal, Areas where water or oil spillages are likely require R11 or R12.
Suitable material is Forbo Safestep, color 8296 (R11), or approved equal.

'Utility' Office carpet tile: blue/grey tweed in 730gm/m2, heavy contract, solution dyed, tufted loop pile.
A suitable material is Bonar floors Atrium ref 'Blue Stone' (blue/grey tweed), or approved equal.

Painted walls: Main color: RAL; 9010 (white)
Feature wall options: NCS; S 1020 R80B (pale blue), BS4800; 20E51 (mid blue), NCS; S 1040 Y20R (mid orange)

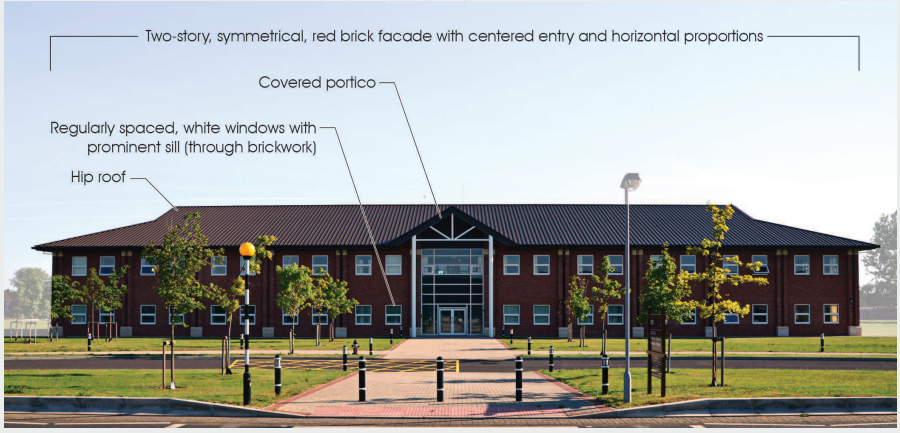
MADE WITH ❤ BY EGOTYPE DESIGN

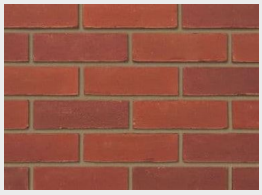


NORTHSIDE DISTRICT - HERITAGE COMMUNITY SUPPORT

'Glazed and unglazed personnel doors and frames and window frames: Windows to historic 'Georgian' style buildings are to include original divided lights to match the dental clinic (B445/446) or equal approved. Specification for Polyester Powder Coated metals to be Syntha Pulvin Plus Matt, or approved equal, color reference M4A 0396 RAL 9016 (one of selection of whites available.) This specification provides improved adherence and improved resistance against impact, scratching, weathering, light, humidity and chemicals, and a 25 year guarantee. Dark stained timber doors: Teak preservative wood stain.

Light oak doors: Light oak preservative wood stain. Precast stone/concrete: Clean off and clear seal

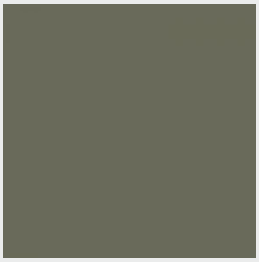




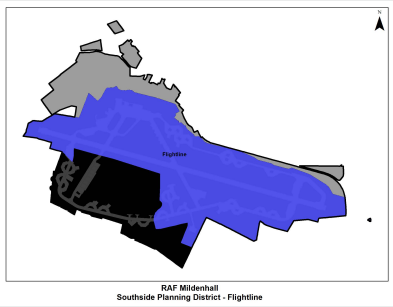
IBSTOCK HERITAGE BRICK

BS 08 B 29 (BROWN)

BS 00 E 53 BLACK



BS 12 B 25 GREEN



SOUTHSIDE DISTRICT FLIGHTLINE

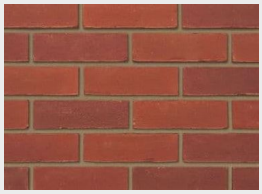
Aviation District: Brick buildings, stucco buildings, metal buildings, metal and brick buildings, or metal and stucco buildings and hangers as follows

Metal roofs, metal siding, supporting framework and trims, stucco walls, glazed and unglazed personnel doors and frames, metal window frames, gable ends to saw tooth roof forms, fascia assemblies, hanger doors and roller shutter doors, sliding doors exposed head structures, gutters and downpipes, louvers, tanks, ladders, handrails, stairs and catwalks: BS 08 B 29 (brown).

Specification for Polyester Powder Coated metals to be Syntha Pulvin Plus Matt, or approved equal, color reference BS 08 B 29 (brown). This specification provides improved adherence and improved resistance against impact, scratching, weathering, light, humidity and chemicals, and a 25 year guarantee.

Brick: Ibstock Norfolk Red Blend, or approved equal, (or to match existing where required) to be approved by CE.

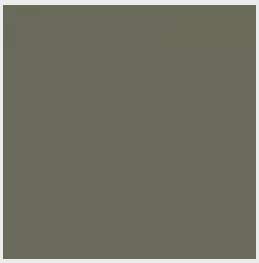
Stucco external walls: BS 08 B 29 (brown)



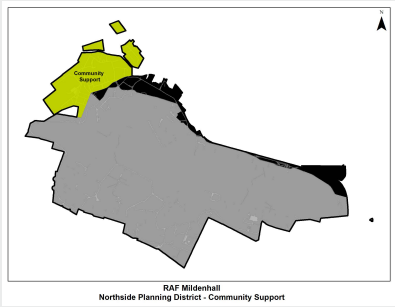
IBSTOCK HERITAGE BRICK

BS 08 B 29 (BROWN)

BS 00 E 53 BLACK



BS 12 B 25 GREEN



NORTHSIDE DISTRICT
COMMUNITY SUPPORT

Community District: Red brick buildings, Stucco buildings, Metal buildings

Slate Roofs: New Build or additions to Eternit slated roofs: Eternit NT Thrutone, or approved equal, color: blue-black. Additions to, or re-roofing existing natural slate roofs, to be as existing.

Slate Roof mounted louvers: BS 18 B 25 (grey) to match roof tiles. Clay tile roofs: to match existing.

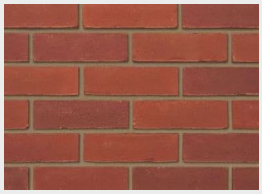
Gutters and downpipes to match existing style and material, Balustrades and handrails, sign posts: BS 00 E 53 (black).
Dormer louvers, gutter boards, soffits and trims etc..: BS 12 B 25 (green).
Brick: Ibstock Norfolk Red Blend, or approved equal, (or to match existing where required) to be approved by CE.

Metal roofs, metal trim, metal overhead and sliding doors, louvers, ladders, tanks and walkways: BS 08 B 29 (dark brown).

Stucco external walls, Metal siding and metal supporting framework: BS 08 B 29 (brown)

Glazed and unglazed personnel doors and frames and window frames. Specification for Polyester Powder Coated metals to be Syntha Pulvin Plus Matt, or approved equal, color reference M4A 0396 RAL 9016 (one of selection of whites available.) This specification provides improved adherence and improved resistance against impact, scratching, weathering, light, humidity and chemicals, and a 25 year guarantee.

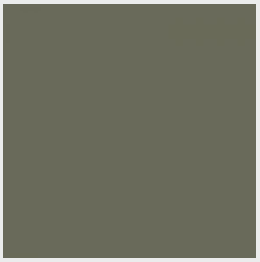
Precast stone/concrete: Clean off and clear seal. Brown



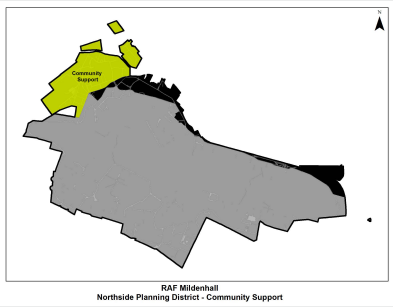
IBSTOCK HERITAGE BRICK

BS 08 B 29 (BROWN)

BS 00 E 53 BLACK



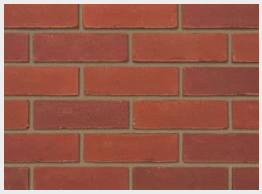
BS 12 B 25 GREEN



NORTHSIDE DISTRICT
COMMUNITY SUPPORT

Metal or timber roofs, siding and trims, fascia assemblies, gutter boards and soffits, gutters and downpipes, metal roller shutter doors, overhead doors, exposed head structures, glazed and unglazed personnel doors and frames, window frames, louvers, walkways, ladders, handrails and tanks: BS 08 B 29 (dark brown). Specification for Polyester Powder Coated metals to be Syntha Pulvin Plus Matt, or approved equal, color reference BS 08 B 29 (brown). This specification provides improved adherence and improved resistance against impact, scratching, weathering, light, humidity and chemicals, and a 25 year guarantee.

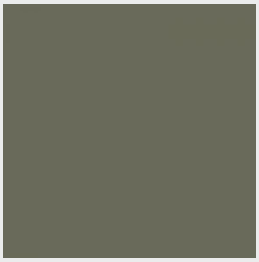
Brickwork: Ibstock Himley Dark Brown Rustic with suitable brown mortar or equal and approved.



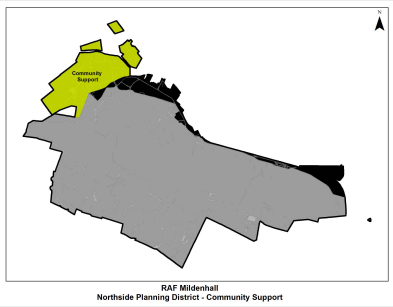
IBSTOCK HERITAGE BRICK

BS 08 B 29 (BROWN)

BS 00 E 53 BLACK



BS 12 B 25 GREEN



NORTHSIDE DISTRICT - DORMITORIES COMMUNITY SUPPORT

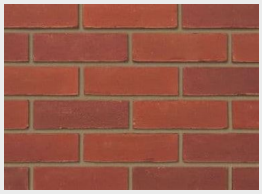
District 4: Dormitory District Plan Dormitory District: Brick buildings Slate Roofs: New Build or additions to Eternit slated roofs: Eternit NT Thrutone, or approved equal, color: blue-black. Additions to, or re-roofing existing natural slate roofs, to be as existing.

Slate Roof mounted louvers: BS 18 B 25 (grey) to match roof tiles. Clay tile roofs: to match existing.
Gutters and downpipes to match existing style and material, balustrades and handrails, sign posts: BS 00 E 53 (black).
Dormer louvers, gutter boards, soffits and trims etc..: BS 12 B 25 (green).
Brick: Ibstock Norfolk Red Blend, or approved equal, (or to match existing where required) to be approved by CE.

Metal roofs, metal trim, metal overhead and sliding doors, louvers, ladders, tanks and walkways: BS 08 B 29 (dark brown).

Glazed and unglazed personnel doors and frames and window frames. Specification for Polyester Powder Coated metals to be Syntha Pulvin Plus Matt, or approved equal, color reference M4A 0396 RAL 9016 (one of selection of whites available.) This specification provides improved adherence and improved resistance against impact, scratching, weathering, light, humidity and chemicals, and a 25 year guarantee.

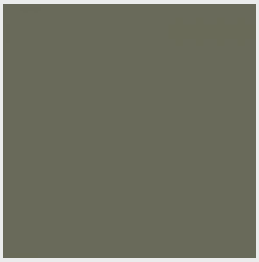
Precast stone/concrete: Clean off and clear seal.



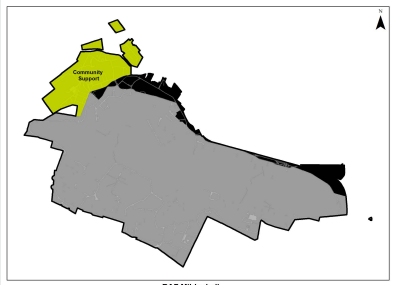
IBSTOCK HERITAGE BRICK

BS 08 B 29 (BROWN)

BS 00 E 53 BLACK



BS 12 B 25 GREEN



RAF Mildenhall
Northside Planning District - Community Support

NORTHSIDE DISTRICT - HOUSING COMMUNITY SUPPORT

Housing District: Area E Brick buildings

Roofing: Clay plain tile (2 varieties - to be approved by base CE before placing orders).

Gutter board, soffit and trim, window frames, storm porch entry door and frame, garage doors and gate: White.

Gutters and downpipes: BS 08 B 25 (brown).

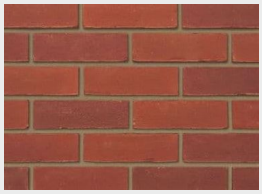
Dark stained house entry doors and frames: Teak preservative wood stain.
Housing District: Area F Brick buildings
Roofing: Eternit 'Farmhouse Brown' sand faced plain clay tiles, or approved equal.

Brick: Aldridge Georgian Blend, or approved equal, (or to match existing where required) to be approved by base CE.

Gutters and downpipes: Black.

Gutter boards, box eaves, soffits and trims, exposed rafter feet: BS 08 B 29 (brown).
Metal doors and door frames, window frames: BS 08 B 25 (brown), but white when replaced entirely.

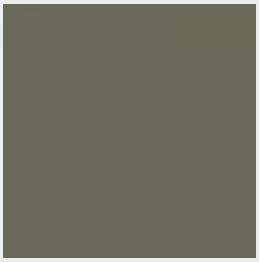
Stucco walls: BS 08 B 29 (brown)



IBSTOCK HERITAGE BRICK

BS 08 B 29 (BROWN)

BS 00 E 53 BLACK



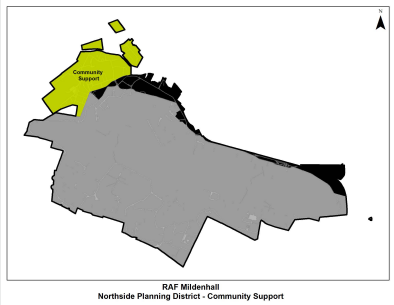
BS 12 B 25 GREEN

SPECIFIED ITEM COLORS

SECTION 2

Section 2.1: Composite cladding to walls and roofs
Section 2.2: Masts and towers
Section 2.3: Timber fences and gates
Section 2.4: Fire Hydrants

MADE WITH ❤ BY ECOTYPE DESIGN



SECTION 2 - SPECIFIED ITEM COLORS

Section 2.1 Composite cladding to walls and roofs:

Roofs: Kingspan KS1000 SF (secret fix) Walls: Kingspan RW (roof/wall) composite panels, Plastisol HPS 200 coated externally with Scintilla finish, or approved equals.
BS 08 B 29 (dark brown)

KINGSPAN KS1000 SF

Section 2.2 Masts and towers: BS 08 B 29 (Dark brown)

Section 2.3 Timber fences and gates

Roofs: Kingspan KS1000 SF (secret fix) Walls: Kingspan RW (roof/wall) composite panels, Plastisol HPS 200 coated externally with Scintilla finish, or approved equals.
BS 08 B 29 (dark brown)

Section 2.4 Fire Hydrants

BS 08 B 29 (dark brown): these are delivered from the USA painted red and must be overpainted brown.
(The Fire Dept may require colored caps to indicate output capacity – please ask CFF for advice).

Policy on AF Fire Hydrant Color-Coding.pdf https://www.fbo.gov/download/5c9/5c97ca3d7554d55f4c8346c4928fdcf5/Tab_1-_Policy_on_AF_Fire_Hydrant_Color-Coding.pdf

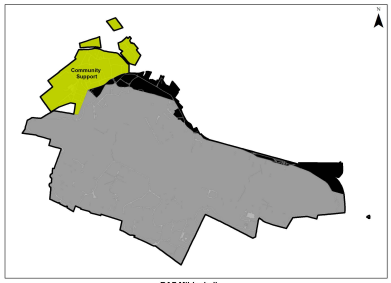
Agram Fire Hydrant Color Codes: Painting Guidelines: https://www.fbo.gov/download/ca0/ca0a48f2a1974b0f2c7c22dcae9b9815/Tab_2 Agram_Fire_Hydrant_Color_Codes.pdf

TIMBER FENCE AND GATE

Section 2.1 Composite cladding to walls and roofs:

Section 2.5 Monitoring wells:
BS 08 B 29 (dark brown)

Section 2.6 Balustrades: BS 08 B 29 (dark brown), South of Lincoln Rd, BS 00 E 53 (black) North of Lincoln Rd.



RAF Mildenhall
Northside Planning District - Community Support

SIGN POSTS EXAMPLES

SECTION 2 - SPECIFIED ITEM COLORS

Section 2.7 Cables, Cable boxes and ducts:
Cables must be tied to walls at maximum 1m centers vertically and horizontally to prevent sagging etc.
Cables must be suitably enclosed for physical protection at least to 2m above ground level. Where appropriate, cables can be painted to match the color of painted backgrounds.
Conduit colors should be as follows:
BS 08B29 (dark brown) to red brick buildings.
Conduit to metal clad buildings to match the background color
(Generally cream BS 10 C 31 or brown 08 B 29 to metal cladding, BS 08 C 31 to AMQs)

Section 2.8 Lamp posts, balustrades etc..: BS 00 E 53 (black)

Section 2.9 Sign posts, back of signs, handrails: BS 08 B 29 (dark brown)
(Note that stainless steel lamp posts are to remain stainless steel)

BOA Number: FA558724G0001
Attachment 3

INTERIOR MATERILS & COLORS

SECTION 3

3.8.0.1 Option 1A & 1B: Management:
Option 1A: broadloom carpet
Option 1B: loop pile carpet tile
3.8.0.2 : Option 2: Admin
3.8.0.3 : Option 3: Utility
3.8.0.4 : Option 4: Latrines
3.8.0.5 : Option 5: AMQ/Dorm/TLF Kitchen,'domestic' bathroom & shower wall finishes
3.8.0.6 : Option 6: Dormitories
3.8.0.7 : Option 7: Studded rubber floors
3.8.0.8 : Option 8: Walk-off matting
3.8.0.9 : Option 9: TLF carpet

SECTION 3.8: INTERIOR MATERIALS & COLORS

(MANDATORY)

Comply with the current Air Force Carpet Standards. ETL 07-4
The ETL provides performance specifications for broadloom carpet and carpet tile in a variety of facilities and includes the following guidance: 1: Purpose, 2: Application, 3: References, 4: Acronyms and Terms, 5: Technical Assistance, 6: Waivers, 7: Authorized Areas (carpet is not authorized in industrial areas, food preparation areas, heavily trafficked areas etc.). 8: Fund Source, 9: Selection Criteria, including 9.1: Primary Considerations (consider environmentally preferable products and those that include recycled products), 9.2: Minimum Warranties (fifteen year warranties are required against 10% loss of fibre and ravelling etc), 9.3: Authorized/Recommended Floor Coverings (use carpet tiles in open areas with raised floors: use patterns or bold multi colored tweeds, except as noted), 9.4: Technical Specifications (Construction, Fibres, Average Pile Yarn Density (AYPD) calculations, Backings, Testing Lightfastness (minimum rating 4), Fire Resistance and Indoor Air Quality, 10: Installation, 11: Maintenance (establish a maintenance programme etc.), 12: Removal and Disposal (recycle whenever possible).
Select suitable carpets and other finishes for particular facilities as follows:

- Read the UFC and check if there are specific carpet requirements for the facility, such as for CDCs.
- Refer to Attachment 1: Identify the Area of use from the table and Minimum Use Classification required.
- Select a carpet and colorway that meets the yarn type, pile weight, wear rating, color, pattern, calculated density and other requirements: (for example, Management Offices can be solid color. Other Offices must contain a bold multi-color pattern (or bold tweed with minimum 3 distinct colors), with a combination of dark and light, overall medium tone.)
- Confirm the selected carpet meets all requirements of the ETL.

3.8.0 (ADVISORY)

This document includes details of acceptable materials. Materials from other manufacturers that meet these requirements can be submitted with evidence of comparability for review and approval via the Waiver process.

3.8.0.9: Option 9: TLF carpet
Selection Principles

In selecting colors and patterns for paint, carpet, vinyl sheet, wall tile, fabric backed vinyl or any other floor and wall finishes, avoid very bright or dark colors and bold patterns that are uncomfortable to the eye, difficult to clean and create maintenance liabilities. Selected finishes must be suitable for use in terms of physical properties, durability, resistance to environmental conditions, impact and abrasion resistance, color, ease of cleaning and suitability for the background.

Paints must be water based with Low VOCs (Volatile Organic Compounds below 7.99%) with scrub resistance. Wall paint must be eggshell finish. Timber trims must be low-gloss finish.

WINDERMERE LAKE 25382

MURASPEC ASTORIA KAMISO PO812

RAINFOREST BLUEBIRD 301389 FIELD TILE

INTERFACE PALETTE 2000 CRANBERRY 542035

SECTION 3.8: INTERIOR MATERIALS & COLORS

Please specify the source and type of paint to be used in specifications. Paint colors specified are taken from BS4800 (British Standard 4800), RAL (a German color selection of 1688 colors) or the NCS (a Swedish index of 1750 colors).

Walk–off mat: select durable, easily cleanable, black profiled rubber matting or textured walk off matting with a tweed mix of neutral colors to hide dirt, to suit the location. See 3.8.9 for selections.

Wall coverings: to be fabric backed vinyl, fully washable, high impact resistance to BSEN 259-2 and high wear and tear, Fire Resistance Building Regulations Class O and BS476 Class 1.

3.8.1 Option 1A & 1B: (Management Offices).
3.8.1 Option 1A: Broadloom carpet (preferred option).

Offices/Corridors are Heavy/Severe Rating. Color: solid mid tone blue. Minimum Average Yarn Pile Density required (AYPD) is 4000 (except for family housing).
This following product meets requirements: Brintons Bell Twist 80/20 wool/nylon, Woven Wilton Carpet, Color: Windermere Lake 25382, AYPD rating: 4866, for Extra Heavy Contract use, or approved equal. Website www.brintons.net

Coordinating wall covering: Fabric backed vinyl, fully washable, high impact resistance. Fire Resistant to UK Building Regulations Class O, BS 476 Class 1, Euro Class B.
The following product meets requirements: Muraspec Astoria Kamiso PO812, or approved equal. Website www.muraspec.com.

Curtains: select to reflect wall covering design.

3.8.1 Option 1B: Loop pile carpet tile.

Severe rated tweed or random multi-colored pattern with overall medium color fibres. Colors: 55% mid blue, 10% dark green, 10% dark red, 20% grey.
The following meets requirements: Field tile; Interface Rainforest Bluebird 301389, Color fastness rating: 6, or approved equal.
Border tile option; (plain red). The following material meets requirements: Interface Palette 2000 Cranberry 542035, or approved equal. Website www.interfaceflor.eu.
Coordinating wall covering: Fabric backed vinyl: Colors: Background pale grey with light blue/grey, horizontal, close spaced, narrow stripes. The following item meets requirements: Muraspec Astoria Kamiso PO812, or approved equal. Website www.muraspec.com
Management conference rooms/break out areas: RAL 9010 (white).

MAGNOLIA WHITE

PALE BLUE

MID ORANGE

MID BLUE

SECTION 3.8: INTERIOR MATERIALS & COLORS

3.8.2 Option 2: Admin Office Areas

Field carpet tile: heavy duty, 800gm/m2, textured loop, solution dyed, Nylon 6.6 with soil protection, 1/10 inch gauge, and bitumen backed, to IBM/ICL electrical standards with limited 10 year wear guarantee.
(15 year guarantee only available with 'Cushionback': not 'Base Standard' requirement) Color: 50% dark blue, 40% dark purple, 10% cream.
A suitable item is: JHS Streamline Design, Color #1592 DES-2, or approved equal.
See 100 CES Stores for options.

Note: The slight color variation from previous standard ART 6058 means this should only be used where color matching is not important – for example, for complete rooms.

Wall paint option: RAL 9010 (White) Magnolia.
Feature wall options: NCS; S 1020 R80B (pale blue), BS4800; 20E51 (mid blue), NCS; S 1040 Y20R (mid orange)

TRITON GREY (KER 25)

PRISMATIC SHARK (PRG 11)

WHITE GLOSS (PRG1)

SECTION 3.8: INTERIOR MATERIALS & COLORS

3.8.2 Option 2: Admin Office Areas cont.

Sheet flooring:
2.5mm linoleum sheet in a blue/greys fleck design.
Suitable material is Forbo 'Marmoleum Real' color ref 3055 'Fresco Blue', or approved equal.
Slip Resistant sheet flooring:
Slip resisting locations require R10 slip resisting rating, color grey/blue 2mm thickness vinyl. Suitable material is Forbo Surestep original, color 17196' Steel', or approved equal.
Areas where water or oil spillages are likely require R11 or R12. Suitable material is Forbo Safestep color 8296 (R11), or approved equal.

3.8.3 Option 3: Utility Office Areas
Sheet flooring:
2.5mm linoleum sheet in a blue/greys fleck design.
Suitable material is Forbo 'Marmoleum Real' color ref 3055 'Fresco Blue', or approved equal.
Slip Resistant sheet flooring:
Slip resisting locations require R10 slip resisting rating, color grey/blue, 2mm thickness vinyl.
Suitable material is Forbo Surestep original, color 17196' steel', or approved equal,
Areas where water or oil spillages are likely require R11 or R12. Suitable material is Forbo Safestep, color 8296 (R11), or approved equal.
'Utility' Office carpet tile: blue/grey tweed in 730gm/m2, heavy contract, solution dyed, tufted loop pile.
A suitable material is Bonar floors Atrium ref 'Blue Stone' (blue/grey tweed), or approved equal.
Painted walls: Main color: RAL; 9010 (white)
Feature wall options: NCS; S 1020 R80B (pale blue), BS4800; 20E51 (mid blue), NCS; S 1040 Y20R (mid orange)

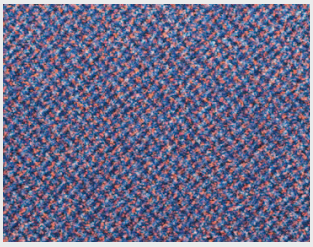
3.8.4 Option 4: Latrines.

Floors/skirtings: 200 x 200mm x 8.5mm thick fully vitrified porcelain floor tiles with 200 x 100 x 8.5mm cove.
A suitable material is HR Johnson ref KER25 'Triton' (grey), natural finish, or approved equal. Where improved slip resistance is required, use 'Rocktop,' or approved equal, surface textured tiles.

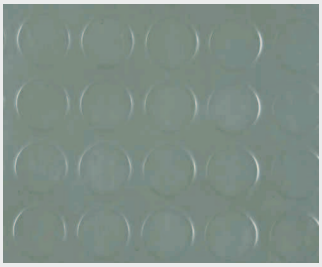
Ceramic wall tiles: 200 x 100mm glazed ceramic, flat gloss finish ceramic tiles to BS 6431. Water absorption 10% – 20% limits. Scratch Hardness to Part 13 (EN101) >3. Stain resistance to part 19 (EN122) Min class 2. Chemical resistance to Part 19 (EN122) Min Class B. Fire rating Class O (non-combustible), unaffected by light, not frost resistant. Colors: field color 'light grey', with 'dark grey' feature band. Wall tiles fixed 'vertically' to full height with spacer pegs. A suitable material is HR Johnson 'Prismatics' range, 200x100mm, or approved equal, fixed vertically.
Field tiles: Ref PRG 11 (Shark), or approved equal. Feature horizontal band: Ref PRG 24 (Storm grey), or approved equal.
Website www.johnson-tiles.com

SECTION 3.8: INTERIOR MATERIALS & COLORS

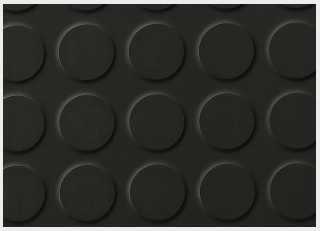
MAGNOLIA WHITE



ATLANTA BLUE (3179)



ALDRO MONDOPAVE SHALE
STUDDED RUBBER FLOOR



POLYFLOR ANTHRACITE

3.8.5 Option 5: Wall tiling to bathrooms, showers and kitchens in AMQs, Dorms and TLFs (DOMESTIC environments)

Ceramic tiled walls: 100 x 100 x 6.5mm, flat faced white glazed ceramic gloss finish wall tiles to the performance specification above, fixed with spacer pegs.
Suitable materials is H R Johnson: ref PRG1, or approved equal, White gloss finish.

Employ suitable corner protectors to tiled walls to reduce mechanical damage.
Suitable products are Schluter-Systems, Schluter-Rhondec, or approved equal.

3.8.6 Option 6: Dormitories

Carpet requirements: Zeftron six solution dyed nylon, or approved equal, 1350gm/m2, 5mm pile height.
Suitable material: lay with the 'Durafit 500' underlay system, or approved equal.

Birch International Birch Beta Tech, Heavy Contract broadloom Ref 3179 Atlanta Blue, or approved equal. Website www.birchinternational.co.uk

Sheet flooring:
2.5mm linoleum sheet in a blue/greys fleck design.
Suitable material is Forbo 'Marmoleum Real' color ref 3055 'Fresco Blue', or approved equal.

Slip Resistant sheet flooring:
Slip resisting locations require R10 slip resisting rating, color gey/blue 2mm thickness vinyl. Suitable material is Forbo Surestep original, color 17196' steel', or approved equal.
Areas where water or oil spillages are likely require R11 or R12.
Suitable material is Forbo Safestep, color 8296, or approved equal, (R11).

Walls: painted Magnolia (BS4800 Ref 08B15).
Venetian Blinds to windows: follow Base Standard Section 3.15.

3.8.7 Option 7: Studded rubber flooring
Note that this has low slip resistance and walk off mats are required to rid shoes of water.
Select the thickness suitable for traffic conditions.

Option 1: Altro Mondopave 500x500mm rubber stud tile, 2.5 or 4mm thickness to suit, color Shale, 2892 (dark grey), or approved equal, Website http://www.altro.com

Option 2: Polyflor Noppe 500x500mm rubber stud Tile 3.0mm or 4.0mm thickness, color Anthracite 102 (dark grey), or approved equal, to match existing. Website www.polyflor.com

Option 3: Debolon Delphin Super fibre reinforced homogenous interlocking floor tile with PU- surface protection, or approved equal.

CORAL BRUSH 5727

CARMENERE 589

SECTION 3.8: INTERIOR MATERIALS & COLORS

3.8.8 Option 8: Walk off matting.

Type and color depend on the situation, mat well, local colors etc. Regular cleaning is best achieved with a powered vacuum brush.

Metal framed option in matwell: Forbo Nuway Tuftiguard: Color 'Charcoal', or approved equal. Forbo Coral Classic 4701 Anthracite
Sheet flooring option in matwell: 9-10mm thickness, dark blue/grey with FR backing to EN13501. Suitable sheet is Bonar Floors Forbo Coral Brush Activ FR: Color 5727 'Stratos Blue' bluegrey, or approved equal. Website http://www.bonarfloors.com
Tile Option: 10mm thick tile in matwell: nylon 6.6 with scraper yarn and reinforced backing. 7 years wear warranty. NFPA Radiant panel test Class 1. Pill Test pass rated. Suitable material is: Birch International 'Barrier Tech Step Up' tile, color: 537, 'Starlight Blue', or approved equal.

3.8.9 Option 9: TLF carpet:

broadloom textured patterned loop, solution dyed, 1085gm/m2 pile weight carpet, with composite foundation. Suitable material is: Mohawk Meritage Collection 'Carmenere' Ref 589 Merlot, or approved equal.

3.8.10 Ceiling tiles

For offices: Requirements: Minimum 80% light reflectivity, resisting up to 70% Relative Humidity, BS476 Class O/Class 1 FR, Sound Attenuation minimum 34Db. Suitable tile is Armstrong Cortega Tegular 9105M 600x600x15mm laid in recessed 24mm Prelude XL/TL grid, or approved equal.

Ceilings to corrosive atmospheres: Requirements: Minimum 84% Light Reflectivity, resisting up to 100% Relative Humidity. BS476 Class O/Class 1.
Suitable tiles are Armstrong Ceramaguard 607M, 600x600x15mm FR tiles on Prelude TL/NC (Trulok Non-Corrosive) 24mm grid, or approved equal. Website www.armstrong-ceilings.co.uk.

100CES/CENP 238 4974

SECTION 3.9: PAVING (CONCRETE BLOCK)

3.9 PAVING (CONCRETE BLOCK)

3.9.0 (ADVISORY)

This document includes details of acceptable materials. Materials from other manufacturers that meet these requirements can be submitted with evidence of comparability for review.

3.9.1.1 Block pavers:
To be manufactured to BS EN 1338, ISO 9001 and factory compliance to ISO 14001. Pattern: All paving to be laid in 90 degree herringbone pattern as far as possible.

Field area, to match existing.
200x100x65 or 80mm thick as required, Aggregate Industries Charcon 'Parliament', color 'Grey,' or approved equal, like Keyblok 'Natural' PV5050250.

Edge trim to field grey paving:
200x100x60 or 80mm thick as required, Aggregate Industries Charcon 'Manhattan', color 'Red,' or approved equal, like Keyblok 'Red' PV5051500.

3.9.1.2 New areas of paving:
Aggregate Industries Charcon 'Europa' color 'grey' field blocks with 'Europa 'red' edging blocks, 200x100x60 or 80mm thickness to suit, or approved equals, like Keyblok 'Red'and Keyblok 'Natural'.

3.9.2 Walkway Design Options:

Primary Walkway: 1.8m wide: Grey with 225mm wide soldier course edge in Red. Secondary Walkway: 1.2m wide: Grey with 112mm wide Red stretcher course.

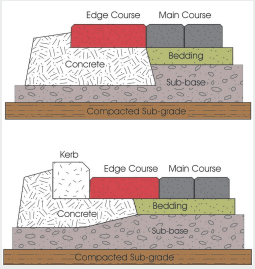
3.9.4 Pedestrian paving and Vehicle parking to match existing in particular areas South Side

Material: concrete block paver to match existing.
Dimensions: 200x100x80, 65 or 60mm as required on designed base layers.
Aggregate Industries Charcon 'Europa', color 'Grey,' or approved equal, like Keyblok 'Natural'. 100CES/CENP 238 4974

CHARCON MANHATTAN RED

CHARCON PARLIAMENT GREY

PRIMARY WALKWAY



BLOCK PAVING STANDARD SECTION

SECTION 3.10: ROADS & PARKING BAYS

MANDATORY

3.10.1 NFPA Requirements

3.10.1.1 The NFPA Regulations stipulate minimum dimensions for roads, fire lanes, parking lot stalls and parking lot lanes.

3.10.1.2 Fire lane widths adjacent to buildings shall be a minimum of 16ft (4.9m) for one way and 24ft (7.4m) for two way travel.

3.10.1.3 Turns in fire lanes shall have a minimum inside curb radius of 25ft (7.6m) and a minimum outside curb radius of 50ft (15.2m).

3.10.1.4 Fire lanes connecting to roadways shall be provided with curb cuts extending at least 2ft (.61m) beyond the edge of the fire lane.

3.10.1.5 Clear openings through gates shall be 2ft (.61m) wider than the traveled way.

3.10.1.6 Gates shall be located at least 30ft (9.2m) from the public right of way and shall not open outward.

3.10.1.7 Fire department personnel shall have ready access to locking mechanisms on any gate restricting access to a fire lane.

3.10.1.8 Maintain a vertical clearance of 13ft 6ins (4.1m) over the width of a fire lane.

3.10.1.9 Separate ingress and egress routes must be located as remote from each other as possible.

3.10.2 (MANDATORY) Roads generally

3.10.2.1 Roads shall have a minimum lane clearance of 12ft (3.7m) for each lane of travel.

3.10.2.2 At least 13ft 6ins (4.4m) vertical clearance shall be provided over the full width of access.

3.10.2.3 The Military Surface Deployment Command Transportation Engineering Agency (SDDCTEA) executes the DoD overall transportation engineering program on behalf of military services. The Hyperlink is:
http://www.tea.army.mil/pubs/nr/dod/pmd/SDDCTEA_55-17.pdf This 279 page (36MB) document includes the following subjects:

- Introduction
- Traffic Engineering Studies
- Geometric Design Basis
- Intersection Traffic Control

SECTION 3.10: ROADS & PARKING BAYS

- Signing and Marking
- Traffic Signals and ITS
- Roadway Safety
- Pedestrian Safety
- Speed Limits
- Traffic Calming
- Access Management
- Parking
- Entry Control Facilities
- Roadway Lighting Items include the following:

Lighting: 'a normal lighting level is 1.0 to 2.0 foot-candles'

Stall Layout: 'Ideally, parking lots should be rectangular with parking on both sides of access aisles. For two-way traffic flow, parking spaces perpendicular or 90 degrees to the aisles are most efficient and efficiency decreases as the parking angle decreases. Where a fast turnover rate is expected or where site limitations dictate, 60 degree or 45 degree angle parking with one-way aisles may be used. However, the advantage of easy pull in that angle parking provides is often offset by the inconvenience of one-way aisles and the tendency of motorists to attempt to pull into a space from the wrong direction. Exhibit 12.1 provides stall layout dimensions for various parking angles.' 'As a general rule planning purposes, about 350SF is required per car to account for traffic aisles, space between cars, entrance and exit lanes.'

Parking lot dimensions: Ref page 12-4 in the document Hyperlinked above.
Parking angle / Stall width parallel to aisle /Actual Stall Length / Stall depth to wall (no interlock) / Aisle width

90 degree	9ft (2.743m)	18.5ft (5.638m)	18.5ft (5.638m)	26ft (7.924m) 2way
75	9.3ft (2.834m)	20.9ft (6.370m)	20ft (6.096m)	23ft (7.010m) 2way
60	10.4ft (3.170m)	23.7ft (7.223m)	20.5ft (6.248m)	16ft (4.876m) 1way
45	12.7ft (3.870m)	27.5ft (8.382m)	19.5ft (5.943m)	12ft (3.657m) 1way

Accessible Parking: ADA requirements are 4 % for the first 100 spaces, 3% for 101-200, 2% for 200 plus.

Rows: up to 130ft (39.624m), rows should be perpendicular to buildings for pedestrian safety.

Off- street parking: is preferred except on low speed roads.

On- street parking: On-street internal stall length min length 22ft (6.704m). End stall min length 18ft (5.486m), Locate min 20ft (6.096m) from an adjoining road. On-street parking stall width min 7ft (2.133m).

SECTION 3.10: ROADS & PARKING BAYS

Parking is not allowed:

1. Fronting a driveway
2. Within an intersection
3. Within 15ft of a hydrant
4. Within 20ft of a crosswalk or intersection
5. Within 50ft of an approach to a flashing beacon, stop sign or traffic control signal on the side of a roadway.
6. Within 50ft of a rail crossing
7. On a bridge or elevated highway.

3.10.2.4 Parking bay road marking for disabled personnel.

100CES/CENP 238 3673 CES/CEF 238 7729

SECTION 3.11: SANITARYWARE

TWYFORD GALERIE FLUSHWISE

TWTFORD GALERIE 500 SEMI-RECESSED BASIN

TWYFORD AQUATIONS LOW FLOW BASIN TAP (AQ512CP)

3.11 SANITARYWARE / SHOWER FITTINGS

Sanitary ware changed to reduce water consumption and meet UK Building Regulations requirements to limit hot water supply temp to baths: Lavatory cubicle now Solid Grade Laminate.

3.11.0 Items are ADVISORY

Under ADVISORY, this document includes details of acceptable materials. Materials from other manufacturers that meet these requirements can be submitted with evidence of comparability for review.
Note; Water pressure at Mildenhall is 51lb/inch2 (3.52Bar).

3.11.1 Sanitary ware
3.11.1.1 WC: close coupled wash down suite, horizontal outlet, 400mm seat height, with seat and cover, in white. Cistern: 360mm wide, dual flush 4/2.6 liter, adjustable to suit on site, in white with push button.
(Twyfords galerie flushwise ref GEC042WH, or approved equal.)

3.11.1.2 : Concealed cistern option: 4 liter flush to reduce risk of inadequate flush: with push button in white.
(Twyfords galerie ref CX9640XX cistern, or approved equal.)

3.11.1.3 Washbasins: 550x450mm with one taphole and semi pedestal, in white.
Semi pedestal retains clear floor for cleaning
(Twyfords Galerie GN4221WH with wallbolts SR1018XX and semi pedestal GN4970WH, or approved equals.)

Semi-recessed washbasin option: 500x425mm with one taphole in white. (Twyfords Galerie 500 semi-recessed basin GN4621WH, or approved equal.)

Recessed countertop basin option: 500 x430mm basin with one tap hole in white. (Twyfords ref GN4521WH, or approved equal.)

SECTION 3.11: SANITARYWARE

TWYFORD AQUATIONS LOW FLOW BASIN TAP (AQ512CP)

TWYFORD SF2104CP

TWYFORD SF2104CP

TWYFORD SF2105CP

Washbasin Brassware: Federal flow limit is 2 us gallon/min (7.5 liters/minute).
Taps are usually turned on and left running during lathering, washing and rinsing hands, or shaving.
While infrared taps are only on short periods, the flow rate remains 4.6-5 litres/minute.
Preference is for a 'double click' tap, that used sensibly restricts flow to 2.5 liters/minute.

a) Chrome plated single lever monoblock with double click 5/2.5 liter/min cartridge and pop up waste with hot and cold supplies. Use on the first click at 2.5 liters/minute will save over the normal 6 litre/min tap flow rate. (Twyfords AQ5126CP, or approved equal.)

Alternate 'low flow' water saving taps are available as follows:

b) Chrome plated on-concussive single hot or cold taps fitted with flow straightener flows for 15 seconds (+ or - 3 seconds) after button is pressed, but at approx. 6 liter/minute flow rate. (Twyfords SF102CP, or approved equal.)

c) Chrome plated non-concussive temperature controlled monoblock, Flow as (b) above. (Twyfords SF2104CP with SF1037XX mixing valve, or approved equals.)

d) Chrome plated infrared taps with thermostatic mixing valve and 9 v battery operation and 6 liters/min flow restrictor. Tap flows only while hand is detected. Auto shut off is set at 90 seconds. Sensor range is 80-300mm. (Twyfords SF2601CP with SF1037XX thermostatic mixing valve, or approved equals.)

e) Chrome plated' touch taps' with thermostatic mixing valve, 9v battery operation. Touch tap to start and touch to shut off. Default shut off after 20 seconds (adjustable to 60 seconds). Battery life 4 years with150 operations/day. (Twyfords SF2105CP with SF1037XX mixing valve, or approved equals.)

3.11.1.4 Baths: 1700/1600/1500 x700mm, enameled 1.8mm thickness steel bath with grips, legs and 2 tapholes and slip resistant bottom with 1.5 inch chrome plated chain waste and overflow. (Twyfords 'Celtic' range, or approved equal.)
3mm moulded styrene bath front and side panels to suit bath dimensions. (Twyfords galerie callisto panels, or approved equals.)

Brassware:
(Federal Laws restrict flow rate to baths to max 2.2gall/min (10 liters/min). Install a low flow chrome plated deck mounted twin lever, bath shower mixer: (Twyford Aquations AQ5265CP, or approved equal.)
Include Twyfords SF1201CP shower rail, hose and head, or approved equals as required.
Comply with UK requirements to limit temperature of hot water for baths: Fit Twyfords water temperature limiter SF1388XX, 22mm TMV3 valve, or approved equal to water supplies.

SECTION 3.11: SANITARYWARE

TWYFORD CALYPSO 2

TWYFORD CLIFTON

TWYFORD VC7051 WH

TWYFORD SF2302 CP

3.11.1.5 Shower trays (dorms only): 800x800mm enameled fireclay (or size to suit) with chrome plate grid waste. (Twyfords 'Calypso 2' FC3103WH with grid waste, or approved equal.)

3.11.1.6 **Urinals:** Twyfords 'Clifton' and dividers, or approved equals, with concealed flushpipes where possible, including urinal dividers, timer control and S/S sparge pipe and fittings as required.
(Twyfords Clifton range with concealed or exposed flushpipes and Twyfords VC8051WH divider, or approved equals.)

3.11.1.7 Cistern flush controls: weekend/overnight flushing should occur as a 12 hour interval Hygiene/ Janitorial flush. Weekday flushing should occur at approx. 20 min intervals between 06.00hrs and 18.00hrs. (Gentworks cistern control, or approved equal. Website www.gentworks.co.uk

3.11.1.8 Bib tap: ½ inch cross head bib taps hot or cold in CP finish. (Twyfords SF2302 CP, or approved equal.)

3.11.2 Shower fittings

3.11.2.1 'Non-Power' Mixer Showers:
Use thermostatic/thermoscopic mixer shower with 'Hard Water' shower heads with 5 year guarantee.
(Mira Excel BIV, or approved equal.) Website http://www.mirashowers.co.uk/

3.11.2.2 Power showers:
Do not use instantaneous water heaters/power showers without approval from 100CES.

3.11.3 Vanity Base Unit

3.11.3.1 Floor mounted base unit with white finish Formica faced water resistant chipboard, WBP ply or MDF carcass and recessed or inset bowl to suit. Unit to include a pair of side hung doors. Cabinet dimensions to suit the installation requirements.
Ideal Standard 'Space' range, 'ESCO' vanity base unit from Armitage Shanks Ltd., or approved equal.
Worktop laminate to be Formica 'Bahia Beige,' or approved equal.

3.11.4 WC cubicles

3.11.4.1 Ensure panels and fittings are sufficiently robust for their intended use. Use only hung side doors.
Include 2m high Solid Grade Laminate (SGL) panels, modular door height, grey pilasters and fittings.
(Bushboard washrooms, Sentinel range 'bon-bon,' or approved equal.) Website www.bushboard-washrooms.co.uk)

SECTION 3.11: SANITARYWARE

TWYFORD GEO

BOBRICK B-2111 SOAP DISPENSER

ROPER RHODES AVENING TOILET ROLL HOLDER

3.11.5 Shower screens

3.0. 12.5.1 Reinforced plastic framed 6mm safety glass to BS6206 Class A. (Twyfords Geo, or approved equal.)

3.11.6 Facilities for disabled to meet requirements of UK Building Regs Part M

3.11.6.1 Rimless Doc M WC and cistern with grab rails and seat in white. (Twyfords 'Doc M rimless Value Pack PK8145WH' in white, or approved equal.) Set to flush at 4 liters.

3.11.7 Chrome plated Toilet Roll Holder (separate items only)
Roper Rhodes 'Avening' range ref Chrome 4918.02, or approved equal, installed per manufacturer's instructions.

3.11.7 Soap Dispensers
3.11.8 Surface Mounted Soap Dispenser in Stainless Steel. Capacity: 40fl oz/1.2Litres. Soap refill window. Concealed wall fastening and special key access to hinged filler top. Vandal resistant.
Bobrick B-2111, or approved equal.

SECTION 3.11: SANITARYWARE

BUILDING NUMBER
APPROX. 16 X 8 INCES

COMMERCIAL SIGNAGE

SERVICE SIGNAGE

3.12 SIGNAGE EXTERNAL

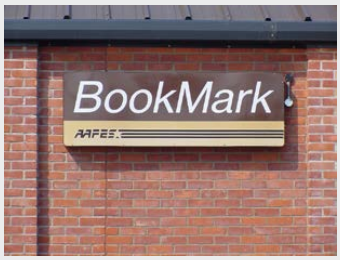
3.12.0 (ADVISORY)

3.12.1 General requirements

This document includes details of acceptable materials. Materials from other manufacturers that meet these requirements can be submitted with evidence of comparability for review and approval.

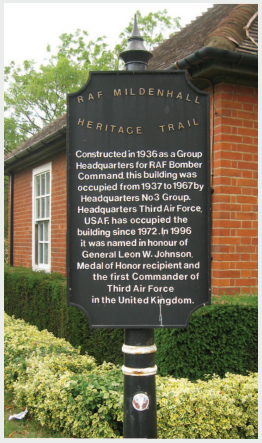
3.12.1.1 External signage at RAF Mildenhall must comply with the principles of UFC 3-120-01 Air Force Sign Standard and contributes towards maintaining the highest facility standards. Examples of Base Standard signage at RAF Mildenhall are illustrated in this document. Dimensions of the signs illustrated below must not be exceeded without approval from the BCE. UFC 3-120-01 is available at http://www.wbdg.org/ccb/DOD/UFC/ufc_3_120_01.pdf

3.12.1.2 The standardization of organizational and direction signs and building mounted numbers presents a professional image command-wide. Even if they are not standardized, signage for on base businesses and Services activities must maintain a professional image. Specialist signs can be distinctive, but should be in good taste and complement the specific facility and base architectural and sign standards. Purely commercial activities can be integrated into base standard signage, the activity listed on an organizational sign. Vendors may display reasonably sized signage (at their own expense) at their entrances or in windows visible from the exterior of the facility. Where corporate logos such as those of brand-name restaurants etc. are required on Force Support Squadron facilities, they must be unobtrusive and complement the facility (i.e. they must not be too large, too bright in color or overpower the facility design or locality).



SECTION 3.12: SIGNAGE

FINGER SIGNAGE



SERVICE SIGNAGE

3.12.2 Framed, Building and Direction signs:3.12.0 (ADVISORY)

3.12.1 General requirements

3.12.1.4 Large framed direction signs will be placed along major traffic routes: Finger signs will be used in other areas that are primarily pedestrian.

3.12.2.1 Frames for signage are to be fabricated from square metal tubing to match existing.

3.12.2.2 Mildenhall Frame shop B840 makes up the signs and letters with aluminum sheet boards and applies the adhesive backing sheet and letters on top, made up as required.
Pre-finished color to frame and brackets: BS 08 C 37.

3.12.2.3 Adhesive plastic sheet background color is available in basic colors: brown (general signage), red (giving warning), or blue (information signs), or others as required, from B840.

3.12.2.5 Finger Signs: Column: BROXAP BX 2410 Standard, cast iron column base with steel shaft, finished in black, or approved equal.
Finial: BX 4350, 'Standard', cast iron, finished in black, or approved equal.
Finger arms: BX 4332 'Standard,' or approved equal.' According to text requirements, cast aluminum,
Typeface: Helvetica white letters on black background.

3.12.3 Historic Trail signs

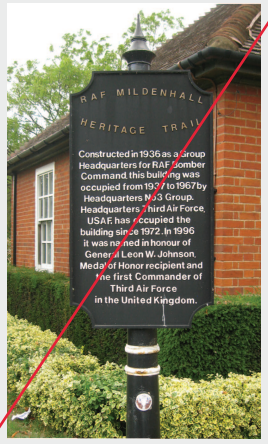
3.12.3.1 Broxap BX 2410 Williamson standard cast aluminum column with BX 4350 standard supporting bespoke display boards, or approved equals.

DIRECTIONAL SIGNAGE

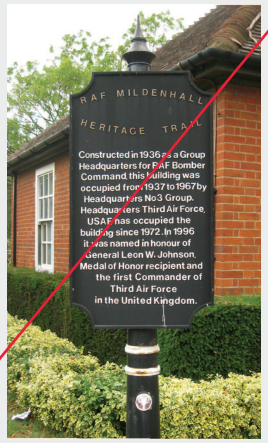
BUILDING SIGNAGE

SECTION 3.12: SIGNAGE

GENERAL SIGNAGE



INFORMATION SIGNAGE



WARNING SIGNAGE

3.12.4 Other signs: Mildenhall sign shop can manufacture signs for special requirements:

3.12.4.1 General signs: white letters on brown background

3.12.4.2 Information signs: white letters on blue background. Warning signs: white letters on red background.

3.12.4.3 Mobile signs: are mounted on 'A' frames, stabilized against the wind with sand bags.

Signs will be screwed to the timber frame.

3.12.4.4 'Services Squadron' signs: 'Storm Force' signs with a water filled base and 'snap in' picture frames, or approved equal.
The location and duration of these freestanding signs shall be agreed in advance with 100CES Customer Service on ext. 5636.

3.12.4.5 Temporary or vinyl signs: these are not to exceed 2 weeks in duration. The location and duration of these signs must be agreed in advance with 100CES Customer Service on ext. 5636.

100CES/CEOHS 238 4170

3.13 SIGNAGE: INTERNAL

3.13.0 ADVISORY

3.13.1 Internal Signage will conform to the following specification:

Dimensions: 250 x 250mm x 6mm thickness and pencil rounded corners.

Material: gloss finish acrylic to BS 4800 color blue 20D45 (Perspex ref 743, or approved equal)
Applied letters and bands to be self-adhesive, removable and silver in color.
3mm silver horizontal band at 50mm from top edge.

Color of silver: MaCal 9800 PRO 9869-00, or approved equal Typeface: 15mm upper case and 10mm lowercase 'Helvetica Medium' Room Number in 30mm letters at top left above band
40mm diameter Logo at top right above band in full color

3.13.2 Mounting location:

Height: 1500mm to centerline from finished floor level
Nearest edge located 200mm from door frame.

100CES/CEOHS 238 4170 and 100 CES/CENP 238 4974

INTERIOR BLUE SIGN IMAGE REQUIRED

SECTION 3.14: WINDOWS

BUILDING NUMBER
APPROX. 16 X 8 INCES

COMMERCIAL SIGNAGE

SERVICE SIGNAGE

3.14 WINDOWS

3.14.0 (ADVISORY)

3.14.1 The following buildings are considered important to maintain the historic fabric of the base and divided lights should be maintained as existing:

B239 B464 B425 B426 B428
B436 (Washington Square N) B438 (Washington Square E) B440 (Washington Square SE)
B441 (Washington Square S) B562

3.0.5.2 Note that horizontal or vertical sliding windows are not to be fitted because of previous problems caused by the weight of glazing units.

3.14.3 Force protection requirements require new windows in these facilities to be made of metal frames with substantial glazing units. Windows that replace sliding sashes should resemble original sliding sashes in appearance as far as possible and include divided lights with the correct proportions.

3.14.4 Windows to balconies could be appropriate inward opening, bottom hung opening lights.

3.14.5 Other windows could include appropriate outward opening, top hung opening lights.

SECTION 3.14: WINDOWS

BUILDING NUMBER
APPROX. 16 X 8 INCES

COMMERCIAL SIGNAGE

SERVICE SIGNAGE

3.14.6 Tilt-Turn windows are not to be specified unless specifically agreed by CE and the facility manager.

3.14.7 Windows should have polyester powder coated (or equivalent), aluminum frames with a thermal break and high performance double glazing units that meets current Force Protection requirements, in a color that complies with Base Standards for exterior colors in the relevant area.

3.14.8 The window manufacturer must operate a Quality Assurance scheme to meet ISO 9001 for the production and installation of the windows.

3.14.9 The manufacturer must also be Kite-marked to ensure the windows comply with relevant British Standards.

3.14.10 The design and installation of windows must comply with current UK Building Regulations, British Standards and Codes of Practice for materials, performance, safety, ventilation, weather tightness and means of escape, including the following:

BS 4873: for aluminum alloy windows.
BS 6375-1: Performance of windows and doors: Weather tightness. BS 6375-2: Performance of windows: Operation and strength.
Opening vents are to be limited to 200mm maximum opening with an over-ride on the limiting stay.

BS 6262: Glazing for buildings.
Internal glazing beads or security rated external glazing beads are required. BS 8220: Security of buildings.
BRE digest 377: Selecting windows by performance.

BRE digest 379: double glazing for heat and sound insulation

3.14.11 Refer to Anti-Terrorism/Force Protection measures at Section 9 for specific requirements for glazing, frame materials, frame dimensions or fixings.

100CES/CENP 238 4974

SECTION 3.15: BLINDS

BUILDING NUMBER
APPROX. 16 X 8 INCES

COMMERCIAL SIGNAGE

SERVICE SIGNAGE

3.15 BLINDS

3.15.0 (ADVISORY)
This document includes details of acceptable materials. Materials from other manufacturers that meet these requirements can be submitted with evidence of comparability for review and approval.

3.15.1 Blinds to Offices and Dorms: vertical blinds

3.15.1.1 Head rail: polyester powder coated color white.
Control: Terylene cord ball and chain. 89mm wide, Fire Retardant glass fiber louvers.
'Faber 2300 Series,' or approved equal.
Website: www.faberblinds.co.uk
Color 2303 'Magnolia,' or approved equal.

3.15.2 Blinds to Housing: horizontal venetian blinds

3.15.2.1 25mm aluminum slats, color white. Head rail: as Faber Softline or approved equal.
Control: tilting, raising and lowering by rod (avoiding a cord for safety reasons) Faber Minimatic Monocommand, or approved equal.

3.15.3 Blackout roller blinds

3.15.3.1 Fire Retardant laminated PVC coated roller blind, color white both sides (or equal approved).
Aluminum pole to suit blind weight with side action chrome metal chain. Aluminum bottom bar.
Where total blackout is required specify Cassette system with metal 'blind box' side and bottom channels with brush light seals, color white, or approved equals.

100CES/CENP 238 4974

SECTION 3.16: PLANTERS, LAMP POST PROTECTORS

BROXAP PLANTER

BROXAP MARKER PLANTER

BROXAP LAMP POST PROTECTOR

BROXAP IRWELL PU 3 RAIL

3.16 PLANTERS & LAMP POST PROTECTORS

3.16.0 (ADVISORY)
This document includes details of acceptable materials. Materials from other manufacturers that meet these requirements can be submitted with evidence of comparability for review and approval.

3.16.1 Planters

3.16.1.1 Broxap BX 1803 'Taunton', 580 litre, 517kg, 906x906mm x 870mm high, or approved equal.

3.16.2 Lamp post protectors

3.16.2.1 Broxap BX14 6539R (PC), 1m high, of mild steel, galvanized and powder coated black, or approved equal.
Website www.broxap.com

3.17 POST AND CHAIN

3.17.0 (ADVISORY)

This document includes details of acceptable materials. Materials from other manufacturers that meet these requirements can be submitted with evidence of comparability for review and approval.

3.17.1 Galvanized plain link chain, to be fixed at 400mm and 800mm height on posts with eyebolt and ring.

Polyethylene posts to be at maximum 2m centres. Maximum chain sags 100mm between posts. To be used in public areas only.

3.17.2 Broxap BX QU01PR 'Queensbury' Duracast steel core reinforced polyurethane post with base plate, or approved equal.

100CES/CENP 238 4974

SECTION 3.18: BENCHES

BROXAP HISTORIC BENCH

BROXAP BX71 3954

3.18 BENCHES

3.18.0 (ADVISORY)

This document includes details of acceptable materials. Materials from other manufacturers that meet these requirements can be submitted with evidence of comparability for review and approval by the BCE.

3.18.1 'Historic' bench: Cast iron seat. (Date and Squadron logo no longer required)
With 9 No Iroko slats finished with standard low build, waterborne, translucent wood stain. BROXAP BX 2020 'Eastgate' seat, or approved equal.

3.18.2 'Historic' double width bench, with no back.
Double width 'Broad cast iron bench', 1800mm long, 892mm wide, 482mm high, or approved equal. Weight: 131kg.
Iroko seat slats finished with standard low build, waterborne, translucent woodstain.

3.18.3 Aviation bench.
Furnitubes International Ltd Lambeth Cast Ductile Iron and Recycled Plastic Seat without arms (LAM 602 BP), brown, 1800 millimeters (mm) length, or approved equal

3.18.4 Plastic picnic units
Recycled plastic picnic unit, 1500mm long, 1300mm wide, 780mm table height, 490mm seat height, Color: brown.
Note: Picnic Units are available with a pedestal base for free standing or bolting to the ground, or extension legs for concreting in.

BROXAP BX 2023 EASTGATE BENCH

BROXAP BX 20238 EASTGATE PICNIC UNIT

SECTION 3.19: BUTT CANS

JUSTRITE CIGARETTE BUTT RECEPTACLE

FURNITUBES INTERNATIONAL LTD.
FLOOR MOUNTED CIGARRETTE
ASH WASTE

3.19 BUTT CANS

3.19.0 (ADVISORY)

This document includes details of acceptable materials. Materials from other manufacturers that meet these requirements can be submitted with evidence of comparability for review and approval.

3.19.1 Butt Cans (Ash receptacles) in the Aviation Architectural District.

Justrite Mfg. Smokers Cease Fire Cigarette Butt Receptacle Deco Black (26800D), or approved equal. Website www.justritemfg.com

3.19.2 Ash receptacles in the Community, Dormitory, Heritage and Housing Architectural Districts.

Furnitubes International Ltd Smoke King Cast Aluminum Floor Mounted Cigarette Ash Waste Bin (SMK 500F), or approved equal. Website www.furnitubes.com

When placing orders have the following information to hand:

- TCN (Transportation Control Number)
- TAC (Transportation Accounting Code) this would absorb the freight charge from the POE (CCP or AMC) to the POD.
- (Freight Charge from the Point of Origin to the POE would be applied to your IMPAC card for IMPAC purchases.)
- RDD (Required Delivery Date)
- TP (Transportation Priority)
- ULTIMATE DESTINATION Address, including Bldg No, Unit, POC and DSN Additional Information:

USAF TAC Coordinators: John Ware, or Gregory Wilson,

DSN: 227-4744 Email: warej@pentagon.af.mil, Gregory.wilson@pentagon.af.mil 100CES/ CENP 238 4974

SECTION 3.20 CYCLE SHELTERS

WARDALE CYCLE SHELTER

FURNITUBES INTERNATIONAL LTD.
FLOOR MOUNTED CIGARRETTE
ASH WASTE

3.20 CYCLE SHELTER

3.20.0 (ADVISORY)

3.20.1 Cycle shelter: Provide suitable shelters to provide weather protection for bicycles to encourage bicycle use, located where possible within 200yards of facilities they serve in accordance with LEED requirements.

Frame: steel as illustration below with baseplate fixing and ClearView PET sheeting to roof and end panels.

Include load bearing purlins, no climb end frames and no climb under perimeter.

Finish: hot dipped galvanized to BS EN ISO 1461: 1999 and polyester powder coated, dark brown standard option.

Dimensions: Length: 4,100mm, Width: 2,140mm, Height 2,150mm

Cycle capacity: 4,100mm = 10 cycles at 800mm centers.

Include lighting where necessary.

BROXAP BXMW/WAR Wardale, or approved equal. Website www.broxap.com

3.20.2 Cycle stands: Steel frames, length 3,250mm with 50mm dia steel uprights at 800mm centers and base plate for bolting down, hot dipped galvanized to BS EN ISO 1461: 1999 and polyester powder coated, dark brown standard option.

BROXAP BXMW/GH Harrogate, or approved equal