ESTC Standard No. 6

Part 2 - B&CE Inspections

March 2011

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WEAPONS

Prepared by:

The Explosives Storage and Transport Committee

Ministry of Defence

MINISTRY OF DEFENCE

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Record of Amendments

Amendment proposals are to be made on the 'Change Proposal Form' at Appendix F which is to be sent to ESTC TA(Structures) at the address given on the form.

Amendment	Date	Signature
New edition of Part 2 (B&CE)	Sept 2006	W. T. Milns (DE)
Format & layout update in line with Part 1	July 2008	R. Savage (DOSG)
Rewrite of Part 2 (B&CE)	March 2011	P. Friend / D. Lane (DE)

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Abbreviations

ACOP	Approved Code of Practice
ACTO	Attractive to Criminal & Terrorist Organisations (see JSP440)
B&CE	Building and Civil Engineering
BS	British Standard
BS EN	British Standard European Norm
CDM	Construction Design & Management Regulations
CIE	Chief Inspector of Explosives (MoD)
DCIE	Deputy Chief Inspector of Explosives (MoD)
DE	Defence Estates
DESB	Defence Environment & Safety Board
DOESB	Defence Ordnance and Environment Safety Board
DOSG	Defence Ordnance Safety Group
EO	Explosives Officer
EPT	Estate Planning Tool
ES	Exposed Site
ESH	Explosives Storehouse
ESO	Explosives Safety Officer
ESR	Explosives Safety Representative
ESTC	Explosives Storage and Transport Committee
EWC	Establishment Works Consultant
FoS	Factor of Safety
FS	Functional Standard
GRP	Glass Reinforced Plastic
HAC	High Alumina Cement
HAS	Hardened Aircraft Shelter
HD	Hazard Division
HoE	Head of Establishment
HSE	Health & Safety Executive
HSW	Health & Safety at Work etc. Act
IB	Inhabited Building
IBD	Inhabited Building Distance
ICE	Institution of Civil Engineers
IE	Inspector of Explosives
IEMP	Integrated Estate Management Plan
IET	Institution of Engineering and Technology
IMD	Inter Magazine Distance
IPT	Integrated Project Team
IQD	Inside Quantity Distance
IStructE	Institution of Structural Engineers
IWC	Integrated Weapons Complex
JSP	Joint Service Publication
M&E	Mechanical & Electrical
MHE	Mechanical Handling Equipment
MMO	Maintenance Management Organisation
MoD	Ministry of Defence
MSER	Manufacture & Storage of Explosives Regulations
NEQ	Net Explosives Quantity
N/A	Not Applicable
N/S	Not Satisfactory
OQD	Outside Quantity Distance

PA	Professional Appraisal
PB	Process Building
PBD	Process Building Distance
PES	Potential Explosion Site
PFI	Private Finance Initiative
PPE	Personal Protective Equipment
PPP	Public Private Partnership
PROM	Property Manager
PSP	Principal Support Provider
PTRD	Public Traffic Route Distance
Q-D	Quantity Distance
RI	Routine Inspection
RICS	Royal Institution of Chartered Surveyors
ROC	Rough Order of Cost
RPC	Regional Prime Contract
S	Satisfactory
SEDG	Senior Estate Development Group (within Defence Estates)
SESH	Standard Explosives Storehouse
SETL	Site Estate Team Leader
TA(Elec)	Technical Advisor (Electrical)
TA(Fire)	Technical Advisor (Fire)
TA(Structs)	Technical Advisor (Structures)
TEH	Test Equipment House (part of an IWC)
TI	Technical Inspection
TLBH	Top Level Budget Holder
UESH	Underground Explosives Storehouse
VBD	Vulnerable Building Distance
WACR	Weapon Assembly and Check Room (part of an IWC)
WSM	Works Services Manager

Contents

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1.0 Background

1.1 All structures are exposed to a range of hazards which may threaten their structural adequacy. Their safety has two distinct components. These are the risk of failure (probability) and the consequence of failure. Safety is ultimately judged subjectively and is the perception of the interaction of these two components.

1.2 Professional Appraisals (PA) and Technical Inspections (TI) of buildings & structures are required to confirm that they will continue to perform as intended (i.e. in accordance with their design intent). This may, or may not, include a requirement for preventative or remedial works.

1.3 The Technical Inspection (TI) of a building or structure is the process of recording the defects exhibited at the time of the inspection and of assessing the effects of these defects such that recommendations can be made for future preventative maintenance or remedial work.

1.4 A Professional Appraisal (PA) covers the same ground as a TI, but is also aimed at assessing and quantifying the real condition & adequacy of the building or structure. The questions to be answered are:

Is the structure safe now, and will it remain so in the future?

Can it be used for its intended purpose and can it continue to be in the future?

1.5 In assessing the above, it is necessary therefore, to consider the implications of the following (amongst other things):

defects in design & construction

deterioration with time or in service

accidental, fire or other damage

adequacy and effectiveness of the maintenance / repair measures carried out

1.6 Two questions to be asked when assessing the safety of a structure are:

By what mechanism or mechanisms can the structure fail?

What are the consequences for the overall structure of a local failure (robustness) and what are the implications for the safety of the building users?

These questions should focus the mind on the level of assurance the engineer seeks from different parts of the structure. This will depend on how likely the failure mechanism is to occur and the consequences if such a failure does occur.

1.7 An important factor in determining the consequences of a potential structural hazard is the rate at which local failure may lead to more widespread damage or collapse. In general, the situation is most hazardous where failure of a small mass of material can lead directly to loss of support for a large mass of material. This is because the trigger for failure requires little energy, but there are high levels of energy stored in

the structure which can feed the failure mechanism enabling widespread damage to occur rapidly. In these circumstances visual feedback through Technical Inspections is unlikely to be useful, and a high level of confidence is therefore required in any assessment, hence the reason for carrying out Professional Appraisals.

1.8 In the event of an explosion on a site, explosives storage & processing facilities are subjected to much higher loads than normal structures. Additionally, because a blast load is 'accidental', these types of buildings do not generally have the same margins of safety available that are inherent in normal building structures.

1.9 Whether they are purpose-designed protected buildings or are conventional buildings placed at appropriate quantity-distances (Q-D's), the suitability & 'fitness for purpose' of explosives storage or processing buildings is predicated on them being in good structural condition. In view of this, any structural degradation must be viewed with concern & caution as any deterioration or significant loss of strength in the building may lead to the unacceptable consequences of premature collapse, unnecessary loss-of-life and/or propagation of the explosive event.

1.10 Technical Inspections (TI) & Professional Appraisals (PA) of explosives storage & processing facilities are, therefore, essential to provide evidence to MoD 'Duty Holders' (Head of Establishment and Explosives Licensing Authorities) that they will continue to meet the assumptions of the explosives license. It is also essential that TI's and PA's identify further investigative or remedial works where the observed deterioration has the potential to affect these assumptions.

1.11 The results of both the Technical Inspections and Professional Appraisals shall be used to identify reactive and planned maintenance required until the next inspection is due as well as any longer term life cycle maintenance or replacement items.

2.0 Introduction

2.1 The 'Manufacture and Storage of Explosives Regulations' (MSER) is the legislative framework covering this type of operation in the UK.

2.2 In the Ministry of Defence (MoD), the Explosives Storage & Transport Committee (ESTC), which sits under the Defence Ordnance and Environment Safety Board (DOESB), is responsible for setting the appropriate standards and monitoring compliance in this area. It does this under the auspices of the Joint Services Publication 482 'The MoD Explosives Regulations' (JSP482) which is effectively the MoD's safe system of work for complying with MSER. Although JSP482 does not have true 'Approved Code of Practice' (ACOP) status in relation to MSER, it is considered to be equivalent to an ACOP by the Health & Safety Executive (HSE).

2.3 Under the Occupiers Liability Acts of 1957 and 1984, MoD as the Landlord, has a 'duty of care' "*to see that persons entering the premises…are reasonably safe while on the premises…whether danger is caused by the condition of the premises or by an activity carried out on the premises*". This 'duty of care' is discharged through an appropriate inspection & maintenance regime.

2.4 Historically (DE Spec 005 – Reference 10.3e), MoD have carried out Technical Inspection of buildings & facilities every 2 years and Professional Appraisals of certain types of buildings such as explosives storage & processing facilities every 5 years. More recently, the Defence Estates (DE) 'Asset Physical Condition Grading Methodology' (Reference 10.3f) which has been approved by the Senior Estate Development Group (SEDG) is now used by most Defence Estates Regional Prime Contracts (RPC) as the methodology by which MoD built assets are assessed and graded for physical condition.

2.5 It should be noted that the carrying out of any DE / RPC Asset Physical Condition Grading Survey does not replace the requirements of this document for formal ESTC Standard 6, Part 2 (B&CE) Technical Inspections and Professional Appraisals to be carried out as these inspections are integral to the MoD explosives licensing process.

2.6 As a direct consequence of their definition as 'Specialised Defence Facilities', the potential hazards involved and the unfamiliarity of general industry with military explosives & their effects, explosives facilities are required to have a prescriptive inspection regime to justify to the Chief Inspector of Explosives of the MOD (CIE(MOD)), his Inspectors of Explosives (IE's) and the License Holder that they are in a fit state to licence and use.

2.7 It should be noted that the carrying out of inspections & appraisals are not an end in themselves. Rather, it is the output & use of this work that is of prime importance in determining and prioritising the requirement & scope of any preventative maintenance and / or repairs that are necessary to ensure the longevity and fitness for purpose of the facility.

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3.0 Purpose of ESTC Standard 6, Part 2 (Building & Civil Engineering)

3.1 The purpose of ESTC Standard 6 Part 2 (Building & Civil Engineering) is to provide a uniform and formalised approach for justifying to the MoD Chief Inspector of Explosives via his Inspectors of Explosives that the buildings used (or are to be used) to store and/or process explosives are in a fit state for an explosives license to be granted, and that they will continue to be so for the duration that the explosives license is valid. Essentially, this means confirming whether or not the building still meets its original design intent.

3.2 The purpose of ESTC Standard 6 Part 2 (Building & Civil Engineering) is also to:

identify & document the extent and severity/seriousness of any defects present in the building/structure,

identify & document the adequacy & effectiveness of any maintenance or repairs already carried out,

set out what preventative maintenance, remedial measures or repairs are required (if any) and/or to provide an explanatory commentary if defects are recorded but remedial work is not recommended,

define timescales by which the preventative maintenance, remedial measures or repairs are to be complete,

describe the consequences (in building terms) should the required remedial measures not be carried out.

3.3 Finally, it is intended that the output of the ESTC Standard 6, Part 2 (B&CE) inspections will enable the MoD Chief Inspector of Explosives and Explosives Storage & Transport Committee to be able to monitor the condition of the explosives storage & processing estate over time.

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4.0 Scope of ESTC Standard 6 Part 2 – B&CE Inspections

4.1 This Standard applies to both 'explosives storage' and 'processing' facilities. Where the term 'explosives storage' has been used in this document, the requirements herein are also to be applied to processing facilities

4.2 ESTC Standard 6, Part 2 concentrates on the B&CE aspects of both new construction and maintenance works which:

Influence the performance of explosives facilities in regard to their explosives function (e.g. protective design, frangible panels, materials for repair of traverses).

Are particular to explosives facilities (e.g. heavy blast doors, frangible panels).

4.3 The Building & Civil Engineering (B&CE) works required for explosives facilities must comply with the requirements of JSP 482 (Reference 10.2b). Typical criteria for the safe storage & processing of explosives may include the following:

a) Building structures are stable and able to support dead, imposed & wind loads, and in the case of specifically designed buildings, any dynamic loads resulting from explosion effects. JSP482, Chapter 6 gives a broad overview of a number of standard building types used for explosives storage & processing and indicates which of these are normal (non blast designed) structures placed at suitable distances apart (Quantity-Distances, Q-D) and which of these have specialist protective / blast design requirements or are specifically designed for dynamic loads.

b) Building fabric is sound and without significant cracks, spalling, loose material or other damage that might endanger the stored explosives, personnel or processing activities.

c) Buildings are weather tight to limit deterioration of the stored explosives or complex munitions from water ingress and damp.

d) Any glazing fitted is of a compliant standard (generally incorporating laminated glass with a poly vinyl butyral (PVB) interlayer).

e) Buildings are adequately insulated to limit temperature fluctuations and heat build up in the stored explosives.

f) Buildings are ventilated to limit build up of heat, hazardous vapours and/or dust.

g) Construction materials are non flammable to minimise the likelihood of fire and consequent hazard to the stored explosives.

h) Construction materials are used which facilitate easy cleaning of the building and limit ingress and occurrence of dirt & dust that might be harmful to stored explosives.

i) Non-absorbent materials are used on the floor and walls adjacent explosives or items with a toxic chemical hazard.

j) Construction materials near unpacked explosives which are sensitive to spark or friction exclude exposed iron, steel, aluminium and aluminium alloys.

k) Building layouts & access facilitate efficient operation of mechanical handling equipment required for moving stored explosives.

l) Building layouts facilitate effective fire fighting to quickly contain any fire hazards and limit propagation of an explosion.

m) Fire risks are identified and managed.

n) Buildings are secure to prevent unauthorised entry and interference with stored explosives.

o) Traverses and earth-cover is maintained to the approved profile, and is free from non-compliant material & animal damage.

4.4 For the larger sites with multiple explosives storage & processing buildings, the B&CE elements of the site-wide infrastructure & utilities must also be considered to ensure that explosives can be safely moved around the site. Typical criteria may include:

a) Roads are maintained to provide surface conditions compatible with the movement of explosives.

b) The site wide storm water infrastructure is properly maintained to avoid hindrance to explosives movement.

c) The area surrounding the buildings is managed and vegetation controlled.

4.5 External works within the Explosives Storage Area such as docks, railways, cuttings, embankments, bridges etc. that are important to the safe transporting and handling of explosives but do not have a specific explosives classification are not addressed in this Standard.

4.6 ESTC Standard 6, Part 2 (B&CE) does not cover areas where specialist certification is provided by other specialists (e.g. Security, Fire engineering, Crainage, etc.).

4.7 ESTC Standard 6, Part 2 (B&CE) does not cover other non explosives buildings such as inhabited buildings or buildings of vulnerable construction, whether on the site or outside it.

5.0 Application of ESTC Standard 6, Part 2 – B&CE Inspections

5.1 ESTC Standard 6, Part 2 (B&CE) Technical Inspections (TI) and Professional Appraisals (PA) are only required for substantial BUILDING STRUCTURES which are typically large enough for a person to walk inside. Paragraphs 5.2 & 5.3 below give a broad overview of the types of facility where ESTC Standard 6, Part 2 (B&CE) does, and does not apply.

5.2 The following types of construction fall within the scope of ESTC Standard 6, Part 2 (B&CE) and hence Professional Appraisals (PA) and Technical Inspections (TI) are required in accordance with this document.

a) Free standing permanent structure (including stand alone 'Authorised Quantity' (AQ) stores).

b) Authorised Quantity Small Arms & Ammo Store – Free standing structure.

c) Minor Processing Facilities – Free standing building (see JSP482, Chapter 10, Section 8, Annex E).

d) Integrated Weapons Complex (IWC) – Weapons Assembly and Check Rooms (WACR), Test Equipment House (TEH) & Plant Rooms.

e) EOD Unit Garage.

f) Air Traffic Control Facilities – External storage which is constructed of masonry or concrete greater than 2.5m in any dimension.

g) Survival Equipment Sections (SES) – Free standing structure.

h) Aircraft Assisted Escape Systems (AAES) – Ejector seat storage building.

i) Aircraft Assisted Escape Systems (AAES) – Ejector seat pan storage building.

j) Traverses (including those around bare stacks).

k) Directional Weapons Barrier (permanent constructed, non moveable).

5.3 The following types of construction are outside the scope of ESTC Standard 6, Part 2 (B&CE) and hence Professional Appraisals (PA) and Technical Inspections (TI) are <u>not</u> required.

a) Authorised Quantity (AQ) Small Arms & Ammo – Room within a building.

b) Authorised Quantity (AQ) Small Arms & Ammo – Locker, cabinet or safe.

c) Bare stacks (un-traversed).

d) EOD Unit Parking Area.

e) Designated Areas - see JSP482, Chapter 10, Section 8, Annex F.

f) Barriers (moveable).

g) ISO Container or similar metal structure.

h) Stand alone steel locker or safe.

i) Laboratory with a defined license area.

j) Aircraft Pan.

k) Air Traffic Control Facilities – Ready Use.

l) Air Traffic Control – External Store.

m) Survival Equipment Sections (SES) – Designated area or room within a building.

n) Survival Equipment Sections (SES) – In open air.

o) Aircraft Assisted Escape Systems (AAES) – Designated area.

p) Aircraft Assisted Escape Systems (AAES) – Lockable metal box for small items.

q) Air Traffic Control Facilities – External store constructed of masonry or concrete less than 2.5m in any dimension.

r) Airfield Designated Storage Area (ADSA) - see JSP482, Chapter 10, Section 5.

s) Air Traffic Control Facilities – Steel cabinet / locker.

t) Air Traffic Control Facilities – Storage of ready use items in Air Traffic Control or Range Control Building.

u) Minor Process Facility Room / Area within a building - see JSP482, Chapter 10, Section 8, Annex E.

v) Minor Processing Areas (e.g. in Hangar or on Pans).

w) Minor Processing Areas – Room within a building.

x) Minor Processing Areas – Steel cabinet, locker or safe.

5.4 For the larger sites with multiple explosives storage & processing buildings (> 10 Potential Explosion Sites (PES) that fall within the scope of this standard – see Sections 5.2 & 5.3), the B&CE elements of the site-wide infrastructure & utilities must also be inspected / appraised to ensure that explosives can be safely stored and moved around the site.

5.5 It should be noted that an ‘Explosives Facility Inspection Report’ (Schedule 1 – see Appendix B) needs to be completed for every building / structure examined. It is, however, only necessary to complete one ‘Site Infrastructure & Utilities Inspection Report’ (Schedule 2 – see Appendix C) per site.

5.6 The scope of the Technical Inspections (TI) and Professional Appraisals (PA) respectively is covered in Section 7.

5.7 Where constructions are discounted from the ESTC Standard 6 Part 2 inspection requirements (see Section 5.3), they should have their own locally arranged Routine Inspections (RI) (see Section 7.2) put in place to ensure they are in a serviceable state and can continue to function properly. It should be noted that whilst these local arrangements fall outside the scope of this standard, they will still be subject to DCIE and IE Audits.

5.8 Where there is any doubt as to whether Technical Inspections (TI) and/or Professional Appraisals (PA) are required, the relevant Inspector of Explosives (IE) or, in extremis the CIE (MOD) Buildings Compliance office or ESTC TA(Structures) shall be consulted for a determination. See Section 11 for contact details.

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6.0 Asset Physical Condition Grading Methodology

6.1 Introduction

6.1.1 The method used in this standard for assessing the condition of a building is based on the Defence Estates 'Asset Physical Condition Grading Methodology' (Reference 10.3f), with modifications to make it appropriate to the inspection of explosives storage & processing facilities.

6.1.2 This section gives a brief overview to the DE 'Asset Physical Condition Grading Methodology' and goes on to explain how it has been modified to take account of the specialist requirements of explosives storage & processing facilities.

6.2 Overview of Defence Estates Asset Physical Condition Grading Methodology

6.2.1 The DE Grading Methodology examines the building stock (which are looked at individually), the site wide infrastructure & the site wide utilities and breaks each of these areas down into four 'Levels' of detail. Level 1 considers the site as a whole, Level 2 is the asset being inspected (the building, the site infrastructure or piece of utility), Level 3 is an element of the asset (e.g. the external fabric of a building) and Level 4 is a sub-element of the Level 3 element (e.g. the foundations/structure). The process is shown diagrammatically in Figure 1.

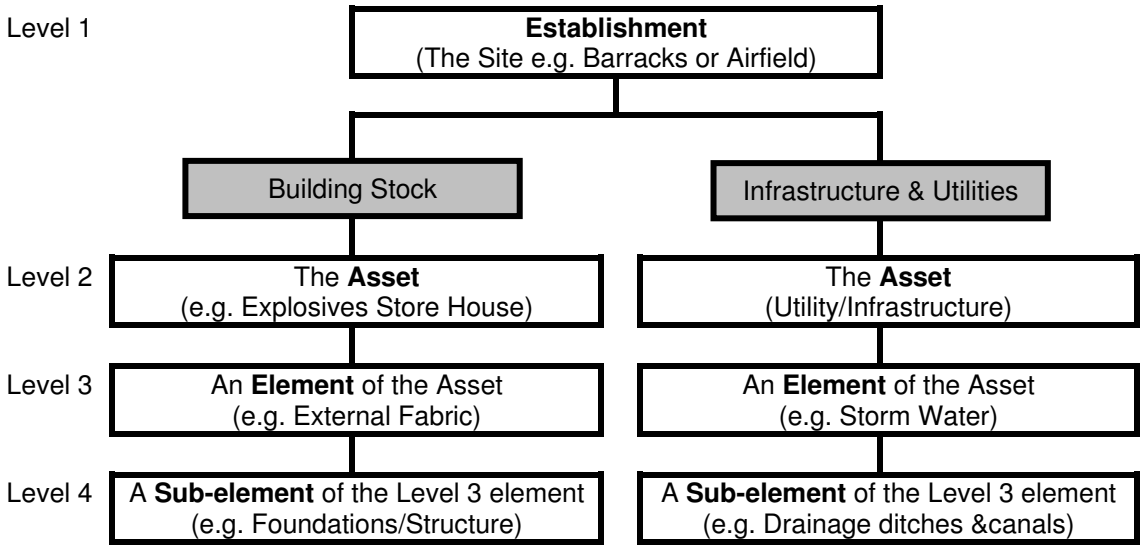

Figure 1 – Defence Estates Asset Physical Condition Grading Levels

6.2.2 To determine the overall Asset Physical Condition Grade of a whole building (which is at Level 2 in the DE Grading Methodology), it is necessary to determine the condition of the various **sub-elements** (Level 4 items in the DE Grading Methodology). The sub-element gradings are then combined to give the condition of the various **elements** of the building (Level 3 items in the DE Grading Methodology) which, in turn are used to build up the whole building grading (i.e. the Level 2 asset). The Process is shown diagrammatically in Figure 2 below.

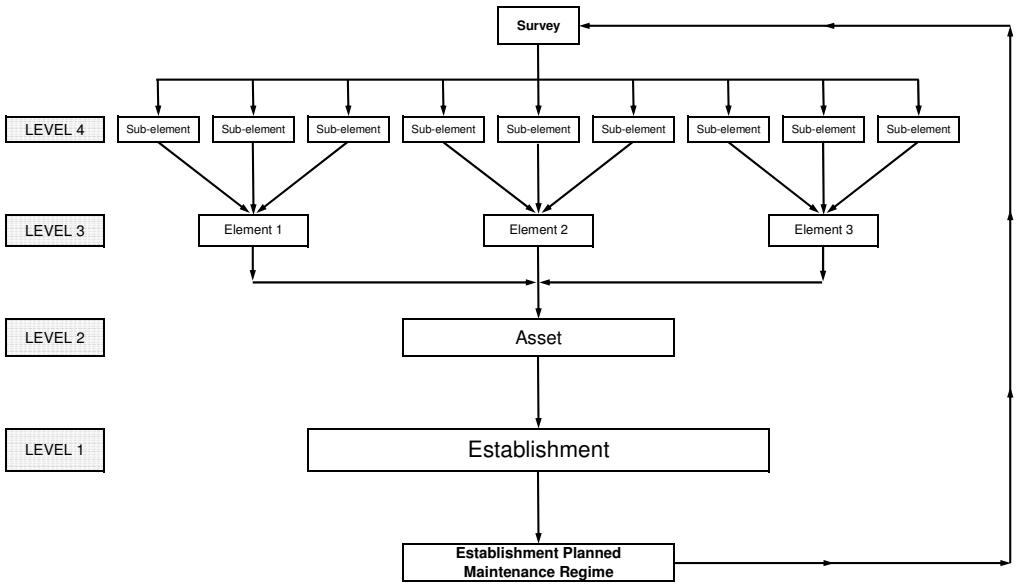

Figure 2 – Defence Estates Asset Physical Condition Grading Process

6.2.3 'Condition Descriptors' for a range of element conditions have been developed for each of the Grading Methodology's Level 4 sub-elements. This establishes a benchmark criteria and provides a standardised condition rating across the Estate.

6.2.4 A condition mark is assigned to each of the condition descriptors. Within the rating scale, '0' (zero) is used when a Level 4 sub-element does not exist, '1' is utilised as the complete failure mode and '10' is defined as the 'as new' condition requiring only associated planned maintenance. Each Level 4 sub-element has a written description of the condition associated with the '2', '4', '6' & '8' ratings. The descriptors for the '3', '5', '7' & '9' ratings are not defined, but can be interpolated between the given descriptions to either side.

6.2.5 An example of the descriptors for the Exterior Walls (Level 4), which is a sub-element of the Exterior Fabric (Level 3) is given below:

0 Element does not exist
1 Complete failure
2 Holes through the wall and major areas exposed to the weather. Damage to the underlying structure, with materials loose & falling. Potentially unsafe condition.
4 Wall surfaces damaged with damage to underlying materials. Holes through wall.
6 Wall finish defects needing more than cosmetic repairs.
8 Finish defects on wall surfaces needing cosmetic repairs. Filling required.
10 'As new' condition

6.2.6 The benefit of the methodology is that it provides an accurate and uniform evaluation procedure for determining the condition of each Level 4 sub-element, which in-turn enables the build up of a consistent Level 2 Asset Physical Condition Grade. This enables varying degrees of condition to be recorded and enables any

changes in the condition to be measured in a formalised, consistent and accurate manner.

6.2.7 By driving down to the Level 4 sub-elements, the process enables the identification of the costs of repair or replacement of those Level 4 sub-elements that are identified as requiring improvement to an acceptable standard to meet its function. This has benefits in terms of estate management.

6.2.8 The relative importance of each Level 4 sub-element grading to its associated Level 3 element and thus to the overall Level 2 asset is achieved using weighting factors which build to achieve an aggregated physical condition grade for each Level 2 asset.

6.2.9 The DE Grading Methodology also highlights a number of other areas including whether further investigation is required to investigate a specific fault, whether total replacement of the element is necessary to solve the problem of a deficient element, whether any of the issues found have a Health & Safety implication and/or if the defect is critical to the Customers operational output.

6.2.10 The results of the above are transferred into the Defence Estates Estate Planning Tool (EPT). Whilst this gives an overview of the condition of the facility, it does not prioritise the remedial works required for explosives licensing.

6.3 ESTC Standard 6, Part 2 (B&CE) approach to Asset Physical Condition Grading

6.3.1 The method used in ESTC Standard 6, Part 2 (B&CE), for assessing the condition of a building is based on the Defence Estates 'Asset Physical Condition Grading Methodology' (Reference 10.3f), but it has modifications to make it appropriate to the building & civil engineering aspects which are important to the licensing of explosives storage & processing facilities.

6.3.2 The inspection/appraisal regime set out in this document follows a similar process of assessing the Level 4 sub-elements based on condition descriptors and awarding an associated condition mark. The Level 4 (sub-element) marks then use a weighting system to build up the various Level 3 (Element) marks which, in turn, produce the final Level 2 (Asset) mark.

6.3.3 The main differences between the ESTC Standard 6, Part 2 (B&CE) process and the Defence Estates 'Asset Physical Condition Grading Methodology' are ESTC Standard 6, Part 2 (B&CE) only considers those B&CE items which are important to explosives licensing and/or are not covered by other specialist inspection or certification (e.g. fire, security, crainage). It also provides a statement as to whether the facility is in a suitable condition to receive an explosives license or not.

6.3.4 The other difference with ESTC Standard 6, Part 2 (B&CE) compared with the Defence Estates 'Asset Physical Condition Grading Methodology' is that ESTC Standard 6, Part 2 (B&CE) also uses the 'As Low as Reasonably Practicable' (ALARP) principle to prioritise the remedial works required to the facility whilst ensuring that the cost or effort required to carry out these are not grossly disproportionate to the benefits. Thus it differentiates between what requires immediate works or management procedures to retain the explosives license, to what should form part of planned maintenance, to what should be addressed if it is

practical to incorporate it within other similar works to the facility. See Section 8.6 for further details.

6.3.5 Because of the above differences, this standard uses a weighting of the Level 4 sub-elements which is more appropriate for licensing requirements (i.e. it is different to that used in the DE 'Asset Physical Condition Grading Methodology'). See Appendix D for details of the weightings used in this document.

6.3.6 This document also uses a different method of expressing the overall building 'condition grades' to distinguish the ESTC Standard 6, Part 2 (B&CE) mark from any DE 'Asset Physical Condition Grading Methodology' assessment. See section 8.9 for details.

7.0 Scope and Frequency of Inspections & Appraisals

7.1 Health & Safety

7.1.1 All survey work is to be carried out in accordance with the statutory duties & requirements of JSP482 (Reference 10.2b), the Health & Safety at Work etc. Act (Reference 10.1a) and all other relevant legislation & best practice. This includes, amongst other things, the provision of safe access and precautions against weakening the structure in the course of investigations.

7.1.2 Similarly, all survey work is to be carried out in accordance with JSP375, the MoD Health & Safety Manual (Reference 10.2a).

7.1.3 If vehicles are used on site, they are to be in accordance with the requirements of JSP482, Chapter 16.

7.1.4 It is not expected that an explosives building will be emptied of its contents in order to carry out these inspections. All work, therefore, is to be carried out in accordance with the requirements of JSP482, Chapter 18.

7.1.5 Photographs are, where appropriate, to be included in the findings of the inspections / inspection reports. The use of photographic equipment in Explosives Storage & Processing areas is to comply with the requirements of JSP482, Chapter 18.

7.2 Routine inspections (RI)

7.2.1 Routine inspections are to be carried out on a regular basis by the occupiers / operators of a facility to discharge their 'duty of care' to ensure that the operations being carried out on the premises are safe and that any observed physical defect to the premises is reported to the relevant Maintenance Management Organisation (MMO). This duty is carried out as part of the monthly PES check. The MMO shall discharge its contracted obligations on behalf of the MoD Occupier through the provision of a Helpdesk / Focal Point and an appropriate Response Maintenance Regime.

7.2.2 No formal ESTC Standard 6, Part 2 (B&CE) report is required for Routine Inspections. The findings of these inspections are, however, to be recorded by the user / operator in the PES log book in accordance with the requirements of JSP482.

7.3 Technical Inspections (TI)

7.3.1 The Technical Inspections (TI) are intended to:

a) Provide a statement of fact about the condition of the building.

b) To identify & record any defects or emerging maintenance requirements.

c) Provide a statement of fact about the adequacy & effectiveness of any repair work carried out to date.

d) Provide recommendations on any preventative maintenance, remedial work and/or repair and the timeframe within which these are required.

7.3.2 In particular, the Technical Inspection should highlight whether the observed defects are significant enough to warrant further investigation (e.g. a Professional Appraisal) or other appropriate action such as immediate or emergency repairs to be undertaken.

7.3.3 The Technical Inspection is to take account of the findings of previous Professional Appraisals, Technical Inspections, Ad-hoc inspections and Routine Inspections.

7.3.4 It is intended that the Technical Inspection is purely a visual & dimensional one with 'best endeavours' being made with regards access to the structure (i.e. a complete examination is not required if there are serious difficulties over access).

7.3.5 Opening up or intrusive investigations are not required (although these may be recommended as a course of future action if required).

7.3.6 The Technical Inspection (TI) and Report is to be completed using Schedule 1 (Explosives Facility Inspection Report) and Schedule 2 (Site Infrastructure & Utilities Inspection Report) contained in Appendices B & C respectively. Guidance notes covering the completion of the Schedules are contained in Appendix A.

7.3.7 It should be noted that a Schedule 1 (Explosives Facility Inspection Report) needs to be completed for every building / structure examined. A Schedule 2 (Site Infrastructure & Utilities Inspection Report), however, only needs to be completed for the more major sites with multiple explosives store houses and/or processing buildings (>10 PES covered by the scope of this Standard – See Sections 5.2 & 5.3). It is only necessary to complete one Schedule 2 per site.

7.3.8 The Technical Inspection report should be set out in sufficient detail so that any part of the building, structure, finishes or fittings which subsequently may become defective or missing can readily be identified. Any findings that require to be monitored by the intervening Technical Inspections or Professional Appraisals shall be clearly noted and included on the Inspection Schedule.

7.3.9 In addition to documenting the required information set out on the Schedules in Appendices B & C, the Technical Inspection report may also recommend that a further survey or testing is carried out (on a particular defect for example), more frequent inspections & appraisals than those set out in Section 7.6.2 of this document or that an immediate Professional Appraisal is carried out. Reasons for carrying out any of these might include:

a) When a defect, beyond the competence of the inspector, has been identified.

b) If the building is suffering from serious deterioration where immediate advice, in advance of a full appraisal report, may be required if premature collapse is likely or where collapse has already occurred.

c) If the building is suffering significant deterioration, where it is necessary to establish the extent of necessary remedial works and maintenance.

d) Where the building is exhibiting defects in design or construction.

e) Where the building has suffered significant accidental damage, especially if it has resulted in collapse. In these types of cases it is important to establish immediately the extent to which there is danger from further collapse and to render the structure safe and, as far as is practicable, weather tight.

7.3.10 Technical Inspections (TI) shall be carried out by competent persons with suitable and sufficient experience in monitoring building condition. For Technical Inspections, therefore, it is required that the surveyor / inspector has at least Technician or Incorporated Engineer membership of either the Institution of Civil Engineers (ICE), the Institution of Structural Engineers (IStructE) or other equivalent body.

7.3.11 It is desirable that those involved with inspection/appraisal of explosives facilities are conversant with the explosives storage & processing principles set out in JSP482.

7.4 Professional Appraisals (PA)

7.4.1 The Professional Appraisal (PA) is required to look a lot deeper into how the building is performing structurally compared with the Technical Inspections (TI). To this end, the PA should not only record the observed defects, it should also quantify their effect on the structural performance of the facility.

7.4.2 The purpose of a Professional Appraisal is to:

a) Provide a detailed description of the building and an interpretation of its design philosophy.

b) To identify & record any defects or emerging maintenance requirements.

c) Provide a statement of fact about the adequacy and effectiveness of any repair work carried out to date.

d) Provide recommendations on any preventative maintenance, remedial work and/or repair and the timeframe within which these are required.

e) Assess the real condition of the structure.

f) Determine whether the structure is safe to use until the next appraisal, and is fit for its intended purpose – in this case as a licensed explosives facility.

7.4.3 The Professional Appraisal is to take account of the findings of previous Professional Appraisals, Technical Inspections, Ad-hoc inspections and Routine Inspections.

7.4.4 In particular, the Professional Appraisal should highlight whether the observed defects are significant enough to warrant further investigation (e.g. with intrusive survey work) or other appropriate action such as immediate or emergency repairs to be taken.

7.4.5 Ultimately, however, what is recommended or carried out in a Professional Appraisal for a particular building or structure will need to be decided on a case by case basis using the technical & professional knowledge, skill & judgement of the inspector involved.

7.4.6 Notwithstanding the above, it is intended that the Professional Appraisal is generally purely visual & dimensional; with access being gained to all parts of the structure (i.e. a complete examination is required).

7.4.7 If the building is in good condition, it is not generally expected that any intrusive work, testing or calculations are carried out.

7.4.8 If the building is in poor condition and the inspector/surveyor using his professional knowledge & judgement, considers that intrusive work or testing is appropriate or necessary, he should highlight this in his report and recommend what work should be carried out as part of a subsequent, and more detailed, Professional Appraisal. This work would then form the basis of subsequent calculations e.g. to determine the residual strength and factor of safety (FoS) of a building element, particularly if is necessary to justify the integrity of a building or structure that is in a particularly poor and / or damaged state.

7.4.9 At this point, it is appropriate to consider how much effort should be devoted to calculations as part of the Professional appraisal. The time available for such work is usually limited, so it should be used as effectively as possible. Calculations for appraisal may often be fewer and simpler than for the design of a new structure. Equally, it is vital that calculations should be done where they **are** needed. For example, in appraising a steel-framed building it may be more fruitful to spend some time studying references on the real behaviour of joints and then checking these using forces from a simplified (possibly hand) analysis of the overall structure, rather than assembling a computer analysis of the various frames assuming rigid-joint behaviour and then adopting a highly simplified model for joint checking.

7.4.10 Calculations may be particularly inappropriate for some traditional structures, where timber members were sized by rule of thumb based on past experience, and masonry walls were built to a thickness enshrined in old rules or textbooks. On the other hand, it would be wise to make calculations for elements whose mode of failure is sudden (e.g. cast iron beams which are brittle in tension) and / or whose failure may lead to loss of life or to disproportionate collapse.

7.4.11 It is obviously useful if the original design information (calculations, ‘as built’ drawings & specification) are available. This, in the form of a ‘health & safety file’ has been a requirement of the Construction, Design & Management regulations (CDM) for some time now.

7.4.12 Depending on the types of defects present, it might be possible for the surveyor to take his own measurements whilst conducting the survey, as a precursor to carrying out any calculations.

7.4.13 Notwithstanding the above, if the building is in good condition, and is unaltered, the reporting of the structure in terms of available record drawings, surveyed findings, original calculations, appraisal calculations, etc, need only be carried out once in

the ongoing process, and may be annotated or modified as appropriate in later appraisals if this is appropriate.

7.4.14 The Professional Appraisal process is to use the Schedules at Appendices B & C (as appropriate). Guidance notes covering the completion of the Schedules are contained in Appendix A.

7.4.15 The scope & format of the Professional Appraisal Report shall, however, be based on the "Appraisal of Existing Structures" published by the Institution of Structural Engineers (Reference 10.4b) and the suggested report format contained in Appendix E. A copy of the completed Schedules at Appendices B & C of this Standard shall also be incorporated into the report.

7.4.16 It should be noted that a Schedule 1 (Explosives Facility Inspection Report) needs to be completed for every building / structure examined. A Schedule 2 (Site Infrastructure & Utilities Inspection Report), however, needs only to be completed for the more major sites with multiple explosives store houses and/or processing buildings (>10 PES covered by the scope of this Standard – See Sections 5.2 & 5.3). It is only necessary to complete one Schedule 2 per site.

7.4.17 The Professional Appraisal report should be set out in sufficient detail so that any part of the building, structure, finishes or fittings which subsequently may become defective or missing can readily be identified. Any findings that require to be monitored by the intervening Technical Inspections or Professional Appraisals shall be clearly noted and included on the Inspection Schedule.

7.4.18 In addition to documenting the required information set out on the Schedules in Appendices B & C, the Professional Appraisal report may also recommend that a further survey or testing is carried out (on a particular defect for example), more frequent inspections & appraisals than those set out in Section 7.6.2 of this document or that a more detailed Professional Appraisal is carried out (e.g. with intrusive work). Reasons for carrying out any of these might include:

a) If the building is suffering from serious deterioration where immediate advice may be required if premature collapse is likely or where collapse has already occurred.

b) If the building is suffering significant deterioration, where it is necessary to establish the extent of necessary remedial works and maintenance.

c) Where the building is exhibiting defects in design or construction.

d) Where the building has suffered significant accidental damage, especially if it has resulted in collapse. In these types of cases it is important to establish immediately the extent to which there is danger from further collapse and to render the structure safe and, as far as is practicable, weather tight.

7.4.19 Professional Appraisals (PA) shall be carried out by competent persons who are suitably qualified and experienced in assessing building structures. For Professional Appraisals, therefore, it is required that the surveyor / inspector holds at least Chartered or Corporate membership of either the Institution of Civil

Engineers (ICE), the Institution of Structural Engineers (IStructE) or other equivalent body.

7.4.20 It is also desirable that those involved with inspection/appraisal of explosives facilities are conversant with the explosives storage & processing principles set out in JSP482.

7.5 Ad-hoc Inspections (AI)

7.5.1 Following extreme weather conditions such as heavy snow fall, flooding, high winds or accidental damage, procedures should be in place to visually inspect critical elements of 'at risk' structures. The requirement to carry out such an inspection shall be based on local knowledge of the estate, previous inspections & appraisals, risk assessments and the nature & severity of the event.

7.5.2 This may lead to the recommendation that more targeted; detailed or frequent Technical Inspections, Professional Appraisals or Ad-hoc inspections are carried out.

7.6 Frequency & Programme of Inspections & Appraisals

7.6.1 Based on the principles of BS 8210 (Reference 10.4d), and taking account of previous best practice such as DE Specification 005 (Reference 10.3e), both the users / operators of explosives facilities and DE through their Maintenance Management Organisations (MMO's) & supply chain are required to implement an inspection & maintenance regime that meets the following criteria:

a) Routine inspections by the user / operator – weekly and/or monthly.

b) Technical inspections – The first inspection is to take place immediately after construction and before an explosives licence is applied for (i.e. year 0) in order to get a baseline condition for the building. Thereafter, Technical Inspections (TI) are to be carried out on a two yearly cycle (unless a Professional Appraisal is carried out). See Paragraph 7.6.2 for further details.

c) Professional Appraisals – These are generally to be carried out on a 6 yearly cycle with the exception of the initial appraisal which is undertaken in year 4. See Paragraph 7.6.2 for further details.

d) Ad-hoc inspections & appraisals – as required (see Paragraph 7.5 for details).

7.6.2 Based on the above, Technical Inspections (TI) and Professional Appraisals (PA) are to be carried out in the following sequence:

Year 0	Technical Inspection (TI)
Year 1	No inspection required
Year 2	Technical Inspection (TI)
Year 3	No inspection required
Year 4	Professional Appraisal (PA)
Year 5	No inspection required
Year 6	Technical Inspection (TI)
Year 7	No inspection required
Year 8	Technical Inspection (TI)
Year 9	No inspection required
Year 10	Professional Appraisal (PA)

and so on in the above sequence of TI's (2 yearly) and PA's (6 yearly ignoring Year 0).

7.6.3 Where buildings fall below the required standard, more frequent and / or more detailed (ad-hoc) inspections & appraisals may be required. Recommendations on reduced frequency shall be given, and a programme agreed with IE/DCIE (with consultation of TA(Structures)) for intermediate inspections/appraisals to support the non-standard licence process.

7.6.4 In exceptional circumstances, departure from the prescribed frequency of inspections (see paragraphs 7.6.1 & 7.6.2) may only be made if supported by a bespoke risk assessment for the building in question and with the agreement of the Inspector of Explosives in consultation with DCIE(MoD) and TA(Structures).

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8.0 Overview of Reporting Process and Prioritisation of Remedial Works

8.1 Introduction

8.1.1 This Section gives an overview of the survey & reporting process and describes how the requirements for remedial works are prioritised. A more detailed explanation is provided in Appendix A.

8.1.2 The scope and frequency of the required Technical Inspections and Professional Appraisals are set out in Section 7.0.

8.1.3 Prior to commencing the survey, the site staff (DE, RPC or MMO as appropriate) shall provide the surveyor with access to all the available documentation including log books, previous survey reports, maintenance records and plant/equipment details for him to collate the relevant historic & current information which may be of use to him in carrying out the inspection. The surveyor shall also consult the users of facilities, maintenance engineers and Defence Estates staff for similar reasons.

8.1.4 As illustrated in Figure 2 (see Section 6.0), the inspection process commences with an in-depth survey of each Level 4 sub-element by suitably qualified B&CE engineers, technicians and/or surveyors as appropriate to the level of inspection being undertaken (Technical or Professional).

8.1.5 The Technical Inspection (TI) and Professional Appraisal processes are to be carried out using the (Microsoft Excel) Schedules at Appendix B (Schedule 1 - Explosives Facility Inspection Report) and Appendix C (Schedule 2 - Site Infrastructure & Utilities Inspection Report) as appropriate. Detailed instructions regarding completion of the schedules and the reporting mechanism are included at Appendix A.

8.2 Building Inspector (Stage 1)

8.2.1 The process commences with the Technical Inspection (TI) or Professional Appraisal (PA) survey being carried out by the Building Inspector followed by completion of the Schedules at Appendices B & C as appropriate.

8.2.2 The MS Excel spreadsheet then produces a Works Summary from the completed Schedules which lists all the recorded defects (together with their extent & severity) and the recommended remedial action (together with its likely effectiveness, timeframe for repair, and estimated cost). It is intended that this is used by the inspector to check that his input to the spreadsheet is complete and correct.

8.2.3 The Building Inspector shall then check the Works Summary, mark their section of the main menu as complete and then issue the Schedule to the RPC/MMO reviewer to undertake Stage 2 of the process.

8.3 Regional Prime Contract/Maintenance Management Organisation Review (Stage 2)

8.3.1 The Regional Prime Contract (RPC) / Maintenance Management Organisation (MMO) or equivalent reviewer shall identify which of the proposed works from Stage 1 (if any), are deemed to be routine maintenance (and thus included under the

terms of the contract) or whether they require additional funding be sought from the Head of Establishment. In cases where routine maintenance is not included in a particular Contract then this step can be ignored.

8.3.2 The RPC/MMO shall then check the RPC Review sheet, mark their section of the main menu as complete and issue the spreadsheet to the Explosives Safety Representative (ESR) to undertake Stage 3 of the process.

8.4 Head of Establishments Explosives Safety Representative (ESR) review (Stage 3)

8.4.1 The Explosives Safety Representative (ESR) shall identify which of the comments or defects identified (if any) are critical to the explosives licensing of the facility, and thus need be addressed for the facility to continue being licensed & used. Where defects are deemed critical, this elevates the priority for the remedial works to be undertaken. See Section 8.5 for details.

8.4.2 Should the Head of Establishments Explosives Safety Representative require advice or support on any matter related to the above he should in the first instance contact the relevant Inspector of Explosives (IE) for advice. In turn, the IE may consult the CIE (MOD) Buildings Compliance office or ESTC TA(Structures) for support. See Section 11 for contact details.

8.4.3 A Final Inspection Report / Summary of the works required is generated automatically by the spreadsheet with the defects grouped into classifications of priority. The mechanism of prioritisation is detailed in Sections 8.5 & 8.6 below.

8.4.4 Following the review by the ESR, they shall mark their section of the main menu as complete and issue the spreadsheet in accordance with the requirements of Section 8.10 below.

8.5 Ranking of Defects

8.5.1 Each of the identified defects is then ranked based on an assessment of the risk, which is a combination of likelihood and consequences.

8.5.2 The ranking for each defect is based on whether it is critical to explosives licensing and the recommended timing of the remedial works (see Section 8.5.3), as shown in Table 1 below.

Ranking of Comments / Defects		**Condition Mark > 5 (PASS)**		**Condition Mark ≤ 5 (FAIL)**
		Timing Low or Medium	**Timing High**	
Licence Critical	**NO**	3	2	2
	YES			1

Table 1 – Ranking of comments or defects

8.5.3 The various timings for the recommended remedial works are prioritised as high, medium or low as follows:

a) A high priority defect is safety critical and should be addressed within 6 months.

b) A medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.

c) A low priority defect will continue to deteriorate and should be rectified as part of other works as and when they arise.

8.6 Prioritisation of works

8.6.1 The ALARP (As Low as Reasonably Practicable) principle is used to assess tolerability of risk levels. This is recognised in The Health and Safety at Work etc. Act 1974 and requires risk be reduced to a level which is "as low as reasonably practicable" provided that the cost or effort required is not grossly disproportionate to the benefits.

8.6.2 Those defects identified as Ranking 1 are considered to be in the Unacceptable Region and the risk cannot be justified. These defects require immediate works or review of the explosive storage/processing licence.

8.6.3 Those defect identified as Ranking 2 are considered to be at the upper bound of the Tolerable Region and require additional control measures to be implemented. It should be demonstrated that a programme of works shall be implemented to address these within two years of the inspection commencement date or the explosives storage/processing licence should be reviewed.

8.6.4 Those defects identified as Ranking 3 are considered to be at the lower end of the Tolerable Region and consideration should be given to implementing additional control measures or preferably, they should be addressed if it is practical to incorporate them within other similar works to the facility.

8.7 Final Inspection Report

8.7.1 The Final Inspection Report is generated in the Microsoft Excel Spreadsheets at Appendices B & C when the Building Inspection Index and RPC/MMO & ESR reviews have been completed.

8.7.2 This process automatically collates the comments or defects along with their associated assessment criterion and ranks them in the order of priority that remedial works are required to be carried out (see Section 8.5).

8.7.3 The Final Inspection Report will be used by the Site Estate Team Leader (SETL) and Head of Establishment (HoE), with advice from the Explosives Safety Representative (ESR), to assist the decision making process regarding the extent and timing of works to be undertaken (if any), and to ensure that explosive storage & processing facilities are maintained in an acceptable condition without restriction being placed on their licence.

8.8 Inspection analysis Report

8.8.1 An Inspection Analysis Report is also generated by the Microsoft Excel spreadsheets at Appendices B & C provided the Building Inspection Index along with the RPC/MMO & ESR reviews have been completed. This process provides a high level summary of the Final Inspection report which will enable ESTC to monitor

the condition of individual explosives storage/processing facilities, sites and the explosives estate as a whole.

8.9 Asset Physical Condition Grade / Score

8.9.1 The Level 3 Element scores and Level 2 Asset score are calculated automatically by the Microsoft Excel spreadsheets based on weightings being applied to the lowest of the Level 4 sub-element condition marks assigned to each element present on the relevant schedule.

8.9.2 The weightings used for the various sub-elements and elements are given in Appendix D.

8.9.3 The physical condition grading for each Asset is represented by the overall Level 2 'Asset' score achieved followed by the lowest Level 4 'sub-element' score achieved and a description of that Level 4 sub-element followed by the ranking of the defect (see Section 8.5). This results in a grade ranking for each Asset in the form:

L2 Score / Lowest L4 Score & element description / Defect Ranking

(Example: 7.4 / 6.5 Exterior walls / Defect Ranking 3)

8.9.4 Using this system it can be seen that the number assigned to the Level 2 will increase as improvements are made to the Level 4 sub-elements.

8.9.5 Level 4 sub-elements that receive a condition mark (score) greater than 5 are considered to be acceptable and thus are deemed a 'pass' in the overall summary schedules at Appendices B & C.

8.9.6 Level 4 sub-elements that receive a condition mark (score) of 5 and below are considered to be unacceptable and are thus deemed a 'fail' in the overall summary schedules at Appendices B & C.

8.10 Distribution

8.10.1 The completed inspection report is to be issued by the ESR (preferably electronically) in its entirety, to the following:

a) RPC/MMO: A copy shall be retained to confirm completion of the inspection.

b) SETL & HoE: Where the final inspection report (see Section 8.8) identifies comments or defects with a ranking of 1 or 2, the SETL and HOE shall meet within one month of the inspection being issued, to determine the extent and timing of works to be undertaken, if any.

ESTC Technical Advisor (Structures): Either compact discs (CD's) of the report in electronic format or hard copies of the report shall be sent to TA(Structures) at the address given in Section 11.3. *Note: It is intended that, in time, an E-mail address well be set up to receive this information. This was not possible to arrange at the time of issue of this document because of (1) the imminent change Defence Estates to the Defence Infrastructure Organisation (DIO) and (2) the organisation is due to be transferred from its current IT system on to Dii.*

9.0 Record Keeping

9.1 A minimum of 3 Professional Appraisals and all intervening Technical & Ad-hoc Inspection reports are to be retained (in chronological order) with the PES Log-book for audit purposes.

9.2 Wherever possible, all available ‘as built’ design information (calculations, drawings & specifications) should also be kept with the PES log book or a statement made as to where this information is held.

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10.0 Standards and Guidance

10.1 UK Legislation

a) The Health & Safety at Work etc. Act (HSW)
b) The Occupiers Liability Act
c) The Management of Health and Safety at Work Regulations
d) The Workplace (Health Safety and Welfare) Regulations
e) The Provision and Use of Work Equipment Regulations
f) The Regulatory Reform (Fire Safety) Order
g) The Control of Substances Hazardous to Health (COSH)
h) The Construction Design & Management Regulations (CDM)
i) The Lifting Operations and Lifting Equipment Regulations
j) The Manufacture & Storage of Explosives Regulations (MSER)
k) The Control of Major Accident Hazards Regulations (COMAH)
l) The Control of Explosives Regulations (COER)
m) The Firearms Act
n) The Dangerous Substances and Explosive Atmosphere Regulations
o) The Dangerous Substances in Harbour Area Regulations
p) The Classification and Labelling of Explosives Regulations
q) The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations

10.2 MOD Regulations

a) JSP375: Ministry of Defence Health & Safety Handbook
b) JSP482: Ministry of Defence Explosives Regulations
c) JSP498: Major Accident Control Regulations (MACR)

10.3 MOD Guidance

a) JSP434: Defence Construction in the Built Environment.
b) JSP435: Defence Estate Management
c) ESTC Standard 4: Buildings & Traverses for Military Explosives – Criteria for Detailed Structural Design (in part superseded by JSP482)
d) ESTC Standard 5: Buildings & Traverses for Military Explosives – Predicted Damage Levels to Structures – Glazing Hazards
e) Property Management of the Defence Estate – DEO(W) Specification 005, Issue 003, March 1995, incorporating Amendment 1 dated 31st October 1996.
f) Defence Estates Asset Physical Condition Grading Paper, Version 6, Status A, dated 26th January 2006 (File Ref: D/DE(Proj)/14/3-13-23-03).
g) Defence Estates publication 'Estate Performance Measuring System'

10.4 Industry Guidance

a) 'Surveys and inspections of buildings and associated structures', The Institution of Structural Engineers, June 2008
b) 'Appraisal of Existing Structures', The Institution of Structural Engineers 1996
c) 'Evaluation and Inspection of Building Structures', HSE 1990
d) BS 8210:1986 'Guide to Building Maintenance Management'

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11.0 Contacts

11.1 Any queries relating to the content of this document should first be made to the site Explosives Safety Representative. The ESR will then use the Inspector of Explosives (IE) reporting chain to liaise with ESTC, DOSG, DCIE (MOD) & his compliance office and/or Technical Advisor (Structures) as necessary.

11.2 If required, Technical or Procedural advice concerning ESTC Standard 6, Part 2 (B&CE) should be sought in the first instance from the DCIE(MOD) Buildings Compliance Office whose contact details are given below:

DESWpnsEng-DCIE2,
DCIE (MOD) Buildings Compliance Office,
Defence Ordnance Safety Group (DOSG),
Fir 3a, #4304,
MoD, Abbey Wood,
Bristol
BS34 8JH

Tel: 0306-793-5425
Mil: (9)352 – 35425
E-mail: DESWpnsEng-DCIE2@mod.uk

11.3 In extremis, contact may be made direct to the ESTC Technical Advisor (Structures) whose contact details are given below:

PTS11, Head, Weapons Effects on Structures (WES),
Professional & Technical Services (PTS),
Defence Infrastructure Organisation (DIO),
Kingston Road,
Sutton Coldfield,
West Midlands,
B75 7RL

Tel: 0121 - 311 - 3626
Mil: (9)4421 – 3626
E-mail:

11.4 Amendment proposals for this document are to be sent to ESTC TA(Structures) using the Change Proposal Form at Appendix F and submitted to the address shown on the form.

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Appendix A

Guidance on the ESTC Standard 6, Part 2 (B&CE) inspection process and schedules/spreadsheets in Appendices B & C

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Guidance on the Guidance on the ESTC Standard 6, Part 2 (B&CE) inspection process and schedules/spreadsheets in Appendices B & C

Contents

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1.0 Introduction

1.1 This Appendix is intended to give an overview of the inspection & reporting process and aid navigation on the accompanying software that shall be used to assist the decision making process regarding the appropriate maintenance works (extent & timing) in order to ensure the renewal of explosive storage/processing licences whilst minimising whole life costs.

1.2 It should be noted that some of the information required is ancillary to this process and is required to provide background details that are necessary for an audit trail.

2.0 Getting Started

2.1 Programme and Version number

2.1.1 The inspection schedules at Appendices B & C of this document are based on an MS Excel spreadsheet (MS Excel 2003). They use 'drop down menus' to facilitate data entry, and macros to assist with navigation & calculation of the scores for each of the defects identified.

2.1.2 The ESTC may from time to time promulgate a revised version of the software, e.g. when there are improvements to its functionality, or changes in some of the parameters used within the process. It is important, therefore, that users check they are using the most up to date version of the spreadsheet and it is recommended that a new copy is downloaded for each inspection rather than using or re-using an older version.

2.2 Opening the Spreadsheet, opening new windows, hiding information.

2.2.1 The MS Excel spreadsheet requires macros to be enabled and cannot work without these.

2.2.2 The MS Excel spreadsheet uses macros that rely on it being in a certain configuration. In view of this, users should not open a second window to view different elements of the same or other worksheets simultaneously as this will prevent the spreadsheet from functioning correctly.

2.2.3 The MS Excel spreadsheet (worksheets and cells) is protected and it is thus not possible to hide rows or columns.

2.3 Arrangement of Worksheets

2.3.1 The spreadsheet is divided into a number of worksheets to record the information about the building or site and their hazards.

2.3.2 Figure A1 shows the Point of Entry into the Spreadsheet (POI). This shows how the worksheets inter-relate and gives an overview of the process. It should be noted that it is the main menu, and not the POI that contains information on the version number and date of the spreadsheet.

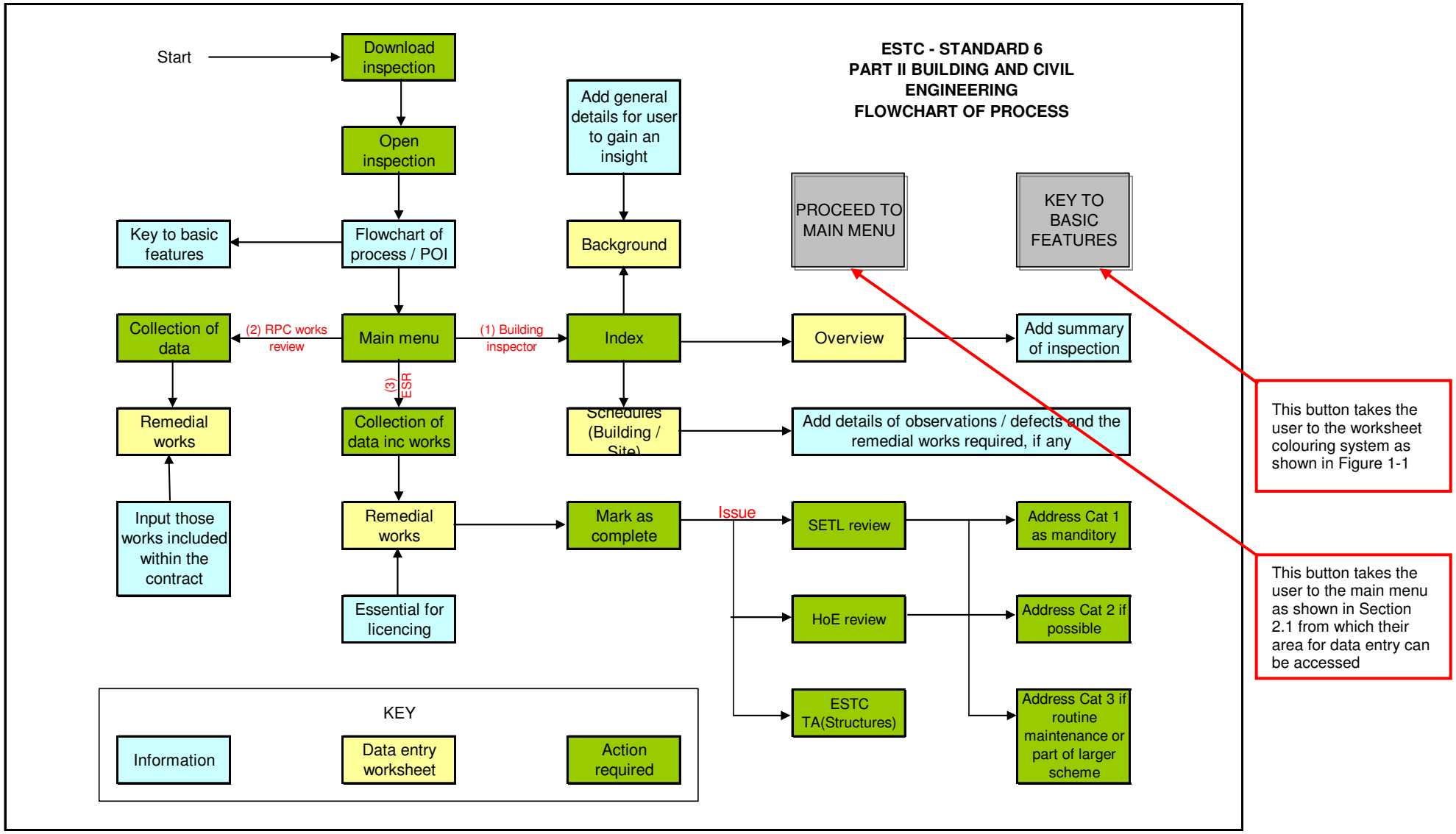


Figure A1 - Overview and worksheet interface.

2.3.3 Figure A2 provides details of the common colouring system used throughout the various worksheets. These denote which cells require data entry and by who, along with details of the buttons that provide help or enact macros to aid navigation or calculate the risk from the defects identified.

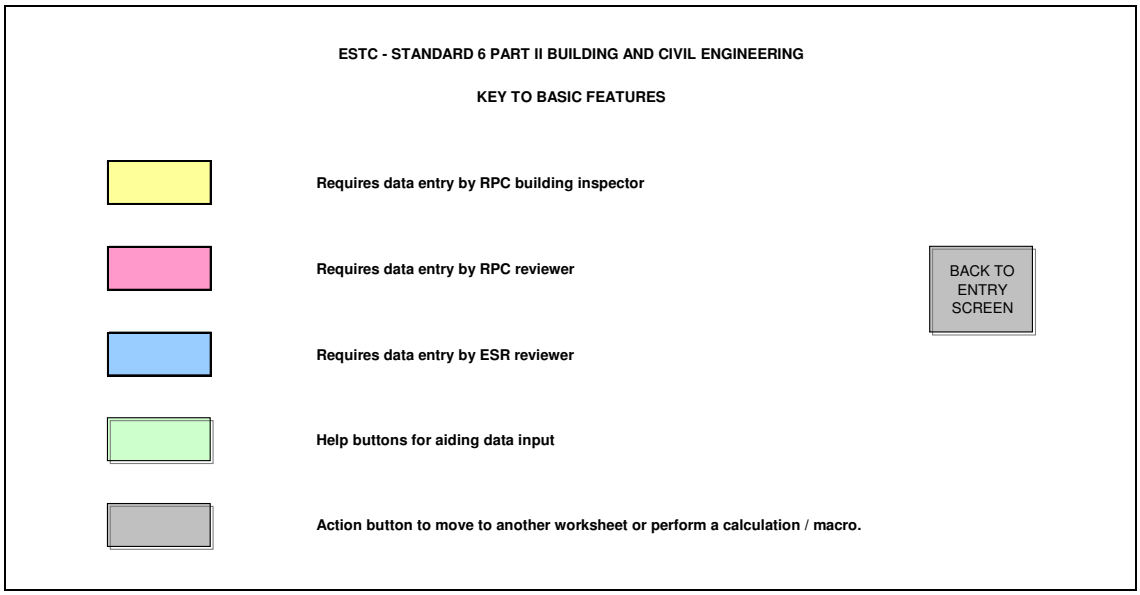


Figure A2 - Worksheet colouring system.

3.0 Data Entry

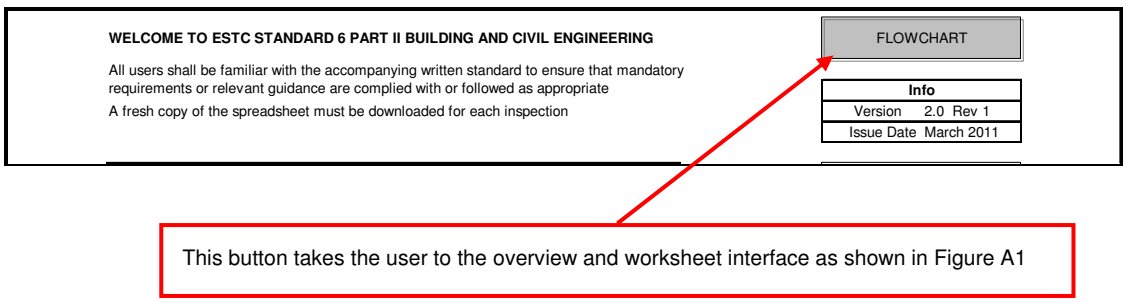
3.1 Main Menu

This worksheet is divided into four distinct sections as described below.

3.1.1 General

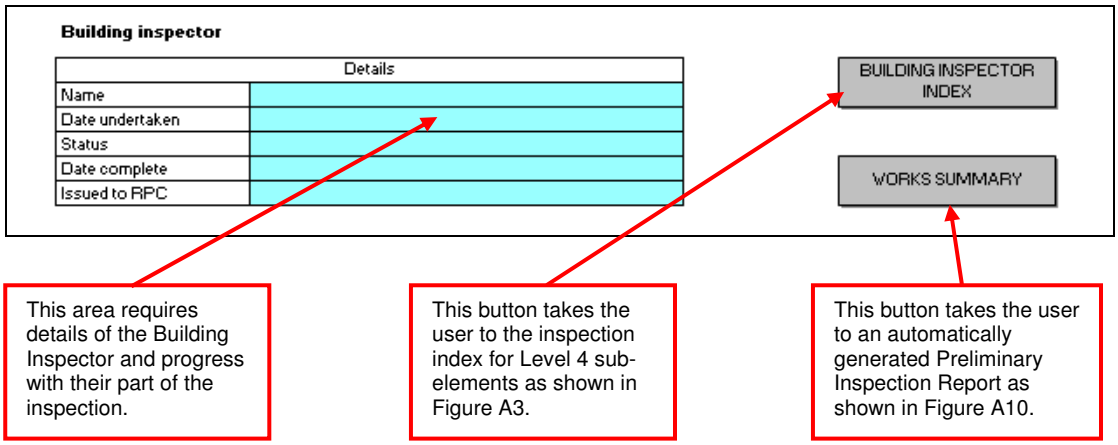
The top part of the main menu gives the program version number & date. It also requires that users check it is the most current version and that they familiarise themselves with the contents of ESTC Standard 6, Part 2 (B&CE), which provides general information and mandatory requirements on hazard identification and risk mitigation.

Whilst it is expected that the most current version of the program be adopted for each inspection it is considered reasonable to continue to use a previous version if an inspection has already been started, or for consistency where it is one of several buildings having a similar due date (say within 6 months) and the others have already been completed.



3.1.2 Building Inspector (Stage 1)

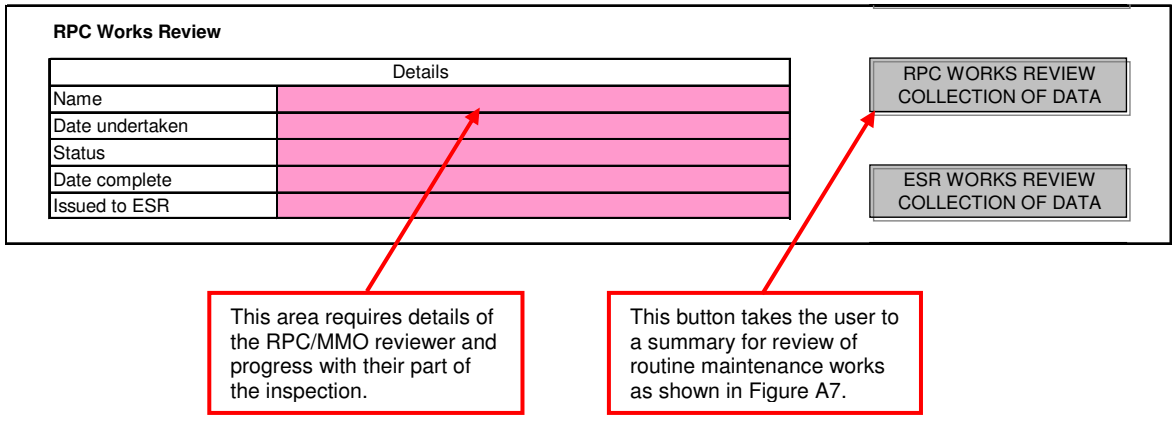
The upper middle section of the main menu applies to the Building Inspector and includes a table for them to record their details and the inspection status (which is based on the progress of assigning the comments or defects identified to the Level 4 sub-elements along with details of any associated maintenance works). This is accessed through the adjacent index button as shown below. On completion a Preliminary Inspection Report as shown in Figure A10 can be generated through the adjacent summary button.



Following the review by the Building Inspector they shall mark their section as complete and issue the spreadsheet to the RPC/MMO to undertake Stage 2 of the process as shown in Figure A1.

3.1.3 RPC/MMO reviewer (Stage 2)

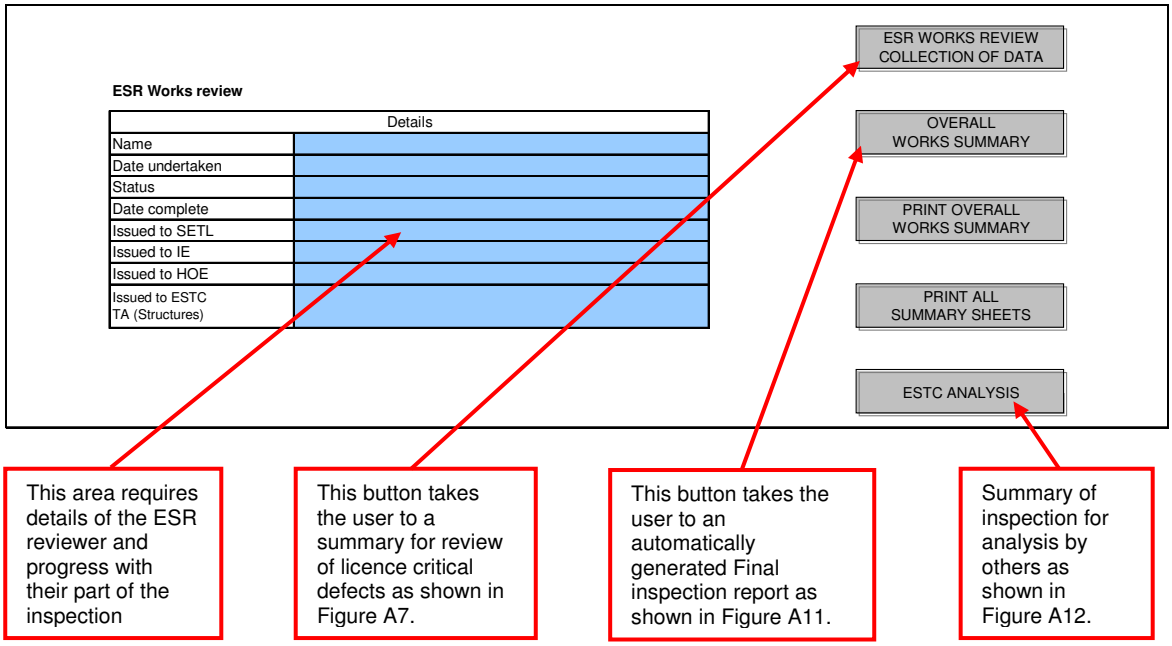
The lower middle section of the main menu applies to the RPC/MMO, with a table to record their details and the inspection status. The inspection status is based on the progress made in assessing whether the proposed works are deemed to be routine maintenance under the terms of the contract or require additional funding be sought from the Head of Establishment (HoE) and then addressed as small works. This is accessed through the adjacent review button as shown below.



Following the review by the RPC/MMO they shall mark their section as complete and issue the spreadsheet to the Explosive Safety Representative (ESR) to undertake Stage 3 of the process as shown in Figure A1.

3.1.4 ESR reviewer (Stage 3)

The lower middle section of the main menu applies to the ESR, with a table to record their details and the inspection status, which is based on the progress made assessing whether the defects identified are critical in order to maintain the current explosives storage/processing licence for the facility. This is accessed through the adjacent review button as shown below. On completion a Final Inspection Report can be generated by using the adjacent summary button with defects grouped into classifications of priority as shown in Figure A11.



Following the review by the ESR they shall mark their section as complete and issue the spreadsheet in accordance with the requirements of Section 6.1 of this Appendix and as shown in Figure A1.

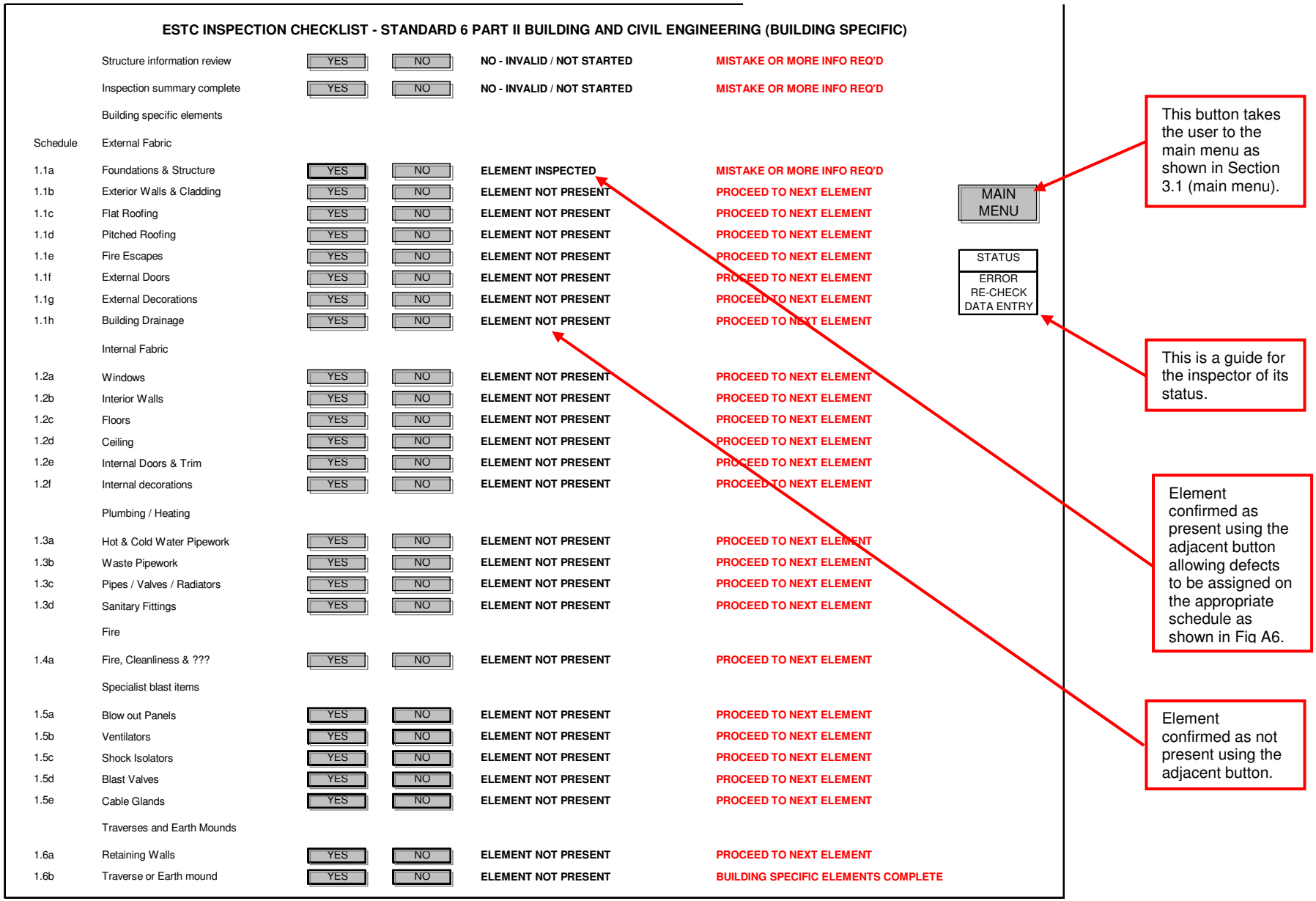


Figure A3 - Building Inspector Index.

3.2 Building Inspector Review (Stage 1)

3.2.1 General

The inspection index as shown in Figure A3 requires building structure (or site infrastructure) and inspection specific information. The adjacent buttons provide confirmation that each area has been considered, which automatically updates the overall inspection summary.

Should this direct the user to another worksheet then links are provided to return to the inspection index.

3.2.2 Structure information

This is as shown in Figure A4 and should be completed as part of the desk study familiarisation that involves review of the previous inspection and the information updated accordingly.

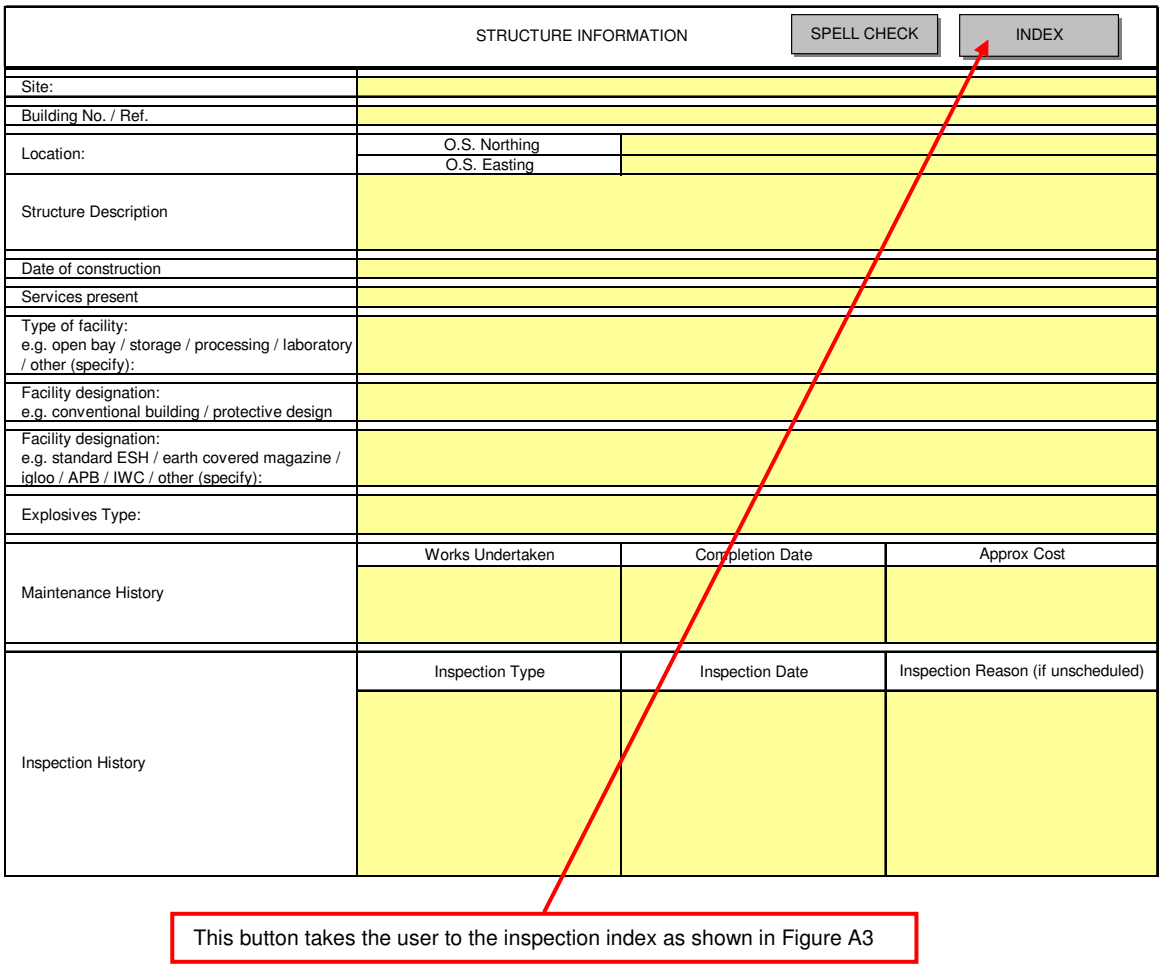


Figure A4 - Structure Information Summary.

3.2.3 Inspection

3.2.3.1 Inspection Summary

The Inspection Summary as shown in Figure A5 is used to provide a description of the condition that can be used to support the overall Level 2 asset mark

generated from the individual Level 4 sub-elements and to confirm that the maintenance works (extent and timing) recommended are warranted.

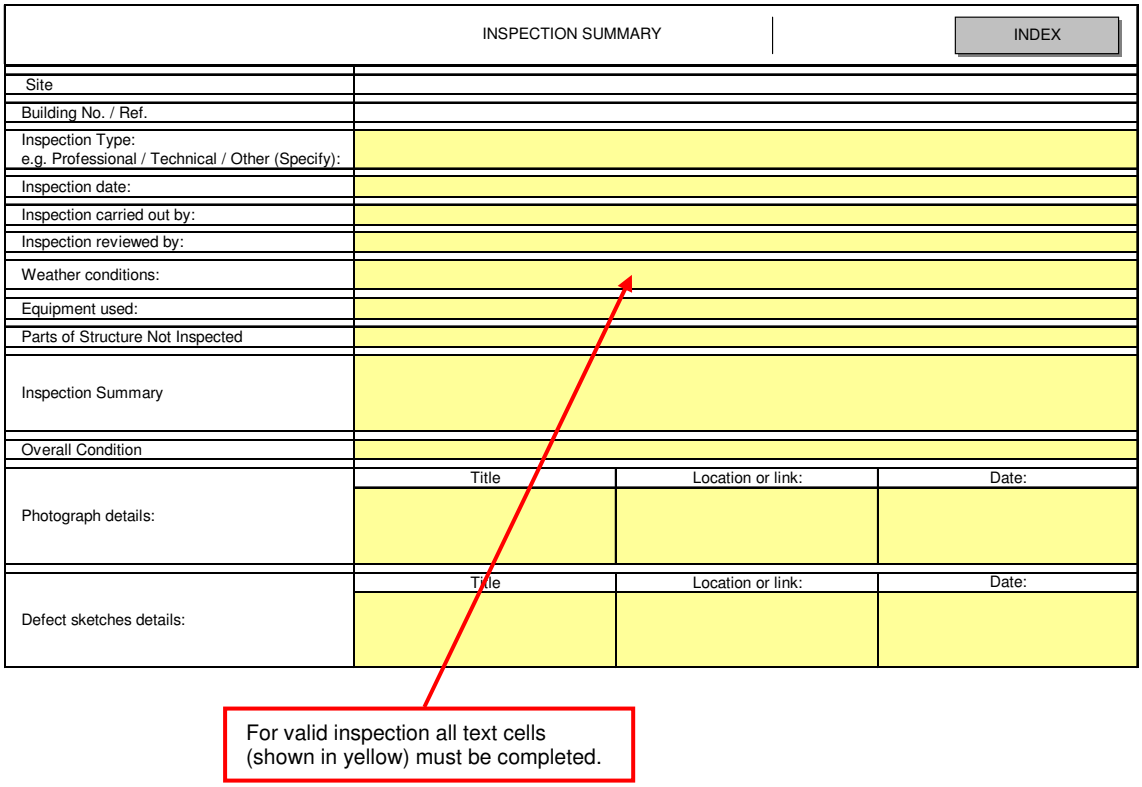


Figure A5 - Inspection Summary.

3.2.3.2 Schedules

A typical Level 4 sub-element inspection schedule is shown in Figure A6.

It is recognised that the inspector is unlikely to be familiar with JSP482 'The MoD explosives regulations' so a commentary has been provided to give guidance on relevant explosives licensing aspects.

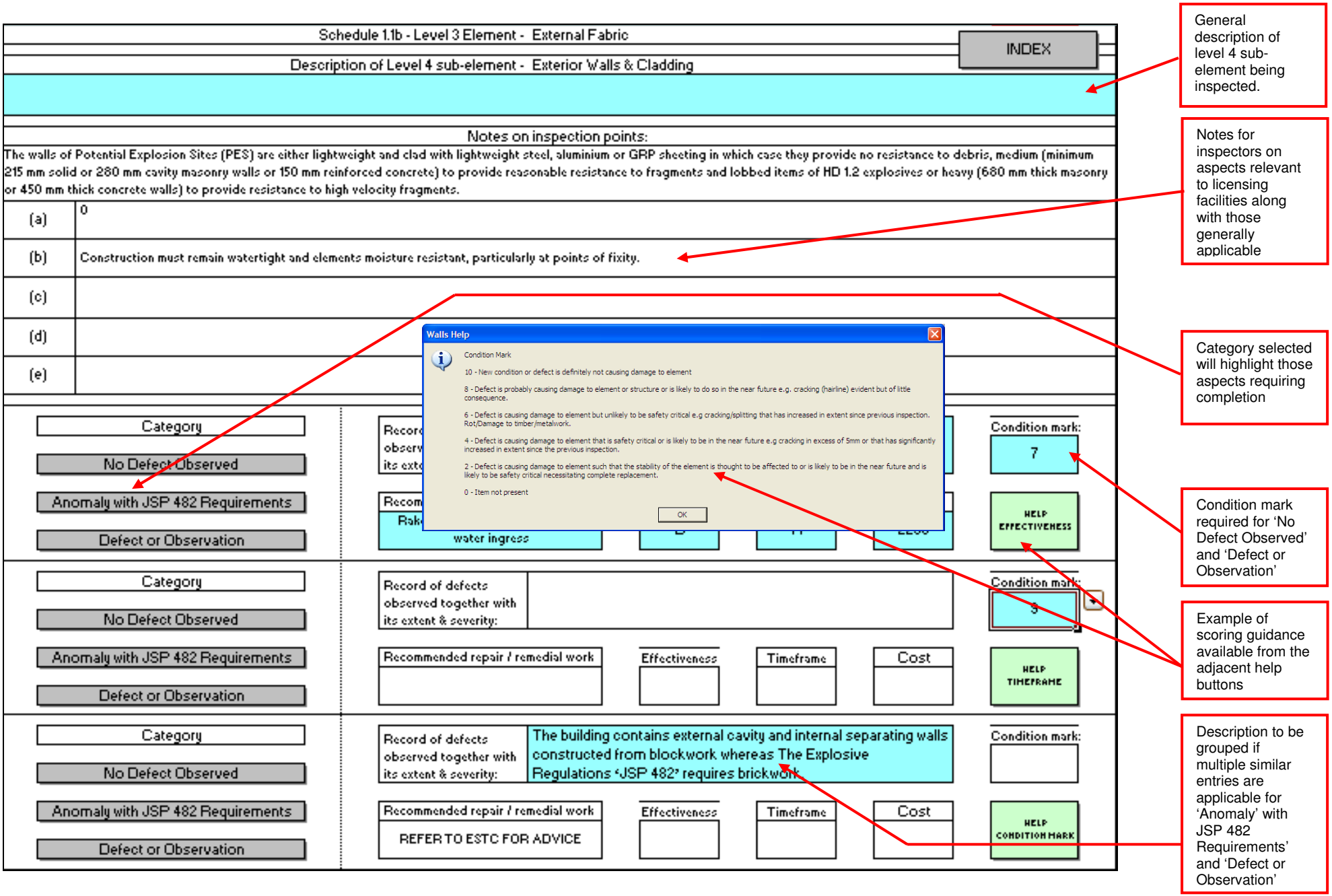
For each 'defect', the inspection schedules require a 'category' to be selected from the options 'No defect observed', 'Anomaly with JSP482' & 'Defect or Observation'. It is anticipated that the 'No defect observed' or 'Defect or Observation' options will normally be used. Although it is understood that inspectors may not necessarily be conversant with JSP282, the 'Anomaly with JSP482' category option has been provided in case the inspector does find an obvious case of non compliance.

A condition mark is required for the 'No defect observed' or 'Defect or Observation' categories. The 'Defect Observation' category does, however, require details of the defects identified together with proposals for remedial works (including their effectiveness, timing and cost). To provide assistance with these aspects drop down lists have been adopted that reflect the guidance available from the adjacent buttons.

No condition mark is required for the 'Anomaly with JSP482' category as the final building mark is based on the condition of the building rather than any non

compliances with JSP482. Notwithstanding this, the recording of non compliances is of use to the ESTC which is why this option has been included on the schedules.

A limitation of the current spreadsheet is that only three comments or defects can be assigned to each Level 4 sub-element schedule. In view of this it will be necessary to group similar items together, with the condition mark reflecting the most onerous although appropriately described.



General description of level 4 sub-element being inspected.

Notes for inspectors on aspects relevant to licensing facilities along with those generally applicable

Category selected will highlight those aspects requiring completion

Condition mark required for 'No Defect Observed' and 'Defect or Observation'

Example of scoring guidance available from the adjacent help buttons

Description to be grouped if multiple similar entries are applicable for 'Anomaly' with JSP 482 Requirements' and 'Defect or Observation'

Figure A6 - Typical Level 4 Sub-element schedule.

3.3 RPC/MMO Review (Stage 2)

3.3.1 General

The RPC/MMO review, as shown in Figure A7, automatically collates the 'Defect or Observation' entered for each category in order of the condition mark. The ranking is, however, somewhat arbitrary as the RPC/MMO is required to consider each one in turn.

The RPC/MMO reviewer shall identify which of the proposed works, if any, are deemed to be routine maintenance and would thus be addressed as part of their contract. This will identify the additional works required to restore the facility to its 'as-built' condition and whilst this is itself an aspiration, it is will identify the funding necessary to address each category of priority as discussed in Section 4.0.

The omission of the 'Anomaly with JSP482' items from the RPC/MMO review is deliberate as it is unlikely these would be addressed by routine maintenance 'lump sum' works. The 'No Defects Observed' items are also omitted as clearly in these cases there is no defect to rectify.

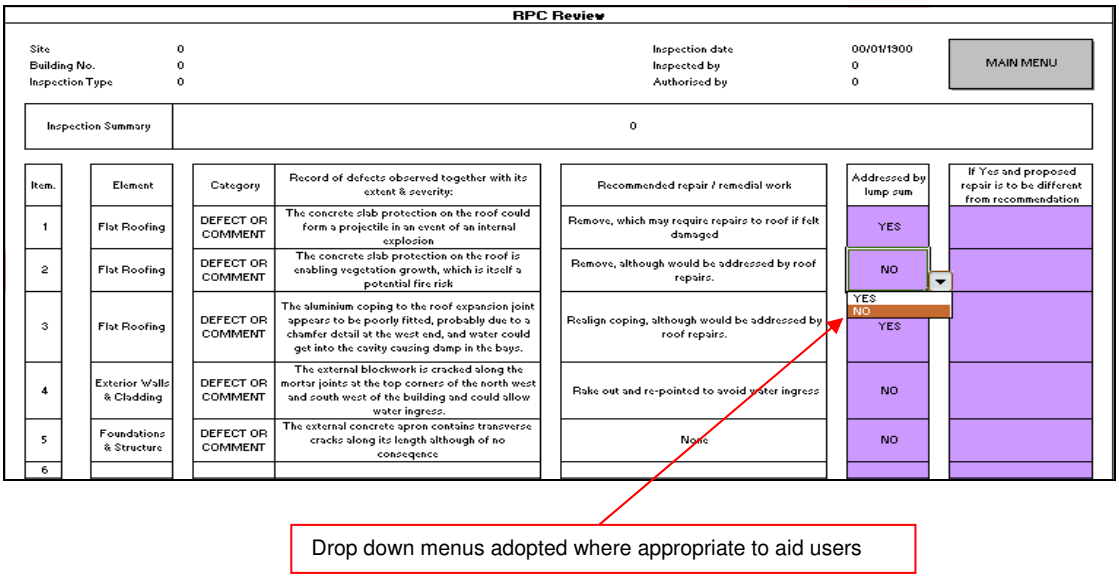


Figure A7 – RPC/MMO review.

3.4 ESR Review (Stage 3)

3.4.1 General

The ESR review, as shown in Figure A8, automatically collates the comments or defects and their associated remedial works from the previous stages. These are ranked in the order of the condition mark although, as above, this is arbitrary as each shall be considered in turn by the ESR.

The ESR reviewer shall identify which of the comments or defects identified, if any, are deemed to be critical to explosives licensing and would thus need to be addressed for the facility to continue being licensed & used for explosives storage/processing. This will enable prioritisation of the works in order to aid the decision regarding extent and timing for the additional works to be undertaken.

It should be noted that the omission of 'Defect or Observation' for elements having a condition mark of 3 or below is deliberate as these are considered to be degraded to such an extent that they are likely to have explosives licensing implications either now or in the immediate future.

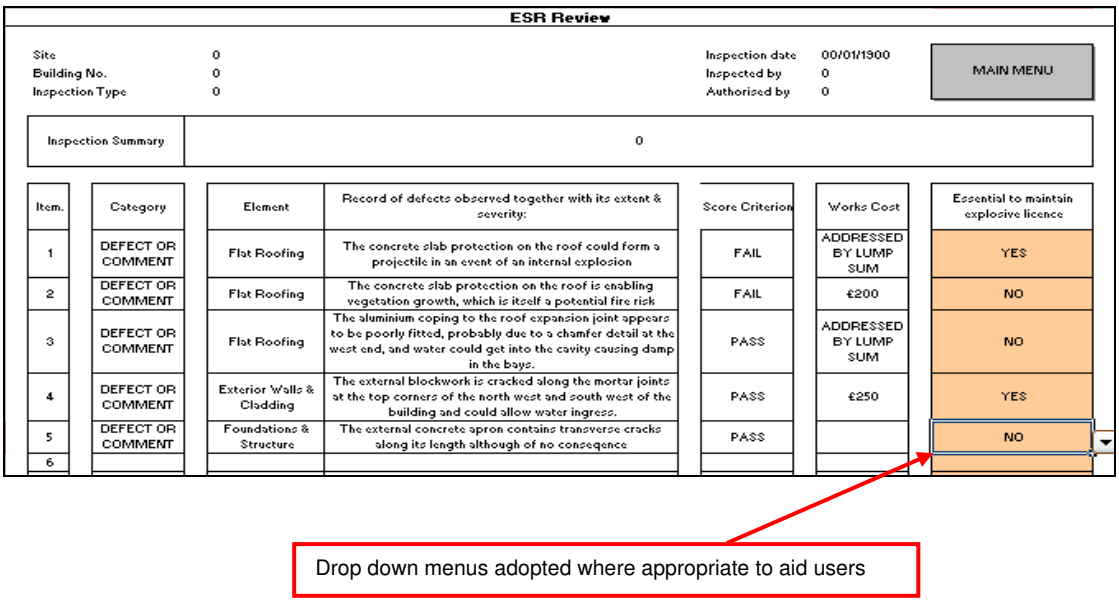


Figure A8 - ESR review.

4.0 Score & Ranking

4.1 Score

Each Level 3 element score is calculated for the facility, based on weightings being applied to the lowest of the Level 4 condition marks assigned to each sub-element present on each of the schedules.

4.2 Ranking

4.2.1 General

A ranking is produced for each of the defects identified based on an assessment of the risk, which is a combination of likelihood and consequences.

4.2.2 Derivation

The condition mark assigned to each Level 4 sub-element present is considered to be a 'pass' for scores above 5 and a 'fail' for scores of 5 or below. Guidance on the condition mark is provided on each schedule, as shown in Figure A6.

The ranking for each defect is based on whether it is critical for explosives licensing and the recommended timing of remedial works, where the condition mark is considered to be a pass or a fail respectively, as shown in Table A1 below.

Ranking of Comments / Defects		Condition Mark > 5 (PASS)		Condition Mark ≤ 5 (FAIL)
		Timing Low or Medium	Timing High	
Licence Critical	NO	3	2	2
	YES			1

Table A1 – Ranking of comments or defects.

4.2.3 Prioritisation of works

The ALARP (As Low as Reasonably Practicable) principle is used to assess tolerability of risk levels. This is recognised in The Health and Safety at Work etc. Act, 1974 and requires risk be reduced to a level which is 'as low as reasonably practicable' provided that the cost or effort required is not grossly disproportionate to the benefits. The principle is shown in Figure A9 below.

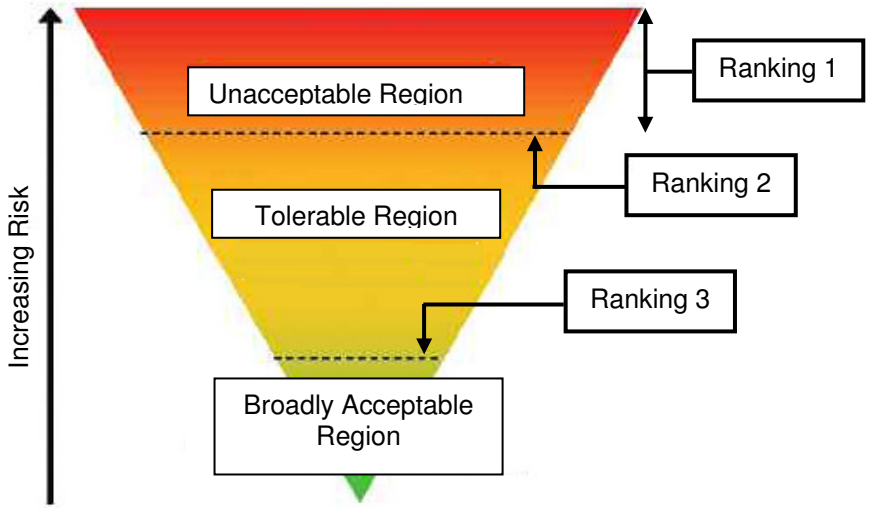


Figure A9 – Levels of Risk.

Those defects identified as Ranking 1 are considered to be in the Unacceptable Region and the risk cannot be justified. Defects in this category require immediate works or review of the explosives licence.

Those defects identified as Ranking 2 are considered to be at the upper bound of the Tolerable Region and require additional control measures. Thus, it should be demonstrated that a programme of works shall be implemented to address these within two years of the inspection commencement date or the explosives storage/processing licence should be reviewed.

Those defects identified as Ranking 3 are considered to be at the lower bound of the Tolerable Region and consideration should be given to implementing additional control measures. Thus, they should be addressed if it is practical to incorporate them within other similar works to the facility.

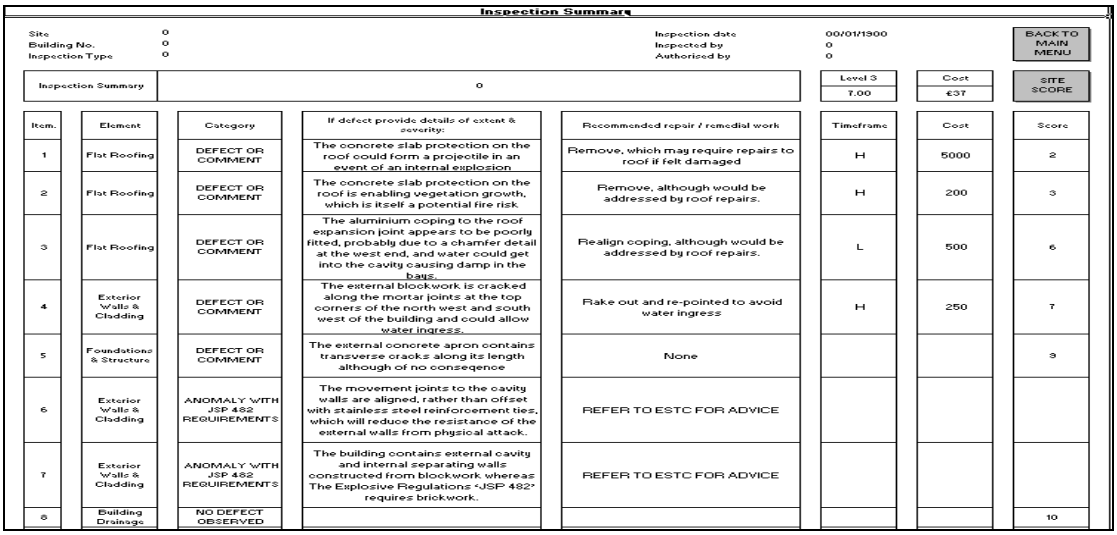
It should be noted that the prioritisation of work above is based solely on the condition / deterioration of the various elements (i.e. it is irrespective of whether or not the element is compliant with JSP482 or not). This is primarily because it is recognised that inspectors may not be fully conversant with JSP482. Any non-compliances with JSP482 are, therefore, identified separately to inform the ESR

and Inspector of Explosives of their existence so that their tolerability and effect on the explosives storage/processing license can be determined.

5.0 Reporting

5.1 Preliminary Inspection Summary Report

The Preliminary Inspection Summary Report, as shown in Figure A10, is generated through the button on the Main Menu worksheet, as described in Section 3.1.2, provided the Building Inspection Index has been completed by the Building Inspector.



Inspection Summary

Site 0
Building No. 0
Inspection Type 0

Inspection date 00/01/1900
Inspected by 0
Authorised by 0

BACK TO MAIN MENU

Inspection Summary	0	Level 3	Cost	SITE SCORE
		7.00	€37	

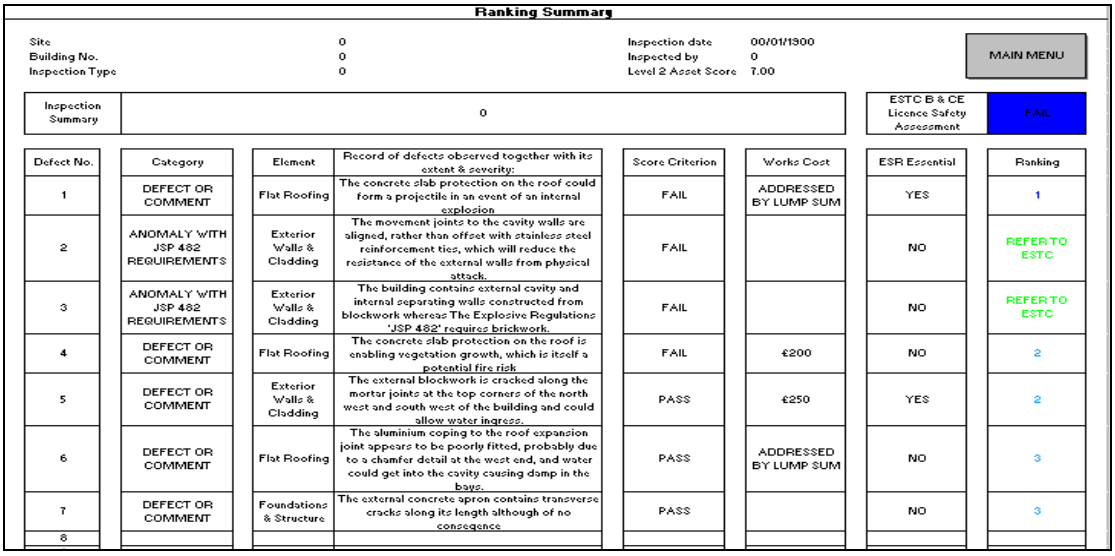
Item.	Element	Category	If defect provide details of extent & severity:	Recommended repair / remedial work	Timeframe	Cost	Score
1	Flat Roofing	DEFECT OR COMMENT	The concrete slab protection on the roof could form a projectile in an event of an internal explosion	Remove, which may require repairs to roof if felt damaged	H	5000	2
2	Flat Roofing	DEFECT OR COMMENT	The concrete slab protection on the roof is enabling vegetation growth, which is itself a potential fire risk.	Remove, although would be addressed by roof repairs.	H	200	3
3	Flat Roofing	DEFECT OR COMMENT	The aluminium coping to the roof expansion joint appears to be poorly fitted, probably due to a chamfer detail at the west end, and water could get into the cavity causing damp in the bays.	Realign coping, although would be addressed by roof repairs.	L	500	6
4	Exterior Walls & Cladding	DEFECT OR COMMENT	The external blockwork is cracked along the mortar joints at the top corners of the north west and south west of the building and could allow water ingress.	Rake out and re-pointed to avoid water ingress	H	250	7
5	Foundations & Structure	DEFECT OR COMMENT	The external concrete apron contains transverse cracks along its length although of no consequence	None			9
6	Exterior Walls & Cladding	ANOMALY WITH JSP 482 REQUIREMENTS	The movement joints to the cavity walls are aligned, rather than offset with stainless steel reinforcement ties, which will reduce the resistance of the external walls from physical attack.	REFER TO ESTC FOR ADVICE			
7	Exterior Walls & Cladding	ANOMALY WITH JSP 482 REQUIREMENTS	The building contains external cavity and internal separating walls constructed from blockwork whereas The Explosive Regulations 'JSP 482' requires brickwork.	REFER TO ESTC FOR ADVICE			
8	Building Drainage	NO DEFECT OBSERVED					10

Figure A10 - Preliminary Inspection Report.

This process automatically collates the comments or defects and their associated remedial works in the order of 'Defect Observation' in terms of condition mark, followed by 'Anomaly with JSP482 Requirements' and finally 'No Defect Observed'. It is intended that this report is used by the inspector to check his input to the spreadsheet is complete and correct. This report should not be used to assess the works required or suitability of the facility to be licensed for the storage/processing of explosives.

5.2 Final Inspection Report

The Final Inspection Report, as shown in Figure A11, is generated through the button on the Main Menu worksheet, as shown in Section 3.1.4, provided the Building Inspection Index along with the RPC/MMO and ESR reviews have been completed.



Ranking Summary

Site	0	Inspection date	00/01/1900
Building No.	0	Inspected by	0
Inspection Type	0	Level 2 Asset Score	7.00

MAIN MENU

Inspection Summary	0	ESTC B & CE Licence Safety Assessment	FAIL

Defect No.	Category	Element	Record of defects observed together with its extent & severity:	Score Criterion	Works Cost	ESR Essential	Ranking
1	DEFECT OR COMMENT	Flat Roofing	The concrete slab protection on the roof could form a projectile in an event of an internal explosion	FAIL	ADDRESSED BY LUMP SUM	YES	1
2	ANOMALY WITH JSP 482 REQUIREMENTS	Exterior Walls & Cladding	The movement joints to the cavity walls are aligned, rather than offset with stainless steel reinforcement ties, which will reduce the resistance of the external walls from physical attack.	FAIL		NO	REFER TO ESTC
3	ANOMALY WITH JSP 482 REQUIREMENTS	Exterior Walls & Cladding	The building contains external cavity and internal separating walls constructed from blockwork whereas The Explosive Regulations 'JSP 482' requires brickwork.	FAIL		NO	REFER TO ESTC
4	DEFECT OR COMMENT	Flat Roofing	The concrete slab protection on the roof is enabling vegetation growth, which is itself a potential fire risk	FAIL	£200	NO	2
5	DEFECT OR COMMENT	Exterior Walls & Cladding	The external blockwork is cracked along the mortar joints at the top corners of the north west and south west of the building and could allow water ingress.	PASS	£250	YES	2
6	DEFECT OR COMMENT	Flat Roofing	The aluminium coping to the roof expansion joint appears to be poorly fitted, probably due to a chamfer detail at the west end, and water could get into the cavity causing damp in the bays.	PASS	ADDRESSED BY LUMP SUM	NO	3
7	DEFECT OR COMMENT	Foundations & Structure	The external concrete apron contains transverse cracks along its length although of no consequence	PASS		NO	3
8							

Figure A11 - Final Inspection Report.

This process automatically collates the comments or defects along with their associated assessment criterion and categorises them in rankings that indicate the priority for remedial works to be undertaken as previously discussed in Section 4.2 (Ranking).

It is intended that this report will be used by the Site Estate Team Leader (SETL) and Head of Establishment (HoE), with advice from the Explosives Safety Representative (ESR), to assist the decision making process regarding the extent and timing of works to be undertaken (if any), and to ensure that explosives storage & processing facilities are maintained in an appropriate condition without compromising the explosives license.

5.3 Inspection Analysis Report

The Inspection Analysis Report as shown in Figure A12, is generated through the button on the Main Menu worksheet, as shown in Section 3.1.4, provided the Building Inspection Index along with the RPC/MMO and ESR reviews have been completed.

Inspection analysis

MAIN MENU

Site	0	Building No.	0	Inspection Date	00/01/00

Level 3 Element	Least Score	Average Score
External Fabric	0.00	0
Internal Fabric	0.00	0
Plumbing / Heating	0.00	0
Fire	0.00	0
Specialist blast items	0.00	0
Traverses and Earth Mounc	0.00	0

Least Level 4 Score	0.00	PASS
Least Level 3 Score	0.00	
Level 2 Asset Score	0	
Least rank		

	No. of Defects Overall	Cost overall	No. of Defects to be Addressed by RPC	Cost to RPC	No. of Defects Requiring Additional Works	Cost of Additional Works Defects
Cat 1 defects	0	0	0	0	0	0
Refer to ESTC	0	N/A	N/A	N/A	N/A	N/A
Cat 2 defects	0	0	0	0	0	0
Cat 3 defects	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**

Figure A12 - Summary of Final Inspection Report.

This provides a high level summary of the Final Inspection report which will be used by ESTC to monitor the condition of individual explosives storage & processing facilities and thus the overall condition of the explosives storage and processing estate.

6.0 Issue of Survey Results

6.1 Spreadsheet

6.1.1 Format

The completed inspection (whole spreadsheet) is to be issued electronically by the ESR to the following:

6.1.2 RPC/MMO

A copy shall be retained to confirm completion of the inspection.

6.1.3 SETL & HoE

If there are any comments or defects with a ranking of 1 or 2, the SETL and HOE shall meet within one month of the inspection being issued to determine the extent and timing of works to be undertaken (if any).

6.1.4 ESTC / TA(Structures)

Either compact discs (CD's) of the report in electronic format or hard copies of the report shall be sent to TA(Structures) at the address given in Section 11.3.

6.2 Feedback

Please provide feedback on the following using the Change Proposal Form at Appendix F and send it to the address shown on the form.

- The content and usefulness of the guidance / accompanying software and where it could be improved, e.g. where additional examples may be of benefit.

- Problems encountered in understanding guidance / accompanying software.

- Instances where the accompanying spreadsheet has returned unexpected answers, e.g. where some works would have been expected.

- Areas where training would be of benefit.

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Appendix B

ESTC Standard 6, Part 2 (B&CE), Schedule 1
Explosives Facility Inspection Report

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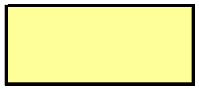
ESTC - STANDARD 6 PART II BUILDING AND CIVIL ENGINEERING

KEY TO BASIC FEATURES

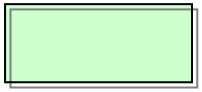


Requires data entry by RPC building inspector

Requires data entry by RPC reviewer

BACK TO ENTRY SCREEN

Requires data entry by ESR reviewer



Help buttons for aiding data input

Action button to move to another worksheet or perform a calculation / macro.

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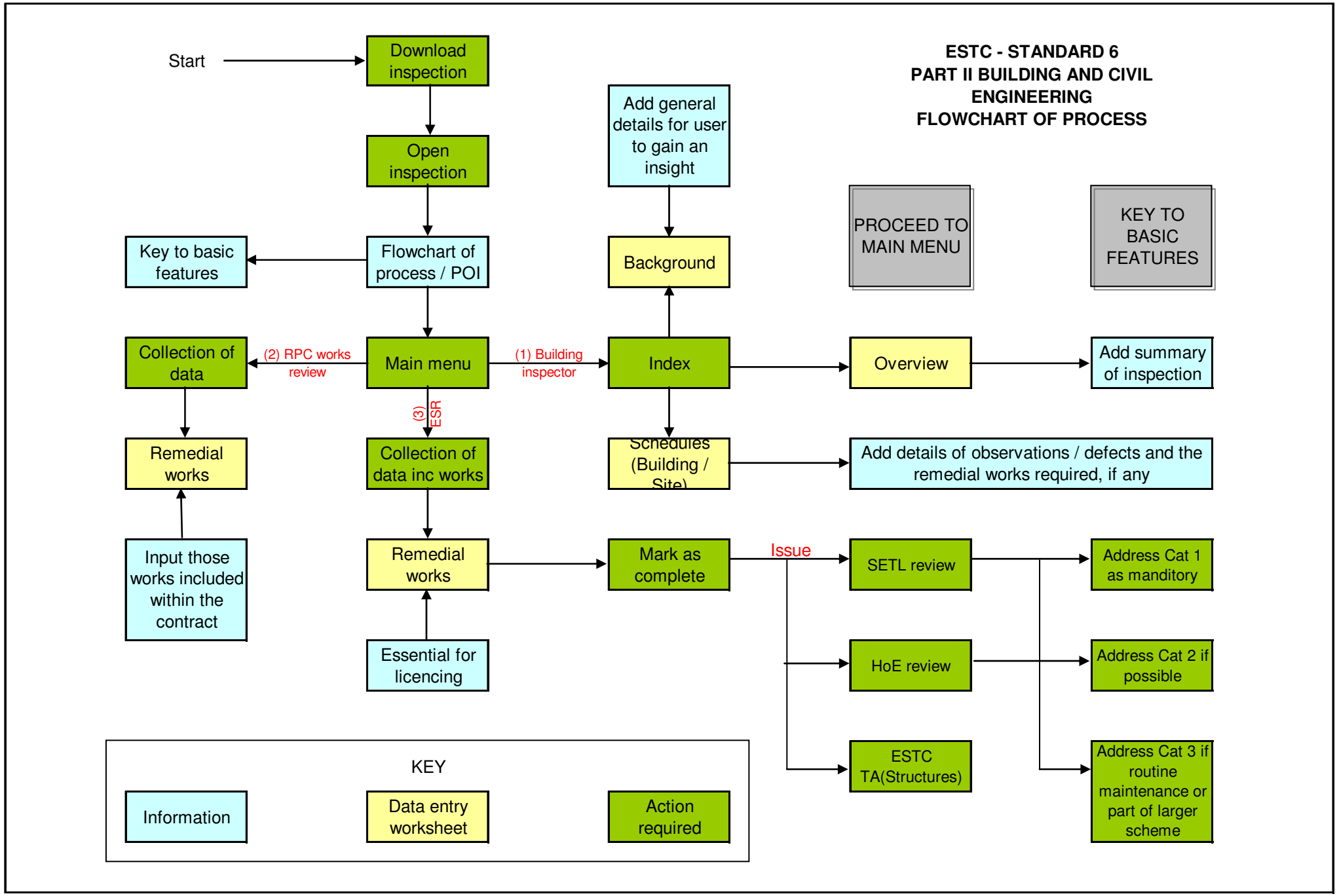
ESTC - STANDARD 6
PART II BUILDING AND CIVIL ENGINEERING
FLOWCHART OF PROCESS
Start
Download inspection
Open inspection
Flowchart of process / POI
Key to basic features
Collection of data
(2) RPC works review
Main menu
(1) Building inspector
(3) ESR
Remedial works
Collection of data inc works
Input those works included within the contract
Remedial works
Essential for licencing
Add general details for user to gain an insight
Background
Index
Schedules (Building / Site)
Mark as complete
PROCEED TO MAIN MENU
KEY TO BASIC FEATURES
Overview
Add summary of inspection
Add details of observations / defects and the remedial works required, if any
Issue
SETL review
HoE review
ESTC TA(Structures)
Address Cat 1 as manditory
Address Cat 2 if possible
Address Cat 3 if routine maintenance or part of larger scheme
KEY
Information
Data entry worksheet
Action required

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WELCOME TO ESTC STANDARD 6 PART II BUILDING AND CIVIL ENGINEERING

All users shall be familiar with the accompanying written standard to ensure that mandatory requirements or relevant guidance are complied with or followed as appropriate

A fresh copy of the spreadsheet must be downloaded for each inspection

Building inspector

Details	
Name and qualifications	
Date undertaken	
Status	
Date complete	
Issued to RPC	

RPC Works Review

Details	
Name	
Date undertaken	
Status	
Date complete	
Issued to ESR	

ESR Works review

Details	
Name	
Date undertaken	
Status	
Date complete	
Issued to SETL	
Issued to IE	
Issued to HOE	
Issued to ESTC TA (Structures)	

FLOWCHART

Info
Version 2.0 Rev 1
Issue Date March 2011

BUILDING INSPECTOR INDEX

WORKS SUMMARY

RPC WORKS REVIEW COLLECTION OF DATA

ESR WORKS REVIEW COLLECTION OF DATA

OVERALL WORKS SUMMARY

PRINT OVERALL WORKS SUMMARY

PRINT ALL SUMMARY SHEETS

ESTC ANALYSIS

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ESTC INSPECTION CHECKLIST - STANDARD 6 PART II BUILDING AND CIVIL ENGINEERING (BUILDING SPECIFIC)

	Structure information review	YES	NO	YES & CORRECTED AS REQ'D	MISTAKE OR MORE INFO REQ'D
	Inspection summary complete	YES	NO	NO - INVALID / NOT STARTED	MISTAKE OR MORE INFO REQ'D
	Building specific elements				
Schedule	External Fabric				
1.1a	Foundations & Structure	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.1b	Exterior Walls & Cladding	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.1c	Flat Roofing	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.1d	Pitched Roofing	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.1e	Fire Escapes	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.1f	External Doors	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.1g	External Decorations	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.1h	Building Drainage	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
	Internal Fabric				
1.2a	Windows	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.2b	Interior Walls	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.2c	Floors	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.2d	Ceiling	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.2e	Internal Doors & Trim	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.2f	Internal decorations	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
	Plumbing / Heating				
1.3a	Hot & Cold Water Pipework	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.3b	Waste Pipework	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.3c	Pipes / Valves / Radiators	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.3d	Sanitary Fittings	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
	Fire				
1.4a	Fire, Cleanliness & Housekeeping	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
	Specialist blast items				
1.5a	Blow out Panels	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.5b	Ventilators	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.5c	Shock Isolators	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.5d	Blast Valves	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.5e	Cable Glands	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
	Traverses and Earth Mounds				
1.6a	Retaining Walls	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
1.6b	Traverse or Earth mound	YES	NO	ELEMENT NOT PRESENT	BUILDING SPECIFIC ELEMENTS COMPLETE

MAIN MENU

STATUS

ERROR
RE-CHECK
DATA ENTRY

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STRUCTURE INFORMATION

SPELL CHECK | INDEX

Site:			
Building No. / Ref.			
Location:	O.S. Northing		
	O.S. Easting		
Structure Description			
Date of construction			
Services present			
Type of facility: e.g. open bay / storage / processing / laboratory / other (specify):			
Facility designation: e.g. conventional building / protective design			
Facility designation: e.g. standard ESH / earth covered magazine / igloo / APB / IWC / other (specify):			
Explosives Type:			

	Works Undertaken	Completion Date	Approx Cost
Maintenance History			

	Inspection Type	Inspection Date	Inspection Reason (if unscheduled)
Inspection History			

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INSPECTION SUMMARY

INDEX

Site			
Building No. / Ref.			
Inspection Type: e.g. Professional / Technical / Other (Specify):			
Inspection date:			
Inspection carried out by:			
Inspection reviewed by:			
Weather conditions:			
Equipment used:			
Parts of Structure Not Inspected			
Inspection Summary			
Overall Condition			
Photograph details:	Title	Location or link:	Date:
Defect sketches details:	Title	Location or link:	Date:

Schedule 1.1a - Level 3 Element - External Fabric

Description of Level 4 sub-element - Foundations & Structure

Help Contents

Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.	L	0	10	New construction or defect is definitely not causing damage to element
				8	Defect is probably causing damage to element or is likely to do so in the near future e.g. concrete hollow / ringing when struck, staining indicating possible failure or exposed and rusting rebar.
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	Defect is causing damage to element but unlikely to be safety critical e.g. concrete spalling to vertical surfaces or extent of areas hollow / ringing when struck has increased since previous inspection. Settlement is pronounced.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.			4	Defect is causing damage to element that is safety critical or is likely to be in the near future e.g. concrete spalling to overhead horizontal surfaces.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.	H	High priority defect is safety critical and should be addressed within 6 months.	2	Defect is causing damage to element such that its stability is thought to be affected or is likely to be in the near future and is considered to be safety critical.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.			0	Item not present

Schedule 1.1a - Level 3 Element - External Fabric

SPELL CHECK | INDEX

Description of Level 4 sub-element - Foundations & Structure

Notes on inspection points:

The primary load bearing elements that form the structure of explosives facilities are required to resist blast and impact loads as well as normal dead & imposed loads, but may not necessarily be specifically designed for these [JSP482, Chapter 6, Paras 7

(a)	Existing structures must be inspected for defects and deterioration including cracking, spalling, reinforcement corrosion, concrete decay (carbonation, aggregate-silica reaction, high alumina cement (HAC) conversion), cutting of unauthorised apertures
(b)	Maintenance and repair must include checking of structural integrity. If this is in doubt, the causes must be investigated and appropriate remedial measures taken. Causes of structural distress include overloading, under-design and loss of strength.
(c)	If HAC is suspected (common in 1950s pre-cast plank roofs), core samples should be taken for analysis and an assessment made of the residual strength of the structure. Load testing may be appropriate to demonstrate the adequacy of weakened structures
(d)	
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JIP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.1b - Level 3 Element - External Fabric

Description of Level 4 sub-element - Exterior Walls & Cladding

Help Contents

Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.	L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.	10	New construction or defect is definitely not causing damage to element
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.			8	Defect is probably causing damage to element or structure or is likely to do so in the near future e.g. cracking (hairline) evident but of little consequence.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	Defect is causing damage to element but unlikely to be safety critical e.g cracking/splitting that has increased in extent since previous inspection. Rot/Damage to timber/metalwork.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.			4	Defect is causing damage to element that is safety critical or is likely to be in the near future e.g cracking in excess of 5mm or that has significantly increased in extent since the previous inspection.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.	H	High priority defect is safety critical and should be addressed within 6 months.	2	Defect is causing damage to element such that the stability of the element is thought to be affected to or is likely to be in the near future and is likely to be safety critical necessitating complete replacement.
				0	Item not present

Schedule 1.1b - Level 3 Element - External Fabric

SPELL CHECK | INDEX

Description of Level 4 sub-element - Exterior Walls & Cladding

Notes on inspection points:

The walls of Potential Explosion Sites (PES) are either lightweight and clad with lightweight steel, aluminium or GRP sheeting in which case they provide no resistance to debris, medium (minimum 215 mm solid or 280 mm cavity masonry walls or 150 mm reinforced concrete) to provide reasonable resistance to fragments and lobbed items of HD 1.2 explosives or heavy (680 mm thick masonry or 450 mm thick concrete walls) to provide resistance to high velocity fragments.

(a)	0
(b)	Construction must remain watertight and elements moisture resistant, particularly at points of fixity.
(c)	
(d)	
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.1c - Level 3 Element - External Fabric

Description of Level 4 sub-element - Flat Roofing

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New condition or defect is definitely not causing damage to element
8	Defect to element e.g. surface cracks but no leakage and of thus presently of no consequence.
6	Defect to element e.g. visible cracking along with ponding / standing water but no leakage and remains functional but concern exists with regard to its long term integrity.
4	Defect to element e.g. intermittent leakage or staining but dry at time of inspection considered to affect is functionality and may become safety critical in the near future.
2	Defect or omissions to element e.g. continuous leakage resulting in ponding of water internally that is affecting its functionality or missing / deteriorated guardrails considered to be safety critical.
0	Item not present

Schedule 1.1c - Level 3 Element - External Fabric

SPELL CHECK | INDEX

Description of Level 4 sub-element - Flat Roofing

Notes on inspection points:

The roofs of Potential Explosion Sites (PES) are either lightweight (in which case they provide no resistance to debris) or heavy (minimum 150mm reinforced concrete) to provide overhead protection from lobbed debris and munitions. Different types of roofs should not generally be mixed on a single establishment. [JSP482Chapter 6 paras 89-91).

(a)	Construction must remain watertight and elements moisture resistant, particularly at points of fixity.
(b)	Spalling (particularly concrete roofs) is unacceptable due to the Health & Safety hazard created by falling debris.
(c)	Inspection of defects associated with safety related components for inspectors and operatives undertaking maintenance works, if present.
(d)	
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work

Effectiveness

Timeframe

Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work

Effectiveness

Timeframe

Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work

Effectiveness

Timeframe

Cost

HELP CONDITION MARK

Schedule 1.1d - Level 3 Element - External Fabric

Description of Level 4 sub-element - Pitched Roofing

Help Contents

Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.	L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.	10	New condition or defect is definitely not causing damage to element
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.			8	Coverings showing signs of deterioration.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	Coverings / Flashings showing signs of failure. Some replacement needed.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.			4	Covering defects allowing leakage through roof. Flashing failures with water penetration.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.	H	High priority defect is safety critical and should be addressed within 6 months.	2	Defect or omissions considered to be safety critical or that could be in the near future e.g. severe leakage, continuous standing water or missing / deteriorated guardrails where required by the Working at Height Regulations.
				0	Item not present

Schedule 1.1d - Level 3 Element - External Fabric

SPELL CHECK | INDEX

Description of Level 4 sub-element - Pitched Roofing

Notes on inspection points:

The roofs of Potential Explosion Sites (PES) are either lightweight (in which case they provide no resistance to debris) or heavy (minimum 150mm reinforced concrete) to provide overhead protection from lobbed debris and munitions. Different types of roof

(a)	Construction must remain watertight and elements moisture resistant.
(b)	Particular attention must be given to waterproof membranes, land & other drains, especially in earth covered/mounded or underground buildings
(c)	Spalling (particularly concrete roofs) is unacceptable due to the Health & Safety hazard created by falling debris.
(d)	Inspection of defects associated with safety related components for inspectors and operatives undertaking maintenance works, if present.
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.1e - Level 3 Element - External Fabric

Description of Level 4 sub-element - Fire Escapes

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New construction or defect is definitely not causing damage to element
8	Defect is likely to causing damage in the near future e.g failure of protective coating, such as flaking paint, but of no consequence at present. Appearance not effected.
6	Defect is causing damage to element e.g deterioration evident although remains functional. Appearance adversely effected.
4	Defect is causing damage that is or is likely to be safety critical in the near future e.g Difficult to secure the facility / ensure protection from the elements or non-compliant defects such as panic bolts not single point release or distances to the relaxed escape requirements but no departure known to exist.
2	Defect is causing damage to element that is safety critical, owing to components being either broken or inoperable (restricting entry and egress) along with defects such as externally lockable or distances exceed the escape requirements so is in breech of the fire regulations.
0	Item not present

Schedule 1.1e - Level 3 Element - External Fabric

SPELL CHECK | INDEX

Description of Level 4 sub-element - Fire Escapes

Notes on inspection points:

The doors of Potential Explosion Sites (PES) are required for explosives safety and should conform to the requirements stated in schedule 1.1f (External Doors) and whilst they can be nominated for access they should be positioned to ensure: The maximum escape distance is 9m if travel is possible in one direction only. The maximum escape distance is 18m if travel is possible in more than one permissible direction except process buildings (or any other occupied explosives facility) which should be 12m. In any case the maximum escape distance may be increased 18m where travel is possible in one direction only, for certain un-occupied storehouses where the provision of alternative means of escape is not possible (e.g. earth-covered storehouses and Igloos), provided approval is granted in advance of construction.

(a)	Escape doors are not normally to be fitted with locks, but are to have approved bolts on the inside and be provided with 'Bales' type catches that will operate by pressure on any part of the door. Panic bolts or latches that conform to BS 5725 may be provided instead of 'Bales' catches if security or other considerations warrant it. Should the escape door be used for access then it can be fitted with an approved lock in lieu of bolts, however, this lock must only be operable from the outside of the door
(b)	An entrance step may be provided at fire escapes to protect stocks against ingress of dirt or water but the height of this is not to exceed 75 mm and ramps must always be fitted.
(c)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.1f - Level 3 Element - External Fabric

Description of Level 4 sub-element - External Doors

Help Contents

Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.	L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.	10	New construction or defect is definitely not causing damage to element
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.			8	Defect is probably causing damage to element or is likely to do so in the near future e.g failure of protective coating, such as flaking paint, but of no consequence at present. Appearance not effected.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	Defect is causing damage to element e.g deterioration evident although remains functional. Appearance adversely effected.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.			4	Defect is causing damage to element that is safety critical or is likely to be in the near future e.g extent of deterioration is such that it is becoming difficult to secure the facility / ensure protection to the outside elements. Doors inadequate for intended function.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.	H	High priority defect is safety critical and should be addressed within 6 months.	2	Defect is causing damage to element that is considered to be safety critical, owing to components being either broken or inoperable restricting entry and egress such that it is in breech of the fire regulations, which necessitates complete replacement.
				0	Item not present

Schedule 1.1f - Level 3 Element - External Fabric

SPELL CHECK | INDEX

Description of Level 4 sub-element - External Doors

Notes on inspection points:

The doors of Potential Explosion Sites (PES) are required for explosives safety but must also satisfy physical security. Therefore, potential holdings of HD 1.1 or HD 1.2 require that a mild steel plate of 50mm / 16mm thickness be provided for heavy and medium walled construction respectively. Otherwise, a mild steel plate of 6.0mm or 1.6mm (with 40mm hardwood backing) thickness is sufficient.

(a)	Inspection for defects and deterioration depending on material, along with cutting of unauthorised apertures.
(b)	Doors must be adjusted to ensure alignment of locks and shoot bolts. Locks must operate smoothly and lock properly. Moving parts should be suitably lubricated. Distorted anti-tamper devices must be replaced to prevent unwanted lock out. Exposed keyholes must be protected with weatherproof escutcheon plates to prevent water penetration.
(c)	Nuts, bolts and fixings must be kept tight. Mechanical opening gear must operate smoothly and engage properly. Moving parts must be suitably lubricated. Channels and grooves must be cleared of rubbish and debris that might impede smooth operation of the door. Damaged seals must be replaced.
(d)	Water penetration beneath doors should be prevented by threshold bars or, where these would cause problems with mechanical handling equipment, other appropriate measures.
(e)	Special blast doors may be provided on some protective buildings (e.g. Igloos) to prevent ingress of blast pressure. They are often heavy and constructed to close tolerances. These doors must be inspected for jamming, distortion, breakdown of mechanical opening gear, seizing of locks, defects in seals, damage to runners, rusting and concrete deterioration.

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.1g - Level 3 Element - External Fabric

Description of Level 4 sub-element - External Decorations

Help Contents

Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.	L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.	10	New construction or defect is definitely not causing damage to element
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.			8	Deterioration of protective coating e.g. finishes show deterioration blemishes/marks/scrapes but of no consequence. No immediate need for redecoration.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	Deterioration of protective coating could be concealing damage to element e.g. finishes are flaking such that defects to elements are difficult to determine but probably none of any consequence.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.			4	Deterioration of protective coating is likely to be concealing damage to element e.g finishes are flaking such that defects to the element are difficult to determine and requires removal to ascertain the extent of repair required, if any. Appearance adversely affected.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.	H	High priority defect is safety critical and should be addressed within 6 months.	2	Deterioration of protective coating is such that complete removal is required in order to undertake obvious repairs to elements.
				0	Item not present

Schedule 1.1g - Level 3 Element - External Fabric

SPELL CHECK | INDEX

Description of Level 4 sub-element - External Decorations

Notes on inspection points:

PES do not generally require any decoration although in hot climates external walls may be painted white to reflect heat.

(a)	Inspection to ensure surfaces are free of leachates such that defects to the underlying element are not concealed, which may necessitate cleaning.
(b)	
(c)	
(d)	
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.1h - Level 3 Element - External Fabric

Description of Level 4 sub-element - Building Drainage

Help Contents

Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.	L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.	10	New construction or defect is definitely not causing damage to element
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.			8	Deterioration of protective coating e.g. finishes show deterioration blemishes/marks/scrapes or odd re-clipping needed but of no consequence. No immediate need for redecoration.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	Deterioration of protective coating is significant but is known not to contain asbestos / lead. Otherwise, defect could be causing damage to adjacent element but not verified e.g. staining to adjacent structure indicating leakage at the joints or from damaged components but dry on inspection.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.			4	Deterioration of protective coating is significant and either contains asbestos / lead or details not known. Otherwise, defect is probably causing damage to adjacent element e.g. leakage at the joints or from damaged components.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.	H	High priority defect is safety critical and should be addressed within 6 months.	2	Defect is clearly causing damage to adjacent element e.g. pipework/gutter broken/missing or blocked which will require complete replacement that may necessitate other repairs.
				0	Item not present

Schedule 1.1h - Level 3 Element - External Fabric

SPELL CHECK | INDEX

Description of Level 4 sub-element - Building Drainage

Notes on inspection points:

PES do not generally require any additional requirements than normal construction for drainage apart from ensuring the avoidance of water through door openings by having the external slab falling away from the building.

(a)	Gutters, downpipes, traps and drains must be kept clear of accumulation of detritus to limit the risk of water penetration into buildings.
(b)	Drains from laboratories are to have a suitable trap fitted in order to intercept any explosives residues. Inspection and cleaning must be carried out by an approved specialist firm. Traps and drains must be regularly cleaned to prevent any accumulation of residue.
(c)	Profile fibre cement products that were typically used for rainwater downpipes could contain an asbestos content with the Control of Asbestos Regulations 2006 requiring the identification and management of this risk.
(d)	Down pipes and guttering manufactured from cast iron or lead should be protected from the elements to avoid splitting / cracking whilst the previous use of hazardous substances, such as lead paint, should be identified to protect the health of operatives undertaking future maintenance works.
(e)	The fixings for downpipes and gutters should be free from leakage at joints, where they have worked loose or corroded, which is usually evident by staining or algae on the adjacent masonry.

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.2a - Level 3 Element - Internal Fabric

Description of Level 4 sub-element - Windows

Help Contents					
Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.	L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.	10	New condition or defect is definitely not causing damage to element
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.			8	Finishes show deterioration blemishes/marks/scrapes or poor installation resulting in drafts although element remains functional and defect of little consequence.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	Defect is probably causing damage to element or is likely to do so in the near future e.g failure of protective coating, such as flaking paint, but of no consequence at present. Appearance not unduly affected.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.			4	Defect is causing damage to element or is likely to be in the near future that could be safety critical but not possible to verify at this inspection e.g damage to anti-shatter film or considered to be time expired.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.	H	High priority defect is safety critical and should be addressed within 6 months.	2	Defect is causing damage to element that is safety critical or is likely to be in the near future e.g extent of deterioration is such that it is becoming difficult to secure the facility / ensure protection from the elements and necessitates replacement. Windows inadequate for intended function.
				0	Item not present

Schedule 1.2a - Level 3 Element - Internal Fabric

SPELL CHECK | INDEX

Description of Level 4 sub-element - Windows

Notes on inspection points:

Windows are provided in some Process Buildings for natural light. Windows are not normally provided in explosives storage facilities. [JSP482 Chapter 6 §104-110, Table 2 and ESTC Standard 5]
Glazing material must, in the event of an external explosion (either accidental or from terrorist type devices), limit the glass fragment hazard to occupants. New and replacement glazing should be laminated or toughened and must generally comply with Table 2 of JSP482 Chapter 6.

(a)	Minimum mandated glazing Standards must be achieved and maintained in a fit state in accordance with DE Design & Maintenance Guide DMG02 "Glazing Standards for MOD Buildings subject to Terrorist Threats".
(b)	Anti-shatter Film has only a 10-15 year life expectancy. ASF, where fitted, must be inspected and tested for ultra-violet light degradation and physical damage in accordance with the requirements and timings mandated in DMG02, and replaced as necessary.
(c)	Polycarbonate glass must be inspected for ultra-violet light deterioration and physical/solvent damage, and replaced as necessary.
(d)	
(e)	

Category
No Defect Observed
Anomaly with JSP 482 Requirements
Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category
No Defect Observed
Anomaly with JSP 482 Requirements
Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category
No Defect Observed
Anomaly with JSP 482 Requirements
Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.2b - Level 3 Element - Internal Fabric

Description of Level 4 sub-element - Interior Walls

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New construction or defect is definitely not causing damage to element
8	Finishes show deterioration blemishes/marks/scrapes but of no consequence.
6	Defect is causing damage to element e.g. concrete spalling to vertical surfaces or extent of areas hollow / ringing when struck has increased since previous inspection.
4	Defect is causing damage to element that is unlikely to be safety critical but not possible to verify at this inspection e.g. absence or omission of finish to localised area of repair where it has obviously been provided elsewhere.
2	Defect is causing damage to element that it is considered to be safety critical e.g. spalled concrete exposing rebar that could be in contact with explosives in transit.
0	Item not present

Schedule 1.2b - Level 3 Element - Internal Fabric

SPELL CHECK | INDEX

Description of Level 4 sub-element - Interior Walls

Notes on inspection points:

PES may contain internal walls of mass or reinforced concrete, with surface hardeners applied. In addition, some have 'special' surface finishes for which special care must be taken (see below for details).

(a)	Inspection to ensure surfaces are free of leachates such that defects to the underlying element are not concealed, which may necessitate cleaning.
(b)	The inspection should identify defects and deterioration including crazing, cracking, spalling, surface break-up, settlement, deflection, surface dusting and dampness. Additionally, those sensitive to sparks or friction are not to have any exposed iron, steel, aluminium or aluminium alloy containing more than 1% of magnesium where it may come into contact with explosive substances.
(c)	Repairs must also be inspected for compliance (including checking of the surface condition). Repairs must be level, smooth and durable. Significant surface deterioration must have been cut back and reinstated with a repair screed appropriate to the usage. Exposed concrete surfaces must be treated with a surface hardener such as sodium silicate solution to inhibit dusting.
(d)	All repairs with special surface finishes must have been carried out using materials that are compatible with, and give equivalent performance to, the existing materials. Where exposed explosives are present (usually in specialist processing only), the chemical compatibility must be assured. Guidance must be sought from the IE.

Category	Record of defects observed together with its extent & severity:	Condition mark:
No Defect Observed		
Anomaly with JSP 482 Requirements		
Defect or Observation		

Recommended repair / remedial work	Effectiveness	Timeframe	Cost	
				HELP EFFECTIVENESS

Category	Record of defects observed together with its extent & severity:	Condition mark:
No Defect Observed		
Anomaly with JSP 482 Requirements		
Defect or Observation		

Recommended repair / remedial work	Effectiveness	Timeframe	Cost	
				HELP TIMEFRAME

Category	Record of defects observed together with its extent & severity:	Condition mark:
No Defect Observed		
Anomaly with JSP 482 Requirements		
Defect or Observation		

Recommended repair / remedial work	Effectiveness	Timeframe	Cost	
				HELP CONDITION MARK

Schedule 1.2c - Level 3 Element - Internal Fabric

Description of Level 4 sub-element - Floors

Help Contents

Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.	L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.	10	New construction or defect is definitely not causing damage to element
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.			8	Finishes show deterioration blemishes/marks/scrapes but of no consequence.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	Defect is causing damage to element that could reduce its functionality in the near future e.g. crazing of the floor slab / screed / finish, evidence of structural failure/sagging which has increased in extent since previous inspection.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.			4	Defect is causing damage to element that is unlikely to be safety critical but not possible to verify at this inspection e.g. absence or omission of finish to localised area of repair where it has obviously been provided elsewhere or staining adjacent anti static surface (if present) but appears dry at present.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.	H	High priority defect is safety critical and should be addressed within 6 months.	2	Defect is causing damage to element that it is considered to be safety critical e.g. cracking and / or spalling of concrete surfaces that could be affect the safe transit of explosives or damp areas adjacent to anti static surface finish if present.
				0	Item not present

Schedule 1.2c - Level 3 Element - Internal Fabric

SPELL CHECK | INDEX

Description of Level 4 sub-element - Floors

Notes on inspection points:

Ground floor slabs in explosives facilities may be required to support heavy stacks of explosives and mechanical handling equipment. They are generally of mass or reinforced concrete, with surface hardeners applied. In addition, some floors have 'special' surface finishes for which special care must be taken.

(a)	Floors must be inspected for defects and deterioration including crazing, cracking, spalling, surface break-up, settlement, deflection, surface dusting and dampness.
(b)	Repairs must also be inspected for compliance (including checking of the surface condition). Repairs must be level, smooth and durable. Significant surface deterioration must have been cut back and reinstated with a repair screed appropriate to the usage. Exposed concrete surfaces must be treated with a surface hardener.
(c)	All repairs to floors with special surface finishes must have been carried out using materials that are compatible with, and give equivalent performance to, the existing materials. Where exposed explosives are present (usually in specialist processing only), the chemical compatibility must be assured. Guidance must be sought from the IE.
(d)	
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.2d - Level 3 Element - Internal Fabric

Description of Level 4 sub-element - Ceiling

Help Contents

Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.	L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.	10	New construction or defect is definitely not causing damage to element
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.			8	Finishes show deterioration blemishes/marks/scrapes but of no consequence.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	Defect is causing damage to element e.g. staining or discoloration of tiles indicating possible moisture ingress.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.			4	Defect is causing damage to element but is unlikely to be safety critical e.g. loose tiles.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.	H	High priority defect is safety critical and should be addressed within 6 months.	2	efect is causing damage to element that it is considered to be safety critical e.g. alignment of hanger uneven resulting from damage of suspension wires / fixings or one of the prohibited materials that could be in contact with explosives in transit.
				0	Item not present

Schedule 1.2d - Level 3 Element - Internal Fabric

SPELL CHECK | INDEX

Description of Level 4 sub-element - Ceiling

Notes on inspection points:

PES do not generally require an interior ceiling although in hot climates this may be required to keep the contents as cool as possible.

(a)	Inspection for defects and deterioration depending on material, along with cutting of unauthorised apertures. Additionally, those sensitive to sparks or friction are not to have any exposed iron, steel, aluminium or aluminium alloy containing more than 1% of magnesium where it may come into contact with explosive substances.
(b)	
(c)	
(d)	
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.2e - Level 3 Element - Internal Fabric

Description of Level 4 sub-element - Internal Doors & Trim

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New construction or defect is definitely not causing damage to element
8	Finishes show deterioration blemishes/marks/scrapes or poor installation resulting in drafts although element remains functional and defect of little consequence.
6	Defect is probably causing damage to element or is likely to do so in the near future e.g failure of protective coating, such as flaking paint, but of no consequence at present. Appearance not unduly affected.
4	Defect is causing damage to element or is likely to be in the near future that could be safety critical but not possible to verify at this inspection e.g damage to anti-shatter film or considered to be time expired.
2	Defect or non compliance is causing element to be safety critical e.g overhead swing not present or functional, anti-shatter film not present if not laminated glazing or doors stick.
0	Item not present

Schedule 1.2e - Level 3 Element - Internal Fabric

SPELL CHECK | INDEX

Description of Level 4 sub-element - Internal Doors & Trim

Notes on inspection points:

PES do not generally require any standard than would ordinarily be provided for conventional construction although glazed panels should limit the glass fragment hazard to occupants in the event of an external explosion (either accidental or from terrorist type devices) in accordance with schedule 1.2a.

(a)	Inspection for defects and deterioration depending on material, along with cutting of unauthorised apertures.
(b)	Nuts, bolts and fixings must be kept tight. Mechanical opening gear must operate smoothly and engage properly. Moving parts must be suitably lubricated. Channels and grooves must be cleared of rubbish and debris that might impede smooth operation of the door. Damaged seals must be replaced.
(c)	Internal doors, particularly those designated as a fire escapes, are not normally to be fitted with locks but panic bolts or latches that conform to BS 5725 may be provided if security or other considerations exist.
(d)	
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.2f - Level 3 Element - Internal Fabric

Description of Level 4 sub-element - Internal decorations

Help Contents

Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.	L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.	10	New construction or defect is definitely not causing damage to element
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.			8	Finishes show deterioration blemishes/marks/scrapes but of no consequence.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	Defect is causing damage to element e.g. equipment fixed to the walls where the fixings are known to be compliant.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.			4	Defect is causing damage to element that is unlikely to be safety critical e.g. equipment fixed to the walls where the fixings are obviously non compliant or details are not known and cannot be ascertained.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.	H	High priority defect is safety critical and should be addressed within 6 months.	2	Defect is causing damage to element that it is considered to be safety critical e.g. absence or omission of finish to localised area of repair where it has obviously been provided elsewhere.
				0	Item not present

Schedule 1.2f - Level 3 Element - Internal Fabric

SPELL CHECK | INDEX

Description of Level 4 sub-element - Internal decorations

Notes on inspection points:

PES do not generally require any decoration although some have 'special' surface finishes for which special care must be taken (see below for details).

(a)	All repairs with special surface finishes must have been carried out using materials that are compatible with, and give equivalent performance to, the existing materials. Where exposed explosives are present (usually in specialist processing only), the chemical compatibility must be assured. Guidance must be sought from the IE.
(b)	Fixing of equipment to concrete walls subject to high shock loads from an explosion shall be avoided where possible because of the potential debris hazard that could arise from dislodged equipment items. However, where this is unavoidable then under-reamed anchors, or other suitable types, which have been demonstrated to be able to perform adequately in cracked concrete shall be utilised. Parallel expanding anchors shall not be used in such locations.
(c)	
(d)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.3a - Level 3 Element - Plumbing / Heating

Description of Level 4 sub-element - Hot & Cold Water Pipework

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New construction or defect is definitely not causing damage to element
8	Element is not likely (no visible evidence or records not available) to have been subject to routine maintenance e.g. fluids to protect against internal corrosion and lime scale formation in previous 24 months but appears functional thus of no consequence.
6	Element is susceptible to defects e.g. external pipes are prone to damage either accidental or through freeze thaw and could thus affect its functionality in the near future but of no consequence.
4	Element contains deficiencies e.g. missing guard / items stored within 0.5m of the heat source or leakage suspected owing to staining such that degradation of the adjacent explosives is possible and could become safety critical in the near future.
2	Defect is clearly causing damage to element e.g. leakage that is affecting its functionality and possibly causing degradation of the adjacent explosives so is safety critical.
0	Item not present

Schedule 1.3a - Level 3 Element - Plumbing / Heating

SPELL CHECK | INDEX

Description of Level 4 sub-element - Hot & Cold Water Pipework

Notes on inspection points:

PES that contain hot and cold water pipework associated with radiators or sanitary fittings should comply with standard industry arrangements

(a)	Inspection for defects and deterioration that could result in leakage.
(b)	Explosives should be prevented from coming into contact, or within 0.5m, of a heated surface and pipes or radiators fitted with guards that are designed such that items cannot be placed on them (e.g. they are to have sloping tops).
(c)	
(d)	
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.3b - Level 3 Element - Plumbing / Heating

Description of Level 4 sub-element - Waste Pipework

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New construction or defect is definitely not causing damage to element
8	Element is not likely (no visible evidence or records not available) to have been subject to routine maintenance e.g. jetting in previous 24 months but appears functional thus presently of no consequence.
6	Element is susceptible to defects that could cause damage e.g. external pipes are notoriously prone to damage either accidental or through freeze thaw and could thus affect its functionality in the near future but presently of no consequence.
4	Element contains deficiencies e.g. leakage suspected owing to staining such that degradation of the adjacent explosives is possible and could thus affect its functionality or become safety critical in the near future.
2	Defect is clearly causing damage to element e.g. leakage that is affecting its functionality and possibly causing degradation of the adjacent explosives so is thus considered to be safety critical.
0	Item not present

Schedule 1.3b - Level 3 Element - Plumbing / Heating

SPELL CHECK | INDEX

Description of Level 4 sub-element - Waste Pipework

Notes on inspection points:

PES that contain waste pipework associated with radiators or sanitary fittings should comply with standard industry arrangements

(a)	Inspection for defects and deterioration that could result in leakage.
(b)	
(c)	
(d)	
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.3c - Level 3 Element - Plumbing / Heating

Description of Level 4 sub-element - Pipes / Valves / Radiators

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New construction or defect is definitely not causing damage to element
8	Defect to element e.g. blemishes/marks/scrapes but of no consequence.
6	Element is a portable piece of equipment although compliant in all other respects e.g. temperature maintained within the above limits, guard of correct design present and proximity to explosives maintained such that it is presently of no consequence.
4	Element appears functional although its proximity or components are deficient e.g. missing thermometer / guard or items are stored directly or within 0.5m of the heat source such that degradation of the explosives is possible in the near future and is thus deemed to be safety critical.
2	Defect to element e.g. non-functional such that the temperature is outside the above limits that is likely to be causing degradation of the explosives and is thus deemed to be safety critical.
0	Item not present

Schedule 1.3c - Level 3 Element - Pipes / Valves / Radiators

SPELL CHECK | INDEX

Description of Level 4 sub-element - Pipes / Valves / Radiators

Notes on inspection points:

All explosives storehouses should be so designed and equipped that the inside temperature stays between 5 degrees and 25 degrees, which may necessitate the installation of permanent heating equipment (portable equipment is not permitted)

(a)	Inspection for defects and deterioration.
(b)	Explosives should be prevented from coming into contact, or within 0.5m, of a heated surface and pipes or radiators fitted with guards that are designed such that items cannot be placed on them (e.g. they are to have sloping tops).
(c)	Ammunition depots are to be provided with wet and dry bulb thermometers, as some explosives are temperature susceptible, to confirm that the above requirements are satisfied.
(d)	
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.3d - Level 3 Element - Plumbing / Heating

Description of Level 4 sub-element - Sanitary Fittings

Help Contents

Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.	L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.	10	New construction or defect is definitely not causing damage to element
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.			8	Element contains blemishes/marks/scrapes although remains functional and of little consequence
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	Defect or damage to the element e.g. crazed porcelain although remain functional. Appearance adversely affected.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.			4	Defect or damage to the element e.g. seals leaking and whilst it remains functional it could become safety critical in the near future.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.	H	High priority defect is safety critical and should be addressed within 6 months.	2	Defect or damage to the element e.g. cracked or broken porcelain that is causing it to be non functional and is also deemed to be safety critical
				0	Item not present

Schedule 1.3d - Level 3 Element - Plumbing / Heating

SPELL CHECK | INDEX

Description of Level 4 sub-element - Sanitary Fittings

Notes on inspection points:

PES that contain sanitary fittings should comply with standard industry arrangements.

(a)	Inspection for defects and deterioration that could result in leakage.
(b)	
(c)	
(d)	
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.4a - Level 3 Element - Fire

Description of Level 4 sub-element - Fire, Cleanliness & Housekeeping

Help Contents

Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.	L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.	10	New construction or defect is definitely not causing damage to element
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.			8	The documentation or testing appears from the Log Book to be overdue by up to a month, when assessed against the above criterion and whilst the functionality of the element is unknown it is unlikely to be safety critical.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	The documentation or testing appears from the Log Book to be overdue by up to six months, when assessed against the above criterion and whilst the functionality of the element is unknown it is unlikely to be safety critical.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.			4	The documentation is not available or testing appears from the Log Book to be overdue by more than six months, when assessed against the above criterion and consequently whilst the functionality of the elements is unknown it could be safety critical either now or in the near future.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.	H	High priority defect is safety critical and should be addressed within 6 months.	2	Element appears deficient e.g damaged and as such it is likely to be safety critical but verification by a competent person should be sought.
				0	Item not present

Schedule 1.4a - Level 3 Element - Fire

SPELL CHECK | INDEX

Description of Level 4 sub-element - Fire, Cleanliness & Housekeeping

Notes on inspection points:

PES fire safety is ensured through a Fire Safety Management Plan that contains the risk assessment, requiring regular testing, necessary to establish the ALARP principle along with the Pre-Fire plan. Consequently this inspection is limited to ensuring compliance with the above along with identifying recording any obvious defects that require immediate specialist inspection.

(a)	All documentation is to be updated as necessary, but as a minimum reviewed annually.
(b)	Fire alarm call points and emergency telephones are to be plainly visible in the dark, readily accessible at all times, and positioned so as to minimize any delay in raising the alarm. Fire alarm devices may be mechanical and tested monthly or preferably electrical 'break glass' type and tested weekly. A record shall be maintained of all testing undertaken.
(c)	Practices designed to test the efficiency of the local arrangements are to be conducted at irregular intervals at least twice per annum, with special attention being given to outbreaks during silent hours. Additionally, fire and evacuation drills must be carried out for process buildings at least every 6 months. All available exits must be used during the evacuation drill. Records of the exercises must be maintained and where appropriate post exercise reports prepared.
(d)	PES are to be provided with a plate bearing a sign to denote the HD to which they belong along with supplementary fire signs as required
(e)	First aid fire fighting appliances are recommended in British Standard Code of Practice BS 5306 Part 3 to be serviced at least annually by a 'competent' person in accordance with the BAFE SP101 quality sector scheme. Consequently, the site record should be inspected for compliance as PES is subject to provision when occupied.

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.5a - Level 3 Element - Specialist blast items

Description of Level 4 sub-element - Blow out Panels

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New construction or defect is definitely not causing damage to element
8	Defect to element e.g. blemishes/marks/scrapes but of no consequence
6	Element appears to be deficient in accordance with the security requirement of the building e.g. omission of security barset inside the vent panel but is functional for intended purpose.
4	Defect is causing damage to element e.g. deterioration of fixings that control the sequence of failure and could affect functionality in the near future.
2	Defect is causing damage to element e.g. cutting of unauthorised apertures that is likely to affect its functionality or a line of sight exists between frangible walls in adjacent PES and is thus considered to be safety critical.
0	Item not present

Schedule 1.5a - Level 3 Element - Specialist blast items

SPELL CHECK | INDEX

Description of Level 4 sub-element - Blow out Panels

Notes on inspection points:

Some explosives buildings (particularly process buildings and those storing bulk HD1.3.3 propellants) have light-weight, frangible blow-out panels to provide venting and reduce build up of blast pressure.

(a)	Inspection for defects and deterioration including cracking, corrosion and cutting of unauthorised apertures
(b)	Repairs should generally use similar material to the original. The weight and strength of the panels must not be increased without approval from the Inspector of Explosives and the recommendation of TA (Structures).
(c)	The frangible wall/panel must meet the security requirements of the building this may be best achieved by using a separate and approved security barset inside the vent panel which does not compromise the vent operation and has a further advantage of improving resistance to external blast pressures
(d)	A line of sight must not exist between frangible walls in adjacent PES
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.5b - Level 3 Element - Specialist blast items

Description of Level 4 sub-element - Ventilators

Help Contents

Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.	L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.	10	New construction or defect is definitely not causing damage to element
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.			8	Defect to element e.g. blemishes/marks/scrapes but of no consequence.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	Element contains deficiencies e.g. plates corroding / inadequate thickness or integrity of fixings insufficient although is considered functional for its intended purpose.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.			4	Defect to element e.g. omission of cover plate where air bricks are in-line, such that moisture ingress (from the elements) is possible that would cause deterioration of the explosives and could be penetrated by fragments in the event of an incident so is thus considered to be affecting its functionality
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.	H	High priority defect is safety critical and should be addressed within 6 months.	2	Defect to element e.g. debris accumulation or dehumidification equipment provided but appears non-functional, such that ventilation may be partially restricted that could result in significant health issues / deterioration of explosives thus safety critical.
				0	Item not present

Schedule 1.5b - Level 3 Element - Specialist blast items

SPELL CHECK | INDEX

Description of Level 4 sub-element - Ventilators

Notes on inspection points:

PES should be kept as dry and temperate as possible. Explosives buildings should be well ventilated to limit deterioration of the stored explosives and prevent build-up of decomposition gasses. This is generally satisfied by high and low level ventilators, which should be provided in all buildings and compartments that are not air conditioned, although this may be supplemented by dehumidification equipment if necessary.

(a)	Inspection for defects or damage that could affect airflow under normal operating conditions.
(b)	Ventilators should provide resistance to penetration by fragments whilst complying with the security requirements for the building, which is likely to necessitate air bricks being staggered horizontally between inner and outer leaves with those provided to solid masonry or reinforced concrete walls protected by 6mm thick mild-steel cover-plates giving line-of-sight protection + 50mm in all directions.
(c)	Ventilators are to be fitted with suitable metal shields to prevent the ingress of rain or snow as required.
(d)	
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.5c - Level 3 Element - Specialist blast items

Description of Level 4 sub-element - Shock Isolators

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New construction or defect is definitely not causing damage to element
8	Defect to element such as debris accumulation to a single isolator that could affect its performance although it is likely to remain functional for its intended purpose.
6	Defect to element has increased in extent since previous inspection such as debris accumulation to isolator(s) or probably approaching its design life resulting in the possibility of it becoming inadequate for its intended purpose in the near future.
4	Defect to element such as possible misalignment of isolator(s) or likely to have exceeded its design life resulting in it probably being inadequate for its intended purpose although confirmation should be sought from a ‘competent’ person.
2	Defect to element such as cracking or de-lamination resulting in it likely to be inadequate for its intended purpose although confirmation should be sought from a ‘competent’ person.
0	Item not present

Schedule 1.5c - Level 3 Element - Specialist blast items

SPELL CHECK | INDEX

Description of Level 4 sub-element - Shock Isolators

Notes on inspection points:

PES containing shock isolators will probably be limited to process buildings, if present, in order to ensure that the motion on equiptment from a blast is such that it would remain operational. This may be applied locally, through individual bearings, or globally to the room as a whole.

(a)	Inspection for defects or deterioration such as mis-alignment, de-lamination or cracking to the isolator body, springs and mountings that would affect performance.
(b)	Shock isolators must be inspected for freedom to deflect under shock loading.
(c)	
(d)	
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.5d - Level 3 Element - Specialist blast items

Description of Level 4 sub-element - Blast Valves

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New construction or defect is definitely not causing damage to element
8	Defect to element e.g. blemishes/marks/scrapes but of no consequence.
6	Element contains deficiencies e.g. corrosion that could affect the springs or integrity of the unit in the near future but remains functional for its intended purpose.
4	Defect to element e.g. corrosion has increased since previous inspection or orientation appears incorrect resulting in the displacement of the springs, thus its functionality in the event of an incident, being limited and is thus safety critical although continues to provide ventilation.
2	Defect to element e.g. debris accumulation such that ventilation may be partially restricted that could result in significant health issues / deterioration of explosives and is thus considered to be safety critical.
0	Item not present

Schedule 1.5d - Level 3 Element - Specialist blast items

SPELL CHECK | INDEX

Description of Level 4 sub-element - Blast Valves

Notes on inspection points:

PES can contain blast valves to prevent ingress of sudden outside air pressure changes to buildings through air ducts, where it would do substantial harm to occupants and equipment, by displacing springs to temporarily close the ventilation. Whilst this can take various forms the most likely is a metal 'air brick' type.

(a)	Blast valves must be inspected for corrosion or damage to the valve body and springs.
(b)	Blast valves must be inspected for freedom of movement of the valve closure mechanism.
(c)	Blast valves must be inspected for unobstructed airflow under normal operating conditions.
(d)	Blast valves must be inspected for dirt, debris and rubbish that might obstruct smooth operation.
(e)	Blast valves must be inspected for correct orientation in frame (sometimes installed back to front).

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.5e - Level 3 Element - Specialist blast items

Description of Level 4 sub-element - Cable Glands

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New construction or defect is definitely not causing damage to element
8	to element e.g. blemishes/marks/scrapes but of no consequence.
6	Defect is unlikely to be causing damage to element e.g. body / outer housing covered in dirt or hostile substance (solvents and other foreign bodies) although environmental seal appears to be intact (components are metal to metal with no thread exposed) thus currently of little consequence.
4	Defect is possibility causing damage to element or is likely to do so in the near future e.g. body / outer housing may not be providing an effective environmental seal as threads are exposed / visible indicating that it is not fully tightened or insufficient fixity although its location is such that it will probably remain functional.
2	Defect to element e.g. cable wire exposed owing to sheathing stopping short of gland and is thus safety critical.
0	Item not present

Schedule 1.5e - Level 3 Element - Specialist blast items

SPELL CHECK | INDEX

Description of Level 4 sub-element - Cable Glands

Notes on inspection points:

PES containing cable glands will probably be limited to process buildings, if present, in order to retain electrical cable entering a piece of equipment and form a seal between the internal / external surfaces.

(a)	The gland should be manufactured from a material that is suitable for the surrounding enviroment and will not react adversely with the material of the enclosure into which it is installed. In particular it should be noted that Brass, the standard material for metalic glands, can react adversely with Aluminium, if moisture becomes present bi-metalic corrosion can occur.
(b)	
(c)	
(d)	
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.6a - Level 3 Element - Traverses and Earth Mounds

Description of Level 4 sub-element - Retaining Walls

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New construction or defect is definitely not causing damage to element
8	Defect is possibly causing damage to element or is likely to do so in the near future e.g. cracking (hairline) evident but of little consequence.
6	Defect is likely to be causing damage to element or is likely to do so in the near future e.g. concrete hollow / ringing when struck
4	Defect is causing damage to element e.g. concrete spalling to vertical surfaces or extent of areas hollow / ringing when struck has increased since previous inspection or leachates / staining at cracks indicating possible blockage to the drainage system and whilst unlikely to be safety critical it could affect its capacity in the near future. Appearance adversely affected.
2	Defect or omissions considered to be safety critical or that could be in the near future e.g. bulging affecting stability or missing / deteriorated guardrails where required by the Working at Height Regulations.
0	Item not present

Schedule 1.6a - Level 3 Element - Traverses and Earth Mounds

SPELL CHECK | INDEX

Description of Level 4 sub-element - Retaining Walls

Notes on inspection points:

Traverses are provided around explosives facilities primarily to intercept low angle high velocity primary fragments & debris to prevent initiation of explosives in adjacent stacks and are normally formed with concrete or masonry and backed with earth fill (refer to schedule for Traverse or Earth Mound).

(a)	Inspection for defects and deterioration including cracking, spalling, reinforcement corrosion, concrete decay (carbonation, aggregate-silica reaction, high alumina cement (HAC) conversion, cutting of unauthorised apertures and rot depending on material.
(b)	Maintenance and repair must include checking of structural integrity. If this is in doubt, the causes must be investigated and appropriate remedial measures taken. Causes of structural distress include overloading, under-design and loss of strength.
(c)	Inspection of defects associated with safety related components for inspectors and operatives undertaking maintenance works, if present.
(d)	
(e)	

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 1.6b - Level 3 Element - Traverses and Earth Mounds

Description of Level 4 sub-element - Traverse or Earth mound

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated design life.
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New construction or defect is definitely not causing damage to element
8	Defect is possibly causing damage to element or is likely to do so in the near future e.g. drainage system not known to have been cleaned in the past 24 months (if present) or evidence of burrowing that could cause seepage but currently of little consequence.
6	Defect is likely to be causing damage to element or is likely to do so in the near future e.g. drainage system appears blocked / not known to have been cleaned in the past 48 months (if present) or extent of burrowing is significant and could cause seepage.
4	Defect is causing damage to element e.g. settlement probably from poor compaction and whilst unlikely to be safety critical it could affect its functionality in the near future.
2	Defect considered to be safety critical or could be in the near future e.g. slippage or differential settlement from the shear stress acting on the foundation.
0	Item not present

Schedule 1.6b - Level 3 Element - Traverses and Earth Mounds

SPELL CHECK | INDEX

Description of Level 4 sub-element - Traverse or Earth mound

Notes on inspection points:

Traverses are provided around explosives facilities primarily to intercept low angle high velocity primary fragments & debris to prevent initiation of explosives in adjacent stacks and traverses are normally constructed from earth fill mounds, behind walls of concrete or masonry (refer to schedule Retaining Walls & Wing Walls)

(a)	Traverses must be inspected for defects and deterioration including settlement, slippage, surface erosion, rabbit (or other burrowing animal) damage, line of sight protection, profile changes, removal of material and introduction of non-complaint material. Serious traverse slips or settlement of wall traverses may demand a reduction in the licensed quantities.
(b)	Slopes should generally be no steeper than 1 in 2 for grounds-maintenance safety purposes.
(c)	Remedial measures include use of shallower slopes if space allows, more stable materials, reinforced earth, and effective drainage. Gabions, which are light wire mesh baskets filled with gravel or rocks, may be used in the repair of some mounding. Approval by the licensing authority must be obtained where the gabion will be dispersed in an event. The use of appropriately detailed geotextile or wire mesh covered with topsoil may be used to inhibit rabbit damage. Materials for traverse repairs shall comply with the specification in JSP 482.
(d)	Vegetation (usually grass) on traverses within 5m of a PES, and on earth-covered PES, must not be allowed to exceed 50mm in height, and cuttings must not be allowed to create a fire risk — particularly during extended periods of dry weather
(e)	Grass cutting to mounding and traverses must be carried out so as to avoid damage to projecting obstructions, earthing strips etc. Grass cutting equipment must be suitable for safe working on steep traverse slopes. Equipment used on mounded roofs must not exceed the safe working load of the structure.

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defect Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

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SUMMARY OF SCORING

Sub Elements - Level 4	Achieved Score	Component Weighting	Achieved Weighted Score	Maximum Possible Score	Score
External Fabric					
Foundations/Structure	0.00	5.00%	0	0	0
Exterior Walls	0.00	5.00%	0	0	0
Flat Roofing	0.00	5.00%	0	0	0
Pitched Slate/Tile/Metal Roofing	0.00	5.00%	0	0	0
Fire Escapes	0.00	5.00%	0	0	0
Exterior Doors	0.00	5.00%	0	0	0
External decorations	0.00	2.00%	0	0	0
Rain Water Goods/Soffits & Facias	0.00	5.00%	0	0	0
Internal Fabric					
Windows	0.00	5.00%	0	0	0
Interior Walls	0.00	2.00%	0	0	0
Floors	0.00	5.00%	0	0	0
Ceiling	0.00	2.00%	0	0	0
Internal Doors & Trim	0.00	2.00%	0	0	0
Internal decorations	0.00	2.00%	0	0	0
Plumbing / Heating					
Hot & Cold Water Pipework	0.00	2.00%	0	0	0
Waste Pipework	0.00	2.00%	0	0	0
Pipes / Valves / Radiators	0.00	2.00%	0	0	0
Sanitary Fittings	0.00	2.00%	0	0	0
Fire					
Fire, Cleanliness & ???	0.00	2.00%	0	0	0
Specialist blast items					
Blow out Panels	0.00	5.00%	0	0	0
Ventilators	0.00	5.00%	0	0	0
Shock Isolators	0.00	5.00%	0	0	0
Blast Valves	0.00	5.00%	0	0	0
Cable Glands	0.00	5.00%	0	0	0
Traverses and Earth Mounds					
Retaining Walls	0.00	5.00%	0	0	0
Traverse or Earth mound	0.00	5.00%	0	0	0

Elements - Level 3		
External Fabric		
	Score Achieved	0
	Max Score	0
	Element Score	0
Internal Fabric		
	Score Achieved	0
	Max Score	0
	Element Score	0
Plumbing / Heating		
	Score Achieved	0
	Max Score	0
	Element Score	0
Fire		
	Element Score	0
Specialist blast items		
	Score Achieved	0
	Max Score	0
	Element Score	0
Traverses and Earth Mounds		
	Score Achieved	0
	Max Score	0
	Element Score	0

BACK TO WORKS SUMMARY

Elements - Level 2		
	Score Achieved	0
	Max Score	0
	Overall	0

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RPC Review

Site	0	Inspection date	00/01/1900
Building No.	0	Inspected by	0
Inspection Type	0	Authorised by	0

MAIN MENU

Inspection Summary	0

Item.	Element	Category	Record of defects observed together with its extent & severity:	Recommended repair / remedial work	Addressed by lump sum	If Yes and proposed repair is to be different from recommendation explain why
1						
2						
3						
4						
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93						

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Ranking Summary

Site	0	Inspection date	00/01/1900
Building No.	0	Inspected by	0
Inspection Type	0	Level 2 Asset Score	0

MAIN MENU

Inspection Summary	0	ESTC B & CE Licence Safety Assessment	PASS

Defect No.	Category	Element	Record of defects observed together with its extent & severity:	Score Criterion	Works Cost	ESR Essential	Ranking
1							
2							
3							
4							
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10							
11							
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93							

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Inspection analysis

MAIN MENU

Site 0 **Building No.** 0 **Inspection Date** 00/01/00

Level 3 Element	Least Score	Average Score
External Fabric	0.00	0
Internal Fabric	0.00	0
Plumbing / Heating	0.00	0
Fire	0.00	0
Specialist blast items	0.00	0
Traverses and Earth Mounc	0.00	0

Least Level 4 Score	0.00	**PASS**
Least Level 3 Score	0.00	
Level 2 Asset Score	0	
Least rank		

	No. of Defects Overall	**Cost overall**	**No. of Defects to be Addressed by RPC**	**Cost to RPC**	**No. of Defects Requiring Additional Works**	**Cost of Additional Works Defects**
Cat 1 defects	0	0	0	0	0	0
Refer to ESTC	0	N/A	N/A	N/A	N/A	N/A
Cat 2 defects	0	0	0	0	0	0
Cat 3 defects	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**

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Appendix C

ESTC Standard 6, Part 2 (B&CE), Schedule 2
Site Infrastructure & Utilities Inspection Report

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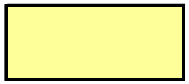
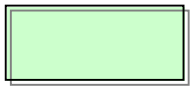


Requires data entry by RPC building inspector

Requires data entry by RPC reviewer

BACK TO ENTRY SCREEN

Requires data entry by ESR reviewer



Help buttons for aiding data input

Action button to move to another worksheet or perform a calculation / macro.

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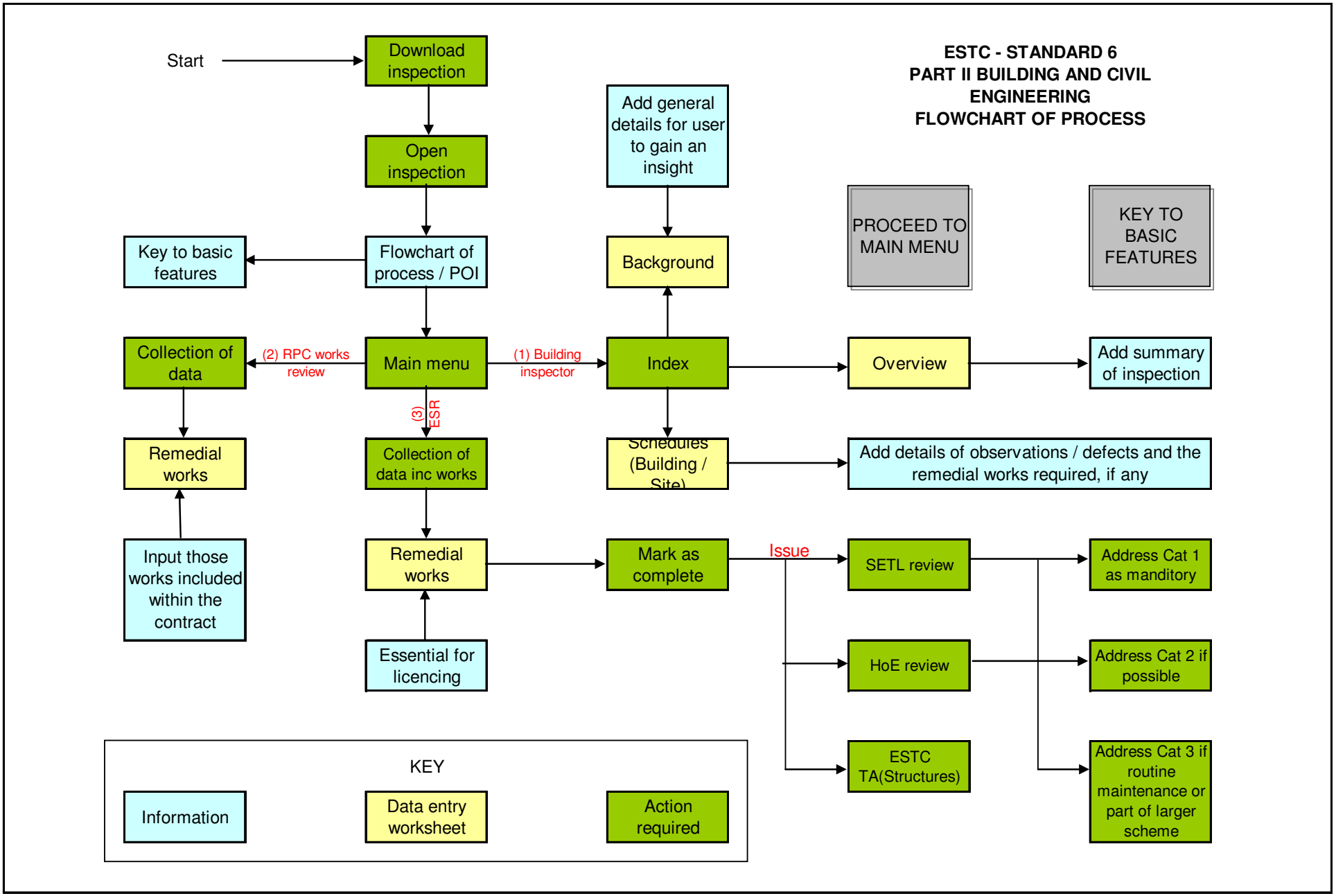
ESTC - STANDARD 6
PART II BUILDING AND CIVIL ENGINEERING
FLOWCHART OF PROCESS
Start
Download inspection
Open inspection
Flowchart of process / POI
Key to basic features
Collection of data
(2) RPC works review
Main menu
(1) Building inspector
(3) ESR
Remedial works
Collection of data inc works
Input those works included within the contract
Remedial works
Essential for licencing
Add general details for user to gain an insight
Background
Index
Schedules (Building / Site)
Mark as complete
PROCEED TO MAIN MENU
KEY TO BASIC FEATURES
Overview
Add summary of inspection
Add details of observations / defects and the remedial works required, if any
Issue
SETL review
HoE review
ESTC TA(Structures)
Address Cat 1 as manditory
Address Cat 2 if possible
Address Cat 3 if routine maintenance or part of larger scheme
KEY
Information
Data entry worksheet
Action required

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WELCOME TO ESTC STANDARD 6 PART II BUILDING AND CIVIL ENGINEERING

All users shall be familiar with the accompanying written standard to ensure that mandatory requirements or relevant guidance are complied with or followed as appropriate

A fresh copy of the spreadsheet must be downloaded for each inspection

Building inspector

Details	
Name and qualifications	
Date undertaken	
Status	
Date complete	
Issued to RPC	

RPC Works Review

Details	
Name	
Date undertaken	
Status	
Date complete	
Issued to ESR	

ESR Works review

Details	
Name	
Date undertaken	
Status	
Date complete	
Issued to SETL	
Issued to IE	
Issued to HOE	
Issued to ESTC_S6_P2@de.mod.uk	

FLOWCHART

Info
Version 2.0 Rev 1
Issue Date March 2011

BUILDING INSPECTOR INDEX

WORKS SUMMARY

RPC WORKS REVIEW COLLECTION OF DATA

ESR WORKS REVIEW COLLECTION OF DATA

OVERALL WORKS SUMMARY

PRINT OVERALL WORKS SUMMARY

PRINT ALL SUMMARY SHEETS

ESTC ANALYSIS

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ESTC STANDARD 6 PART II BUILDING AND CIVIL ENGINEERING - BUILDING INSPECTOR INDEX

	Structure information review	YES	NO	NO - INVALID / NOT STARTED	MISTAKE OR MORE INFO REQ'D
	Inspection summary complete	YES	NO	YES	MISTAKE OR MORE INFO REQ'D
Schedule	Site Associated Elements				
	Vehicular Traffic				
2.1a	Roads, Streets & Parking Areas	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
2.1b	Kerbs & Gutters	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
2.1c	Footpaths	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
2.1d	Drainage (gullies)	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
2.1e	Culverts	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
2.1f	Traffic Control Devices (Signage)	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
	Storm Water				
2.2a	Drainage Ditches & Canals	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
2.2b	Manholes & Manhole Covers	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
	Water Storage				
2.3a	Pipes, Valves & Fittings	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
2.3b	Elevated Storage Tanks	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
2.3c	Open Reservoirs	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
	Fuels				
2.4a	Storage Tanks	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
2.4b	Secondary Containment	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
	Grounds Maintenance				
2.5a	Security Fencing	YES	NO	ELEMENT NOT PRESENT	PROCEED TO NEXT ELEMENT
2.5b	Grass, Trees & Vegetation	YES	NO	ELEMENT NOT PRESENT	SITE ASSOCIATED ELEMENTS COMPLETE

MAIN MENU

STATUS

ERROR RE-CHECK DATA ENTRY

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SITE INFORMATION

SPELL CHECK

INDEX

Site:			
Buildings	No.	Type e.g. open bay / storage / processing / other (specify)	Designation e.g. conventional building / protective design
Maintenance History	Works Undertaken	Completion Date	Approx Cost
Inspection History	Inspection Type	Inspection Date	Inspection Reason (if unscheduled)

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INSPECTION SUMMARY

SPELL CHECK | INDEX

Site			
Inspection Type:			
Inspection date:			
Inspection carried out by:			
Inspection reviewed by:			
Weather conditions:			
Equipment used:			
Parts of Structure Not Inspected			
Inspection Summary			
Overall Condition			
Photograph details:	Title	Location or link:	Date:
Defect sketches details:	Title	Location or link:	Date:

Schedule 2.1a - Level 3 Element - Vehicular Traffic

Description of Level 4 sub-element - Roads, Streets & Parking Areas

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New condition or defect is definitely not causing damage to element
8	Defect is possibly causing damage to element or is likely to do so in the near future e.g. slight rutting but currently of little consequence.
6	Defect is likely to be causing damage to element or is likely to do so in the near future e.g. rutting has increased in extent since previous inspection or surface cracking indicating fatigue from the loading conditions or the material is time expired.
4	Defect is causing damage to element e.g. surface cracks previously identified have not be addressed since last inspection (24 months) and are likely to have now propagated other layers or occasional potholes but remains functional.
2	Defect considered to be safety critical or could be in the near future e.g. size of potholes are significant / joints are failing causing misalignment of the carriageway and potentially the safe transit of explosives. Otherwise, emergency route partially blocked.
0	Item not present

Schedule 2.1a - Level 3 Element - Vehicular Traffic

SPELL CHECK | INDEX

Description of Level 4 sub-element - Roads, Streets & Parking Areas

Notes on inspection points:

Roads within an explosives area should serve all stacks and buildings and should generally be planned on a one-way system. They are to be of sufficient width and strength to permit the use of the largest and heaviest vehicles likely to be used. No gradient is to exceed 1:20 and, where trolleys without brakes are used, e.g. alongside buildings or open bomb bays, the gradient is not to exceed 1:100

(a)	0
(b)	Surface levels, regularity, cross-falls, cambers and surface-friction levels must all be maintained in a fit state compatible with the mechanical handling equipment and transport used on the Establishment.
(c)	Protruding objects may present a hazard in terms of slip, trips and falls to pedestrians using the facility
(d)	Any emergency route or exit provided shall not be blocked so that it may be used at any time.
(e)	

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 2.1b - Level 3 Element - Vehicular Traffic

Description of Level 4 sub-element - Kerbs & Gutters

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New condition or defect is definitely not causing damage to element
8	Defect is possibly causing damage to element or is likely to do so in the near future e.g. cracking evident but of little consequence.
6	Defect is likely to be causing damage to element or is likely to do so in the near future e.g. vegetation growth or debris that could restrict capacity and result in localised ponding but remains functional.
4	Defect is causing damage to element e.g. kerb loose or misaligned (probably from trafficking due to inadequate width) and whilst unlikely to be safety critical at present it could be in the near future.
2	Defect considered to be safety critical e.g. kerb degradation has increased in extent since previous inspection which has resulted in debris and / or ponding to the carriageway that is potentially affecting the safe transit of explosives.
0	Item not present

Schedule 2.1b - Level 3 Element - Vehicular Traffic

SPELL CHECK | INDEX

Description of Level 4 sub-element - Kerbs & Gutters

Notes on inspection points:

Roads in, and leading to, explosives areas are unlikely to contain kerbs / surface water channels unless required to constrain edge drainage or delineate and possibly protect footpaths from vehicular overrun.

(a)	Inspection for defects including cracking, displacement / mis-alignment or damage to kerbs along with flow restricting build-up of vegetation.
(b)	
(c)	
(d)	
(e)	

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 2.1c - Level 3 Element - Vehicular Traffic

Description of Level 4 sub-element - Footpaths

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New condition or defect is definitely not causing damage to element
8	Defect to element that is unlikely to be affecting its functionality and is thus currently of little consequence.
6	Defect to element e.g. surface cracks or rutting that is affecting its functionality but unlikely to be safety critical as probably caused by vehicular parking.
4	Defect to element e.g. surface cracks or rutting that is affecting its functionality and could be safety critical as possibly the result of vehicular overrun owing to inadequate turning.
2	Defect considered to be safety critical or could be in the near future e.g. partially blocked.
0	Item not present

Schedule 2.1c - Level 3 Element - Vehicular Traffic

SPELL CHECK | INDEX

Description of Level 4 sub-element - Footpaths

Notes on inspection points:

Footpaths within an explosives area are required to provide a route between stacks or buildings and a position of safety from which the alarm can be raised should it be nessessary.

(a)	Inspections for defects such as rutting or cracking that may be an indication of vehicular overrun and whilst it could be from parking consideration should also be given to the possibility of the location having inadequate turning and thus presenting a potential hazard to pedestrians.
(b)	Protruding objects may present a hazard in terms of slip, trips and falls to pedestrians
(c)	Routes, especially those to fire alarm call points and emergency telephones shall not be blocked so that they may be used at any time.
(d)	
(e)	

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 2.1d - Level 3 Element - Vehicular Traffic

Description of Level 4 sub-element - Drainage (gullies)

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New condition or defect is definitely not causing damage to element
8	Defect is unlikely to be causing damage to element e.g. vegetation growth although remains functional thus currently of little consequence.
6	Defect is possibility causing damage to element or is likely to do so in the near future e.g. vegetation growth or mud deposits such that it could result in localised flooding of the highway although it will probably remain functional.
4	Defect is likely to be causing damage to element either now or in the near future e.g. cracking indicating a loss of capacity and whilst not deemed to be safety critical at present could soon affect the safe transit of explosives.
2	Defect to element considered to be safety critical e.g. cover missing / partial collapse or localised flooding evident which could affect the safe transit of explosives.
0	Item not present

Schedule 2.1d - Level 3 Element - Vehicular Traffic

SPELL CHECK | INDEX

Description of Level 4 sub-element - Drainage (gullies)

Notes on inspection points:

Roads in, and leading to, explosives areas should maximise longevity by ensuring that the gullies shed the majority of water to the highway drainage system (refer to schedule 2.2b - Manhole and Manhole covers) without delay so that only a small amount is able to percolate into the underlying layers.

(a)	Inspection for defects including cracking and collapse of drain covers set into the road surface or ponding water indicating blockage / incorrect distance between gullies.
(b)	Gullies should be of sufficient strength with frames and gratings recommended to Class D400 and seated on concrete or properly constructed brickwork.
(c)	
(d)	
(e)	

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 2.1e - Level 3 Element - Vehicular Traffic

Description of Level 4 sub-element - Culverts

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New condition or defect is definitely not causing damage to element
8	Defect is probably causing damage to element or is likely to do so in the near future e.g. concrete hollow when struck, staining indicating possible failure or exposed and rusting rebar but confined to isolated areas.
6	Defect is causing damage to element e.g. concrete spalling to significant areas and whilst unlikely to be safety critical there may be long term functionality implications. Appearance adversely affected.
4	Defect is causing damage to element that is safety critical or is likely to be in the near future e.g accumulation of mud/silt/other debris to invert restricting flow capacity such that localised flooding could be a possibility.
2	Defect or omissions considered to be safety critical e.g. spalling is such that the load capacity of the structure could be affected, guardrails to headwalls missing/deteriorated or access is possible that should be protected by fencing.
0	Item not present

Schedule 2.1e - Level 3 Element - Vehicular Traffic

SPELL CHECK | INDEX

Description of Level 4 sub-element - Culverts

Notes on inspection points:

Roads in, and leading to, explosives areas require that structures are maintained in a good state of repair to ensure the safety of its users in terms of load capacity and flooding.

(a)	Existing structures must be inspected for defects and deterioration including cracking, spalling, reinforcement corrosion, concrete decay (carbonation, aggregate-silica reaction, high alumina cement (HAC) conversion), cutting of unauthorised apertures
(b)	Maintenance and repair must include checking of structural integrity. If this is in doubt, the causes must be investigated and appropriate remedial measures taken. Causes of structural distress include overloading, under-design and loss of strength.
(c)	If HAC is suspected (common in 1950s pre-cast plank roofs), core samples should be taken for analysis and an assessment made of the residual strength of the structure. Load testing may be appropriate to demonstrate the adequacy of weakened structures
(d)	Inspection of defects associated with safety related components for inspectors and operatives undertaking maintenance works, if present.
(e)	Access is not to be possible through drains, watercourses and culverts in order to access to a facility that would otherwise be protected with fencing and as such may require the provision of grates.

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 2.1f - Level 3 Element - Vehicular Traffic

Description of Level 4 sub-element - Traffic Control Devices (Signage)

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New condition or defect is definitely not causing damage to element
8	Defect is probably causing damage to element or is likely to do so in the near future e.g. corrosion or slight impact damage but of no consequence at present.
6	Element is considered to be poorly positioned such that the information could be confusing.
4	Defect could cause element to be deficient and possibly safety critical in the near future e.g. vegetation growth is significant although remains functional.
2	Defect is causing element to be deficient e.g. obscured by vegetation or artificial lighting resulting in it being deemed safety critical.
0	Item not present

Schedule 2.1f - Level 3 Element - Vehicular Traffic

SPELL CHECK | INDEX

Description of Level 4 sub-element - Traffic Control Devices (Signage)

Notes on inspection points:

PES with adjacent traffic signage should be maintained to ensure the continued control of vehicular movements such that the safety of pedestrians and explosives in transit is not compromised.

(a)	Inspection for defects including inadequately lit, poor positioned or damage that could affect its functionality and thus the safety of operatives using the facility.
(b)	The maximum speed limit within an above ground explosives area for each type of vehicle and MHE is to be fixed by the HoE. The maximum speed limit in an underground site is 5 mph (8 kph). Speed limits are to be clearly indicated by signs or notices and are to be promulgated within local orders.
(c)	The colour of any artificial lighting provided shall not adversely affect or change the perception of any sign or signal provided for the purposes of health and safety.
(d)	
(e)	

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 2.2a - Level 3 Element - Storm Water

Description of Level 4 sub-element - Drainage Ditches & Canals

Help Contents

Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated	L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.	10	New condition or defect is definitely not causing damage to element
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.			8	The req'd documentation is available and whilst the interval between inspections regularly exceeds that required by up to a month the element appears functional thus presently of no consequence.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	The interval between inspections regularly exceeds that required by up to six months or the competency of the 'Water Officer' is unknown (training, experience or qualifications not available or thought to be sufficient) which may be affecting the functionality of the element.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.			4	The req'd documentation is unsatisfactory (missing, incomplete or unavailable) such that a defect may be not be identified resulting in the possibility of the element being non-functional.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.	H	High priority defect is safety critical and should be addressed within 6 months.	2	Element appears deficient e.g water level low or insufficient appropriately trained operatives appear available to use the equipment and as such it could be safety critical but verification by a competent person should be sought.
				0	Item not present

Schedule 2.2a - Level 3 Element - Storm Water

SPELL CHECK | INDEX

Description of Level 4 sub-element - Drainage Ditches & Canals

Notes on inspection points:

Water for fire fighting at PES in an emergency can include man made canals (based on a risk assessment by an officer authorised by or from the Defence Fire Risk Management Organisation in consultation with the HoE Explosive Safety Representative) provided the supply is readily available and inspected monthly by a competent 'Water Officer' to ensure that it is being maintained in full operational order. Consequently this inspection is limited to ensuring compliance with the above along with identifying recording any obvious defects and to instigate further specialist inspection if necessary.

(a)	A copy of the recorded maintenance procedure along with the inspections, testing and maintenance undertaken are to be kept on site.
(b)	Personnel must be sufficiently trained and competent to operate all water supply equipment likely to be required in the event of an emergency. Suitable plans (periodically reviewed and tested), must exist for alerting and calling in personnel for the efficient operation of all water supply equipment during normal and silent hours. Pre-Fire Plans are to record all arrangements for this purpose.
(c)	The aforementioned monthly inspections should check the water level and that fencing / gates are serviceable.
(d)	Hydrants and Emergency Water Supply must be marked in accordance with BS3251 1976. A yellow line 2.4 m long and 100 mm wide with an arrow head pointing towards the hydrant cover with two 100 mm bars across the arrow near the centre may be painted on the road or footpath as an additional means of identifying the location of a hydrant. The location of all hydrant outlets must be annotated on the Pre-Fire Plans

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 2.2b - Level 3 Element - Storm Water

Description of Level 4 sub-element - Manholes & Manhole Covers

Help Contents					
Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated	L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.	10	New condition or defect is definitely not causing damage to element
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.			8	Defect is unlikely to be causing damage e.g. cover polished from usage resulting in loss of frictional properties although functional and currently of no consequence.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	Defect will possibly cause damage or is likely to in the near future e.g. silt accumulation as the drainage system is not known to have been rodded in the past 24 months and could result in localised flooding although it will probably remain functional.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.			4	Defect is likely to cause damage either now or in the near future e.g. silt accumulation as the drainage system is not known to have been rodded in the past 48 months and will probably result in localised flooding that could affect the safe transit of explosives so is deemed to be safety critical.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.	H	High priority defect is safety critical and should be addressed within 6 months.	2	Defect to element considered to be safety critical e.g. cover missing / partial collapse or localised flooding evident which could affect the safe transit of explosives.
				0	Item not present

Schedule 2.2b - Level 3 Element - Storm Water

SPELL CHECK | INDEX

Description of Level 4 sub-element - Manholes & Manhole Covers

Notes on inspection points:

Roads in, and leading to, explosives areas should maximise longevity by ensuring that the the highway drainage system is able to shed the water from the gullies (refer to schedule 2.1d - Drainage) without delay to avoid localised flooding that could present a safety hazard to highway users and cause damage by it percolating into the underlying layers.

(a)	Inspection for defects including cracking and collapse of manhole covers set into the road surface or ponding water indicating blockage from silt accumulation (the pipeline should be deemed to be clean when the silt content of the cross-sectional area of the pipe is between 0 and 10% for pipes ≤600 mm and between 0 and 5% for pipes >600 mm diameter).
(b)	Manholes should be of sufficient strength with frames and gratings recommended to Class D400 and seated on concrete or properly constructed brickwork.
(c)	Trafficking will cause polishing of the cover that will reduce its frictional properties although this is unlikely to be a safety issue given the typical speed limit (10-15mph) adopted at explosive storage sites.
(d)	
(e)	

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 2.3a - Level 3 Element - Water Storage

Description of Level 4 sub-element - Pipes, Valves & Fittings

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New condition or defect is definitely not causing damage to element
8	The req'd documentation is available and whilst the interval between inspections regularly exceeds that required by up to a month the element appears functional thus presently of no consequence.
6	The interval between inspections regularly exceeds that required by up to six months or the competency of the 'Water Officer' is unknown (training, experience or qualifications not available or thought to be sufficient) which may be affect the functionality of the element in the near future.
4	The req'd documentation is unsatisfactory (missing, incomplete or unavailable) such that a defect e.g. seasonal vegetation growth may be not be identified resulting in the possibility of the element being non-functional.
2	Element is likely to be deficient e.g leakage that could be affecting performance and could be safety critical but verification by a competent person should be sought.
0	Item not present

Schedule 2.3a - Level 3 Element - Water Storage

SPELL CHECK | INDEX

Description of Level 4 sub-element - Pipes, Valves & Fittings

Notes on inspection points:

Water from storage tanks for fire fighting at PES is likely to require permanent external pipes, valves and fittings to hydrants and as such this element is considered to be subject to monthly inspections by a competent 'Water Officer' to ensure that it is being maintained in full operational order. Consequently this inspection is limited to ensuring compliance with the above along with identifying recording any obvious defects and to instigate further specialist inspection if necessary.

(a)	A copy of the recorded maintenance procedure along with the inspections, testing and maintenance undertaken are to be kept on site.
(b)	Inspection for defects and deterioration that could result in leakage.
(c)	
(d)	
(e)	

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 2.3b - Level 3 Element - Water Storage

Description of Level 4 sub-element - Elevated Storage Tanks

Help Contents

Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated	L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.	10	New condition or defect is definitely not causing damage to element
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.			8	The req'd documentation is available and whilst the interval between inspections regularly exceeds that req'd by up to a month the element appears functional thus presently of no consequence.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	The interval between inspections regularly exceeds that req'd by up to six months or the competency of the 'Water Officer' is unknown (training, experience or qualifications not available or thought to be sufficient) which may affect functionality in the near future.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.			4	The req'd documentation is unsatisfactory (missing, incomplete or unavailable) so a defect may be not be identified resulting in the possibility of it being non-functional.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.	H	High priority defect is safety critical and should be addressed within 6 months.	2	Element appears deficient e.g water level low, leakage visible, hoses split / damaged or insufficient appropriately trained operatives available to use the equipment and it could be safety critical but verification by a competent person should be sought.
				0	Item not present

Schedule 2.3b - Level 3 Element - Water Storage

SPELL CHECK | INDEX

Description of Level 4 sub-element - Elevated Storage Tanks

Notes on inspection points:

Water for fire fighting at PES in an emergency can include elevated storage tanks (based on a risk assessment by an officer authorised or from the Defence Fire Risk Management Organisation in consultation with the HoE Explosive Safety Representative) provided the supply is readily available and inspected monthly by a competent 'Water Officer' to ensure that it is being maintained in full operational order. Consequently this inspection is limited to ensuring compliance with the above along with identifying any obvious defects and instigate further specialist inspection if necessary.

(a)	A copy of the recorded maintenance procedure along with the inspections, testing and maintenance undertaken are to be kept on site.
(b)	Personnel must be sufficiently trained and competent to operate all water supply equipment likely to be required in the event of an emergency. Suitable plans (periodically reviewed and tested), must exist for alerting and calling in personnel for the efficient operation of all water supply equipment during normal and silent hours. Pre-Fire Plans are to record all arrangements for this purpose.
(c)	The aforementioned monthly inspections should consider the following where applicable (1) Water levels are to be checked and topped up, where necessary, with persistent loss indicating a leak that must be investigated and rectified (2) The operation of tank filling devices, suction outlets and valves are to be physically checked for satisfactory operation (3) The adequacy of all frost precautionary measures should be checked. Additionally, meter by-pass valves, if installed, should be checked twice a year after liaison with the appropriate water undertaker. The adequacy, security, legibility and the clarity of the instruction given on the signs indicating position and direction of operation for by-pass valves must be checked.
(d)	Hydrants and Emergency Water Supply must be marked in accordance with BS3251 1976. A yellow line 2.4 m long and 100 mm wide with an arrow head pointing towards the hydrant cover with two 100 mm bars across the arrow near the centre may be painted on the road or footpath as an additional means of identifying the location of a hydrant. The location of all hydrant outlets must be annotated on the Pre-Fire Plans

Category	Record of defects observed together with its extent & severity:	Condition mark:	Recommended repair / remedial work	Effectiveness	Timeframe	Cost	
No Defects Observed							
Anomaly with JSP 482 Requirements							HELP EFFECTIVENESS
Defect or Observation							

Category	Record of defects observed together with its extent & severity:	Condition mark:	Recommended repair / remedial work	Effectiveness	Timeframe	Cost	
No Defects Observed							
Anomaly with JSP 482 Requirements							HELP TIMEFRAME
Defect or Observation							

Category	Record of defects observed together with its extent & severity:	Condition mark:	Recommended repair / remedial work	Effectiveness	Timeframe	Cost	
No Defects Observed							
Anomaly with JSP 482 Requirements							HELP CONDITION MARK
Defect or Observation							

Schedule 2.3c - Level 3 Element - Water Storage

Description of Level 4 sub-element - Open Reservoirs

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New condition or defect is definitely not causing damage to element
8	The req'd documentation is available and whilst the interval between inspections regularly exceeds that req'd by up to a month the element appears functional thus presently of no consequence.
6	The interval between inspections regularly exceeds that req'd by up to six months or the competency of the 'Water Officer' is unknown (training, experience or qualifications not available or thought to be sufficient) which may affect functionality in the near future.
4	The req'd documentation is unsatisfactory (missing, incomplete or unavailable) such that a defect may be not be identified resulting in the possibility of the element being non-functional.
2	Element appears deficient e.g water level low or insufficient appropriately trained operatives appear available to use the necessary equipment and could be safety critical but verification by a competent person should be sought.
0	Item not present

Schedule 2.3c - Level 3 Element - Water Storage

SPELL CHECK | INDEX

Description of Level 4 sub-element - Open Reservoirs

Notes on inspection points:

Water for fire fighting at PES in an emergency can include open reservoirs (based on a risk assessment by an officer authorised by or from the Defence Fire Risk Management Organisation in consultation with the HoE Explosive Safety Representative) provided the supply is readily available and inspected monthly by a competent 'Water Officer' to ensure that it is being maintained in full operational order. Consequently this inspection is limited to ensuring compliance with the above along with identifying any obvious defects and to instigate further specialist inspection if necessary.

(a)	A copy of the recorded maintenance procedure along with the inspections, testing and maintenance undertaken are to be kept on site.
(b)	Personnel must be sufficiently trained and competent to operate all water supply equipment likely to be required in the event of an emergency. Suitable plans (periodically reviewed and tested), must exist for alerting and calling in personnel for the efficient operation of all water supply equipment during normal and silent hours. Pre-Fire Plans are to record all arrangements for this purpose.
(c)	The aforementioned monthly inspections should check the water level and that fencing / gates are serviceable.
(d)	Hydrants and Emergency Water Supply must be marked in accordance with BS3251 1976. A yellow line 2.4 m long and 100 mm wide with an arrow head pointing towards the hydrant cover with two 100 mm bars across the arrow near the centre may be painted on the road or footpath as an additional means of identifying the location of a hydrant. The location of all hydrant outlets must be annotated on the Pre-Fire Plans

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 2.4a - Level 3 Element - Fuels

Description of Level 4 sub-element - Storage Tanks

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New condition or defect is definitely not causing damage to element
8	Defect is causing damage to element owing to the loss of protective system e.g. flaking paint but currently of no consequence.
6	Element is not known to have been subject to proactive maintenance works to replace seals / joints in the last 48 months and are now likely to be approaching their design life resulting in the possibility of localised leakage in the near future but currently remains functional.
4	Defect is causing damage to element such that its integrity could be affected in the near future e.g. visual corrosion or seals / joints have exceeded their design life and could result localised leakage.
2	Defect is causing damage to element such that its integrity is thought to be affected e.g. leakage evident either visually through accumulation in bund or records contain anomaly / not provided resulting in it being considered non-functional.
0	Item not present

Schedule 2.4a - Level 3 Element - Fuels

SPELL CHECK | INDEX

Description of Level 4 sub-element - Storage Tanks

Notes on inspection points:

Installations and compounds for the storage of bulk stocks of liquid fuels and oils (including packed stocks), liquid oxygen (LOX) and liquid petroleum gas (LPG) are not normally to be constructed within explosives facilities and, wherever possible, should not be constructed in their vicinity. When the construction of installations and/or compounds in the vicinity is unavoidable then a fire break of at least 10m should be achieved unless the appropriate QD exceeds this requirement.

(a)	Inspection for defects and deterioration including cracking, corrosion and cutting of unauthorised apertures
(b)	Inspection of records is to be undertaken in order to compare the quantities delivered against usage since the last inspection in order to ascertain the loss, if any, through leakage.
(c)	Boilers fuelled by oil, gas or solid fuel, are normally to be outside explosives storage facilities, but if located within these areas they are to be not less than 45 m from any PES. If oil fired, bunds are to be provided which are capable of containing the complete quantity of fuel oil in the event of a leaking tank.
(d)	
(e)	

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 2.4b - Level 3 Element - Fuels

Description of Level 4 sub-element - Secondary Containment

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New condition or defect is definitely not causing damage to element
8	Defect could cause damage to element in the near future e.g debris is such that drainage is likely to be partially blocked that could result in the accumulation of rainwater although no reduction of capacity at present.
6	Defect is causing damage to element e.g debris is such that drainage appears blocked resulting in accumulation of rainwater and this reduction of capacity could cause overtopping in the event of a leakage thus environmental damage.
4	Defect is causing damage to element such that its integrity could be affected in the near future e.g. cracking in concrete containment that could result in localised breeching from a head of pressure thus significant environmental damage.
2	Defect is causing damage to element such that its integrity is thought to be affected e.g. major structural cracking in concrete containment or impact damage resulting in it being non-functional.
0	Item not present

Schedule 2.4b - Level 3 Element - Fuels

SPELL CHECK | INDEX

Description of Level 4 sub-element - Secondary Containment

Notes on inspection points:

PES requing storage tanks for flammable or toxic liquids should be surrounded by a bund

(a)	Inspection for defects and deterioration including cracking, spalling, reinforcement corrosion and cutting of unauthorised apertures
(b)	Bunds should be sized to hold 110% of the maximum capacity of the largest tank or drum.
(c)	Low wall heights (1-1.5 m) are often used to facilitate fire fighting but are poor defence against spigot flow (where a leak in the wall of a tank passes over the bund wall) or the tidal wave effect of a catastrophic tank failure. In some cases bunds up to height of the tank are used, but these are quite unusual. For high walled bunds, consideration will need to be given to the possibility of tanks floating as the bund fills, causing catastrophic failure.
(d)	The removal of rainwater is required to ensure the effectiveness of a bund, which is usually comprises a drain at the low point of a sloping floor having a manual valve.

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 2.5a - Level 3 Element - Grounds Maintenance

Description of Level 4 sub-element - Security Fencing

Help Contents					
Effectiveness		Timeframe		Condition Mark	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated	L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.	10	New condition or defect is definitely not causing damage to element
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.			8	Defect is probably causing damage to element or is likely to do so in the near future e.g degradation of protective coating resulting in corrosion but of no consequence at present.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.	M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.	6	Element is partially deficient or is likely to be in the near future e.g vegetation is such that it would provide cover although the system as a whole remains intact thus functional.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.			4	Element is partially deficient e.g insufficient height, omission of barbed wire topping or type chain link and whilst the system as a whole remains intact thus functional it increases the risk of a potential intruder gaining access.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.	H	High priority defect is safety critical and should be addressed within 6 months.	2	Defect is causing damage to element e.g. components damaged such that entry and egress is unhindered resulting in it being considered security critical.
				0	Item not present

Schedule 2.5a - Level 3 Element - Grounds Maintenance

SPELL CHECK | INDEX

Description of Level 4 sub-element - Security Fencing

Notes on inspection points:

A perimeter fence primarily delineates a boundary in order to deter and delaying unlawful intruders, which may apply to a site as a whole or individual key areas.

(a)	Inspection for defects and deterioration depending along with cutting of unauthorised apertures.
(b)	The ground on both sides of the fence should be cleared to create a 'sterile zone' thus removing cover for potential intruders, which is likely to necessitate it being at least 10m back from the marked boundary of MoD land.
(c)	The current minimum Defence Standard is the 1.80m high barrier fence although this should be replaced by a 2.9m security fence with welded mesh or steel palisade during refurbishment or on life expiry of the barrier fence.
(d)	Gates must be fitted with approved security locks and hinges. Locks must operate smoothly and lock properly. Moving parts should be suitably lubricated. Distorted anti-tamper devices must be replaced to prevent unwanted lock out. Exposed keyholes must be protected with weatherproof escutcheon plates to prevent water penetration. Repair and replacement of locks is normally carried out by specialist locksmiths to the approved security standard.
(e)	Anti-climbing devices such as barbed wire or barbed tape concertinas should be used at the top of the fence. Whilst this may also be laid at its base to discourage burrowing there is a possibility of legal implications adjacent areas of public access.

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

Schedule 2.5b - Level 3 Element - Grounds Maintenance

Description of Level 4 sub-element - Grass, Trees & Vegetation

Help Contents

Effectiveness	
A	A temporary 'holding' measure to extend the design life of the element until the appropriate works can be undertaken as part of a larger scheme to arguably reinstate its 'as built' condition and associated
B	Both defect and its cause are likely to be addressed by proposed works to arguably reinstate this element to its 'as built' condition and associated design life.
C	Cause is likely to be addressed by proposals and although defects remain the design life of the element is unlikely to govern that of the facility.
D	Defect addressed by proposals and although the cause remains (unknown or unaccessible) the design life of the element is unlikely to govern that of the facility.
E	Extent of deterioration is such that the design life of the element governs that of the facility with replacement rather than remedial works considered necessary.

Timeframe	
L	Low priority defect will continue to deteriorate and should be addressed as part of other works as and when they arise.
M	Medium priority defect will deteriorate notably and could become safety critical or affect operational requirements if not addressed within 18 months.
H	High priority defect is safety critical and should be addressed within 6 months.

Condition Mark	
10	New condition or defect is definitely not causing damage to element
8	Defect exists e.g. vegetation growth exceeds the prescribed parameters but of no consequence.
6	Defect is highly unlikely to be a fire risk e.g. temporary storage within 50m of PES with evidence of IE approval or saplings becoming established within defined distance and as such not safety critical.
4	Defect is unlikely to be fire risk e.g. temporary storage within 50m of PES with no evidence of IE approval and as such could be safety critical.
2	Defect is considered to be fire risk e.g. vegetation growth within 1m of PES or cuttings uncleared and is thus safety critical.
0	Item not present

Schedule 2.5b - Level 3 Element - Grounds Maintenance

SPELL CHECK | INDEX

Description of Level 4 sub-element - Grass, Trees & Vegetation

Notes on inspection points:

Grass, trees and vegetation must be controlled to ensure that they do not present a hazard to explosives. Uncontrolled growth, particularly during dry weather conditions, presents a major fire risk, as well as providing cover for intruders.

(a)	Requirements for grassed areas: (i) Maintain Area 1 (within 1m of PES) free of vegetation to provide a fire-break. (ii) Maintain Area 2 (out to 6m from PES, on earth traverses within 5m of PES, and on earth-covered buildings) with vegetation depth not exceeding 50mm high. (iii) Maintain Area 3 (outside 6m from PES) in accordance with the Site Assessed Risk
(b)	Permitted trees must be kept at prescribed distances from PES: (i) Conifers and spruce: more than 30m from PES. (ii) Other trees: more than 15m from PES.
(c)	Cut vegetation, such as grass clippings, fallen branches, hay, etc. must be removed off-site from the short grass areas (Areas 1 & 2) immediately after cutting (approval for temporary storage, at least 50m from PES must be obtained from the IE first). Removal must be completed within 3 days of cutting.

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP EFFECTIVENESS

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP TIMEFRAME

Category

No Defects Observed

Anomaly with JSP 482 Requirements

Defect or Observation

Record of defects observed together with its extent & severity:

Condition mark:

Recommended repair / remedial work | Effectiveness | Timeframe | Cost

HELP CONDITION MARK

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Summary

Site	0	Inspection date	00/01/1900
Building No.	0	Inspected by	0
Inspection Type	0	Authorised by	0

BACK TO MAIN MENU

Inspection Summary	0	Level 3	Cost	SITE SCORE
		0	£0	

Item	Element	Category	If defect provide details of extent & severity:	Recommended repair / remedial work	Timeframe	Cost	Score
1							
2							
3							
4							
5							
6							
7							
9							
10							
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SCORING

Sub Elements - Level 4	Achieved Score	Component Weighting	Achieved Weighted Score	Maximum Possible Score	Score
Vehicular Traffic					
Roads, Streets & Parking Areas	0.00	10.00%	0	0	0
Kerbs & Gutters	0.00	10.00%	0	0	0
Footpaths	0.00	5.00%	0	0	0
Drainage	0.00	10.00%	0	0	0
Culverts	0.00	7.50%	0	0	0
Traffic Control Devices (Signage)	0.00	2.50%	0	0	0
Storm Water					
Drainage Ditches & Canals	0.00	10.00%	0	0	0
Manholes & Manhole Covers	0.00	10.00%	0	0	0
Water Storage					
Pipes, Valves & Fittings	0.00	5.00%	0	0	0
Elevated Storage Tanks	0.00	5.00%	0	0	0
Open Reservoirs	0.00	5.00%	0	0	0
Fuels					
Storage Tanks	0.00	5.00%	0	0	0
Secondary Containment	0.00	5.00%	0	0	0
Grounds Maintenance					
Security Fencing	0.00	5.00%	0	0	0
Grass, Trees & Vegetation	0.00	5.00%	0	0	0

Elements - Level 3

BACK TO WORKS SUMMARY

Vehicular Traffic

Score Achieved	0
Max Score	0
Element Score	0

Storm Water

Score Achieved	0
Max Score	0
Element Score	0

Water Storage

Score Achieved	0
Max Score	0
Element Score	0

Fuels

Score Achieved	0
Max Score	0
Element Score	0

Grounds Maintenance

Score Achieved	0
Max Score	0
Element Score	0

Site Associated Elements

Score Achieved	0
Max Score	0
Element Score	0

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RPC Review

Site	0	Inspection date	00/01/1900
Building No.	0	Inspected by	0
Inspection Type	0	Authorised by	0

MAIN MENU

Inspection Summary	0

Item	Element	Category	Record of defects observed together with its extent & severity:	Recommended repair / remedial work	Addressed by lump sum	If Yes and proposed repair is to be different from recommendation explain why
1						
2						
3						
4						
5						
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ESR Review

Site	0	Inspection date	00/01/1900
Building No.	0	Inspected by	0
Inspection Type	0	Authorised by	0

MAIN MENU

Inspection Summary	0

ESTC HELP

Item	Category	Element	Record of defects observed together with its extent & severity:	Score Criterion	Works Cost	Essential to maintain explosive licence
1						
2						
3						
4						
6						
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Ranking Summary

Site	0	Inspection date	00/01/1900
Building No.	0	Inspected by	0
Inspection Type	0	Level 2 Asset Score	0

MAIN MENU

Inspection Summary	0	ESTC B & CE Licence Safety Assessment	PASS

Defect No.	Category	Element	Record of defects observed together with its extent & severity:	Score Criterion	Works Cost	ESR Essential	Ranking
1							
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Inspection analysis

MAIN MENU

Site **0** **Inspection Date** **00/01/00**

Level 3 Element	Least Score	Average Score
Vehicular Traffic	0.00	0
Storm Water	0.00	0
Water Storage	0.00	0
Fuels	0.00	0
Grounds Maintenance	0.00	0

Least Level 4 Score	0	PASS
Least Level 3 Score	0	
Level 2 Asset Score	0	
Least Level 3 Score	0	

	No. of Defects Overall	**Cost overall**	**No. of Defects to be Addressed by RPC**	**Cost to RPC**	**No. of Defects Requiring Additional Works**	**Cost of Additional Works Defects**
Cat 1 defects	0	0	0	0	0	0
Refer to ESTC	0	N/A	N/A	N/A	N/A	N/A
Cat 2 defects	0	0	0	0	0	0
Cat 3 defects	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**

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Appendix D

Weightings of Level 4 sub-elements, Level 3 elements & Level 2 Assets

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Weightings of Level 4 sub-elements, Level 3 elements & Level 2 Assets

SCHEDULE 1 - BUILDING ASSETS						
Level 3 Element		**Level 4 Sub-element**		**Percentages**		
1	**External fabric**	**a**	Foundations / Structure	5.0%	37.0%	100.0%
		b	Exterior Walls	5.0%		
		c	Flat roofing	5.0%		
		d	Pitched Slate / Tile / Metal Roofing	5.0%		
		e	Fire Escapes	5.0%		
		f	Exterior Doors	5.0%		
		g	External decorations	2.0%		
		h	Rain Water Goods / Roof Drainage / Soffits & Fascias	5.0%		
2	**Internal Fabric**	**a**	Windows	5.0%	18.0%	
		b	Interior Walls	2.0%		
		c	Floors	5.0%		
		d	Ceiling	2.0%		
		e	Internal Doors & Trim	2.0%		
		f	Internal decorations	2.0%		
3	**Plumbing / Heating**	**a**	Hot & Cold Water Pipework	2.0%	8.0%	
		b	Waste Pipework	2.0%		
		c	Pipes / Valves / Radiators	2.0%		
		d	Sanitary Fittings	2.0%		
4	**Fire**	**a**	Fire, cleanliness & housekeeping	2.0%	2.0%	
5	**Specialist Blast Items**	**a**	Blow out Panels	5.0%	25.0%	
		b	Ventilators	5.0%		
		c	Shock Isolators	5.0%		
		d	Blast Valves	5.0%		
		e	Cable Glands	5.0%		
6	**Traverses and Earth Mounds**	**a**	Retaining Walls	5.0%	10.0%	
		b	Traverse or Earth mound	5.0%		

SCHEDULE 2 - SITE WIDE INFRASTRUCTURE & UTILITIES						
1	**Vehicular Traffic**	**a**	Roads, Streets & Parking Areas	10.0%	45.0%	100.0%
		b	Kerbs & Gutters	10.0%		
		c	Footpaths	5.0%		
		d	Drainage	10.0%		
		e	Culverts	7.5%		
		h	Traffic Control Devices (Signage)	2.5%		
2	**Storm Water**	**a**	Drainage Ditches & Canals	10.0%	20.0%	
		b	Manholes & Manhole Covers	10.0%		
3	**Water Storage**	**a**	Pipes, Valves & Fittings	5.0%	15.0%	
		b	Elevated Storage Tanks	5.0%		
		d	Open Reservoirs	5.0%		
4	**Fuels**	**a**	Storage Tanks	5.0%	10.0%	
		b	Secondary Containment	5.0%		
5	**Grounds Maintenance**	**a**	Security Fencing	5.0%	10.0%	
		b	Grass, Trees & Vegetation	5.0%		

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Appendix E

Suggested Format for Professional Appraisal (PA) Reports

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Suggested Format for Professional Appraisal (PA) Reports

The following is a suggested format for the ESTC Standard 6, Part 2 (B&CE) Professional Appraisal reports.

Title Page

Structural appraisal of…
Name or describe building or structure
Give its location or address
State for whom prepared (full name of the client)
State who did the report (full name of engineer and firm)
Qualifications of reporter

Glossary of terms

1. Executive Summary

One, or at the most two, pages of plain succinct language summarising the report and investigations carried out together with a clear statement on the present and likely future condition of the facility.

2. Preamble

Client: It is advisable to commence with the name & address of the client.

Site: Required for identification purposes

Building Name & Number: Required for identification purposes

Date of inspection: The date of the inspection is important as there could be changes to the property subsequently.

Person Inspecting:

Qualifications of inspector:

Weather conditions: Some defects are more likely to be clearly visible under certain weather conditions, such as damp penetration and leaking rainwater goods in wet weather.

Sources of information: It is useful to record any sources of information concerning the building and the type of information obtained

History of building: The age of the building is significant

Age and alterations: The type of construction, form of services and likely repair & replacement requirements vary with the age of the building. Confirmation is required that any major alterations have been approved by ESTC.

Structural repairs: Major structural repairs should be recorded together with details of their effectiveness. The existence of any guarantees, as with wood infestation treatment, should also be included.

Flooding: Specific mention should be made of liability to flooding as this can both cause damage to the building and its contents.

3. Introduction

This should give a clear statement of the purpose of the survey, who carried it out & for whom, when & where, and the qualifications & experience of the inspector. All instructions from the client should be contained in this section.

4. Description

This section describes the facility. Photographs should be included wherever possible. There should be reference to any existing drawings and/or other available documentary evidence. The evidence must also be appended to the report.

5. Observations

This section is to describe all of the elements of the facility whether defects are noted or not. There needs to be explicit sections on each element (e.g. a separate sub-section for each external elevation, roof, floor, room, annex etc) with the condition of these and all defects clearly noted. If no defects are noted, this should also be clearly stated. Reference is to be made to the completed survey schedules (which should record matters related to ALL defects), and these should form the basis of the sub-section headings.

6. Sampling & testing (if required)

Details of any sampling and/or testing carried out as part of the survey are to be included in this section together with the results.

7. Calculations

Details of any calculations carried out (e.g. residual strength assessment where the corrosion of concrete reinforcement bard has been observed & considered to be of concern) are to be included in this section. The actual calculations prepared may be included in an Appendix to the report.

8. Discussion

This section discusses the significance and relative importance of each of the defects noted and how they affect the safety & stability of the facility under consideration. Reference is to be made to any calculations, sampling or testing carried out. Recommendations for any repair or maintenance work (including options) must also be provided together with the timescales in which it should be completed.

9. Conclusions

This section is to set out the reasoned judgements reached on the continued serviceability of the structure having taken careful consideration of all the evidence gained or created as part of the survey process.

10. Recommendations

This section is to set out any recommended actions that are required to ensure that the building can remain in a serviceable state for the remainder of its design life.

Appendices

A Completed Schedules

B Photographs

C Details of any building information or details reviewed for Section 3 of the report.

D Calculations prepared for Section 7 of the report

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Appendix F

ESTC Standard 6, Part 2 – B&CE Inspections – Change Proposal Form

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To:	
Head, Weapons Effects on Structures Section, Professional & Technical Services, Defence Infrastructure Organisation, Kingston Road, Sutton Coldfield, West Midlands, B75 7RL E-mail: *Not currently available – to follow.*	Serial Number [1] : . . . . . . Date Received [1] : . . . . . . *[1] To be entered by the Author, ESTC Standard 6, Part 2 (B&CE)*

ESTC Standard 6, Part 2 (B&CE) - Change Proposal Form (Revision A)

PART 1: **[to be completed by the originator]**

Originator Details:

Name:	Rank/Grade/Post: . . . . .
Unit/Establishment/Firm.	Contact Tel: . . . . .

ESTC Standard 6, Part 2 (B&CE) Details:

Section:		**Appendix:**	
Section:		**Appendix:**	

Observation:

Proposed Text:

Other Comments and / or Recommendations:

Supporting Evidence (Reports, Trials, etc):

PART 2: **[for completion by Author ESTC Standard 6, Part 2 (B&CE)]**	
Approved: Yes / No	Proposed for inclusion at Amendment: . . . . .
Reason for Non–approval:	
Signature:	Name: . . . . .
Post:	Date: . . . . .