Unexploded Ordnance (UXO)
Risk Management Plan
Guidelines

Project Name	
Site Address	
Client	
Date	

1st Line Defence
3 Maple Park, Essex Road, Hoddesdon. EN11 0EX
Tel +44 (0) 1992 245 020 Email info@1stlinedefence.co.uk
Web www.1stlinedefence.co.uk Company Reg No. 07717863

1ST LINE DEFENCE

Contents

Annexes

List of Report Annexes	
Annex A	What to do in the event of a suspect UXO find
Annex B	Suspect UXO Flow Chart

Glossary

List of Report Annexes	
UXO	Unexploded Ordnance
UXB	Unexploded Bomb
CDM	Construction Design Management
RAF	Royal Air Force
USAAF	United States Army Air Force
WWI	World War 1
WWII	World War 2
EOD	Explosive Ordnance Disposal

1st Line Defence Limited®
UXO Risk Management Plan Guidelines

i. Aim of Guidelines

This document is intended to provide guidance on the creation of an Unexploded Ordnance (UXO) Risk Management Plan to deal with the unexpected discovery of unexploded ordnance (or suspected unexploded ordnance) at construction/works sites across the UK.

It is designed to be used by contractors/developers who may be planning to undertake intrusive works at a site to ensure that every appropriate stage of the risk management process has been considered and implemented in order to reduce the risk from UXO to as low as reasonably practicable. If anything suspect is encountered on a site, the UXO Risk Management Plan held on-site should form the basis of the response.

A template form is included as an appendix to this document which the user can populate using these guidelines, either independently or with the assistance of a UXO Specialist if required. The steps within this plan are considered to be a minimum set of considerations for the management of UXO risk, but may not apply to every site and every situation.

Contact 1st Line Defence for more information or is assistance/advice is required.

ii. 'Health and Safety at Work Act and CDM Considerations

Site management should be aware of the responsibilities that are placed upon employers and employees by the Health and Safety at Work Act 1974 and 2015 CDM regulations. Although there is no specific reference to unexploded ordnance, there is a requirement to reduce the risk to all persons should a potential hazard on a site be identified. It is recommended that the potential for encountering unexploded ordnance and the associated potential hazards is considered for all construction projects. In outline, the H&S Act provides that:

a. All employers owe their staff and visitors a duty of care; the responsibility for safety on their premises rests with employers, not the police.

b. All employees take care of themselves and others. They are to report potential hazards and assist in the maintenance of a safe working environment.

c. Appropriate procedures must be in place in the event of serious, imminent danger.

d. There should be persons competent to implement the procedures. (A competent person is one who has sufficient training and experience or knowledge to do what is required of him or her).

e. Employees must be informed of the hazards and the steps to be taken. In the case of serious, imminent danger, work must be stopped immediately and people must be moved to a place of safety.

f. Access must be restricted and resumption of normal work prevented while the serious and imminent danger persists.

g. In the event of an incident, plans are disclosable and may be the subject of scrutiny in any subsequent enquiries or court proceedings.

iii. Background to UXO Risk in the UK

Buried UXO can present a significant risk to construction works and development projects. The discovery of a suspected device during works can cause considerable disruption to operations as well as cause unwanted delays and expense.

UXO in the UK can originate from three principal sources:

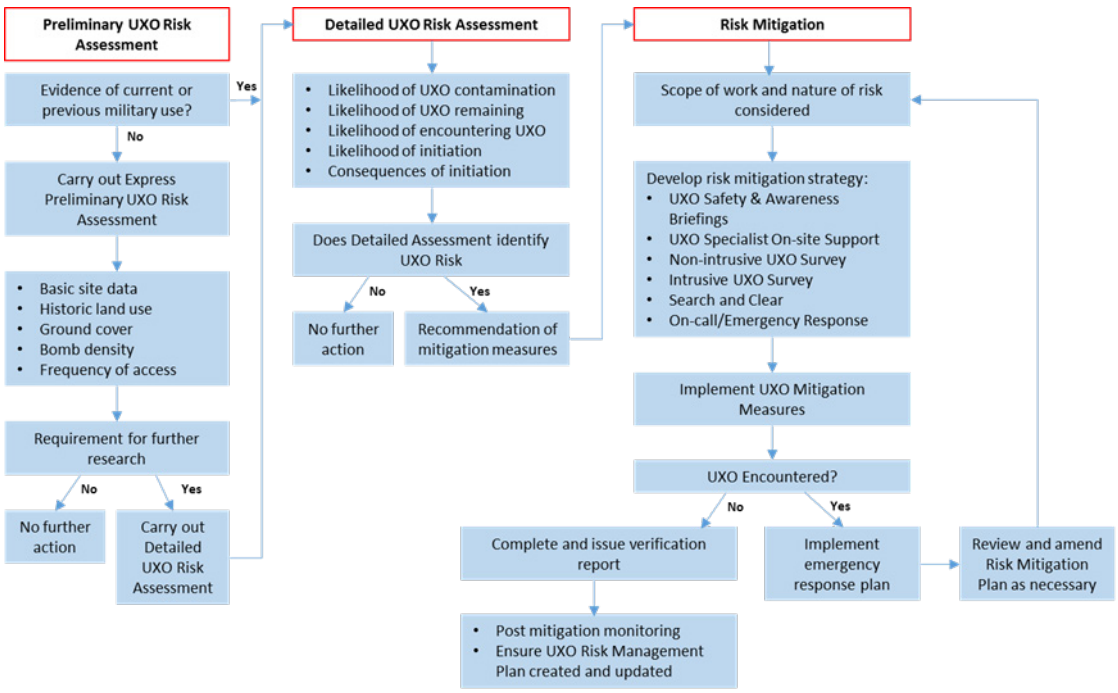
1. Munitions deposited as a result of military training and exercises.
2. Munitions lost, burnt, buried or otherwise discarded either deliberately, accidentally, or ineffectively.
3. Munitions resulting from wartime activities including German bombing in WWI and WWII, long range shelling, and defensive activities.

In urban areas, the primary consideration for potential contamination is often related to the potential for encountering aerial delivered bombs or unexploded anti-aircraft projectiles. There have been numerous high-profile unexploded bomb (UXB) finds across the UKs towns and cities in recent years, especially as increasing numbers of brownfield sites are developed.

In more rural areas, the focus can often be on current and historic military use – training areas, defensive positions, army camps, ranges, RAF/USAAF stations, explosive manufacturing, Home Guard activities etc. The 'housekeeping' of areas utilised historically by the military was often poor, and unexploded ordnance is still frequently encountered by members of the public or construction professionals across the UK.

iv. UXO Risk Management Process

It is important to understand the process by which UXO risk is assessed and mitigated. Documents such as CIRIA C681 UXO A guide for the Construction Industry are a useful starting point and provide valuable background information. Key elements of this process are outlined in the guide, but are also summarised for ease in the flowchart below:



v. Disclaimer

It should be noted that 1st Line Defence are not responsible for the completion of the UXO Risk Management Plan template (unless requested to do so) or the accuracy of information with which it is populated. The steps within this plan are considered to be a minimum set of considerations for the management of UXO risk, but may not apply to every site and every situation. They are purely general guidelines and a summary of what is considered 'best practice' in the industry. 1st Line Defence cannot be held responsible or accountable for any missing data, inaccuracies or oversights. The plan is intended to document how UXO risk has been considered, what has been undertaken to reduce any risk to as low as reasonably practicable, and what the emergency procedures are in the event that a suspect item of ordnance is encountered. Contact 1st Line Defence for more information or is assistance/advice is required.

1. UXO Risk Assessment

1.1. Has a UXO Risk Assessment been undertaken

It is a crucial part of a UXO Risk Management Plan that there has been an assessment of the UXO Risk. Risk can be defined as:

"*The chance or probability that a person will be harmed or experience an adverse health effect if exposed to a hazard. It may also apply to situations with property or equipment loss, or harmful effects on the environment.*"

The 'Hazard' in this case is defined as unexploded ordnance (a source of potential damage, harm or adverse health effects on something or someone).

It is always recommended that an appropriate desk-based UXO risk assessment is undertaken prior to or at the very early stages in a project to evaluate whether there is any potential risk from unexploded ordnance. On some sites, the risk may be already be evident (for example if ordnance has previously been discovered or the area is known to be contaminated), however it is still advised that a specific UXO risk assessment is undertaken.

There are two types of UXO Risk Assessment that are recommended by CIRIA guidelines *C681 Unexploded ordnance (UXO) A guide for the construction industry*. These are outlined below.

1.2. Stage 1 - Preliminary UXO Risk Assessment

Stage 1 should generally be the completion of a Preliminary UXO Risk Assessment. This should be undertaken at the earliest stage of development planning, before any finalisation of design or any ground works (including ground investigation works). These can be undertaken by the client, but it is recommended that a suitably qualified UXO specialist is asked to provide this.

Using relatively basic factors (such as military history/use, bombing density, historic land use, damage and access) the report should ascertain whether or not there is any requirement for additional, more detailed historical research, or whether the risk can be negated at that stage with no further research being required.

1.3. Stage 2 – Detailed UXO Risk Assessment

If it is determined following a Preliminary UXO Risk Assessment that further historical research is required on a site, or if a potential risk was identified by other means such as empirical evidence of historic UXO finds or former military use, then a Detailed UXO Risk Assessment should be undertaken by a suitably qualified and experienced UXO Specialist.

Detailed assessments should provide a comprehensive, unbiased and thorough appraisal of all appropriate historical source material in order to make an assessment of risk from unexploded ordnance. They should take into account the nature and scope of the proposed works as well as any mitigating factors. It is recommended that the overall assessment considers the following as a minimum:

1. The risk that a site could have become contaminated with UXO
2. The risk that UXO remains
3. The risk of encountering UXO
4. The risk of initiating UXO
5. The consequences of encounter or initiation

All available evidence should be presented and analysed so that it is made clear to the client exactly what information has been assessed and why the ascribed risk level has been reached.

Actions on Risk Management Plan Form:

- **Complete 'Section 1'**
- **Insert level of risk assessed in the UXO Risk Assessment – Low, Medium, High etc.**
- **Detail nature of risk – summary of the findings of the assessment, what type of UXO might be encountered (German Bombs, Allied grenades, mortars bullets etc.), what depths (if known)**

2. UXO Risk Mitigation Measures

2.1. Have appropriate risk mitigation measures been put in place?

Once a risk assessment has been undertaken and risk type and levels ascertained, the next stage is to assess how the risk can be managed for a particular project.

The following stages should be considered:

2.2. Undertake detailed evaluation of feasible risk mitigation options

A UXO specialist can advise on the most appropriate and effective mitigation measures which can be used to reduce the risk to as low as reasonably practicable. This often forms part of a Detailed UXO Risk Assessment.

The first stage of assessing an appropriate precaution measure to an assessment of potential UXO risk on a site is to determine whether the development plans can be revised in order to reduce the risk of encounter or initiation. For example, can shallow pad or raft foundations be used instead of piles? Can intrusive works in the 'at risk' areas be avoided – could the development be redesigned? Can the construction methods be altered to reduce or eliminate the risk of initiation? If they can, the resultant risk may be acceptable. If plans cannot be revised, mitigation measures must be put in place.

It is essential that what is recommended is appropriate and viable for the level of risk, the site, and the works proposed. For example, it will not be appropriate to conduct a non-intrusive magnetometer survey on a site where there is significant extraneous ferrous contamination (such as a previously developed 'brownfield' site) as it will not be possible to detect and model discreet anomalies which may be UXO related. On some sites, depending on the risk, it may be sufficient to just provide UXO safety and awareness briefings to ground personnel to make them aware of the potential threat and what to do in the event that a suspect item is encountered. If during this process, no feasible risk mitigation options can be identified, then it might be concluded that the development is not viable.

2.3. Examples of UXO Risk Mitigation Measures

Examples of risk mitigation measures that UXO Specialists can undertake are presented below:

a. Site Specific UXO Safety & Awareness Briefing

All personnel working on the site can be briefed on the basic identification of UXO and what to do in the event that a suspect item is encountered. This should, in the first instance, be undertaken by a UXO Specialist (see also Section 3.1). Posters and information on the risk of UXO should be held in the site office for reference.

b. A Non-Intrusive UXO Magnetometer Survey and Target Investigation

A Non-Intrusive survey can be undertaken using a man-portable or vehicle-towed magnetometer. Data is recorded and then interpreted to map magnetic fields and model discrete magnetic anomalies which may show the characteristics of UXO. A target list of anomalies can then be investigated by a target investigation team as part of a two-stage process.

This type of survey is only appropriate for certain ground conditions and has various limitations that should be understood and considered. Contact 1st Line Defence for more information regarding this survey.

c. UXO Specialist Presence on Site (UXO Watching Brief)

When on site the role of the UXO Specialist would include:

- Monitoring works using visual recognition and instrumentation, including immediate response to reports of suspicious objects or suspected items of ordnance that have been uncovered by the ground workers on site.
- Providing UXO awareness briefings to any staff that have not already received them and advise staff of the need to modify working practices to take account of the possibility of encountering UXO.

- To aid Incident Management which would involve liaison with the local authorities and Police should ordnance be identified and present an explosive hazard.
- Reduce site down-time by discounting non-UXO items and preventing misidentification.

d. Intrusive Magnetometer Survey of borehole and pile locations

1st Line Defence can deploy a range of intrusive magnetometer techniques to clear deep intrusive pile or borehole locations. The appropriate technique is influenced by a number of factors, but most importantly the site's ground conditions. The appropriate survey methodology would be confirmed once the enabling works have been completed.

e. Search and Clear

For certain sites, a systematic 'manual search' with handheld detection equipment to locate buried anomalies is an appropriate method to screen site areas before works. Generally/typically used for shallow clearance of Land Service Ammunition.

f. UXO Specialist On-Call

One or more UXO Specialists is assigned to a site and fully pre-briefed with relevant risk analysis. Whenever routine advice on risk mitigation measures is required, or during the encounter potential UXO, a phone call will dispatch an unexploded ordnance engineer to attend within an agreed timeframe to advise or manage the incident.

2.4. Risk Mitigation Plan Implementation

2.4.1. Implement Risk Mitigation Measures

A UXO specialist should be commissioned to implement the recommended mitigation measures and ensure that the measures are undertaken correctly, efficiently and accurately. This may involve Intrusive or Non-Intrusive UXO surveys, 'Watching Brief' support or Search and Clear operations etc. If unexploded ordnance is encountered, the emergency response plan should be initiated and the safe removal of the UXO should be co-ordinated. The mitigation plan should then be reviewed and amended as and where necessary following an incident prior to continuation of works.

2.4.2. Verification Report Issued

On completion of the UXO on-site support (Survey, Watching Brief etc.) and following the removal of any items of UXO encountered, the UXO specialist should issue a report, letter or confirmation detailing what measures have been undertaken and the results. This should enable confirmation that the risk on site has been reduced to as low as reasonably practicable.

2.4.3. Post-Mitigation Monitoring

Generally, even with the appropriate support of UXO specialists, UXO risk can rarely be entirely eliminated. The client should be aware of this and continue to monitor works and ensure that relevant personnel are aware of the potential risk and what to do in the event that a suspect item is encountered. The emergency response plan should always be available during the course of the proposed ground works.

Actions on Risk Management Plan Form:

- **Complete 'Section 2'**
- **Detail/summarise the measures that have been recommended and/or carried out to reduce the risk from UXO**

3. Site UXO Coordinator

3.1. Have Nominated Site UXO Coordinators been Identified and Trained?

In the event that a UXO Specialist is not present on site or is unavailable, a suitable person (or ideally multiple nominated persons – there should be at least one 'secondary' contact) should be identified to act as a "UXO Coordinator". This may be the Site Manager or Health and Safety Manager. They should be responsible for:

- Ensuring new site personnel are informed of the potential UXO risk and of the actions to take should a suspect item be encountered.
- Enacting the 'Actions on Discovery of Suspect Item' checklist (see below).
- Assist with evacuation if a suspect item of UXO is found or confirmed.
- Contact and liaise with 1st Line Defence, the client and the authorities if a suspect item of UXO is found or confirmed.
- The UXO Co-ordinator should be prepared to brief local residents and the media (depending on the client's policy on this matter – see Lines of Communication section).

Actions on Risk Management Plan Form:

- **Complete 'Section 3'**
- **List name and contact details of nominated UXO Coordinators**

3.2. Actions on Discovery of a Suspect Item

The designated UXO coordinator should make themselves fully aware of the emergency response procedures to take in the event of a suspect item being encountered. A step-by-step summary of the emergency response procedures to follow is outlined in the attached 'poster'.

The process will differ depending on whether a qualified UXO specialist is present on site at the time of the discovery. In the absence of a specialist, it will often be necessary for the Police and EOD teams to attend to make that assessment and to deal with anything that is deemed to be live and potentially dangerous.

It is recommended that all ground personnel and visitors are made aware of these flow charts/procedures – ideally they should be presented on notice boards around the site/in site offices.

Actions on Risk Management Plan Form:

- **Complete 'Section 3'**
- **List name and contact details of nominated UXO Coordinators**

4. Worker/Visitor UXO Awareness

4.1. What are the Arrangements for Worker/Visitor UXO Awareness?

It is imperative that all staff and visitors are made aware of the evacuation/emergency response procedure in the event that a suspect item is encountered on site.

- All ground personnel should be informed of the potential UXO risk and of the emergency response to a suspect find as part of induction and/or tool box briefs.
- All visitors to site should be informed of the potential UXO risk and of the emergency response to a suspect find as part of visitor induction

The 'Suspect UXO Action Flow Chart' (attached at the end of this document) can be displayed on site information boards and made available to staff and ground personnel.

Actions on Risk Management Plan Form:

- **Complete 'Section 4'**
- **Display "Actions on Discovery of Suspect Item" poster on site**
- **Incorporate UXO background and awareness into general site induction**
- **Ensure site personnel have received a UXO Safety and Awareness Briefing**

5. Lines of Communication

5.1. Are Appropriate Lines of Communication in Place in the Event of a UXO Incident?

In the event that a suspect item is identified on site, there must be an effective means of communication in place to allow awareness of the item to be raised, and emergency response procedures to be enacted if necessary.

The site operative who finds a suspect item must be able to immediately report this find to their Foreman/Site Manager who in turn must contact the nominated UXO Coordinator (and/or UXO Specialist if present on site).

Ensure appropriate communications equipment is available to the UXO Coordinator to enable them to alert personnel to a find or if required an evacuation (radios, phones, PA system etc.). The UXO Risk Management Plan should list all emergency contact numbers including 1st Line Defence, police, local hospital, key personnel etc.

5.2. Reporting a Find to Public/Media

At all stages of a find/event, it is important that all staff are kept regularly informed of what is occurring. The UXO Coordinator should be prepared to brief local residents and the media if necessary (depending on the client's policy on this matter). Often it may be necessary/desired to write a specific statement for the media if there is considerable interest.

The discovery of an item of UXO will often attract interest from the public and media alike, and this should be considered when formulating a risk management plan. It will generally be preferable not to report or make a find public until it has been confirmed as UXO and the risk it poses has been properly assessed. On some sites, it may be of interest to the client/developer not to make the incident public at all, and just to have it dealt with quickly and effectively internally so that work can continue. In this regard, it is important to inform ground personnel (especially those who have encountered a suspect item) how you wish any incident to be reported and to be mindful of those personnel making the find public or placing photographs on social media.

Actions on Risk Management Plan Form:

- **Complete 'Section 5'**
- **Summarise site communications protocol to raise alarm**
- **List site emergency contact numbers**

6. Site Evacuation

6.1. How will the Site be Evacuated in the Case of an Emergency?

All construction sites should have a plan for evacuation in the case of an emergency (fire, gas leak, building collapse etc.). The general site emergency evacuation plan may be utilised in the event of a UXO-related evacuation. However, there are a number of additional considerations.

The purpose of evacuation plan is to move personnel from an area where they might be at risk to a place of safety. The biggest dilemma facing the UXO Co-ordinator (or on-site UXO Specialist) is how to judge what might constitute a place of safety. If, for example, an evacuation route to a place of safety would take personnel past the suspected ordnance, evacuation may be the riskiest course to take (generally however, there should be more than one escape route).

NOTE - under no circumstances should suspect items be moved or interfered with by site personnel.

The decision to evacuate will normally be taken by the Site Safety Officer, but the police will advise. In exceptional cases the police may insist on evacuation, but they will always need the help of the UXO Coordinator. A UXO Specialist will provide advice if/when on site.

In order to react sensibly, evacuation plans must be prepared in advance of any work. Depending upon the circumstances of the site – its size, the number of exits, number of muster points/secondary muster points and the amount of public access. The evacuation plan may involve:

a. Raising the alarm
b. Designated assembly areas/muster points
c. Trained marshalling staff
d. Full evacuation outside the site or to an off-site location.
e. Evacuation of part of the building if the device is small and thought to be a one-off confined to one location (e.g. a small incendiary type device).

All plans must cover:

a. Designated routes and exits.
b. A means of communicating effectively with site staff who may need directing away from one route if it is likely to take them into danger.
c. The designated site staff to act as marshals during the evacuation (especially if there are likely to be a number of the public or various contractors on the site) and/or act as the 'point of contact' once the assembly area is reached.
d. An assembly area or areas at least 100m from the site of the suspicious object (and out of direct line of sight, preferably with hard structures in between) and an alternative area or areas. This distance will put site staff beyond police cordons for large high explosive ordnance. However, for absolute safety an alternative assembly area or areas at least 1000m away may have to be considered for large items of UXO.
e. Training for staff with particular responsibilities, and rehearsals for all staff.
f. Under no accounts should site personnel re-enter the site until it has been declared safe.
g. All site personnel at the designated muster points should be checked off against the attendance register/roll calls.

NOTE: You only have the jurisdiction to evacuate personnel from your own site. It is the responsibility of the Police to consider the evacuation of surrounding premises or public areas. Your existing fire/emergency plan should include procedure for the discovery of UXO.

Actions on Risk Management Plan Form:

- **Complete 'Section 6'**
- **Summarise site evacuation plan – may be linked to site fire/emergency escape plan**
- **Identify and list muster points on and off-site**
- **Maps of primary and alternative evacuation routes**
- **Ensure visitors and site workers are aware of evacuation procedure**
- **Detail arrangements to check-off and account for all personnel and visitors at muster points**

Unexploded Ordnance (UXO)
Risk Management Plan

Project Name	
Site Address	
Client	
Date	

1st Line Defence
3 Maple Park, Essex Road, Hoddesdon. EN11 0EX
Tel +44 (0) 1992 245 020 Email info@1stlinedefence.co.uk
Web www.1stlinedefence.co.uk Company Reg No. 07717863

1ST LINE DEFENCE

Notes for the reader:

- To be filled in by site health and safety manager or equivalent competent person.
- The template below is designed to be completed by the client or a representative of the client who is responsible for the management or health and safety of a project site[1].
- It is designed to be site specific and once completed, it acts as an Unexploded Ordnance (UXO) Risk Management Plan to stay on site for the duration of the project.
- The template takes the user through the recommended steps and considerations that should be taken into account or actioned in order to effectively deal with potential UXO risk during a construction project.
- This template should be completed with reference to 1st Line Defence UXO Risk Management Guidelines Sections 1-6.
- It should be noted that 1st Line Defence are not responsible for the completion of this document or the accuracy of information with which it is populated. The steps within this plan are considered to be a minimum (but not limited) 'best practice' set of considerations for the management of UXO risk, but may not apply to every site and every situation. Contact 1st Line Defence for more information or if assistance/advice is required.

Project/Site Information	
Client Name	Office Buildings Ltd
Contractor Name	South East Building Company
Project Name	Riverside Development
Project Reference (if applicable)	SEBC3422
Site Address	Riverside Development River Road London SE1 2QQ
Name of Client Representative completing UXO Plan	Anthony Thompson
Site Opening Hours	07:30 – 18:00
Approx. max number of people on site	50
What is the nature of the proposed development/works	Multi-storey residential development with shops and recreational space/soft landscaping. Main development will be constructed on piled foundations. Excavation of a single basement level. Open excavations for drainage, services etc.

[1] If required, 1st Line Defence can complete the form on behalf of the client.

Section 1 – UXO Risk Assessment				
Has a UXO Risk Assessment been undertaken for this project?	Yes	x	No	

If 'No', it is recommended that an assessment is undertaken before continuing. In certain circumstances, this may not be essential (such as where UXO has already been encountered on a site, or where there is empirical evidence of UXO risk). However, even in these cases, it is recommended that the risk to works be assessed by a UXO specialist – contact 1st Line Defence for more information.

Who undertook UXO Risk Assessment	1st Line Defence Ltd
What risk from UXO was assessed? *Generally, UXO risk assessments will rate the risk on site low, low-medium, medium, medium-high, high or very high (or a combination of these if the site is 'zoned' into different risk areas). If a risk map has been created, add this as an attachment to this plan and reference the report.* *List the nature of the threat identified – German bombs, British land service ammunition (grenades, mortars, mines etc.) anti-aircraft projectiles.*	Site was 'risk mapped'. Northern section of site assessed as Medium Risk from German air-delivered ordnance and unexploded anti-aircraft projectiles. Southern half of site identified as Low Risk from German air-delivered ordnance and UX AA. Whole site assessed Low Risk from Allied land service/small arms ammunition. Risk map can be found in Detailed UXO Risk Assessment for River Road (Ref DA6445) dated June 2018.
Outline the key points of the risk assessment/summary of findings *Summarise the main points of the assessment – history of the site (especially any military history) whether it is bombed, bomb damage, frequency of access, ground cover etc.*	Site is within the Borough of Bermondsey which sustained an overall high density of bombing during WWII due to its position in the east of London and the various key targets in the area. Historical mapping indicates that at the start of the war the site was occupied entirely by four rows of terraced residential properties and their associated yards/gardens. The area was typified by such properties, with a Gas Works present to the immediate west of the site and an area of railway sidings noted 50m to the south. London bomb census mapping records three high explosive bomb strikes within the site boundary – two in October 1940 and a 500kg bomb in January 1941. An additional strike is shown on the southern boundary of the site on Local bomb mapping. Post-war mapping and high-resolution 1945 aerial imagery show all but three of the terraced houses to have been cleared by the end of the war. LCC damage mapping indicates that most of the structures sustained 'damaged beyond repair' which is substantiated by written ARP reports which record serious damage on two of the roads which ran through the site. There is considered to be a risk that evidence of unexploded bombs could easily have been overlooked within the debris and rubble that would have been present on site, and therefore gone unreported. A buffer zone was added to the damaged areas to account for the possibility of 'J-curve' (where by a UXB can end its trajectory at a lateral offset from point of entry). Post-war, garages were constructed on site which have subsequently been demolished.

Section 2 – UXO Risk Mitigation Measures				
What UXO risk mitigation measures have been or will be put in place? (please outline) *A UXO Specialist can recommend and provide various types of risk mitigation measures, both proactive and reactive which can be undertaken to reduce the risk from UXO to as low as reasonably practicable (ALARP)*	UXO Safety and Awareness Briefing to all personnel undertaking ground works on site. Intrusive UXO Magnetometer Survey has been undertaken covering all pile locations in the Medium Risk area of the site. UXO Specialist present on site to monitor excavation of basement level and excavations for drainage/services in the Medium Risk area of the site.			
Name of UXO Consultant	1st Line Defence Ltd			
Contact Details of UXO Consultant	01992 245 020			
Verification report provided following on-site support?	Yes	x	No	
Verification that UXO risk mitigation measures have been undertaken, including details of the methodology used, should be attached with this plan. This can be provided by the UXO specialist who undertook the support. This is often only provided following Intrusive or Non-intrusive UXO Survey.				
Has UXO been encountered on site? (provide details)	No – intrusive magnetometer survey did not detect any objects with characteristics similar to that of a buried UXB at any of the pile locations. No UXO encountered during UXO Specialist 'Watch and Brief'. One suspect object identified by ground worker – confirmed as non-UXO related by on-site specialist.			

Section 3 - Site UXO Coordinator(s)				
Has a site UXO Coordinator(s) been identified and trained?	Yes	x	No	
In the event that a UXO Specialist is not present on site or is unavailable, a suitable person (or ideally multiple nominated persons) should be identified to act as a "UXO Coordinator". This will often be the person(s) responsible for management or health & safety of the site. If a suspect item is encountered, the UXO Coordinator should be informed.				

Primary UXO Coordinator	Name	Steven Smith
	Primary Contact No.	07854 254887
	Secondary Contact No.	020 125 21455
	Email address	steven.smith@company.com
Secondary UXO Coordinator	Name	Gary Jones
	Primary Contact No.	07541 122797
	Secondary Contact No.	020 125 21456
	Email address	gary.jones@company.com

Section 4 - Worker/Visitor/Sub-contractor UXO Awareness				
Is UXO Awareness incorporated into site visitor induction?	Yes	x	No	
"Actions on Discovery of Suspect Item" poster displayed on-site?	Yes	x	No	
Do ground workers receive a UXO safety and awareness briefing?	Yes	x	No	
If the answer to any of the above is 'no', it is recommended that these points be reviewed and actioned where possible.				

Section 5 – Lines of Communication		
Communications Protocol *Summarise the means of communicating/raising alarm in the event that a suspect item is encountered – mobile phone, radio, PA system, runners etc.*	Site managers and foremen carry mobile phones on site at all times for communication. If a worker encounters a suspect item, they are trained to inform their direct supervisor. Runners will be sent if necessary.	
Local Emergency Contact Details	Police Station No. *If not known or in event of emergency, always dial 999*	020 123 456
	Hospital No.	020 123 456
	Hospital Address	Guy's Hospital, Great Maze Pond, London SE1 9RT
	1st Line Defence	01992 245020
	Site Manager No.	07844 123 456
	Client Contact No.	07411 123 456
	Site emergency/out of hours contact number	07411 123 456

Section 6 – Evacuation Planning				
Is there a plan for evacuating the site in place – e.g. in the event of fire?	Yes	x	No	
If 'Yes', attach evacuation plan and evacuation routes to this document. The plan should show emergency muster points off site. Ideally, plan should also show location of site office, welfare units, toilets, fuel dumps etc. If 'No', develop a plan for evacuating the site showing alternative exit routes.				
Are workers/visitors/sub-contractors made aware of evacuation plan?	Yes	x	No	

How are visitors made aware of evacuation plan?	Any visitor to site informed to make themselves familiar with emergency plan on wall of reception when signing in to site. Visitors informed whether any drills are being undertaken, sound of alarm and secondary exits from site.
Summarise means of raising alarm on site/evacuation plan	If it is required for site to be evacuated in an emergency situation, manual fire bells are installed throughout site at six locations. Trained fire marshals will ensure site staff and visitors leave site through most suitable exit and meet at muster points.
Detail arrangements for checking off and accounting for all workers/visitors	Visitor sign in book and worker in/out sheet collected by reception staff in main office and taken to main muster point at front site car park. Each worker and visitor checked off on list and accounted for.

Unexploded Ordnance (UXO)
Risk Management Plan

Project Name	
Site Address	
Client	
Date	

1st Line Defence
3 Maple Park, Essex Road, Hoddesdon. EN11 0EX
Tel +44 (0) 1992 245 020 Email info@1stlinedefence.co.uk
Web www.1stlinedefence.co.uk Company Reg No. 07717863

1ST LINE DEFENCE

Notes for the reader:

- To be filled in by site health and safety manager or equivalent competent person.
- The template below is designed to be completed by the client or a representative of the client who is responsible for the management or health and safety of a project site[1].
- It is designed to be site specific and once completed, it acts as an Unexploded Ordnance (UXO) Risk Management Plan to stay on site for the duration of the project.
- The template takes the user through the recommended steps and considerations that should be taken into account or actioned in order to effectively deal with potential UXO risk during a construction project.
- This template should be completed with reference to 1st Line Defence UXO Risk Management Guidelines Sections 1-6.
- It should be noted that 1st Line Defence are not responsible for the completion of this document or the accuracy of information with which it is populated. The steps within this plan are considered to be a minimum (but not limited) 'best practice' set of considerations for the management of UXO risk, but may not apply to every site and every situation. Contact 1st Line Defence for more information or if assistance/advice is required.

Project/Site Information	
Client Name	
Contractor Name	
Project Name	
Project Reference (if applicable)	
Site Address	
Name of Client Representative completing UXO Plan	
Site Opening Hours	
Approx. max number of people on site	
What is the nature of the proposed development/works	

[1] If required, 1st Line Defence can complete the form on behalf of the client.

Section 1 – UXO Risk Assessment				
Has a UXO Risk Assessment been undertaken for this project?	Yes		No	
If 'No', it is recommended that an assessment is undertaken before continuing. In certain circumstances, this may not be essential (such as where UXO has already been encountered on a site, or where there is empirical evidence of UXO risk). However, even in these cases, it is recommended that the risk to works be assessed by a UXO specialist – contact 1st Line Defence for more information.				
Who undertook UXO Risk Assessment				
What risk from UXO was assessed? *Generally, UXO risk assessments will rate the risk on site low, low-medium, medium, medium-high, high or very high (or a combination of these if the site is 'zoned' into different risk areas). If a risk map has been created, add this as an attachment to this plan and reference the report.* *List the nature of the threat identified – German bombs, British land service ammunition (grenades, mortars, mines etc.) anti-aircraft projectiles.*				
Outline the key points of the risk assessment/summary of findings *Summarise the main points of the assessment – history of the site (especially any military history) whether it is bombed, bomb damage, frequency of access, ground cover etc.*				

Section 2 – UXO Risk Mitigation Measures				
What UXO risk mitigation measures have been or will be put in place? (please outline) *A UXO Specialist can recommend and provide various types of risk mitigation measures, both proactive and reactive which can be undertaken to reduce the risk from UXO to as low as reasonably practicable (ALARP)*				
Name of UXO Consultant				
Contact Details of UXO Consultant				
Verification report provided following on-site support?	Yes		No	
Verification that UXO risk mitigation measures have been undertaken, including details of the methodology used, should be attached with this plan. This can be provided by the UXO specialist who undertook the support. This is often only provided following Intrusive or Non-intrusive UXO Survey.				
Has UXO been encountered on site? (provide details)				

Section 3 - Site UXO Coordinator(s)				
Has a site UXO Coordinator(s) been identified and trained?	Yes		No	
In the event that a UXO Specialist is not present on site or is unavailable, a suitable person (or ideally multiple nominated persons) should be identified to act as a "UXO Coordinator". This will often be the person(s) responsible for management or health & safety of the site. If a suspect item is encountered, the UXO Coordinator should be informed.				

Primary UXO Coordinator	Name	
	Primary Contact No.	
	Secondary Contact No.	
	Email address	
Secondary UXO Coordinator	Name	
	Primary Contact No.	
	Secondary Contact No.	
	Email address	

Section 4 - Worker/Visitor/Sub-contractor UXO Awareness				
Is UXO Awareness incorporated into site visitor induction?	Yes		No	
"Actions on Discovery of Suspect Item" poster displayed on-site?	Yes		No	
Do ground workers receive a UXO safety and awareness briefing?	Yes		No	
If the answer to any of the above is 'no', it is recommended that these points be reviewed and actioned where possible.				

Section 5 – Lines of Communication		
Communications Protocol *Summarise the means of communicating/raising alarm in the event that a suspect item is encountered – mobile phone, radio, PA system, runners etc.*		
Local Emergency Contact Details	Police Station No. *If not known or in event of emergency, always dial 999*	
	Hospital No.	
	Hospital Address	
	1st Line Defence	
	Site Manager No.	
	Client Contact No.	
	Site emergency/out of hours contact number	

Section 6 – Evacuation Planning				
Is there a plan for evacuating the site in place – e.g. in the event of fire?	Yes		No	
If 'Yes', attach evacuation plan and evacuation routes to this document. The plan should show emergency muster points off site. Ideally, plan should also show location of site office, welfare units, toilets, fuel dumps etc. If 'No', develop a plan for evacuating the site showing alternative exit routes.				
Are workers/visitors/sub-contractors made aware of evacuation plan?	Yes		No	
How are visitors made aware of evacuation plan?				
Summarise means of raising alarm on site/evacuation plan				
Detail arrangements for checking off and accounting for all workers/visitors				

Don't touch it, report it

Historic Unexploded Ordnance (UXO) can pose a risk on construction sites

Follow this simple procedure if a suspicious item is found on-site:

Stop
Do not touch or interfere with the item

Clear
Evacuate the area

Cordon
Set up exclusion zone (approx. 100m)

Call
Inform Site Supervisor/Manager

Have an incident and need advice?

Call 1st Line Defence

01992 245 020

1ST LINE DEFENCE

SUSPECTED UXO
ACTION FLOWCHART

1ST LINE DEFENCE

Suspect object/potential item of ordnance discovered by a site operative

STOP WORK AND DO NOT TOUCH OR DISTURB THE SUSPECT OBJECT

Is a qualified UXO Specialist present on-site?

NO

Inform nominated Site H&S Supervisor/ UXO Coordinator of suspect object

Can item be obviously identified to be non-ordnance related?

YES

NO

DO NOT TOUCH OR INTERFER WITH OBJECT

Seek 1st Line Defence advice
CALL 01992 245 020
Mark location of object and photograph item if possible (use a size/scale reference). Cordon area (cordon extent to be advised by 1st Line Defence), prevent access and await further advice or arrival

Item still suspected to be UXO?

NO

YES

Maintain cordon and continue to prevent access. Set up control point.

CALL THE POLICE

Inform Police that a suspect item of WWII ordnance has been found. Confirm location and provide details of suspect item, number of people on-site, contact details of supervisor and person who found suspect item.

Police/Military EOD Team attends site control point, briefed by site UXO Coordinator & take control of incident.

Item still suspected as UXO by EOD Team?

NO

Not an item of ordnance

YES

Item rendered safe, disposed of and/or removed from site

Close incident & Return to Work

YES

Inform 1st Line Defence operative of suspect object

Item has been confirmed as UXO or UXO-related by 1st Line Defence operative?

NO

Not an item of ordnance

YES

DO NOT TOUCH OR INTERFER WITH OBJECT

Hazard Assessment by 1st Line Defence operative

MAJOR HAZARD

EVACUATION

1. 1st Line Defence operative will initiate emergency response procedure.
2. Suitable cordon implemented and site evacuated if necessary.
3. Police/EOD teams contacted.

Military EOD Team attends. Render Safe/Disposal Plan

MINOR HAZARD

(Safe to Move, Inert, Practice, Expended, Scrap etc.)

Item has been removed from area to a Secure Storage location on site

Item has been removed from site for Disposal

Examples of Unexploded Ordnance found in the UK

German HE Bomb (250kg)

German Incendiary Bomb (1kg)

10lb Practice Bomb

2-Inch HE Mortar

25lb HE projectile

No. 36 Mills Grenade

Call 1st Line Defence

01992 245 020

1ST LINE DEFENCE