

Chapter 17: Major Accidents and Disasters

Table of Contents

17.	Major Accidents and Disasters.....	1
17.1	Introduction.....	1
17.2	Legislation, Policy and Guidance.....	2
17.3	Consultation.....	4
17.4	Scope of Assessment	6
17.5	Assessment Methodology.....	13
17.6	Project-Wide Environmental Design, Standards and Management	20
17.7	Baseline Conditions.....	21
17.8	Assessment of Effects and Significance	23
17.9	Summary and Next Steps.....	23
17.10	References	24

Tables

Table 17-1: Supporting documentation.....	2
Table 17-2: Summary of MA&Ds assessment scope.....	7
Table 17-3: Degree of harm scoring categories	17
Table 17-4: Probability Criteria.....	19
Table 17-5: Risk Evaluation Criteria Matrix.....	19
Table 17-6: Level of Risk	19

17. Major Accidents and Disasters

17.1 Introduction

- 17.1.1 This Preliminary Environmental Information (PEI) Report chapter presents a preliminary review of effects in relation to Major Accidents and Disasters (hereafter referred to as 'MA&Ds') of relevance to the Proposed Development. This preliminary review follows the scope outlined within the EIA Scoping Report and agreed within the Scoping Opinion (provided in **Appendices 5-PD-1** and **5-PD-2**, respectively, in PEI Report **Volume 4**) and is based on the environmental information obtained to date and the description of the Proposed Development as presented in **Chapter 3: The Proposed Development** in PEI Report **Volume 2**. Further review of the potential for significant MA&Ds effects will be undertaken at the ES stage and assessed if required.
- 17.1.2 As set out in the Institute of Sustainability and Environmental Professionals¹ (ISEP) guidance 'MA&Ds in EIA: A Primer' (the 'ISEP Primer') (Ref. 1 'accidents' and 'disasters', are defined as follows:
- a. 'Accidents' are an occurrence resulting from uncontrolled developments in the course of construction, operation, and maintenance, and decommissioning (e.g. a major emission, fire or explosion); and
 - b. 'Disasters' are naturally occurring extreme weather events or ground related hazard events (e.g. subsidence, landslide, earthquake).
- 17.1.3 Following the agreement of scope from the Planning Inspectorate (PINS) in the Scoping Opinion, this chapter focuses on the potential for a significant increase in the likelihood of a 'boating incident'² on the canal network or on the reservoirs' during the construction and/or operation of the Proposed Development, as all other risk events have been scoped out (refer to **Appendix 17-PD-1** provided in PEI Report **Volume 4** for further detail).

¹ Formerly the Institute of Environmental Management and Assessment (IEMA)

² Boating incidents for the purposes of this chapter refers to incidents occurring between traffic using the canals or Drayton reservoir, caused by construction activities and/ or new operating regimes. This could include direct impacts such as strikes between boats and construction machinery, new canal infrastructure, and existing infrastructure. There could also include indirect impacts as a result of boating incidents, such as fuel spills.

17.1.4 The chapter is supported by the appendices listed in **Table 17-1**.

Table 17-1: Supporting documentation

Reference	Title
<i>Appendices (provided in PEI Report Volume 4)</i>	
Appendix 17-PD-1	Scoping of Major Accident and Disaster Risks

17.1.5 There are relationships between MA&Ds and other environmental topics. Therefore, please also refer to the following:

- a. **Chapter 10: Climate** in PEI Report **Volume 2** considers the construction and operation of Proposed Development and evaluates the potential risks that may result from climate change;
- b. **Chapter 12: Ecology – Aquatic** in PEI Report **Volume 2** provides baseline information in relation to aquatic ecology;
- c. **Chapter 13: Ecology – Terrestrial** in PEI Report **Volume 2** provides baseline information in relation to terrestrial ecology;
- d. **Chapter 14: Ground Conditions** in PEI Report **Volume 2** considers the assessment of the potential significant ground conditions effects arising from the construction and operation of the Proposed Development;
- e. **Chapter 15: Human Health** in PEI Report **Volume 2** considers the potential impacts of the Proposed Development on the health and wellbeing of the population;
- f. **Chapter 22: Water Environment and Flood Risk** in PEI Report **Volume 2** considers the potential significant effects arising from the construction and operation of the Proposed Development on the water environment and flood risk; and
- g. **Appendix 22-PD-3: Preliminary Flood Risk Assessment** in PEI Report **Volume 4** considers flood risk associated with the Proposed Development.

17.2 Legislation, Policy and Guidance

17.2.1 Legislation, policy³, and standards and guidance relating to MA&Ds and pertinent to the Proposed Development comprises of the documents listed below.

³ For the purposes of this PEI Report an overview of relevant planning policy is provided to show how relevant policy has informed scope, method and in

Legislative Framework

17.2.2 Relevant legislation comprises:

- a. Civil Contingencies Act 2004 (Ref. 2);
- b. The Building Regulations 2010 (Ref. 3);
- c. The Construction (Design and Management) Regulations 2015 (Ref. 4) (the 'CDM Regulations');
- d. The Control of Substances Hazardous to Health Regulations 2002 (Ref. 5) (COSHH);
- e. The Environmental Permitting (England and Wales) Regulations 2016 (Ref. 6);
- f. Health and Safety at Work etc. Act 1974 (Ref. 7);
- g. The Lifting Operations and Lifting Equipment Regulations 1998 (Ref. 8);
- h. The Management of Health and Safety at Work Regulations 1999 (Ref. 9);
- i. The Pipelines Safety Regulations 1996 (Ref. 10);
- j. The Regulatory Reform (Fire Safety) Order 2005 (Ref. 11);
- k. Reservoirs Act 1975 (Ref. 12);
- l. Water Industry Act 1991 (Ref. 13);
- m. The Workplace (Health, Safety and Welfare) Regulations 1992 (Ref. 14);
- n. The Control of Major Accident Hazards Regulations 2015 (Ref. 15) (COMAH); and
- o. The Planning (Hazardous Substances) Regulations 2015 (Ref. 16).

some cases mitigation. It is not the purpose of the PEI Report (or the Environmental Statement [ES]) to present a review of the compliance of the Proposed Development with the requirements of planning policy. The Planning Statement, to be submitted with the (DCO) application, will present an assessment of the extent to which the Proposed Development accords with planning policy.

National Policy

17.2.3 Relevant national policy includes:

- a. National Policy Statement for Water Resources Infrastructure (NPSWRI) (Ref. 17) the relevant national policy statement that has effect in relation to the Proposed Development;
- b. National Risk Register (Ref. 18); and
- c. National Planning Policy Framework (Ref. 19).

Local Policy

17.2.4 Local policy to be considered includes relevant Local Plans (both adopted and emerging) and other adopted policy documents produced by the ten local authority administrative areas within which the Proposed Development is situated (refer to Table 1-4 in **Chapter 1: Introduction** in PEI Report **Volume 2**).

National Guidance

17.2.5 There is no specific national guidance available which sets out the approach for undertaking a MA&Ds assessment within an Environmental Impact Assessment (EIA). However, the scope of the assessment has been developed with reference to the guidance documents set out in paragraph 17.2.6.

17.2.6 Other relevant guidance includes:

- a. European Commission's 2017 Guidance on EIA (Ref. 20);
- b. The International Standards Organization's (ISO) ISO 31000:2018 Risk Management – Guidelines (Ref. 21);
- c. ISEP MA&Ds Primer (Ref. 1); and
- d. Cabinet Office's Emergency Preparedness guidance (the 'Emergency Preparedness guidance') (Ref. 22).

17.3 Consultation

17.3.1 This section provides an overview of consultation undertaken to date in relation to MA&Ds.

Phase One Public Consultation

17.3.2 Key topics of relevance to MA&Ds raised during Phase One Public Consultation⁴ included:

- a. Concerns relating to Flood Risk – a Flood Risk Assessment (FRA) will be undertaken as part of the EIA (a preliminary FRA is provided in **Appendix 22-PD-3 Flood Risk Assessment** in **Volume 4** of this PEI Report) which will consider flood risk impacts and mitigation requirements in detail; and
- b. The interface between the Proposed Development and any existing major accident hazard pipelines – further engagement with statutory undertakers will be undertaken for any services, including existing major accident hazard pipelines, potentially impacted by the Proposed Development. This will inform design development and the drafting of any protective provisions to be included in the draft Development Consent Order (DCO) for the benefit of Statutory Undertakers.

EIA Scoping

- 17.3.3 **Appendix 5-PD-2** in **PEI Report Volume 4** presents PINS EIA Scoping Opinion. Comments that relate to Major Accidents and Disasters generally confirmed agreement with the proposed scope set out in the Scoping Report. These comments have been noted and therefore do not require any further action.
- 17.3.4 However, in relation to fire / explosion hazard during construction, PINS stated that this topic can be scoped out provided that any assessment of unexploded ordnance does not identify the Site as being of high risk. For any part of the Site where there is a high risk, this topic should be scoped in. Currently a Preliminary Risk Assessment (PRA) has not been undertaken, and consequently, an assessment of fire / explosion hazard during construction has not been provided for this PEI Report. A PRA will be undertaken to support the ES, if this identifies high risk of fire / explosion hazard during construction, then this will be assessed in relation to MA&Ds in the ES.

⁴ A Phase One Public Consultation Report has been made available at Phase Two Public Consultation, which sets out activities undertaken to deliver the consultation and provides a summary of the key themes and issues raised, and how the project has considered these.

Other consultation

- 17.3.5 No additional consultation has been undertaken in relation to MA&Ds to date.

17.4 Scope of Assessment

- 17.4.1 The long list of Major Accident and Disaster Hazards and Threats (the 'long list') prepared as part of the EIA Scoping Report has been updated to include design evolution, new baseline information and the preliminary assessments presented within **Volume 2** of the **PEI Report**. The updated MA&Ds long list is included as **Appendix 17-PD-1** in PEI Report **Volume 4**. **Appendix 17-PD-1** provides additional details on the mitigation measures that have now been identified (see section 17.6, and it is concluded that no new risk events have been identified and that all previous scoped out risk events remain scoped out of further assessment.
- 17.4.2 In 2025, there were two major canal collapses, on the Bridgewater and Llangollen Canals. The cause of these collapses is under review. Whilst ground or structural collapse during construction (including canal bank collapse as a result of construction works) was reviewed and scoped out (see **Appendix 17-PD-2** in **Volume 4** of the PEI Report and **Appendix 5-PD-2** in **Volume 4**), the Applicant will keep under review whether ground or structural collapse should be assessed in relation to MA&Ds and reported in the ES. **Chapter 10: Climate** in **Volume 2** of this PEI Report considers the impact of change.
- 17.4.3 **Table 17-2** provides a summary of all matters scoped in and out of the MA&Ds assessment on the basis of whether they were considered to have the potential to result in significant effects during the EIA Scoping process. The table uses the following coding:
- a. In = refers to likely effects that are considered potentially significant and therefore do require further assessment in the EIA.
 - b. Out = refers to likely effects that are not considered potentially significant and therefore do not require further assessment in the EIA.
 - c. n/a = refers to where there is no prospect of an effect from a particular Proposed Development Part(s), either due to the particular nature or location of the Proposed Development Part and/or the absence of a receptor within the study area for that particular Proposed Development Part.
- 17.4.4 Further detail on the source, pathway and receptors associated with each risk event as well as the methodology used to determine the scope of the assessment is detailed in **Appendix 17-PD-1** in PEI Report **Volume 4**.

Table 17-2: Summary of MA&Ds assessment scope

Risk Event	Receptor(s)	Parts of the Proposed Development					
		1a	1b	2	3	4a	4b
Construction Phase							
Flooding from rivers, surface water, groundwater, reservoirs, canals and sewers.	Nearby sensitive environmental receptors. Population in surrounding residential areas. Key infrastructure. Workers, including temporary workers or visitors, on the Site. Proposed Development	Out	Out	Out	Out	Out	Out
Storms	Workers, including temporary workers or visitors, on the Site. Proposed Development Key infrastructure.	Out	Out	Out	Out	Out	Out
Droughts	Proposed Development	Out	Out	Out	Out	Out	Out
Heatwaves	Workers, including temporary workers or visitors, on the Site.	Out	Out	Out	Out	Out	Out
Low temperatures and heavy snow (extreme cold weather resulting in snow and ice)	Workers, including temporary workers or visitors, on the Site. Proposed Development	Out	Out	Out	Out	Out	Out
Wildfires	Workers, including temporary workers or visitors, on the Site. Nearby sensitive environmental receptors. Key infrastructure. Proposed Development	Out	Out	Out	Out	Out	Out

Risk Event	Receptor(s)	Parts of the Proposed Development					
		1a	1b	2	3	4a	4b
Ground or structural collapse	Workers, including temporary workers or visitors, on the Site. Nearby sensitive environmental and residential receptors. Key infrastructure. Proposed Development	Out	Out	Out	Out	Out	Out
Fire / explosion (including from unexploded ordnance (UXO) or utility strike)	Workers, including temporary workers or visitors, on the Site. Adjacent sensitive environmental receptors and human receptors in surrounding residential areas. Key infrastructure. Proposed Development.	Out*	Out*	Out*	Out*	Out*	Out*
Pipeline Burst	Workers onsite as well as the adjacent population in surrounding residential areas. Proposed Development.	Out	Out	Out	Out	Out	Out
Pollution Incident	Workers onsite as well as the adjacent population in surrounding residential areas. Adjacent sensitive environmental receptors and human receptors in surrounding residential areas.	Out	Out	Out	Out	Out	Out
Impairment, interruption or severance of existing utilities (electricity, gas, water and telecommunications).	Workers, including temporary workers or visitors, on the Site. Key infrastructure.	Out	Out	Out	Out	Out	Out

Risk Event	Receptor(s)	Parts of the Proposed Development					
		1a	1b	2	3	4a	4b
Full or partial obstruction of emergency services.	Workers, including temporary workers or visitors, on the Site as well as adjacent sensitive human receptors.	Out	Out	Out	Out	Out	Out
Outbreak of Disease including animal health-notifiable disease, emerging infectious disease and pandemic influenza.	Workers onsite as well as the adjacent population in surrounding residential areas.	Out	Out	Out	Out	Out	Out
Severe Meteorology	Workers onsite.	Out	Out	Out	Out	Out	Out
Earthquakes	As there is no pathway, there cannot be a receptor.	n/a	n/a	n/a	n/a	n/a	n/a
Volcanic Eruptions	As there is no pathway, there cannot be a receptor.	n/a	n/a	n/a	n/a	n/a	n/a
Road Traffic Accident on the wider traffic network	Road users of the surrounding network.	Out	Out	Out	Out	Out	Out
Railway Incident	Existing rail infrastructure Users of the railway.	n/a	Out	n/a	n/a	n/a	n/a
Boating Incident on the Canal Network or on the Reservoirs	Users of the canal and reservoirs. Workers on-site. Sensitive environmental receptors.	Out	Out	In	In	Out	Out
Operation Phase							
Flooding from rivers, surface water, groundwater, reservoirs, canals and sewers.	Workers, including temporary workers or visitors, on the Site. Nearby sensitive environmental receptors and human receptors in surrounding residential areas. Key infrastructure.	Out	Out	Out	Out	Out	Out
Drought	Human receptors in surrounding residential areas.	Out	Out	Out	Out	Out	Out

Risk Event	Receptor(s)	Parts of the Proposed Development					
		1a	1b	2	3	4a	4b
	Rivers Tame and Trent Infrastructure.						
Low temperatures and heavy snow (extreme cold weather resulting in snow and ice)	Infrastructure at the Proposed Development.	n/a	n/a	n/a	n/a	n/a	n/a
Pollution Incident	Fatality/injury to public Damage to infrastructure Damage to habitats and injury/fatality of species Adjacent sensitive environmental receptors and human receptors in surrounding residential areas.	Out	n/a	n/a	n/a	Out	n/a
General mains network outage causing the Proposed Development to lose power	Workers, including temporary workers or visitors, on the Site. Customers of the water company.	Out	n/a	n/a	n/a	Out	n/a
Major accidents caused by malicious acts/vandalism against the Proposed Development	Workers, including temporary workers or visitors, on the Site. Customers of the water company.	Out	Out	Out	Out	Out	Out
Railway Incident	Incidents on railways that will be crossed by the proposed Minworth to Atherstone Pipeline	n/a	Out	n/a	n/a	n/a	n/a
Pipeline burst leading to flooding	Properties in adjacent areas. Proposed Development.	n/a	Out	n/a	n/a	n/a	Out
Severe Meteorology	Workers onsite.	Out	Out	Out	Out	Out	Out

Risk Event	Receptor(s)	Parts of the Proposed Development					
		1a	1b	2	3	4a	4b
Boating Incident on the Canal Network or on the Reservoirs	Users of the canal and reservoirs. Sensitive environmental receptors.	Out	Out	In	In	Out	Out
* Note that in relation to fire/ explosion (including from unexploded ordnance (UXO) or utility strike), PINS have stated that this can be scoped out where the Preliminary Risk Assessment for the Proposed Development does not identify any area of high risk for Unexploded Ordnance; this will be produced for the ES. Therefore, the risk of fire/ explosion (including from unexploded ordnance (UXO) or utility strike) may be assessed at ES stage, but is not assessed in this PEI Report.							

- 17.4.5 Zetica online UXO risks map (Ref. 23) identifies that the Preliminary Order Limits of Part 3 are primarily located within areas of low risk of UXO. Part 2 crosses areas of low risk (majority of the route), moderate risk (around Nuneaton and Bedworth) and high risk (around Coventry) of UXO. UXO risk will be considered in the Phase 1 desk-based assessment for the ES, which will form part of the baseline for **Chapter 14: Ground Conditions** in PEI Report **Volume 2**. As part of this Phase 1 desk-based assessment, a UXO risk assessment will be sourced from Zetica which will provide greater clarity on levels of UXO risk. This will be reviewed for areas of high risk within the Order Limits, and if identified, an assessment of fire / explosion (including from unexploded ordnance (UXO) or utility strike) would be assessed and reported in the ES, as per PINS advice in their Scoping Opinion.

17.5 Assessment Methodology

- 17.5.1 In order to further assess the potential for a significant increase in the likelihood of a boating incident on the canal network or on the reservoirs during construction and/or operation, details of Canal & River Trust ('Trust') processes and procedures for construction work along canals will be reviewed for the ES. The development of the design for the canal and reservoirs is still ongoing, therefore the assessment methodology is not presented in this PEI Report, but will be presented in the ES. Therefore, this section sets the methodology used to determine the baseline.

Defining the Study Area

- 17.5.2 The study area for the assessment of MA&Ds is not defined within regulatory guidance or any standardised methodology. Therefore, for the purposes of this PEI Report, the MA&Ds study area has been identified through the use of professional judgement and the study areas used for relevant topic assessments.
- 17.5.3 As the MA&Ds assessment for the PEI Report focuses on the scoped in risk event of the potential for a significant increase in the likelihood of a boating incident on the canal network or on the reservoirs during construction and/or operation, only Parts 2 and 3 of the Proposed Development have been considered.
- 17.5.4 The study area includes land within the Preliminary Order Limits (POL) for Parts 2 and 3, and areas 1 km beyond where there is hydrological connectivity. This study area will be refined once navigational risks are better defined and where the study area for the assessment of water environment effects is refined (see **Chapter 22: Water Environment and Flood Risk** in PEI Report **Volume 2**).

Determining Baseline Conditions

Existing Baseline

- 17.5.5 Baseline in the context of MA&Ds includes the identification of sensitive environmental receptors that may be impacted in the event of a MA&Ds, as well as the identification of relevant hazards and threats based on the location of the Proposed Development.
- 17.5.6 Online sources, such as MAGIC Maps (Ref. 24), have been used to identify sensitive receptors within the MA&Ds study area. To avoid duplication of data gathering, baseline information referred to within this chapter has also been sourced from other topic assessments presented within **Volume 2** of this PEI Report, including **Chapter 10: Climate**, **Chapter 12: Ecology – Aquatic**, **Chapter 13: Ecology – Terrestrial**, **Chapter 14: Ground Conditions**, **Chapter 15: Human Health**, **Chapter 19: Socio-economics**, and **Chapter 22: Water Environment and Flood Risk**. No additional surveys have been required to be undertaken.
- 17.5.7 In order to identify potential MA&Ds hazards and threats relevant to the location of the Proposed Development, the following data sources have been reviewed:
- a. European Commission's Major Accident Reporting System (Ref. 25);
 - b. Cabinet Office National Risk Register of Civil Emergencies (Ref. 18);
 - c. West Midlands Local Resilience Forum (Ref. 26);
 - d. Warwickshire Resilience Forum (Ref. 27);
 - e. Northamptonshire Local Resilience Forum (Ref. 28);
 - f. Thames Valley Local Resilience Forum (Ref. 29);
 - g. Bedfordshire Local Resilience Forum (Ref. 30); and
 - h. COMAH data search (Ref. 31).

Future Baseline

- 17.5.8 It is possible that additional man-made features and hazard sources could be constructed in the study area in the future. The short list of cumulative schemes has been reviewed to identify any potential new major accident sources within the study area of the Proposed Development.
- 17.5.9 The short list of cumulative schemes, provided in **Appendix 23-PD-1** within **Volume 4** of the **PEI Report**, has been reviewed to identify any potential new major accident sources within the study area of the Proposed Development. The below schemes have been identified as having the potential to introduce a new risk event, or receptor, due the nature of the

scheme, or the locality i.e. being located within or adjacent to the Preliminary Order Limits of the Proposed Development. These schemes comprise:

- a. AECOM ID: 1. Planning Reference: TR040012. Planning Authority: PINS. A new railway line between Bedford Station and Cambridge Station;
- b. AECOM ID: 19. Planning Reference: CB/24/00554/MW. Planning Authority: Central Bedfordshire Council. Works comprising the southern extension of Grovebury Quarry and changes to the existing approved restoration scheme;
- c. AECOM ID: 81. Planning Reference: 23/00888/PRIOR. Planning Authority: Milton Keynes Council. Construction of a rail depot;
- d. AECOM ID: 324. Planning Reference: PLN/2025/0977. Planning Authority: Milton Keynes Council. Scoping request under the Environmental Impact Assessment (EIA) Regulations 2017 relating to the construction of an energy centre and associated plant and infrastructure and 14.5 km of pipeline (total application area of 45 hectares) of piped distribution network relating to the proposed Milton Keynes Energy Network;
- e. AECOM ID: 539. Planning Reference: 041157. Planning Authority: Nuneaton and Bedworth Council. Battery Energy Storage System (BESS) and associated works;
- f. AECOM ID: 601. Planning Reference: FUL/2020/1476. Planning Authority: Coventry City Council. Construction and operation of a 49.9 MW battery storage facility, fencing and site access road on land to the south of the Coventry National Grid Substation, Parrotts Grove, Alderman's Green, Coventry;
- g. AECOM ID: 622. Planning Reference: PL/2025/0001592/FUL. Planning Authority: Coventry City Council. Proposed Development of a Battery Energy Storage System; and
- h. AECOM ID: 802. Planning Reference: R23/0848. Planning Authority: Rugby Borough Council. EIA Screening for Battery Energy Storage System.

17.5.10 These interaction between these schemes and the Proposed Development will be reviewed for the ES.

17.5.11 In addition, the future baseline for the MA&Ds assessment will consider natural population growth and how predicted climate change might affect existing conditions at the Proposed Development. The future baseline in respect to climate is discussed in further detail in **Chapter 10: Climate** in PEI Report **Volume 2**.

Assessment Methodology

- 17.5.12 The ISEP MA&Ds Primer (Ref. 1) provides principles for the assessment of MA&Ds in EIA, which considers the consequences and likelihood of a risk event occurring. However, given that only one risk event has been scoped into the assessment of MA&Ds, and that 'boating incidents' is a specific risk related to the canals and Drayton reservoir, it may be necessary to use an assessment methodology that is specific to the scoped risk event; this will be kept under review and the final methodology used for the assessment of MA&Ds will be reported in the ES.
- 17.5.13 The degree of harm and consequence are determined on the basis of a reasonably foreseeable 'worst-case' scenario of the event in the absence of mitigation. The probability of the hazard / threat occurring is determined whilst considering proposed mitigation measures. This is because mitigation would reduce the likelihood of the maximum severity of harm, duration, consequence and frequency of a hazard / threat occurring.
- 17.5.14 In line with the assessment criteria set out in the Cabinet Office's Emergency Preparedness guidance (Ref. 22), relevant receptor groups relevant to the MA&D assessment are categorised as:
- a. Health;
 - b. Social;
 - c. Economic; and
 - d. Environment.

Degree of Harm

- 17.5.15 The criteria used in the MA&D assessment for determining the degree of harm of a hazard or threat are set out in **Table 17-3**.

Table 17-3: Degree of harm scoring categories

Level	Descriptor	Categories of impact	Description of harm
0	Negligible	Social	Insignificant number of persons displaced and personal support required. Insignificant disruption to community services, including transport services and infrastructure.
		Economic	Insignificant impact on local economy.
		Environment	Insignificant impact on environment.
1	Minor	Social	Minor damage to properties. Minor displacement of a small number of people <24 hours and minor personal support required. Minor localised disruption to community services or infrastructure.
		Economic	Negligible impact on local economy and cost easily absorbed.
		Environment	Minor impact on the environment with no lasting effects.
2	Moderate	Social	Damage that is confined to a specific location, or to a number of locations, but requires additional resources. Localised displacement of >100 people for 1-3 days. Localised disruption to infrastructure and community services.
		Economic	Limited impact on local economy with some short-term loss of production, with possible additional clean-up costs.
		Environment	Limited impact on environment with short-term or long-term effects.
3	Severe	Social	Significant damage that requires support for local responders with external resources. 100 to 500 people in danger and displaced for >1 week. Local responders require external resources to deliver personal support. Significant impact on, and possible breakdown of, delivery of some local community services.
		Economic	Significant impact on local economy with medium-term loss of production. Significant extra clean-up and recovery costs.

Level	Descriptor	Categories of impact	Description of harm
		Environment	Significant impact on environment with medium-to long-term effects.
4	Catastrophic	Social	Extensive damage to properties and built-up environment in affected area requiring major demolition. General and widespread displacement of >500 people for prolonged duration and extensive personal support required. Serious damage to infrastructure causing significant disruption to, or loss of, key services for prolonged period. Community unable to function without significant support.
		Economic	Serious impact on local and regional economy with some long-term, potentially permanent, loss of production with some structural change. Extensive clean-up and recovery costs.
		Environment	Serious long-term impact on environment and/or permanent damage.

Probability

17.5.16 The probability of a risk event occurring will be assessed in accordance with the definitions presented in **Table 17-4**, which are derived from the Civil Contingencies Act (Ref. 2).

Table 17-4: Probability Criteria

Likelihood Category	Description of frequency	Ranking
5	Probable: > 1 in 2 chance over 5 years	Very high
4	Possible: Greater than > 1 in 20 chance over 5 years	High
3	Unlikely: > 1 in 200 chance over 5 years	Medium
2	Rare: > 1 in 2,000 chance over 5 years	Low
1	Negligible: > 1 in 20,000 chance over 5 years	Very low

Classification of risk

17.5.17 Tolerability of a risk is identified by considering the degree of harm of a risk event and probability of the 'worst-case' environmental consequence occurring. The criteria used to classify the risk of each risk event is presented in **Table 17-5** and is supported by **Table 17-6**. Risks up to a medium level can be classed as tolerable (not significant), as long as these have been mitigated to the 'level to which we expect to see risks controlled'⁵ (as low as reasonably practicable (ALARP)). Any critical or high risks would be considered as intolerable (significant).

Table 17-5: Risk Evaluation Criteria Matrix

Probability Category	5	0	5	10	15	20
	4	0	4	8	12	16
	3	0	3	6	9	12
	2	0	2	4	6	8
	1	0	1	2	3	4
		0	1	2	3	4
Degree of Harm Category						

Table 17-6: Level of Risk

Score (Degree of Harm x Probability)	Level of Risk Description
12-20	Critical
6-11	High
3-5	Medium

⁵ Definition of ALARP from ISEP Primer (Ref. 1)

Score (Degree of Harm x Probability)	Level of Risk Description
1-2	Low
0	None perceived

17.6 Project-Wide Environmental Design, Standards and Management

17.6.1 The ISEP MA&Ds Primer (Ref. 1) notes that MA&Ds assessments should identify embedded mitigation and response strategies required to demonstrate management of risks to be as low as reasonably practicable. The approach to demonstrate this is set out below and draws on:

- a. Measures that are in place to control baseline risks (i.e. existing control measures);
- b. Measures secured through compliance with legislation;
- c. Measures that have been identified through the design of the Proposed Development; and
- d. Measures to control risks during the construction of the Proposed Development.

17.6.2 Further details of the relevant hazards and mitigation measures are provided in **Appendix 17-PD-1** within **Volume 4 of the PEI Report**.

Embedded Design, Standards and Management

Construction Phase

17.6.3 Construction activities across the Proposed Development would be managed in compliance with:

- a. environmental management measures set out within an Outline Construction Environmental Management Plan (Outline CEMP), including surface water and soil pollution prevention measures;
- b. existing health and safety and environmental legislation and best practice, to be referenced in the Outline CEMP;
- c. adopted construction working methods, safety, security and emergency arrangements for Affinity Water (AfW), Severn Trent (ST) and Trust; to be referenced in the Outline CEMP, where appropriate; and
- d. construction traffic management measures set out within an Outline Construction Traffic Management Plan (Outline CTMP).

17.6.4 Reference should be made to the Preliminary Outline CEMP provided at **Appendix 24-PD-2** in **Volume 4** of this PEI Report, and the embedded

construction measures that are envisaged will control environmental effects during construction.

Operational Phase

- 17.6.5 The design and operation of the Proposed Development would be governed by regulatory and legal requirements such as the Reservoirs Act 1975 (Ref. 12).
- 17.6.6 AfW, ST and the Trust operational management arrangements would also comply with relevant health and safety and environmental legislation for the prevention and mitigation of MA&Ds risks, including (but not limited to), The Management of Health and Safety at Work Regulations 1999 (Ref. 9) and The Personal Protective Equipment at Work Regulations 1992 (Ref. 32).
- 17.6.7 With these management arrangements in place, the majority of identified MA&Ds risks (see Table 2-1 in **Appendix 17-PD-1** in **Volume 4** of this PEI Report) relevant to the operation of the Proposed Development would be mitigated to as low as reasonably practicable.

Navigational Risk

- 17.6.8 As the design of the Proposed Development develops, further mitigation may be identified through the review of navigation and visitor safety risk assessments relating to the proposed construction works and the operation of the Proposed Development. This will ensure that risks are appropriately managed. Further information will be included within the ES.

17.7 Baseline Conditions

- 17.7.1 This section describes the baseline environmental characteristics of the study area in relation to the scoped in risk event.

Existing Baseline

Existing Infrastructure

- 17.7.2 Principal transport infrastructure within the immediate vicinity or crossed by the Proposed Development includes, but is not limited to: Part 2: A444, M6, M69, A426, A428, M45, A45, A361, A5, A43, A508, A509, A421, A4146 as well as railway lines. There are also multiple smaller roads both in urban and rural environments that cross the canals.
- 17.7.3 A towpath runs along the entire section of the canal network which is included within the Part 2 Preliminary Order Limits. In addition, there are a number of marinas, moorings sites, locks, tunnels and bridges along the canal route.
- 17.7.4 Part 3 of the Preliminary Order Limits comprises the existing Daventry and Drayton Reservoirs. Further information on these reservoirs is provided

within **Chapter 22: Water Environment and Flood Risk** in PEI Report **Volume 2**.

Residential Receptors

- 17.7.5 The study area traverses through or in close proximity to a number of densely populated areas, including but not limited to:
- a. Part 2: Atherstone, Nuneaton, Bedworth, Hawkesbury, Coventry, Rugby, Hillmorton, Braunston, Daventry, Weedon Bec, Stoke Bruerne, Cosgrove, Milton Keynes, and Bletchley; and
 - b. Part 3: Braunston, and Daventry.
- 17.7.6 It is also noted that there are moorings and marinas on the canals, some of which form residential receptors⁶.
- 17.7.7 Further details of the demographic of these areas are set out in **Chapter 20: Socio-economics** in PEI Report **Volume 2**.

Natural Features and Protected Environmental Sites

- 17.7.8 Information on natural features and protected areas in the surrounding environment of the Proposed Development are provided in detail within the relevant chapters of this PEI Report. This section provides a brief outline of the natural features and protected environmental sites. Further details of these resources and receptors will be provided in the assessment within the ES.
- 17.7.9 There are no statutory ecological designations within the study area.
- 17.7.10 Daventry Reservoir within Part 3 of the Proposed Development is designated as a Local Nature Reserve (LNR) and a LWS, and Drayton Reservoir is a potential LWS. Wyken Slough (LNR) is within the study area for Part 2 of the Proposed Development, but there is no canal in this part of the POL or any hydrological connection to the nearest canal. Further details of ecological receptors are set out in **Chapter 12: Ecology – Aquatic** and **Chapter 13: Ecology – Terrestrial** in PEI Report **Volume 2**.
- 17.7.11 No new hazards or threats have been identified in the **Appendix 17-PD-1** provided in PEI Report **Volume 4** when compared to Appendix 17-1 of the EIA Scoping Report (**Appendix 5-PD-1** in PEI Report **Volume 4**).

⁶ The glossary defines various types of moorings provided along the Trust's network. The types of moorings to be assessed as sensitive receptors for Major Accidents and Disasters will be considered and addressed in the ES.

Future Baseline

- 17.7.12 It is anticipated that there would be periodic planned and reactive maintenance to the canals and associated infrastructure such as locks. Moreover, there would be periodic maintenance of infrastructure that crosses the canals, such as major road crossings. This might introduce short term changes to navigation, however, no permanent changes are known at this time and therefore likely to remain as described for the existing baseline.
- 17.7.13 Please also see the future baselines provided within **Chapter 10: Climate**, **Chapter 12: Ecology – Aquatic**, **Chapter 13: Ecology – Terrestrial**, **Chapter 14: Ground Conditions**, **Chapter 15: Human Health**, **Chapter 19: Socio-economics**, and **Chapter 22: Water Environment and Flood Risk** in PEI Report **Volume 2**.

17.8 Assessment of Effects and Significance

- 17.8.1 In the absence of sufficient evidence on navigational risks at this stage, no further assessment has been undertaken to inform this PEI Report in relation to boating incidents on the canal network or on Drayton reservoir during the construction and/or operation of the Proposed Development. Therefore, a precautionary approach has been taken, consequently, a likely significant effect in relation to navigation risk during construction and operation on Part 2 and 3 of the Proposed Development could occur. However, it is considered that further information from the Trust and the operators of Drayton reservoir on their processes and procedures for construction and advertisement of new infrastructure to users of the canals and reservoir will identify suitable mitigation measures to ensure that all risks are mitigated as far as reasonably practicable.
- 17.8.2 Further assessment will be undertaken and reported in the ES.

17.9 Summary and Next Steps

- 17.9.1 This PEI Report chapter and its supporting **Appendix 17-PD-1** in PEI Report **Volume 4**, provide a summary of the MA&Ds relevant to the Proposed Development considering the preliminary environmental effects presented within the PEI Report.
- 17.9.2 An assessment of navigational risk has not currently been provided, but will be provided as part of the ES and DCO application. The methodology for assessment of this risk will be reported in the ES.
- 17.9.3 Details of procedures and processes for construction along the canal and reservoirs and advertisement of new infrastructure to users of the canals of the canal will be reported in the ES. These will provide a detailed review of canal navigation risks during the construction and operation of the Proposed

Development, and will allow further mitigation, if required, to be reported in the ES.

- 17.9.4 If the Phase 1 desk-based assessment, which will form part of the baseline for Chapter 14: Ground Conditions, for the ES considers UXO risk to be high for any part of the study area, fire / explosion (including from unexploded ordnance (UXO) or utility strike) during construction will be assessed in relation to MA&Ds in the ES.
- 17.9.5 The Applicant will keep under review whether canal collapse as a result of the Proposed Development should be assessed and reported in the ES, noting that ground and structural collapse during construction has been scoped out by PINS.

17.10 References

- Ref. 1 Institute of Sustainability and Environmental Professionals (ISEP) (formerly the Institute of Environmental Management and Assessment [IEMA]) (2020) Major Accidents and Disasters in EIA: An ISEP Primer – October 2020.
- Ref. 2 Civil Contingencies Act 2004. Available at:
<https://www.legislation.gov.uk/ukpga/2004/36/contents> [Accessed 02/02/2026].
- Ref. 3 The Building Regulations 2010. Available at:
<https://www.legislation.gov.uk/ukxi/2010/2214/contents> [Accessed 02/02/2026].
- Ref. 4 The Construction (Design and Management) Regulations 2015 (the 'CDM Regulations'). Available at:
<https://www.legislation.gov.uk/ukxi/2015/51/contents> [Accessed 02/02/2026].
- Ref. 5 The Control of Substances Hazardous to Health Regulations 2002 (COSHH). Available at:
<https://www.legislation.gov.uk/ukxi/2002/2677/regulation/7> [Accessed 02/02/2026].
- Ref. 6 The Environmental Permitting Regulations 2016. Available at:
<https://www.legislation.gov.uk/ukxi/2005/1541/contents> [Accessed 18/07/2025].
- Ref. 7 Health and Safety at Work etc. Act 1974. Available at:
<https://www.legislation.gov.uk/ukpga/1974/37/contents> [Accessed 02/02/2026].
- Ref. 8 The Lifting Operations and Lifting Equipment Regulations 1998 (LOLER). Available at <https://www.legislation.gov.uk/ukxi/1998/2307/contents> [Accessed 02/02/2026].

- Ref. 9 The Management of Health and Safety at Work Regulations 1999. Available at: <https://www.legislation.gov.uk/ukxi/1999/3242/contents> [Accessed 02/02/2026].
- Ref. 10 The Pipelines Safety Regulations 1996 (SI 1996/825). Available at: <https://www.legislation.gov.uk/ukxi/1996/825/contents/made> [Accessed 02/02/2026].
- Ref. 11 The Regulatory Reform (Fire Safety) Order 2005. Available at: <https://www.legislation.gov.uk/ukxi/2005/1541/contents> [Accessed 02/02/2026].
- Ref. 12 Reservoir Act 1975. Available at: <https://www.legislation.gov.uk/ukpga/1975/23> [Accessed 02/02/2026].
- Ref. 13 Water Industry Act 1991. Available at: <https://www.legislation.gov.uk/ukpga/1991/56/contents> [Accessed 02/02/2026].
- Ref. 14 The Workplace (Health, Safety and Welfare) Regulations 1992. Available at: <https://www.legislation.gov.uk/id/ukxi/1992/3004> [Accessed 02/02/2026].
- Ref. 15 The Control of Major Accident Hazards Regulations 2015. Available at: <https://www.legislation.gov.uk/ukxi/2015/483/contents> [Accessed 02/02/2026].
- Ref. 16 The Planning (Hazardous Substances) Regulations 2015 [online]. Available at: <https://www.legislation.gov.uk/ukxi/2015/627/contents> [Accessed 02/02/2026].
- Ref. 17 Department for Environment Food and Rural Affairs (Defra) (2025) National Policy Statement for Water Resource Infrastructure. Available at: https://assets.publishing.service.gov.uk/media/6874ca77c831dea2b152cfe9/E03400114_National_Policy_Statement_for_Water_Resources_Web_Accessible.pdf [Accessed 02/02/2026].
- Ref. 18 Cabinet Office (2023) National Risk Register. Available at: https://assets.publishing.service.gov.uk/media/64ca1dfe19f5622669f3c1b1/2023_NATIONAL_RISK_REGISTER_NRR.pdf [Accessed 02/02/2026].
- Ref. 19 Ministry of Housing, Communities and Local Government, Ministry of Housing, Communities & Local Government (MHCLG) (2018 to 2021) and Department for Levelling Up, Housing and Communities (DLUHC) (2025) National Planning Policy Framework – Last updated 7th February 2025. Available at: <https://assets.publishing.service.gov.uk/media/675abd214cbda57cacd3476e/NPPF-December-2024.pdf> [Accessed 02/02/2026].

- Ref. 20 European Commission (2017) European Commission's 2017 Guidance On EIA. Available at: Environmental impact assessment – European Commission.
- Ref. 21 The International Standard Organization (2018) The International Standards Organizations ISO 31000:2018 Risk Management.
- Ref. 22 Cabinet Office (2006), Emergency Preparedness, <https://www.gov.uk/government/publications/emergency-preparedness> [Accessed 02/02/2026].
- Ref. 23 Zetica Risk Maps (online). Available at: <https://zeticauxo.com/guidance/risk-maps/> [Accessed 02/02/2026].
- Ref. 24 Defra (2025) Magic Map Application. Available at: <https://magic.defra.gov.uk/MagicMap.html> [Accessed 02/02/2026].
- Ref. 25 European Commission (202) European Commission's Major Accident Reporting System.
- Ref. 26 West Midlands Local Resilience Forum (2024) Preparing the West Midlands for Emergencies – Community Risk Register (online). Available at: <https://www.westmidlandsprepared.gov.uk/downloads/file/1/community-risk-register> [Accessed 02/02/2026].
- Ref. 27 Warwickshire Resilience Forum (2024) Top Risks to Warwickshire. Available at: <https://www.warwickshireresilienceforum.org/risks/> [Accessed 02/02/2026].
- Ref. 28 Northamptonshire Local Resilience Forum (2024) Community Risk Register (online) Available at: <https://www.northnonthants.gov.uk/emergencies/community-risk-register/local-resilience-forum> [Accessed 02/02/2026].
- Ref. 29 Thames Valley Local resilience Forum (2022) Community Risk register.
- Ref. 30 Bedfordshire Local Resilience Forum (no date) Community risk Register. Available at: https://www.centralbedfordshire.gov.uk/info/169/bedfordshire_local_resilience_forum_blrf/1227/community_risk_register [Accessed 02/02/2026].
- Ref. 31 Health and Safety Executive (2015) COMAH 2015 Public Information (online). Available at: <https://notifications.hse.gov.uk/COMAH2015/Search.aspx> [Accessed 02/02/2026].
- Ref. 32 The Personal Protective Equipment at Work Regulations 1992 Available at: <https://www.legislation.gov.uk/uksi/1992/2966/contents> [Accessed 02/02/2026].