

East Meath - North Dublin Grid Upgrade Environmental Impact Assessment Report (EIAR): Volume 3

Appendix A19.1 – Hazard Identification Record

EirGrid

March 2024



Contents

Appendix A19.1 – Hazard Identification Record	1
--	----------

Appendix A19.1 – Hazard Identification Record

Table 1: Hazard Identification Record

Risk Event	Source and / or Pathway	Receptor	Source Document	Reasonable Worst-Case Consequence (If Even Did Occur)	Primary / Tertiary Mitigation	Could this Lead to a Major Accident and / or Disaster with Existing Mitigation in Place?	Is the Reasonable Worst-Case Consequence Managed to an Acceptable Level with Existing Mitigation in Place?	If No, What Secondary Mitigation is Required to Reach an Acceptable Level?
Construction Phase								
Ground Collapse	Trench / excavation collapse Encountering soft ground Unforeseen ground conditions encountered during construction works Extreme weather event (e.g. storm-triggered landslide)	Members of the public / Construction site personnel	Design Risk Assessment and Hazard Elimination and Risk Reduction Register Chapter 11 (Soils, Geology and Hydrogeology) Chapter 8 (Climate)	Fatality / injury Disruption to community services or infrastructure	Managed via Concept Design Stage Preliminary Safety and Health Plan and Construction Environmental Management Plan Ground Investigation and topographical surveys to confirm ground conditions Trench / excavation depths to be limited Design developed to facilitate safe methods of work, including provision of sufficient working space. Safe methods of work to be developed by the Designer	Yes	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A
Contamination Event – Encountering / Release of Chemical or Biological Substances	Encountering contaminated material during excavation (e.g. soil, asbestos pipes) Electricity Supply Board (ESB) cables Non-Native, invasive or poisonous plant species (e.g. Japanese Knotweed) Dust, vapours, and fumes Sediment mobilisation	Watercourses Groundwater Ecological receptors	Design Risk Assessment and Hazard Elimination and Risk Reduction Register Chapter 12 (Hydrology) Chapter 11 (Soils, Geology and Hydrogeology)	Fatality / injury Contamination to environmental receptor	Managed via Concept Design Stage Preliminary Safety and Health Plan and Construction Environmental Management Plan Pre-construction checks confirm presence of contaminated ground Utility survey to confirm presence of asbestos pipes Environmental surveys to confirm presence of invasive or poisonous plant species Safe methods of work to be developed by the appointed contractor(s) Where encountered, contaminated materials to be managed appropriately Materials and substances specified by the Designer / appointed contractor(s) to be used during the Construction Phase could present health and safety hazards. Materials and substances to be carefully considered and managed	Yes	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A
Contact with / Damage to High Voltage Power Lines (Overhead or Buried)	Strike of buried power lines during excavation works Strike of overhead power lines (including Luas, railway) during works	Members of the public / Construction site personnel	Design Risk Assessment and Hazard Elimination and Risk Reduction Register	Fatality / injury Fire / explosion Disruption to community services or infrastructure	Utility surveys to confirm location of electricity cables Safe methods of work to be developed by the appointed contractor(s) for working in the vicinity of overhead services as per the ESB Code of Practice for Avoiding Danger from Overhead Electricity Lines	Yes	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A
Contact with / Damage to Low Voltage Power Lines, Telecom Services and / or Fibre Optic Cables	Strike of buried services / cables during excavation works	Members of the public / Construction site personnel	Design Risk Assessment and Hazard Elimination and Risk Reduction Register	Fatality / injury Disruption to community services	Managed via Concept Design Stage Preliminary Safety and Health Plan and Construction Environmental Management Plan	Yes	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A

Risk Event	Source and / or Pathway	Receptor	Source Document	Reasonable Worst-Case Consequence (If Even Did Occur)	Primary / Tertiary Mitigation	Could this Lead to a Major Accident and / or Disaster with Existing Mitigation in Place?	Is the Reasonable Worst-Case Consequence Managed to an Acceptable Level with Existing Mitigation in Place?	If No, What Secondary Mitigation is Required to Reach an Acceptable Level?
					Utility surveys to confirm location of telecom and fibre optic cables Safe methods of work to be developed by the Designer for working in the vicinity of services			
Gas Explosion	Strike of buried gas mains during excavation works	Members of the public / Construction site personnel Environmental receptors (ecological site, heritage assets etc.)	Design Risk Assessment and Hazard Elimination and Risk Reduction Register	Fatality / injury Fire / explosion Disruption to community services or infrastructure, including structural damage Irreversible damage to environmental receptors	Managed via Concept Design Stage Preliminary Safety and Health Plan and Construction Environmental Management Plan Utility surveys to confirm location of gas mains Ground Penetrating Radar surveys to be undertaken Safe methods of work to be developed by the Designer for working in the vicinity of services	Yes	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A
Contact with / Damage to Combined Sewers	Strike of combined sewers during excavation works	Members of the public / Construction site personnel Environmental receptors (watercourses, groundwater, ecological site)	Design Risk Assessment and Hazard Elimination and Risk Reduction Register	Injury Contamination of environmental receptor from wastewater Disruption to community services or infrastructure (localised flooding)	Managed via Concept Design Stage Preliminary Safety and Health Plan and Construction Environmental Management Plan Utility surveys to confirm location of sewers Ground Penetrating Radar surveys to be undertaken Safe methods of work to be developed by the Designer for working in the vicinity of services	Yes	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A
Contact with / Damage to Mains Water Supply	Strike of water mains during excavation works	Members of the public / Construction site personnel	Design Risk Assessment and Hazard Elimination and Risk Reduction Register	Injury Disruption to community services or infrastructure (localised flooding)	Managed via Concept Design Stage Preliminary Safety and Health Plan and Construction Environmental Management Plan Utility surveys to confirm location of water mains Ground Penetrating Radar surveys to be undertaken Safe methods of work to be developed by the Designer for working in the vicinity of services	Yes	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A
Road Traffic Related Incident	Works alongside live (including high-speed) traffic Errant vehicles entering works area Collision between construction vehicles and public vehicles at site entrances and exits Restricted visibility at junctions and property entrances	Members of the public / Construction site personnel	Design Risk Assessment and Hazard Elimination and Risk Reduction Register National Risk Assessment for Ireland 2023 (Government of Ireland 2023) Chapter 14 (Traffic and Transport)	Fatality / injury Vehicle fire Pollution of groundwater/surface water receptors due to fuel spillages, fire water runoff Disruption to community services or infrastructure	Managed via Concept Design Stage Preliminary Safety and Health Plan and Construction Environmental Management Plan Construction Traffic Management Plan to be implemented including appropriate speed restrictions. Traffic management planned in accordance with Regulations Physical segregation of traffic and pedestrians from the works including partial closing of roads and footpaths Placement of warning signs Trafficked lanes to be swept regularly	Yes	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A

Risk Event	Source and / or Pathway	Receptor	Source Document	Reasonable Worst-Case Consequence (If Even Did Occur)	Primary / Tertiary Mitigation	Could this Lead to a Major Accident and / or Disaster with Existing Mitigation in Place?	Is the Reasonable Worst-Case Consequence Managed to an Acceptable Level with Existing Mitigation in Place?	If No, What Secondary Mitigation is Required to Reach an Acceptable Level?
	Contact of construction cyclists, pedestrians and those with mobility impairment with the works, or slipping on uneven ground during works on the footpath				Designer to minimise night work Safe access to houses, businesses, schools, churches, hospitals, shopping centers, major car parks etc. to be maintained during working hours			
Aircraft Related Incident	Flight paths to / from Dublin Airport	Members of the public / Construction site personnel	National Risk Assessment for Ireland 2023 (Government of Ireland 2023)	Fatality/injury Fire / explosion Pollution of groundwater / surface water receptors due to fuel spillages, fire water run off Disruption to community services or infrastructure	Risk associated with air travel is extensively modelled, regulated and managed closely The Irish Aviation Authority (IAA) ensures that Irish civil aviation operates to international and European safety standards and systems in accordance with international agreements	Yes	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A
Structural Damage / Collapse	Works to existing structures / construction of new structures Strike of structures by construction vehicles/plant Vibration from construction activities	Members of the public / Construction site personnel Environmental receptors (heritage assets etc.)	Design Risk Assessment and Hazard Elimination and Risk Reduction Register Chapter 9 (Noise and Vibration)	Fatality / injury Disruption to community services or infrastructure, including structural damage Irreversible damage to environmental receptors	Structural assessment of existing structures will be carried out to determine their suitability for the intended use and where modifications / repairs to the structure are required Design developed to facilitate safe methods of work, including provision of sufficient working space. Safe methods of work to be developed by the designer / appointed contractor(s) Structures designed in accordance with relevant standards Vibration assessment undertaken	Yes	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A
Extreme Weather (Including Snow / Low Temperatures, Storms, Flooding, Drought, High Temperatures)	Localised flooding Ground collapse/landslides Poor weather conditions resulting in traffic accidents Fallen trees Disruption to services (e.g. trees striking overhead cables)	Members of the public / Construction site personnel	National Risk Assessment for Ireland 2023 (Government of Ireland 2023) Chapter 8 (Climate)	Fatality / injury Contamination of environmental receptor from wastewater (flooding) Disruption to community services or infrastructure	Flood Risk Assessment undertaken to inform design	Yes	Yes - Considered to be managed to an acceptable level if all mitigation measures by design outlined are correctly implemented	N/A
Fire	Vehicle fire (due to road traffic incident) Wildfire (due to extreme weather event)	Members of the public / Construction site personnel Environmental receptors	National Risk Assessment for Ireland 2023 (Government of Ireland 2023)	Fatality / injury Disruption to community services or infrastructure, including structural damage	Managed via Concept Design Stage Preliminary Safety and Health Plan and Construction Environmental Management Plan Utility surveys to confirm location of gas mains	Yes	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A

Risk Event	Source and / or Pathway	Receptor	Source Document	Reasonable Worst-Case Consequence (If Even Did Occur)	Primary / Tertiary Mitigation	Could this Lead to a Major Accident and / or Disaster with Existing Mitigation in Place?	Is the Reasonable Worst-Case Consequence Managed to an Acceptable Level with Existing Mitigation in Place?	If No, What Secondary Mitigation is Required to Reach an Acceptable Level?
	Arson Gas explosion (utility strike during excavation works)	(heritage assets etc.)		Pollution of groundwater / surface water receptors due fire water run off Irreversible damage to environmental receptor	Ground Penetrating Radar surveys to be undertaken Safe methods of work to be developed by the designer / appointed contractor(s) for working in the vicinity of services			
Industrial Accidents	Seveso sites Impact on personnel in the event of an incident occurring at a Seveso site that is located within close proximity to works Disruption to emergency response due to Proposed Development construction works (incl. traffic delays and diversions)	Members of the public / Construction site personnel Environmental receptors (ecological site, heritage assets etc.)	National Risk Assessment for Ireland 2023 (Government of Ireland 2023)	Fatality / injury Fire / explosion Pollution of groundwater / surface water receptors due to fuel spillages, fire water run off Disruption / damage to community services or infrastructure Irreversible damage to environmental receptors	Seveso sites managed in accordance with S.I. No. 209/2015 – Chemicals Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations 2015 Applicant to consult with Health Service Authority (HSA) where Proposed Development falls within the consultation zone of a Seveso site Construction Traffic Management Plan to be implemented to minimise disruption to emergency response vehicles	Yes	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A
Disruption to Emergency Response Vehicles (Fire, Ambulance and An Garda Síochána)	Traffic diversions and / or delays associated with the construction works for the Proposed Development	Members of the public Environmental receptors	Design Risk Assessment and Hazard Elimination and Risk Reduction Register	Fatality / injury Disruption to community services or infrastructure Irreversible damage to environmental receptors	Construction Traffic Management Plan to be implemented to minimise disruption to emergency response vehicles	Yes	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A
Operational Phase								
Aircraft Related Incident	Flight paths to / from Dublin Airport	Members of the public / Maintenance site personnel	National Risk Assessment for Ireland 2023 (Government of Ireland 2023)	Fatality / injury Fire / explosion Disruption / damage to community services or infrastructure	Risk associated with air travel is extensively modelled, regulated and managed closely The Irish Aviation Authority (IAA) ensures that Irish civil aviation operates to international and European safety standards and systems in accordance with international agreements	Yes	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A
Extreme Weather (Including Snow / Low Temperatures, Storms, Flooding, Drought, High Temperatures)	Localised flooding Ground collapse/landslides Poor weather conditions resulting in traffic accidents Fallen trees	Members of the public / Maintenance site personnel	National Risk Assessment for Ireland 2023 (Government of Ireland 2023) Chapter 8 (Climate)	Fatality / injury Disruption to community services or infrastructure	Proposed Development design developed in accordance with standards, including climate change allowances	Yes	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A
Risk Events Managed by Health and Safety Legislation								
Working on, or nearby, live electrical infrastructure	Live electricity infrastructure (particularly at existing operational Woodland	Construction site personnel	Design Risk Assessment and Hazard Elimination	Fatality / injury	Managed via Concept Design Stage Preliminary Safety and Health Plan	No	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A

Risk Event	Source and / or Pathway	Receptor	Source Document	Reasonable Worst-Case Consequence (If Even Did Occur)	Primary / Tertiary Mitigation	Could this Lead to a Major Accident and / or Disaster with Existing Mitigation in Place?	Is the Reasonable Worst-Case Consequence Managed to an Acceptable Level with Existing Mitigation in Place?	If No, What Secondary Mitigation is Required to Reach an Acceptable Level?
	and Belcamp Substations)		and Risk Reduction Register		Design developed to facilitate safe methods of work, including provision of sufficient working space Safe methods of work to be developed by the Designer for working on or nearby to live electrical infrastructure Relevant site personnel to have appropriate training and Safe Pass certification			
Falling from Height	Excavations Embankments Structures e.g. bridges, gantries Signs, poles, and lightning columns	Construction site personnel	Design Risk Assessment and Hazard Elimination and Risk Reduction Register	Fatality / injury	Managed via Concept Design Stage Preliminary Safety and Health Plan Design developed to facilitate safe methods of work, including provision of sufficient working space Ground Investigation survey to confirm absence of soft ground Relevant site personnel to have appropriate training and Safe Pass certification	No	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A
Drowning	Work close to watercourses (e.g. Royal Canal, grand Canal, River Liffey etc.)	Construction site personnel	Design Risk Assessment and Hazard Elimination and Risk Reduction Register	Fatality / injury	Managed via Concept Design Stage Preliminary Safety and Health Plan Safe methods of work to be developed by the Designer for working close/adjacent to watercourses Relevant site personnel to have appropriate training and Safe Pass certification	No	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A
Assembly or Dismantling of Heavy Prefabricated Components	Contact with moving plant, machinery and prefabricated components Demolition activities	Construction site personnel Members of the public	Design Risk Assessment and Hazard Elimination and Risk Reduction Register	Fatality / injury	Managed via Concept Design Stage Preliminary Safety and Health Plan Design developed to facilitate safe methods of work, including provision of sufficient working space Heavy prefabricated components minimised through design Relevant site personnel to have appropriate training and Safe Pass certification	No	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A
Contact with Heavy Machinery	Movement of heavy machinery Demolition activities	Construction site personnel	Design Risk Assessment and Hazard Elimination and Risk Reduction Register	Fatality / injury	Managed via Concept Design Stage Preliminary Safety and Health Plan Design developed to facilitate safe methods of work, including provision of sufficient working space Relevant site personnel to have appropriate training and Safe Pass certification	No	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A
Demolition and Felling Activities	Dust generation and exposure	Construction site personnel	Design Risk Assessment and Hazard Elimination and Risk Reduction Register	Fatality / injury	Managed via Concept Design Stage Preliminary Safety and Health Plan Tree surveys to be undertaken	No	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A

Risk Event	Source and / or Pathway	Receptor	Source Document	Reasonable Worst-Case Consequence (If Even Did Occur)	Primary / Tertiary Mitigation	Could this Lead to a Major Accident and / or Disaster with Existing Mitigation in Place?	Is the Reasonable Worst-Case Consequence Managed to an Acceptable Level with Existing Mitigation in Place?	If No, What Secondary Mitigation is Required to Reach an Acceptable Level?
	Falling debris, trees / branches	Members of the public			Number of trees to be removed to be minimised Safe system of work to be implemented, including implementation and management of exclusion zones Relevant site personnel to have appropriate training and Safe Pass certification			
Work which puts Persons at Risk from Chemical or Biological Substances Constituting a Particular Danger to the Safety and Health of Such Persons or Involving a Statutory Requirement for Health Monitoring	Zoonoses (e.g. Weil's disease) Construction chemicals including bitumen, cement, road marking paints, fuel, oils, etc. Exposure to dust, vapors, and fumes	Construction site personnel	Design Risk Assessment and Hazard Elimination and Risk Reduction Register	Ill-health	Managed via Concept Design Stage Preliminary Safety and Health Plan and Construction Environmental Management Plan Relevant site personnel to have appropriate training and Safe Pass certification	No	Yes - Considered to be managed to an acceptable level if all mitigation measures outlined are correctly implemented	N/A