

# **Appendix 9.7**

Scenario 2d: Application 5 & SRF: CSM baseline  
and Construction Phase

Scenario 2d: Application 5 & Committed Schemes & SRF: CSM baseline and Construction Phase – ES Chapter – Appendix 9.7

| Conceptual Site Model                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                      |                                                                                |             | Baseline Assessment                                  |                                |                            | Construction Phase Assessment<br>(Demolition, Groundworks & Construction Effects) |                                |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Impact Assessment                              |                     |                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------------|------------------------------------------------------|--------------------------------|----------------------------|-----------------------------------------------------------------------------------|--------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|---------------------|------------------------|
| Source                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Pathway                                                                                                                                                                                                                                                              | Receptor                                                                       | Sensitivity | Probability of Complete Linkage                      | Consequence if Linkage Present | Future Baseline Risk Level | Probability of Complete Linkage                                                   | Consequence if Linkage Present | Revised Risk Level | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Effect on Risk                                 | Magnitude of Impact | Significance of Effect |
| <p>Asbestos (if present) within existing Made Ground / fill materials / buried obstructions / substructure</p> <p>Chemicals of concern associated with existing Made Ground / fill materials</p> <p>Chemicals of concern from spills / leaks from historical uses on site / off site</p> <p>Chemicals associated with construction works (fuels and oils used in construction plant)</p> <p>Contaminants associated with former land uses on adjacent sites which are identified in the Committed Developments table</p> | <p>Dermal contact with and ingestion of contaminants in soil-derived dust and water.</p> <p>Inhalation of contaminants in soil-derived dust and ground gas / volatile vapours.</p> <p>Inhalation of asbestos fibres.</p>                                             | On-site users                                                                  | Medium      | Unlikely                                             | Medium                         | Low                        | Receptor no longer present as construction has started.                           |                                |                    | Sources of contamination (asbestos and chemicals of concern) have been identified on site and at concentrations within soils which exceed screening criteria for residential end use.                                                                                                                                                                                                                                                                                                                                                                                              | Risk reduced as receptor is no longer present  | -                   | -                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                      | Groundworkers & construction workers                                           | Medium      | Receptor not present as construction has not started |                                |                            | Low                                                                               | Medium                         | Low / moderate     | Workers are likely to come into direct contact with soil during construction activities for a short period of time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Risk increased due to introduction of receptor | Medium              | Minor adverse          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                      | Third-party neighbours, including industrial units on plot NT02 (Love Factory) | Medium      | Unlikely                                             | Medium                         | Low                        | Low                                                                               | Medium                         | Low / moderate     | Mitigation measures will be adopted to reduce the probability of exposure to the identified sources e.g., use of COSHH assessments to prevent or control exposure to hazardous substances associated with construction works and use of appropriate RAMS to a) prevent direct contact, ingestion, dust / asbestos fibre inhalation associated with baseline conditions using PPE, RPE and hygiene best practice; and b) prevent the generation of dust / dispersion of asbestos fibres associated with baseline conditions using water sprays / local exhaust ventilation systems. | No change                                      | Medium              | Minor adverse          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>Leaching of contaminants in the unsaturated zone to groundwater in underlying aquifers.</p> <p>Migration of contaminated water through preferential pathways such as underground services, pipes and granular material to groundwater in underlying aquifers.</p> | Controlled waters – Superficial Aquifers (Secondary Undifferentiated Aquifer)  | Medium      | Likely                                               | Medium                         | Moderate                   | Likely                                                                            | Medium                         | Moderate           | Dust suppression measures and controls implemented on Site will mitigate the risk of exposure to offsite third-party neighbours.                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Risk increased during works                    | Medium              | Minor adverse          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                      | Controlled waters – Bedrock Aquifers (Secondary B and Principal Aquifers)      | Medium      | Likely                                               | Medium                         | Moderate                   | Likely                                                                            | Medium                         | Moderate           | The contamination status of plots within SRF is unknown; it has been assumed that contamination levels and mobility is no worse than within the Application 4 / 5 area.                                                                                                                                                                                                                                                                                                                                                                                                            | Risk increased during works                    | Medium              | Minor adverse          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>Lateral migration of contaminated groundwater with discharge to surface watercourses as base flow.</p> <p>Discharge of contaminants entrained in surface water run-off followed by overland flow and discharge.</p>                                               | Controlled waters – Surface waters (River Irk)                                 | High        | Low                                                  | Medium                         | Low / Moderate             | Low                                                                               | Medium                         | Low / Moderate     | Dust suppression measures and controls implemented on Site will mitigate the risk of exposure to offsite third-party neighbours.                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Risk increased during works                    | Medium              | Minor adverse          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                      |                                                                                |             |                                                      |                                |                            |                                                                                   |                                |                    | The contamination status of plots within SRF is unknown; it has been assumed that contamination levels and mobility is no worse than within the Application 4 / 5 area.                                                                                                                                                                                                                                                                                                                                                                                                            |                                                |                     |                        |
| <p>Hazardous ground gases and vapours associated with chemical substances of concern in soil / Made Ground / organic soils</p> <p>Contaminants associated with former land uses on adjacent sites which are identified in the Committed Developments table</p>                                                                                                                                                                                                                                                           | <p>Lateral and vertical migration through unsaturated pore space or fractures and accumulation in confined spaces and inhalation</p>                                                                                                                                 | Groundworkers & construction workers                                           | Medium      | Receptor not present as construction has not started |                                |                            | Low                                                                               | Medium                         | Low / Moderate     | Hazardous ground gases and vapours have been identified on site, associated with Made Ground and historic industry.                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Risk increased due to introduction of receptor | Medium              | Minor adverse          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                      | Third-party neighbours, including industrial units on plot NT02 (Love Factory) | Medium      | Unlikely                                             | Medium                         | Low                        | Unlikely                                                                          | Medium                         | No change          | Risks of hazardous ground gases and vapours to construction workers should be mitigated using confined space safety precautions and appropriate RAMS to a) prevent inhalation using RPE; b) prevent accumulation of hazardous gases / vapours in confined spaces (e.g., excavations, below ground chambers etc) using local exhaust ventilation systems; and c) raise the alarm if unsafe conditions arise using multi-gas monitors to detect flammable gases and vapours as well as oxygen, carbon monoxide, hydrogen sulphide, sulphur dioxide etc.                              | Neutral                                        | No change           | No change              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                      |                                                                                |             |                                                      |                                |                            |                                                                                   |                                |                    | The reported concentrations are considered unlikely to affect off-site users of adjacent properties.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                |                     |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                      |                                                                                |             |                                                      |                                |                            |                                                                                   |                                |                    | The contamination status of plots within SRF is unknown; it has been assumed that contamination levels and mobility is no worse than within the Application 4 / 5 area.                                                                                                                                                                                                                                                                                                                                                                                                            |                                                |                     |                        |

