15 MATERIAL ASSETS

15.1 Introduction

This chapter describes and assesses the potential impacts of the proposed River Poddle Flood Alleviation Scheme material assets. The existing environment is also described. Mitigation measures are proposed where required, and the predicted residual impacts are described.

The proposed development consists of flood alleviation works along and adjacent to the River Poddle on sites totalling 12ha from Tymon North, Tallaght to Mount Argus Close in Harold's Cross with further works to rehabilitate or replace manholes in the vicinity of St. Teresa's Gardens and Donore Avenue, and at the National Stadium, Merchant's Quay, Dublin.The "*Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports"* (August 2017)[1] defines material assets as concerning built services and infrastructure, including traffic because in effect traffic consumes roads infrastructure.

This chapter addresses the following aspects:

- Local Settlement and Land Uses
- Natural Resources
- Waste Management

15.2 Methodology

This chapter has been prepared with reference to the following guidelines and sources:

- Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, August 2017);
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (DoEHLG, August 2018);
- Latest Census of Population and Housing, 2016 (CSO);
- South Dublin County Development Plan 2016-2022;
- Dublin City Development Plan 2016 – 2022;
- Eastern & Midlands Regional Assembly Regional Spatial and Economic Strategy 2019 – 2031;
- Eastern Midlands Region Waste Management Plan 2015 – 2021.

A desk study was carried out on the existing material assets associated with the sites of the proposed Flood Alleviation Scheme. Projections of resource use were made, for both the construction and operational phases of the development, and the impacts assessed. Impacts on particular material assets such as the road network are considered in detail elsewhere in this EIAR (refer to **Chapter 14 Traffic and Transport**).

15.3 Characteristics of the Proposed Scheme

The intervention area of the proposed Flood Alleviation Scheme extends along the Poddle River and in the wider catchment from the townland of Tymon North in Tallaght to

[1] Environmental Protection Agency, Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, Draft August 2017, https://bit.ly/2kurbam, [accessed 04/09/19].

Merchant's Quay, Dublin. There are three areas where more substantial works are proposed in green spaces and parks including Tymon North and Tymon Park in Tallaght where the main flood storage embankment is to be constructed and an Integrated Constructed Wetland (ICW) is also planned; at Whitehall/Wainsfort Manor Crescent in Terenure where a channel re-alignment is proposed; and at Ravensdale Park in Kimmage where flood walls are to be constructed to provide flood protection and storage.

Additional works are proposed in the Scheme to alleviate flooding include rehabilitating or replacing manholes to provide sealed manholes in the public roads in Poddle Park, Crumlin and in, and the vicinity of, Saint Teresa's Gardens Merchant's Quay, and at the National Stadium, South Circular Road, Merchant's Quay..

Ancillary works and associated development, include drainage channel clearance and removal of trees, where required for the works; rehabilitating culvert screens in locations as required; installing flap valves in all culverts draining to the River; biodiversity enhancements including installation of floating nesting platforms in Tymon Lake, Tymon Park, Tallaght; and landscape mitigation and restoration at Tymon Park, Tallaght, and Ravensdale Park, Kimmage including public realm improvements, replacement footbridges and tree planting and landscaping.

Temporary works include establishing a main construction compound in Tymon Park with access off Limekiln Road, which will be in operation for the entire duration of the works; and temporary works / set down areas at Wainsfort Manor Crescent and Ravensdale Park, which will be in use for the duration of the works to be carried out in these locations. Other temporary works include temporary stockpiling of excavated earth in Tymon Park; temporary channel crossings at Tymon North and Tymon Park, and channel diversions at Tymon Park and Whitehall Park to enable the works along the River channel to be carried out.

Refer to **Chapter 5 The Proposed Development** for a detailed description of the proposed development and proposed construction methods, and the accompanying planning drawings.

Once the Scheme is completed a robust programme of maintenance will ensure that culvert screens and channels are kept clear of debris to ensure the Flood Alleviation Scheme functions correctly during a storm event. This includes carrying out repair works on existing walls and instituting a robust maintenance programme to ensure that debris that has accumulated in the channel is removed and vegetation cleared in order to prevent blockages in the future. These measures will be undertaken by each Council.

15.4 Existing Environment

15.4.1 Local Settlement and Land Uses

The working areas in the proposed Poddle River Flood Alleviation project is in an urban / suburban setting in the south-west of Dublin City in the administrative areas of SDCC and DCC.

The Poddle River passes through areas of industrial, commercial, residential and open space/recreational uses. Much of the area in the vicinity of the proposed works is urban and well developed.

15.4.2 Utilities

This section provides a baseline description of the utilities services within the study area that interface with the proposed Scheme. Utility data for the study area has been collated from the following sources:

- South Dublin County Council;
- Dublin City Council;
- Irish Water;
- ESB;
- Telecoms: Virgin Media, Eir, BT, Three;
- Gas Networks Ireland;
- Site topographic surveys; and
- Geotechnical site investigations including slit trenches, trial pits and boreholes.

15.4.2.1 Wastewater

This section reviews the existing wastewater infrastructure which includes pipe sewer networks, foul pumping station and wastewater treatment plants within the study area. The wastewater assets in particular adjacent to the proposed Scheme are:

- 300mm and 675mm pipe crossing River Poddle near the area downstream of Tymon Lake;
- 525mm pipe installed along Limekiln Road;
- 225mm pipe installed along Whitehall Close;
- 225mm pipe installed along Glendale Park; and
- 300mm pipe installed along Fortified Road.

15.4.2.2 Water Supply

This section reviews the existing water infrastructure which includes pipe networks, pumping stations and treatment plants within the study area and the assets specifically adjacent to the proposed works are:

- 101.6 UpVC watermain installed along Limekiln Road
- 6'' UPVc watermain in the green area near Templeville Road
- 6'' UPVc watermain in the green area adjacent to the Wainsfort overflow weir
- 101.6 Cast- Iron watermain installed along Fortified Road
- 101.6 Asbestos watermain installed along Ravensdale Drive
- 9''Asbestos watermain installed along Ravensdale Park Road
- 200mm Ductile Iron watermain installed along Poddle Park Road
- 100mm Ductile Iron watermain installed at the end of Mount Argus Close

15.4.2.3 Surface Water Network

This section reviews the existing surface water infrastructure which includes pipe networks, stormwater pumping stations and stormwater attenuation area within the study area and the assets specifically adjacent to the proposed works are:

- 600mm pipe installed adjacent to ESB substation in Tymon North;
- A 525mm and a 450mm outfall at the area downstream of Tymon Lake;
- 300mm pipe and a 600mm at the north east area of Tymon Park;
- 225mm outfall at the green area near Templeville Road;

- 600m pipe crossing River Poddle near the Wainsfort overflow weir;
- 225m outfall from Glendale Park;
- 225mm pipe installed along Wainsfort Manor Crescent;
- 450mm outfall from Glenanne Road;
- 920mm pipe installed along Fortfield Road;
- 225mm pipe installed along Ravensdale Park;
- 225mm pipe crossing River Poddle at the area downstream of Poddle park footbridge;
- 300mm pipe installed along St. Martin's Drive;
- 225mm outfall at the end of Mount Argus Close.
- 600mm outfall at the end of Mount Argus Square.

15.4.2.4 Electricity Supply

This section reviews the existing ESB infrastructure, including underground and overhead infrastructure, substations, within the study area. The following is a brief description of the ESB infrastructure in the study area:

- 38kV HV underground cable installed along River Poddle route adjacent to Tymon Castle
- 38kV HV underground cable adjacent to the ESB substation in Tymon North
- Two MVLV underground three phase cables crossing River Poddle adjacent to the ESB substation
- One MVLV underground three phase cable crossing the River Poddle at the north east area of Tymon Park
- One MVLV underground three phase cable in the green area near Templeville Road
- One MVLV underground three phase cable in the green area adjacent to the Wainsfort overflow weir
- Two 38kV HV underground cable installed along the left bank of River Poddle adjacent to Fortfield Road
- One 110kV HV underground cable installed along Ravensdale Park Road
- One 38kV HV underground cable crossing River Poddle at the area downstream of Poddle park footbridge
- One MVLV underground three phase cable installed at the end of Mount Argus Close

15.4.2.5 Gas Networks

This section reviews the existing Gas Network Ireland infrastructure, including distribution and transmission infrastructure, within the study area. The following is a brief description of the Gas networks infrastructure in the study area:

- A 63 PE-80 700mbar medium pressure distribution gasline installed in the area upstream of the ESB substation in Tymon North
- A 90 PE -80 25mbar low pressure distribution gasline installed along Fortfield Road
- A 180 PE -80 25mbar low pressure distribution gasline installed along Ravensdale Park Road
- A 90 PE -80 25mbar low pressure distribution gasline installed along Ravensdale Drive

- A 180PE 4bar medium pressure distribution gasline crossing River Poddle adjacent to Saint Martin's Drive at the upstream area of the existing footbridge.
- A 90 PE -80 25mbar low pressure distribution gasline installed along Saint Martin's Drive.
- A 63 PE-80 700mbar medium pressure distribution gasline installed at the end of Mount Argus Close

15.4.2.6 Telecommunications

This section reviews the existing telecommunications infrastructure, including Virgin Media, BT, Eir Tree Network infrastructure, within the study area. The following is a brief description of the telecoms networks infrastructure in the study area:

- Lines present along Limekiln Road adjacent to Tymon Park site boundary
- Lines crossing the river channel adjacent to the proposed ICW in Tymon Park
- Lines installed close to proposed site entrance at Whitehall Park
- Lines installed adjacent to site boundary along Wainsfort Manor Green, Wainsfort Manor Drive and Wainsfort Manor Crescent
- Lines installed adjacent to proposed works at St Anne's Terrace
- Lines on Kimmage road Lower adjacent to Ravensdale Park and along Ravensdale Drive
- Lines along Poddle Park Road adjacent to works at St. Martin's Drive
- Lines installed in Mount Argos Square and Mount Argos Close adjacent to the proposed works at Mount Argos Close

15.4.3 Waste Management

A desktop study has been undertaken to review the licensed waste facilities in proximity of the proposed Scheme. As discussed in detail in **Chapter 9 Soils, Geology and Hydrogeology**, facilities in Ireland carrying out waste activities are required to obtain authorisation in accordance with the Waste Management Act 1996, as amended. Depending on the type of waste activities carried out at the facility these may be exempt or require either a waste licence, waste facility permit (WFP) or a certificate of registration (COR).

The EPA database and the National Waste Collection Permit Office (NWCPO) http://facilityregister.nwcpo.ie/ were reviewed for licensed waste facilities in proximity to the proposed works.

Table 15-1 presents the licensed waste facilities in proximity to the Scheme and the type of waste they accept.

Table 15-1: Licensed Waste Facilities in proximity to the Scheme

Facility Name	Permit No.	Location	Waste Accepted
Crossmore Transport Ltd	WFP-DS-14-0010-01	Unit 2B Sunbury Industrial Estate Ballymount Drive Dublin 12	End of life tyres
Kennedy Landscape Supplies Limited	WFP-DS-10-0007-03	Ballymana Lane Kiltipper Road Tallaght Dublin 24	Plant tissue waste
Mark O'Reilly Recycling	WFP-DS-10-0002-04	Colfix (Dublin) Limited Bluebell Industrial Estate Dublin 12	Copper, bronze, brass, aluminium, lead, iron and steel, mixed metals, cables, batteries and accumulators
Roadstone Limited	WFP-DS-11-0005-03	Belgard Quarry Fortunestown Tallaght Dublin 24	Concrete, bricks, tiles and ceramics, mixture of concrete, bricks, tiles and ceramics, wood, glass, plastic bituminous mixtures containing coal tar, bituminous mixtures, iron and steel, glass
Callan Recycling Limited	WFP-DS-16-0001-04	Unit 51 Fourth Avenue, Cookstown Industrial Estate, Tallaght, Dublin 24	Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
Pulp Recycling Limited	WFP-DS-12-0001-05	Unit 3 Riverside Whitestown Business Park Tallaght Dublin 24	Plastic packaging, paper and cardboard, plastics
Kavanagh Recycling & Recovery Limited	WFP-DS-14-0003-03	Unit 69 Cookstown Industrial Estate Tallaght Dublin 24 D24 N702	Discarded equipment containing hazardous components -16 other than those mentioned in 16 02 09 to 16 02 12 16 02 14,discarded equipment other than those mentioned in 16 02 09 to 16 02 13 16 02 16, components removed from discarded equipment other than those mentioned in 16 02 15 16 06 05, other batteries and accumulators

Facility Name	Permit No.	Location	Waste Accepted
Rehab Enterprises Ltd.	WFP-DS-10-0008-05	Unit 77 Broomhill Road Tallaght Dublin 24	waste containing silicones waste ink waste printing toner waste printing toner paper and cardboard packaging plastic packaging wooden packaging transformers and capacitors containing PCBs, discarded equipment containing or contaminated by PCBs, discarded equipment containing chlorofluorocarbons, HCFC, HFC, lead batteries, Ni-Cd batteries mercury-containing batteries alkaline batteries other batteries and accumulators paper and cardboard, fluorescent tubes and other mercury-containing waste discarded equipment containing chlorofluorocarbons batteries and accumulators included unsorted batteries and accumulators containing these batteries, discarded electrical and electronic equipment plastics metals other fractions not otherwise specified
Thorntons Recycling	WFP-DC-11-0023-02	Unit 6 S3B Henry Road Park West Business Park Dublin 12	Paper, cardboard, textiles, plastics

There are no licensed landfills operating within the Scheme area. The closest landfill site is at Ballynagran, Coolbeg, Co. Wicklow some 50km from the study area. Many of the landfills in the Dublin area are now closed to commercial waste and operate as civic Bring Centres for recycling.

15.5 Potential Impacts

15.5.1 Construction phase

15.5.1.1 Local settlement & Land Uses

The construction phase of the proposed Scheme will be 24 months in total, however, localised works will be shorter in duration. The impacts on local settlement during construction have been covered with in other sections of this EIAR under the following chapters: **Chapter 6 Population and Human Health, Chapter 12 Noise and Vibration, Chapter 13 Air Quality and Climate,** and **Chapter 14 Traffic and Transport**.

The Scheme will impact on the boundaries and boundary walls of 45 no. residential properties, 31 no. in Whitehall Close/ Grovesnor Court / Whitehall Park/Whitehall Rd, Glendale Park, Wainsfort Manor and 12 no. in Fortfield Road, 1 no. in St Martin's Drive and 1 no. in Mount Argus Close, 1 no. building Providers in Ravensdale Drive, and 1 no. Sports Club in Templeogue, Tymon North Public Park, Tymon Park and Ravensdale Park. The Scheme will also impact the road network in mainly residential areas during manhole works/.

- In Whitehall Close/ Grovesnor Court the works will be at the rear of the residential properties in the public green space which will consist of construction of new river channel, infill of the existing channel and building and grading works for earth embankments with a new SDCC access gate being made at the end of Whitehall Close. Works to the rear of Whitehall Park and Grovesnor Court will be the construction of reinforced concrete walls from the public space with a number of trees removed to facilitate construction. Access to these works will be from Templeville Road and *via* Wainsfort Manor Drive.
- In Whitehall Road, Glendale Park and Templeogue Badminton Club the works will be to the rear of the properties with construction and some tree felling to be carried out in the river channel to build concrete defence walls up against existing property walls.
- In Wainsfort Drive and Wainsfort Manor Crescent disruption will be from the construction of the works described in the last paragraph and there will be a temporary site compound located on the green space for the duration of the works along with the necessary flow of construction traffic to and from the area.
- In Fortfield Avenue the construction works are to the rear of the 11 properties in private lands and will involve the felling of trees the removal of existing rear garden walls and their replacement with reinforced concrete walls. The works will be carried out from the riverside and construction traffic will access area *via* landowner access through Kimmage Road West and from Fortfield Avenue adjacent to the An Post sorting office.
- In St. Martin's Drive, the disruption will be in the green area adjacent to the channel and car parking area with tree felling and reinforced concrete wall being erected. There will restrictions on car parkingduring construction and construction traffic will access the works *via* the estate roads. A secure storage / works area will also be provided at this location.

- In Mount Argus Close works will be for the construction a reinforced concrete wall and safety railings adjacent to private property. The pedestrian bridge will be temporarily closed during stages of this construction and construction traffic will access the works *via* the estate roads.
- In Tymon North Park disruption will be at the ESB sub-station to the west of the park adjacent to the lakes with construction of an earthen embankment. The footpath on the right of the river channel between the road bridge and the lakes will be closed to public during construction works. Construction works will also be carried out in the wooded area east of playground near Tymon Castle ruins and the footpath along this stretch will be closed to the public with temporary path made available. Construction traffic will access works area *via* the park entrance and park roads.
- In Tymon Park disruption will be in access to Tymon Lakes from Limekiln Road Car Park, the footpaths in the vicinity of the lake, the site compound located north of the lake and the ICW area to the west of the lake including construction roads along existing footpaths for the movement of plant and materials. The pedestrian access gate at Limekiln Road adjacent to Riverview ETNS will be maintained open to public including the pedestrian Bridge to Osprey Avenue. The access to the lake and ICW areas and footpaths within the site area defined will be closed for the duration of the works (4 months) and the site compound will be in place for 24 months. Access for the construction traffic will be *via* Limekiln Road through the site compound.
- In Ravensdale Park disruption will occur during the construction of the reinforced concrete walls and pedestrian bridge and some tree felling. Access to the park *via* Ravensdale Park, Ravensdale Drive and Kimmage Road Lower will be restricted during construction works and footbridges from Kimmage Road West and Ravensdale Drive will be closed for the duration of works. Construction traffic will access site *via* Ravensdale Park with a temporary works compound during the construction work.
- Disruption to road network at Poddle Park, St. Teresa's Gardens and Donore Avenue will occur during the and manhole sealing. These works will involve some road opening and reinstatement with some road closures and traffic diversions and or stop/go temporary traffic systems.

15.5.1.2 Road and Transport Network

The proposed Flood Alleviation Scheme works may require traffic diversions during the construction phase to facilitate the works. In Poddle Park, St Teresa's Gardens and Donore Avenue. Traffic management is required for proposed works on the manholes. In Fortfield Avenue and Ravensdale Park there will likely be traffic disruptions during construction due to proximity to Kimmage Cross Roads and along Limekiln Road for the construction entrance at Tymon Park during peak hours. Construction impacts on the roads and transportation network are detailed in **Chapter 14 Traffic and Transport.**

15.5.1.3 Utilities

During the construction of the Scheme there will be a number of conflicts with existing utilities. These impacts may require the relaying and/or realignment of the utilities local

to the proposed works. Relaying the utilities is anticipated to be required where the existing utilities are located immediately adjacent to the proposed defence and ICW works.

In Tymon Park two surface water pipes from Limekiln avenue outfall to the river Poddle at the proposed location of the ICW. These pipe outfalls will be altered to outfall directly into the ICW area.

All surface water outfalls along the length of the Poddle channel will have flap valves installed. Surface water drains at the rear of properties in Whitehall Close, Whitehall Park, Whitehall Road, Wainsfort, and Fortfield Avenue where defence walls and embankments are being constructed will have these outfalls included in the new defences.

The embankment works in Tymon North adjacent to the ESB sub-station clash with cables running directly underneath. These cables will diverted to allow construction of the embankment.

15.5.1.4 Natural Resources

The construction of proposed Flood Alleviation Scheme will require natural resources in the form of engineering fill, water, electricity and fuel for construction vehicles and plant machinery.

15.5.1.5 Waste Management

The wastes expected to arise as a result of construction would be mostly earth from excavations. The project will aim to reuse as much excavated material as possible in the Flood Alleviation Scheme. Any earth material that is removed from the sites will be done in strict accordance with the relevant waste management legislation. For all works, any waste generated during the construction phase will be adequately segregated and stored prior to transfer to an authorised facility for recovery/recycling/disposal.

During the construction phase both solid and liquid waste will be produced at the site. All domestic effluent generated on site will discharge to temporary sewage containment facilities prior to transport and treatment off-site by an authorised contractor. Waste oils and solvents will be stored in a temporary bunded area prior to transport off-site by a licensed contractor.

15.5.2 Operational Phase

15.5.2.1 Local settlement & Land Uses

Generally, the operational impact of the Scheme will be positive due to the standard of protection to be provided against flooding. There will be no operational impacts on the residential properties with some restriction in crossing Ravensdale Park off the footpaths due to the defence wall but not through the path network.

Once operational the Scheme will require maintenance activities. These activities will include clearing of the trash screens to prevent blockages, inspection of the defences, clearing the channel and repair works

15.5.2.2 Road and Transport Network

Operational impacts of the roads and transport networks are detailed in **Chapter 14 Traffic and Transport**.

15.5.2.3 Utilities

There will be no operational impact on utilities and services from operation of the Scheme.

15.5.2.4 Natural Resources

There will be no operational impact on natural resources.

15.5.2.5 Waste Management

There will be no operational impact in respect of waste management.

15.6 Mitigation Measures

15.6.1 Construction Phase

15.6.1.1 Local settlement & Land Uses

The impact of the Scheme during the construction stage has been carefully considered in the design of the defences and for construction of the project. Vehicular and pedestrian access to all properties will be maintained throughout the construction of the Scheme.

In Tymon Park, the proposed works are limited to the area in the vicinity of the Lake and ICW. This will require the closure of the walkways closest to the Lake and parallel to Limekiln Road, but the existing footpath / cycle track running through the remainder of the Park will be open throughout the construction period. Works areas will be set off from the footpaths / cycle tracks to ensure safety of Park users.

In Ravensdale Park the access to the southern section of the Park along Kimmage Road West will remain open, but the remainder of the Park will be closed to the public for health and safety reasons. Footbridges from Kimmage Road West and Ravensdale Drive will be closed for the duration of works.

Information and signage will be provided at the car parks and access points from residential areas adjacent to the Parks.

To mitigate the impact of construction of the Scheme on the existing walkways around Tymon Lake in the Park due to the flow control structure and construction of the flood defence embankment, the walkway and river crossing will be realigned to the top of the proposed embankment and connecting pathways re-aligned to join with the new path. Likewise, a new path will be made adjacent to the ICW.

To mitigate the impact of the wall in Ravensdale Park an open seating area will be constructed and to accommodate the new pedestrian bridge access to Ravensdale Drive and the connecting footpath will be realigned in the Park.

15.6.1.2 Road and Transport Network

Mitigation measures for impacts on roads and transport networks are discussed in **Chapter 14 Traffic and Transport**.

15.6.1.3 Utilities

Standard industry practice for construction works will ensure the safety of the workers and maintain the integrity and operational functions of any service, above or underground.

Prior to construction, drainage networks, electrical cabling, gas pipelines, and telecommunications infrastructure will be recorded and incorporated into the detailed design of the Scheme to avoid any clashes where possible. All diversions will be designed and constructed in accordance with the requirements and under the supervision of the relevant utility provider. Businesses and residents will be notified in advance of any service disruptions. Contractors will be provided with the locations of all services.

15.6.1.4 Natural Resources

No mitigation measures will be required during the construction of the Scheme in respect of natural resources.

15.6.1.5 Waste Management

Standard mitigation measures for dealing with waste arising will be employed, including the implementation of a CEMP and a project specific Waste Management Plan. Further details of mitigation of construction waste can be found in the **Outline CEMP** (**EIAR Volume 4, Appendix 5-1**), and **Chapter 9 Soils, Geology and Hydrogeology**.

15.6.2 Operational Phase

15.6.2.1 Local settlement & Land Uses

No mitigation is required.

15.6.2.2 Road and Transport Network

No mitigation is required.

15.6.2.3 Utilities

No mitigation is required.

15.6.2.4 Natural Resources

No mitigation is required.

15.6.2.5 Waste Management

No mitigation is required.

15.7 Residual Impacts

After the application of mitigation measures prescribed in this Chapter, it is anticipated that residual impacts on Local Settlement, Utilities, Natural Resources and Waste Management will be slight.