

Alternative Sites Assessment and Route Selection Matrix Sub-Criteria - Phase 2	
1.0	Cultural Heritage
1.1	Cultural Heritage - Land Parcels / SITES
1.1.1	Potential to impact (direct/indirect) on National Monuments (designated sites)
1.1.2	Potential to impact (direct/indirect) on RMPs (designated sites)
1.1.3	Potential to impact (direct/indirect) on RPS/NIAH (designated sites)
1.1.4	Potential to impact (direct/indirect) on CH sites (previously unrecorded sites)
1.1.5	Potential to impact (direct) on water courses and environs (areas of archaeological potential)
1.1.6	Potential to impact (direct/indirect) on historic designed landscapes
1.1.7	Potential to impact (direct) on townland boundaries (cultural heritage significance)
1.2	Cultural Heritage - Route Corridors
1.2.1	Potential to impact on RMPs
1.2.2	Potential to impact on National Monuments
1.2.3	Potential to impact on RPS/NIAH
1.2.4	Potential to impact on CH sites
1.2.5	Potential to impact on historic designed landscapes
1.2.6	Potential to impact on ACA
1.3	Cultural Heritage - Marine Outfalls
1.3.1	Potential to impact on RMPs
1.3.2	Potential to impact on National Monuments
1.3.3	Potential to impact on RPS/NIAH
1.3.4	Potential to impact on CH sites
1.3.5	Recorded shipwreck sites
1.3.6	Potential to impact on inter-tidal archaeology (previously unknown)
2.0	Landscape & Visual
2.1	Landscape & Visual - Land Parcels / SITES
2.1.1	Potential to impact on views from scenic routes (designation in Fingal CDP)
2.1.2	Potential to impact on areas of 'Highly Sensitive Landscape' (designation in Fingal CDP)
2.1.3	Potential to impact on views from heritage/tourist/amenity features
2.1.4	Potential to impact on the character of the landscape character
2.1.5	Potential that landscape screening will be ineffective or contribute to landscape and visual impacts
2.1.6	Potential to impact on views from settlements
2.1.7	Potential to impact on views from dwellings / local roads
2.1.8	Potential to impact on views from M1 motorway
2.1.9	Potential to impact on views from Dublin - Belfast rail line
2.1.10	Potential to impact on views from other major roads (national or regional roads)
2.1.11	Potential to impact on arrival views from Dublin Airport including aerial approach and vehicular egress
2.1.12	Potential to disrupt landscape structure (hedgerows / field pattern etc.)
2.1.13	Potential to impact on historic designed landscapes
2.1.14	Potential to impact on woodlands and significant tree groups
2.2	Landscape & Visual - Route Corridors/Pipelines
2.2.1	Potential to impact on views from scenic routes (designation in Fingal CDP)
2.2.2	Potential to impact on areas of 'Highly Sensitive Landscape' (designation in Fingal CDP)
2.2.3	Potential to impact on views from settlements
2.2.4	Potential to impact on views from dwellings / local roads
2.2.5	Potential to impact on views from motorways
2.2.6	Potential to impact on views from other major roads (national or regional roads)
2.2.7	Potential to impact on views from Dublin - Belfast rail line
2.2.8	Potential to impact on arrival views from Dublin Airport including aerial approach and vehicular egress
2.2.9	Potential to impact on views from heritage/tourist features
2.2.10	Potential to disrupt landscape structure (treelines / hedgerows / field pattern etc.)
2.2.11	Potential to impact on woodlands and significant tree groups
2.2.12	Potential to impact on rivers and streams
2.2.13	Potential to impact on historic designed landscapes

2.3	Landscape & Visual - Marine Outfalls (Landward side)
2.3.1	Potential to impact on views from scenic routes (designation in Fingal CDP)
2.3.2	Potential to impact on 'Highly Sensitive Landscape' (designation in Fingal CDP)
2.3.3	Potential to impact on coastal walks (indicated in Fingal CDP)
2.3.4	Potential to impact on bathing locations (indicated in Fingal CDP)
2.3.5	Potential to impact on views from settlements
2.3.6	Potential to impact on views from dwellings / local roads
2.3.7	Potential to impact on views from major roads (national or regional roads)
2.3.8	Potential to impact on views from Dublin Airport including aerial approach and vehicular egress
2.3.9	Potential to impact on views from Dublin - Belfast rail line
2.3.10	Potential to impact on views from heritage/tourist features
2.3.11	Potential to Impact on Character of the Coastal Landscape
3.0	Ecology
3.1	Ecology - Land Parcels / SITES
3.1.1	Potential to impact on Natura 2000 Sites and Natural Heritage Areas
3.1.2	Potential to impact on Fingal Ecological Network Sites
3.1.3	Potential to impact protected species based on length of field boundary defined by hedgerow, which incorporates mature trees, within site, e.g. Badgers, Bats, Yellowhammer, Tree sparrow, Stock dove
3.1.4	Potential to result in loss of habitats of high ecological value e.g. Annex I habitats (designated or not), ecological stepping stones or linking corridors
3.1.5	Potential to impact on a salmonid system
3.1.6	Potential to disturb birds which are Qualifying Interests in the SPA (either within or up to 1km outside the SPA's boundaries).
3.1.7	Potential to result in the loss of winter Greylag Goose Feeding Areas based in IWeBS Data.
3.1.8	Potential to impact on the breeding habitat for Annex I species Kingfisher
3.1.9	Potential to result in significant loss of winter habitat for Lapwing and Golden Plover and other wader species outside of designated areas (I.e. relatively large, flat open fields of ploughed or fallow arable land or pasture)
3.2	Ecology - Route Corridors/Pipelines
3.2.1	Potential to impact on Natura 2000 Sites and Natural Heritage Areas
3.2.2	Potential to impact upon ecological buffer zones or Nature Development Areas identified in the Fingal Development Plan 2011-2017
3.2.3	Potential to impact upon ecological corridor, nature development area or high value habitats
3.2.4	Potential to impact on a salmonid system
3.2.5	Potential for significant loss of breeding habitat for scarce or declining passerine species & Yellowhammer, Tree Sparrow, Spotted Flycatcher
3.2.6	Potential to impact on the breeding habitat for Annex I species Kingfisher
3.2.7	Potential for the significant loss of winter habitat for Lapwing and Golden Plover, and other wader species outside of designated areas (I.e. relatively large, flat open fields of ploughed or fallow arable land or pasture)
3.2.8	Potential to impact on IWeBS identified areas of importance to birds adjacent to Malahide Estuary
3.3	Ecology - Marine Outfalls
3.3.1	Potential to impact on Natura 2000 Sites within survey area footprint.
3.3.2	Potential to impact on Fingal Ecological Network Sites.
3.3.3	Potential to impact on other potential annex 1 habitats (under the Habitats Directive) within the survey area footprint.
3.3.4	Potential to impact subtidal habitats.
3.3.5	Potential to impact intertidal habitats.
3.3.6	Potential to impact on water quality and bathing waters designated under the Bathing Water Directive.
3.3.7	Potential to impact on water quality and neighbouring shellfish waters designated under the Shellfish Waters Directive.
3.3.8	Potential to impact on water quality and inshore fishing grounds based on regional fisheries datasets.
3.3.9	Potential to impact on transient protected marine species (cetaceans and salmonids), which may pass through the affected area within the survey area footprint.
3.3.10	Potential to impact on important marine bird feeding areas.
4.0	Hydrology
4.1	Hydrology - Land Parcels / SITES
4.1.1	Proximity to water bodies in terms of flooding and as an indicator of sensitive surface water receptors
4.1.2	Culverting requirement - used to indicate impact on flood-prone watercourses due to reduced conveyance.
4.1.3	Area prone to flooding (based on historical data and predicted flood extents adjacent to the site as well as up and downstream locations)
4.1.4	Potential Impact on ecologically important and designated sites.

4.2	Hydrology - Route Corridors
4.2.1	Proximity to water bodies in terms of flooding and as an indicator of sensitive surface water receptors
4.2.2	Culverting requirement - used to indicate impact on flood-prone watercourses due to reduced conveyance.
4.2.3	Area prone to flooding (based on historical data and predicted flood extents adjacent to the site as well as up and downstream locations)
4.2.4	Potential Impact on ecologically important and designated sites.
4.3	Hydrology - Marine Outfalls
4.3.1	Proximity to water bodies in terms of flooding and as an indicator of sensitive surface water receptors
4.3.2	Potential to impact Shellfish Waters
4.3.3	Area prone to flooding (based on historical data and predicted flood extents adjacent to the site as well as up and downstream locations)
4.3.4	Potential Impact on ecologically important and designated sites
5.0	Hydrogeology
5.1	Hydrogeology - Land Parcels / SITES
5.1.1	Aquifer Classification - importance of the groundwater resource to a given area
5.1.2	Vulnerability Classification - potential for groundwater contamination
5.1.3	GSI Groundwater Protection Response matrix
5.1.4	Groundwater Supplies - identification of water supply springs and bored wells based on GSI, EPA and FCC records.
5.1.5	Groundwater Source Protection Area's and Zones of Contribution as per available GSI & EPA data
5.1.6	Identification of hydrogeological features from the GSI karst database
5.2	Hydrogeology - Route Corridors
5.2.1	Aquifer Classification - importance of the groundwater resource to a given area
5.2.2	Vulnerability Classification - potential for groundwater contamination
5.2.3	Groundwater Supplies - identification of water supply springs and bored wells based on GSI, EPA and FCC records.
5.2.4	Groundwater Source Protection Area's and Zones of Contribution as per available GSI & EPA data
5.2.5	Identification of hydrogeological features from the GSI karst database
5.3	Hydrogeology - Marine Outfalls
5.3.1	Aquifer Classification - importance of the groundwater resource to a given area
5.3.2	Vulnerability Classification - potential for groundwater contamination
5.3.3	Groundwater Supplies - identification of water supply springs and bored wells based on GSI, EPA and FCC records.
5.3.4	Groundwater Source Protection Area's and Zones of Contribution as per available GSI & EPA data
5.3.5	Identification of hydrogeological features from the GSI karst database
6.0	Soils and Geology
6.1	Soils and Geology - Land Parcels / SITES
6.1.1	Potential to impact on Geological Heritage Sites / County Geological Sites
6.1.2	Potential to interact with contaminated land
6.1.3	Potential to sterilise mineral resource
6.1.4	Potential to encounter shallow bedrock during construction (interactions with other disciplines during construction - noise, dust etc)
6.1.5	Potential impact on karst features
6.1.6	Potential to encounter soft ground
6.1.7	Soils Types
6.1.8	Sub Soil Types
6.1.9	Depth to rock
6.2	Soils and Geology - Route Corridors
6.2.1	Potential to impact on Geological Heritage Sites / County Geological Sites
6.2.2	Potential to interact with contaminated land
6.2.3	Potential to sterilize mineral resource
6.2.4	Potential to encounter shallow bedrock during construction (interactions with other disciplines during construction - noise, dust etc)
6.2.5	Potential impact on karst features
6.2.6	Potential to encounter soft ground

6.3	Soils and Geology - Marine Outfalls
6.3.1	Potential to impact on Geological Heritage Sites / County Geological Sites
6.3.2	Potential to interact with contaminated land
6.3.3	Potential to sterilize mineral resource
6.3.4	Potential to encounter shallow bedrock during construction (interactions with other disciplines during construction - noise, dust etc)
6.3.5	Potential impact on karst features
6.3.6	Potential to encounter soft ground
7.0	Agronomy & Landuse
7.1	Agronomy & Landuse - Land Parcels / SITES
7.1	Approximate % Reduction in overall farm holding
7.2	Farming Enterprise
7.3	Number of landowners impacted within site boundary
7.4	Land Quality
7.5	Severance based on site location within overall land holdings
7.6	Potential Impacts on landholdings
7.7	Crop rotation practiced
7.8	Overall Impact
8.0	Noise
8.1	Potential for Construction phase noise impact at Sensitive receptors
8.2	Potential for Operational phase noise impact at Sensitive receptors
8.3	Existing Ambient Noise Climate in the Area (significant noise sources)
8.4	Construction Phase Impact rating
8.5	Operational Phase Impact rating
9.0	Air and Odour
9.1	Potential for Construction phase Air Quality impact at Sensitive receptors
9.2	Potential for Operational phase Air Quality impact at Sensitive receptors
9.3	Potential for Odour impacts at Operational phase
9.4	Potential for Odour impacts at Construction phase
9.5	Proximity to EPA Waste Licensed facility
9.6	Proximity to EPA IPPC Licensed Intensive Agriculture facility
9.7	EPA Air Quality Zone Classification
9.8	Wind Rose Assessment
9.9	Construction Phase Impact rating
9.10	Operational Phase Impact rating
10.1	People and Communities - SITES
10.1.1	Number of residential & commercial buildings 300-500m from site boundary
10.1.2	Number of residential & commercial buildings 500m - 1km from site boundary
10.1.3	Potential to impact on known community amenities and facilities within 1km from site boundary.
10.1.4	Potential to impact on areas of Significant Population Densities
11	Traffic - SITES
11.1	Length of access road required
11.2	Number of crossings required for access road
11.3	Potential Impact on landowners
11.4	Works required to provide safe access entrance
11.5	Potential impact on surrounding local road network
11.6	Frequency of accidents near entrance
11.7	Frequency of accidents on surrounding network (indication of general road safety issues)
11.8	Road link impacted upon by all construction traffic (excluding major routes i.e. R132/N32)

12.0	Planning Policy - SITES
12.1	Existing Land Use on Site
12.2	Site Zoning
12.3	Airport Public Safety and Noise Zones on site
12.4	Local Objectives on Site
12.5	Other Local Objectives on Site
12.6	Land Uses present within 300m of site boundary
12.7	Zoning present within 300m of site boundary
12.8	Airport Public Safety and Noise Zones within 300m of site boundary
12.9	Local Objectives within 300m of site boundary
12.10	Other Local Objectives present within 300m of site boundary
12.11	Land Uses present within 1km of Land Parcel Boundary
12.12	Zoning present within 1km of Land Parcel Boundary
12.13	Airport Public Safety and Noise Zones within 1km of land parcel boundary
12.14	Local Objectives within 1km of Land Parcel Boundary
12.15	Other Local Objectives present within 1km of Land Parcel Boundary
13.0	Engineering Design - Pipelines
13.1	Pipeline Length
13.1.1	Length from 9C to WWTP Site (Total)
	Length of Gravity Pipe from 9C to WWTP Site (Total)
	Gravity Pipe from 9C to WWTP Site (Length as Open Cut)
	Gravity Pipe from 9C to WWTP Site (Length as Tunnel)
	Length of Pumped Main (Total)
	Length of Pumped Main (Length as Open Cut)
	Length of Pumped Main (Length as Tunnel)
13.1.2	Length from North Dublin to WWTP Site
	Length as Gravity from North Dublin to WWTP Site
	Length as Pumped Main from North Dublin to WWTP Site
	Pumped Main from ND to WWTP Site (Length as Open Cut)
	Pumped Main from ND to WWTP Site (Length as Tunnel)
13.1.3	Length from WWTP Site to Coast
	WWTP Site to Coast (Length as Tunnel)
	WWTP Site to Coast (Length as Open Cut)
13.1.4	Length of Marine Outfall Pipeline
13.1.5	Water Depth of Outfall Pipeline (End)
13.1.6	Total Pipeline Lengths
	Total Length as Open Cut
	Total Length as Tunnel
	Total Length in Marine
	Total Pipeline Length
13.2	Power Requirements
	Power Requirement from 9C to WWTP Site
	Power Requirement from North Dublin to WWTP Site
	Total Power Requirements
13.3	Carbon Emissions
	Total embodied Carbon
	Total Lifetime Operational Carbon
	Total Carbon (tonnes CO2)
13.4	Health and Safety
	Health & Safety
13.5	Access / Right of Way / Wayleaves along Pipeline Corridors
	Restrictions Along Pipeline Corridors to WwTP Sites

13.6	Crossings - Waterways, Rail, etc. along Pipeline Corridors
	Main River Crossings
	Stream Crossings
	Golf Courses
	Canal Crossings
	Motorway Crossings
	National Road Crossings
	Regional Road Crossings
	Railway Crossings
	Total Crossings
13.7	Potential to Impact on Physical Infrastructure along Pipeline Corridors
13.8	Potential to Impact on Strategic Utility Services along Pipeline Corridors
13.9	Presence of Public Utilities within WwTP Sites
	Public Utilities within the Site
13.10	Land Ownership and Titles along Pipeline Corridors
13.11	Route Traffic Management
13.12	Construction Risk along Pipeline Corridors
13.13	Operation and Maintenance - WwTP; Pumping Stations & Pipeline Ancillaries

Phase 2 Alternative Sites/Routes Assessment - Environmental & Technical Criteria Evaluation Matrix

Appendix 3 - List of Sub-Criteria Removed from Matrix prior to commencing Iterative Process

Ref	Environmental Criteria	Annsbrook	Baldurgan	Clonshagh	Cookstown	Cloghran	Newtowncorduff	Rathartan	Saucerstown	Tyrrelstown Little
1.0	Cultural Heritage	Annsbrook	Baldurgan	Clonshagh	Cookstown	Cloghran	Newtowncorduff	Rathartan	Saucerstown	Tyrrelstown Little
1.1	Cultural Heritage -Sites									
1.2	Cultural Heritage -Pipelines									
1.2.6	Potential to impact on ACA	One ACA partially located within corridor	One ACA partially located within corridor	No ACA located within corridor	One ACA partially located within corridor	One ACA partially located within corridor	One ACA partially located within corridor	One ACA partially located within corridor	One ACA partially located within corridor	One ACA partially located within corridor
1.3	Cultural Heritage - Marine Outfalls									
1.3.2	Potential to impact on National Monuments	No national monuments located within outfall area	No national monuments located within outfall area	No national monuments located within outfall area	No national monuments located within outfall area	No national monuments located within outfall area	No national monuments located within outfall area	No national monuments located within outfall area	No national monuments located within outfall area	No national monuments located within outfall area
1.3.6	Potential to impact on inter-tidal archaeology (previously unknown)	high (any coastal area should be considered of high archaeological potential	high (any coastal area should be considered of high archaeological potential	high (any coastal area should be considered of high archaeological potential	high (any coastal area should be considered of high archaeological potential	high (any coastal area should be considered of high archaeological potential	high (any coastal area should be considered of high archaeological potential	high (any coastal area should be considered of high archaeological potential	high (any coastal area should be considered of high archaeological potential	high (any coastal area should be considered of high archaeological potential
2.0	Landscape & Visual	Annsbrook	Baldurgan	Clonshagh	Cookstown	Cloghran	Newtowncorduff	Rathartan	Saucerstown	Tyrrelstown Little
2.1	Landscape & Visual - Sites									
2.1.14	Potential to impact on woodlands and significant tree groups	Imperceptible - there are no woodlands contained within the site boundary	Imperceptible - there are no woodlands contained within the site boundary	Imperceptible - there are no woodlands contained within the site boundary	Imperceptible - there are no woodlands contained within the site boundary	Imperceptible - there are no woodlands contained within the site boundary	Imperceptible - there are no woodlands contained within the site boundary	Imperceptible - there are no woodlands contained within the site boundary	Imperceptible - there are no woodlands contained within the site boundary	Imperceptible - there are no woodlands contained within the site boundary
2.2	Landscape & Visual - Pipelines									
2.2.1	Potential to impact on views from scenic routes (designation in Fingal CDP)	A - Imperceptible - No scenic routes in the vicinity D -Significant - passes over two scenic routes and in close proximity to two others F -Slight - passes close to only one small section of scenic route west of Lusk	A - Imperceptible - No scenic routes in the vicinity D -Significant - passes over two scenic routes and in close proximity to two others F -Slight - passes close to only one small section of scenic route west of Lusk	A - Imperceptible - No scenic routes in the vicinity B -Imperceptible - No scenic routes in the vicinity G - Significant - Scenic route along eastern edge of this section at edge of Baldoyle Estuary	A - Imperceptible - No scenic routes in the vicinity D -Significant - passes over two scenic routes and in close proximity to two others F -Slight - passes close to only one small section of scenic route west of Lusk	A - Imperceptible - No scenic routes in the vicinity B -Imperceptible - No scenic routes in the vicinity C -Imperceptible - Nearest scenic route >1km away from NW end of this Pipeline corridor section on opposite side of a ridge. G - Significant - Scenic route along eastern edge of this section at edge of Baldoyle Estuary	A - Imperceptible - No scenic routes in the vicinity D -Significant - passes over two scenic routes and in close proximity to two others F -Slight - passes close to only one small section of scenic route west of Lusk	A - Imperceptible - No scenic routes in the vicinity D -Significant - passes over two scenic routes and in close proximity to two others E -Significant - crosses a scenic route just to the SE of Lusk	A - Imperceptible - No scenic routes in the vicinity D -Significant - passes over two scenic routes and in close proximity to two others E -Significant - crosses a scenic route just to the SE of Lusk	A - Imperceptible - No scenic routes in the vicinity D -Significant - passes over two scenic routes and in close proximity to two others F -Slight - passes close to only one small section of scenic route west of Lusk
2.2.2	Potential to impact on areas of high landscape sensitivity (designation in Fingal CDP)	A - Significant - at least half of this section of pipeline corridor runs through area of HLS D -Significant - passes through two HSL areas and also passes through a 'High Amenity' zoning objective area associated with the Swords Estuary / Broadmeadow River F -Slight - touches a HLS area at eastern tip of this pipeline section G - Significant - Eastern end of this pipeline section is contained within an HSL which also has a 'High Amenity' zoning objective area	A - Significant - at least half of this section of pipeline corridor runs through area of HLS D -Significant - passes through two HSL areas and also passes through a 'High Amenity' zoning objective area associated with the Swords Estuary / Broadmeadow River F -Slight - touches a HLS area at eastern tip of this pipeline section G - Significant - Eastern end of this pipeline section is contained within an HSL which also has a 'High Amenity' zoning objective area	A - Significant - at least half of this section of pipeline corridor runs through area of HLS B - Moderate - small pocket of HLS at eastern tip of this pipeline section G - Significant - Eastern end of this pipeline section is contained within an HSL which also has a 'High Amenity' zoning objective area	A - Significant - at least half of this section of pipeline corridor runs through area of HLS D -Significant - passes through two HSL areas and also passes through a 'High Amenity' zoning objective area associated with the Swords Estuary / Broadmeadow River F -Slight - touches a HLS area at eastern tip of this pipeline section G - Significant - Eastern end of this pipeline section is contained within an HSL which also has a 'High Amenity' zoning objective area	A - Significant - at least half of this section of pipeline corridor runs through area of HLS B - Moderate - small pocket of HLS at eastern tip of this pipeline section G - Significant - Eastern end of this pipeline section is contained within an HSL which also has a 'High Amenity' zoning objective area	A - Significant - at least half of this section of pipeline corridor runs through area of HLS D -Significant - passes through two HSL areas and also passes through a 'High Amenity' zoning objective area associated with the Swords Estuary / Broadmeadow River F -Slight - touches a HLS area at eastern tip of this pipeline section G - Significant - Eastern end of this pipeline section is contained within an HSL which also has a 'High Amenity' zoning objective area	A - Significant - at least half of this section of pipeline corridor runs through area of HLS D -Significant - passes through two HSL areas and also passes through a 'High Amenity' zoning objective area associated with the Swords Estuary / Broadmeadow River E -Significant - crosses a HSL area just to the SE of Lusk G - Significant - Eastern end of this pipeline section is contained within an HSL which also has a 'High Amenity' zoning objective area	A - Significant - at least half of this section of pipeline corridor runs through area of HLS D -Significant - passes through two HSL areas and also passes through a 'High Amenity' zoning objective area associated with the Swords Estuary / Broadmeadow River E -Significant - crosses a HSL area just to the SE of Lusk G - Significant - Eastern end of this pipeline section is contained within an HSL which also has a 'High Amenity' zoning objective area	A - Significant - at least half of this section of pipeline corridor runs through area of HLS D -Significant - passes through two HSL areas and also passes through a 'High Amenity' zoning objective area associated with the Swords Estuary / Broadmeadow River F -Slight - touches a HLS area at eastern tip of this pipeline section G - Significant - Eastern end of this pipeline section is contained within an HSL which also has a 'High Amenity' zoning objective area

Ref	Environmental Criteria	Annsbrook	Baldurigan	Clonsagh	Cookstown	Cloghran	Newtowncorduff	Rathartan	Saucerstown	Tyrrelstown Little
2.2.12	Potential to impact on rivers and streams	A - Significant - Tolka River corridor crossed at SW end of pipeline section D - Significant - crosses the Broadmeadows River in at least 2 places F - Significant - crosses the Ward River and the Broadmeadows River G - Significant - crosses the Mayne River	A - Significant - Tolka River corridor crossed at SW end of pipeline section D - Significant - crosses the Broadmeadows River in at least 2 places F - Significant - crosses the Ward River and the Broadmeadows River G - Significant - crosses the Mayne River	A - Significant - Tolka River corridor crossed at SW end of pipeline section B - Imperceptible - there do not appear to be any notable rivers or streams along this pipeline corridor section G - Significant - crosses the Mayne River	A - Significant - Tolka River corridor crossed at SW end of pipeline section D - Significant - crosses the Broadmeadows River in at least 2 places F - Significant - crosses the Ward River and the Broadmeadows River G - Significant - crosses the Mayne River	A - Significant - Tolka River corridor crossed at SW end of pipeline section B - Imperceptible - there do not appear to be any notable rivers or streams along this pipeline corridor section G - Significant - crosses the Mayne River	A - Significant - Tolka River corridor crossed at SW end of pipeline section D - Significant - crosses the Broadmeadows River in at least 2 places F - Significant - crosses the Ward River and the Broadmeadows River G - Significant - crosses the Mayne River	A - Significant - Tolka River corridor crossed at SW end of pipeline section D - Significant - crosses the Broadmeadows River in at least 2 places E - Imperceptible - there do not appear to be any notable rivers or streams along this pipeline corridor section F - Significant - crosses the Ward River and the Broadmeadows River G - Significant - crosses the Mayne River	A - Significant - Tolka River corridor crossed at SW end of pipeline section D - Significant - crosses the Broadmeadows River in at least 2 places E - Imperceptible - there do not appear to be any notable rivers or streams along this pipeline corridor section F - Significant - crosses the Ward River and the Broadmeadows River G - Significant - crosses the Mayne River	A - Significant - Tolka River corridor crossed at SW end of pipeline section D - Significant - crosses the Broadmeadows River in at least 2 places F - Significant - crosses the Ward River and the Broadmeadows River G - Significant - crosses the Mayne River
2.3	Landscape & Visual - Marine Outfalls									
2.3.1	Potential to impact on scenic routes (designation in Fingal CDP)	Significant - numerous scenic routes designated within this outfall study area that relate to views of the coast	Significant - numerous scenic routes designated within this outfall study area that relate to views of the coast	Significant - One significant length scenic route dissects this outfall study area	Significant - numerous scenic routes designated within this outfall study area that relate to views of the coast	Significant - One significant length scenic route dissects this outfall study area	Significant - numerous scenic routes designated within this outfall study area that relate to views of the coast	Significant - numerous scenic routes designated within this outfall study area that relate to views of the coast	Significant - numerous scenic routes designated within this outfall study area that relate to views of the coast	Significant - numerous scenic routes designated within this outfall study area that relate to views of the coast
2.3.2	Potential to impact on Highly Sensitive Landscape (designation in Fingal CDP)	Significant - entire coastal area of County Fingal subject to High Sensitivity zoning and High Amenity zoning objectives	Significant - entire coastal area of County Fingal subject to High Sensitivity zoning and High Amenity zoning objectives	Significant - entire coastal area of County Fingal subject to High Sensitivity zoning	Significant - entire coastal area of County Fingal subject to High Sensitivity zoning and High Amenity zoning objectives	Significant - entire coastal area of County Fingal subject to High Sensitivity zoning	Significant - entire coastal area of County Fingal subject to High Sensitivity zoning and High Amenity zoning objectives	Significant - entire coastal area of County Fingal subject to High Sensitivity zoning and High Amenity zoning objectives	Significant - entire coastal area of County Fingal subject to High Sensitivity zoning and High Amenity zoning objectives	Significant - entire coastal area of County Fingal subject to High Sensitivity zoning and High Amenity zoning objectives
2.3.3	Potential to impact on coastal walks (indicated in Fingal CDP)	Significant - four coastal walks indicated in this outfall study area presumably covering much of the subject coastline	Significant - four coastal walks indicated in this outfall study area presumably covering much of the subject coastline	Significant - One coastal walk indicated along this section of coastline	Significant - four coastal walks indicated in this outfall study area presumably covering much of the subject coastline	Significant - One coastal walk indicated along this section of coastline	Significant - four coastal walks indicated in this outfall study area presumably covering much of the subject coastline	Significant - four coastal walks indicated in this outfall study area presumably covering much of the subject coastline	Significant - four coastal walks indicated in this outfall study area presumably covering much of the subject coastline	Significant - four coastal walks indicated in this outfall study area presumably covering much of the subject coastline
2.3.4	Potential to impact on bathing locations (indicated in Fingal CDP)	Moderate - two bathing locations identified within this outfall study area but only one in the vicinity of a likely outfall location	Moderate - two bathing locations identified within this outfall study area but only one in the vicinity of a likely outfall location	Moderate - One bathing location identified within this outfall study area to the whole of Velvet Strand which is crossed by the southern outfall	Moderate - two bathing locations identified within this outfall study area but only one in the vicinity of a likely outfall location	Moderate - One bathing location identified within this outfall study area to the whole of Velvet Strand which is crossed by the southern outfall	Moderate - two bathing locations identified within this outfall study area but only one in the vicinity of a likely outfall location	Moderate - two bathing locations identified within this outfall study area but only one in the vicinity of a likely outfall location	Moderate - two bathing locations identified within this outfall study area but only one in the vicinity of a likely outfall location	Moderate - two bathing locations identified within this outfall study area but only one in the vicinity of a likely outfall location
2.3.5	Potential to impact on views from settlements	Significant - likely outfall locations directly adjacent to the north of Rush	Significant - likely outfall locations directly adjacent to the north of Rush	Moderate - Portmarnock just to the north of this outfall study area	Significant - likely outfall locations directly adjacent to the north of Rush	Moderate - Portmarnock just to the north of this outfall study area	Significant - likely outfall locations directly adjacent to the north of Rush	Significant - likely outfall locations directly adjacent to the north of Rush	Significant - likely outfall locations directly adjacent to the north of Rush	Significant - likely outfall locations directly adjacent to the north of Rush
2.3.6	Potential to impact on views from dwellings / local roads	Significant - numerous houses lining local roads in the vicinity of these outfall locations	Significant - numerous houses lining local roads in the vicinity of these outfall locations	Slight - few houses located in the vicinity of the outfall location -	Significant - numerous houses lining local roads in the vicinity of these outfall locations	Slight - few houses located in the vicinity of the outfall location -	Significant - numerous houses lining local roads in the vicinity of these outfall locations	Significant - numerous houses lining local roads in the vicinity of these outfall locations	Significant - numerous houses lining local roads in the vicinity of these outfall locations	Significant - numerous houses lining local roads in the vicinity of these outfall locations
2.3.7	Potential to impact on views from major roads (national or regional roads)	Moderate - R128 regional road runs parallel to coast between Rush and Skerries but set back by several hundred metres at nearest point to coast	Moderate - R128 regional road runs parallel to coast between Rush and Skerries but set back by several hundred metres at nearest point to coast	Significant - R106 regional road runs along coastline across the proposed outfall location	Moderate - R128 regional road runs parallel to coast between Rush and Skerries but set back by several hundred metres at nearest point to coast	Significant - R106 regional road runs along coastline across the proposed outfall location	Moderate - R128 regional road runs parallel to coast between Rush and Skerries but set back by several hundred metres at nearest point to coast	Moderate - R128 regional road runs parallel to coast between Rush and Skerries but set back by several hundred metres at nearest point to coast	Moderate - R128 regional road runs parallel to coast between Rush and Skerries but set back by several hundred metres at nearest point to coast	Moderate - R128 regional road runs parallel to coast between Rush and Skerries but set back by several hundred metres at nearest point to coast
2.3.8	Potential to impact on views from Dublin Airport including aerial approach and vehicular egress	Slight - Main low level approach to east-west runway >5km to the south	Slight - Main low level approach to east-west runway >5km to the south	Significant - Main low level approach to east-west runway directly above this study area	Slight - Main low level approach to east-west runway >5km to the south	Significant - Main low level approach to east-west runway directly above this study area	Slight - Main low level approach to east-west runway >5km to the south	Slight - Main low level approach to east-west runway >5km to the south	Slight - Main low level approach to east-west runway >5km to the south	Slight - Main low level approach to east-west runway >5km to the south
2.3.9	Potential to impact on views from Dublin - Belfast rail line	Imperceptible - rail line > 2km inland from nearest proposed outfall location	Imperceptible - rail line > 2km inland from nearest proposed outfall location	Slight - rail line approximately 1km inland from proposed outfall location	Imperceptible - rail line > 2km inland from nearest proposed outfall location	Slight - rail line approximately 1km inland from proposed outfall location	Imperceptible - rail line > 2km inland from nearest proposed outfall location	Imperceptible - rail line > 2km inland from nearest proposed outfall location	Imperceptible - rail line > 2km inland from nearest proposed outfall location	Imperceptible - rail line > 2km inland from nearest proposed outfall location
2.3.10	Potential to impact on views from heritage/tourist features	Significant - 2 piers, 2 Martello towers and numerous other features of heritage and/or tourist interest within the outfall study area	Significant - 2 piers, 2 Martello towers and numerous other features of heritage and/or tourist interest within the outfall study area	Significant - Internationally renowned Portmarnock Golf Links adjacent to outfall location	Significant - 2 piers, 2 Martello towers and numerous other features of heritage and/or tourist interest within the outfall study area	Significant - Internationally renowned Portmarnock Golf Links adjacent to outfall location	Significant - 2 piers, 2 Martello towers and numerous other features of heritage and/or tourist interest within the outfall study area	Significant - 2 piers, 2 Martello towers and numerous other features of heritage and/or tourist interest within the outfall study area	Significant - 2 piers, 2 Martello towers and numerous other features of heritage and/or tourist interest within the outfall study area	Significant - 2 piers, 2 Martello towers and numerous other features of heritage and/or tourist interest within the outfall study area
2.3.11	Potential to Impact on Character of the Coastal Landscape	Significant - A range of beaches, low seacliffs, a harbour, two Martello towers and an urban seafront contained within this Study Area	Significant - A range of beaches, low seacliffs, a harbour, two Martello towers and an urban seafront contained within this Study Area	Significant - Passes through both an enclosed estuarine environment, a dune landscape (golf course) and a beach	Significant - A range of beaches, low seacliffs, a harbour, two Martello towers and an urban seafront contained within this Study Area	Significant - Passes through both an enclosed estuarine environment, a dune landscape (golf course) and a beach	Significant - A range of beaches, low seacliffs, a harbour, two Martello towers and an urban seafront contained within this Study Area	Significant - A range of beaches, low seacliffs, a harbour, two Martello towers and an urban seafront contained within this Study Area	Significant - A range of beaches, low seacliffs, a harbour, two Martello towers and an urban seafront contained within this Study Area	Significant - A range of beaches, low seacliffs, a harbour, two Martello towers and an urban seafront contained within this Study Area

Ref	Environmental Criteria	Annsbrook	Baldurghan	Clonshagh	Cookstown	Cloghran	Newtowncorduff	Rathartan	Saucerstown	Tyrrelstown Little
3.0	Ecology	Annsbrook	Baldurghan	Clonshagh	Cookstown	Cloghran	Newtowncorduff	Rathartan	Saucerstown	Tyrrelstown Little
3.1	Ecology - Sites									
3.1.6	Potential to disturb birds which are Qualifying Interests in the SPA (either within or up to 1km outside the SPA's boundaries).	Moderate - more than 1km from the boundary of any SPA. Any negative effect on birds which are Qualifying Features of an SPA are considered unlikely to be significant in terms of the Conservation Objectives of the SPA	Moderate - more than 1km from the boundary of any SPA. Any negative effect on birds which are Qualifying Features of an SPA are considered unlikely to be significant in terms of the Conservation Objectives of the SPA	Moderate - more than 1km from the boundary of any SPA. Any negative effect on birds which are Qualifying Features of an SPA are considered unlikely to be significant in terms of the Conservation Objectives of the SPA	Moderate - more than 1km from the boundary of any SPA. Any negative effect on birds which are Qualifying Features of an SPA are considered unlikely to be significant in terms of the Conservation Objectives of the SPA	Moderate - more than 1km from the boundary of any SPA. Any negative effect on birds which are Qualifying Features of an SPA are considered unlikely to be significant in terms of the Conservation Objectives of the SPA	Moderate - more than 1km from the boundary of any SPA. Any negative effect on birds which are Qualifying Features of an SPA are considered unlikely to be significant in terms of the Conservation Objectives of the SPA	Moderate - more than 1km from the boundary of any SPA. Any negative effect on birds which are Qualifying Features of an SPA are considered unlikely to be significant in terms of the Conservation Objectives of the SPA	Moderate - more than 1km from the boundary of any SPA. Any negative effect on birds which are Qualifying Features of an SPA are considered unlikely to be significant in terms of the Conservation Objectives of the SPA	Moderate - more than 1km from the boundary of any SPA. Any negative effect on birds which are Qualifying Features of an SPA are considered unlikely to be significant in terms of the Conservation Objectives of the SPA
3.2	Ecology - Pipelines									
3.2.5	Potential for significant loss of breeding habitat for scarce or declining passerine species & Yellowhammer, Tree Sparrow, Spotted Flycatcher	Portions of the route with good mature hedgerows, trees, scrub and rough grassland likely to be suitable for breeding habitat for Yellowhammer, Tree Sparrow and Spotted Flycatcher	Portions of the route with good mature hedgerows, trees, scrub and rough grassland likely to be suitable for breeding habitat for Yellowhammer, Tree Sparrow and Spotted Flycatcher	Portions of the route with good mature hedgerows, trees, scrub and rough grassland likely to be suitable for breeding habitat for Yellowhammer, Tree Sparrow and Spotted Flycatcher	Portions of the route with good mature hedgerows, trees, scrub and rough grassland likely to be suitable for breeding habitat for Yellowhammer, Tree Sparrow and Spotted Flycatcher	Portions of the route with good mature hedgerows, trees, scrub and rough grassland likely to be suitable for breeding habitat for Yellowhammer, Tree Sparrow and Spotted Flycatcher	Portions of the route with good mature hedgerows, trees, scrub and rough grassland likely to be suitable for breeding habitat for Yellowhammer, Tree Sparrow and Spotted Flycatcher	Portions of the route with good mature hedgerows, trees, scrub and rough grassland likely to be suitable for breeding habitat for Yellowhammer, Tree Sparrow and Spotted Flycatcher	Portions of the route with good mature hedgerows, trees, scrub and rough grassland likely to be suitable for breeding habitat for Yellowhammer, Tree Sparrow and Spotted Flycatcher	Portions of the route with good mature hedgerows, trees, scrub and rough grassland likely to be suitable for breeding habitat for Yellowhammer, Tree Sparrow and Spotted Flycatcher
3.2.7	Potential for the significant loss of winter habitat for Lapwing and Golden Plover, and other wader species outside of designated areas (i.e. relatively large, flat open fields of ploughed or fallow arable land or pasture)	Temporary loss of areas of wet grassland, arable or pasture fields that are possibly suitable wintering habitat for Lapwing and Golden Plover	Temporary loss of areas of wet grassland, arable or pasture fields that are possibly suitable wintering habitat for Lapwing and Golden Plover	Temporary loss of areas of wet grassland, arable or pasture fields that are possibly suitable wintering habitat for Lapwing and Golden Plover	Temporary loss of areas of wet grassland, arable or pasture fields that are possibly suitable wintering habitat for Lapwing and Golden Plover	Temporary loss of areas of wet grassland, arable or pasture fields that are possibly suitable wintering habitat for Lapwing and Golden Plover	Temporary loss of areas of wet grassland, arable or pasture fields that are possibly suitable wintering habitat for Lapwing and Golden Plover	Temporary loss of areas of wet grassland, arable or pasture fields that are possibly suitable wintering habitat for Lapwing and Golden Plover	Temporary loss of areas of wet grassland, arable or pasture fields that are possibly suitable wintering habitat for Lapwing and Golden Plover	Temporary loss of areas of wet grassland, arable or pasture fields that are possibly suitable wintering habitat for Lapwing and Golden Plover
3.3	Ecology - Marine Outfall									
3.3.4	Potential to impact on subtidal habitats	Imperceptible (no sensitive habitats expected)								
3.3.7	Potential to impact on water quality and neighbouring shellfish waters designated under the Shellfish Waters Directive	Slight (to be determined following hydrodynamic modelling)								
3.3.8	Potential to impact on water quality and inshore fishing grounds based on regional fisheries datasets	Slight (majority of shellfish fisheries in rocky shoreland areas away from expected final diffuser position)	Slight (majority of shellfish fisheries in rocky shoreland areas away from expected final diffuser position)	Slight (sandler substrate has fewer shellfish fishing grounds)	Slight (majority of shellfish fisheries in rocky shoreland areas away from expected final diffuser position)	Slight (sandler substrate has fewer shellfish fishing grounds)	Slight (majority of shellfish fisheries in rocky shoreland areas away from expected final diffuser position)	Slight (majority of shellfish fisheries in rocky shoreland areas away from expected final diffuser position)	Slight (majority of shellfish fisheries in rocky shoreland areas away from expected final diffuser position)	Slight (majority of shellfish fisheries in rocky shoreland areas away from expected final diffuser position)
3.3.9	Potential to impact on transient protected marine species (cetaceans and salmonids), which may pass through the affected area within the survey area footprint	Imperceptible during construction None during operation								
3.3.10	Potential to impact on important marine bird feeding areas	Moderate - (to be determined following hydrodynamic modelling). Impact magnitude will depend on organic enrichment predictions, the precise location, seasonal timing and nature of works, may potentially result in impacts on sites and on the birds they support in foraging locations away from the sites.	Moderate - (to be determined following hydrodynamic modelling). Impact magnitude will depend on organic enrichment predictions, the precise location, seasonal timing and nature of works, may potentially result in impacts on sites and on the birds they support in foraging locations away from the sites.	Moderate - (to be determined following hydrodynamic modelling). Impact magnitude will depend on organic enrichment predictions, the precise location, seasonal timing and nature of works, may potentially result in impacts on sites and on the birds they support in foraging locations away from the sites.	Moderate - (to be determined following hydrodynamic modelling). Impact magnitude will depend on organic enrichment predictions, the precise location, seasonal timing and nature of works, may potentially result in impacts on sites and on the birds they support in foraging locations away from the sites.	Moderate - (to be determined following hydrodynamic modelling). Impact magnitude will depend on organic enrichment predictions, the precise location, seasonal timing and nature of works, may potentially result in impacts on sites and on the birds they support in foraging locations away from the sites.	Moderate - (to be determined following hydrodynamic modelling). Impact magnitude will depend on organic enrichment predictions, the precise location, seasonal timing and nature of works, may potentially result in impacts on sites and on the birds they support in foraging locations away from the sites.	Moderate - (to be determined following hydrodynamic modelling). Impact magnitude will depend on organic enrichment predictions, the precise location, seasonal timing and nature of works, may potentially result in impacts on sites and on the birds they support in foraging locations away from the sites.	Moderate - (to be determined following hydrodynamic modelling). Impact magnitude will depend on organic enrichment predictions, the precise location, seasonal timing and nature of works, may potentially result in impacts on sites and on the birds they support in foraging locations away from the sites.	Moderate - (to be determined following hydrodynamic modelling). Impact magnitude will depend on organic enrichment predictions, the precise location, seasonal timing and nature of works, may potentially result in impacts on sites and on the birds they support in foraging locations away from the sites.

Ref	Environmental Criteria	Annsbrook	Baldurgan	Clonshagh	Cookstown	Cloghran	Newtowncorduff	Rathartan	Saucerstown	Tyrrelstown Little
4.0	Hydrology -	Annsbrook	Baldurgan	Clonshagh	Cookstown	Cloghran	Newtowncorduff	Rathartan	Saucerstown	Tyrrelstown Little
4.1	Hydrology - Sites									
4.2	Hydrology - Pipelines									
4.2.2	Culverting requirement - used to indicate impact on flood-prone watercourses due to reduced conveyance.	36 crossings	36 crossings	6 crossings	36 crossings	11 crossings	36 crossings	45 crossings	45 crossings	36 crossings
4.2.3	Area prone to flooding (based on historical data and predicted flood extents adjacent to the site as well as up and downstream locations)	A - Historic flooding in Tolka in the vicinity of the pipeline corridor; D - Extensive flooding on the corridor. Overland flooding on the Sluice and Broadmeadow F - Historic flooding on the corridor. Overland flooding on the Broadmeadow, Bellinstown and Ballyboughill crossings G - Historic flooding on the Mayne River (Fluvial and tidal near Mayne Bridge)	A - Historic flooding in Tolka in the vicinity of the pipeline corridor; D - Extensive flooding on the corridor. Overland flooding on the Sluice and Broadmeadow F - Historic flooding on the corridor. Overland flooding on the Broadmeadow, Bellinstown and Ballyboughill crossings G - Historic flooding on the Mayne River (Fluvial and tidal near Mayne Bridge)	A - Historic flooding in Tolka in the vicinity of the pipeline corridor; B - Historic flooding where route crosses the Mayne River G - Historic flooding on the Mayne River (Fluvial and tidal near Mayne Bridge)	A - Historic flooding in Tolka in the vicinity of the pipeline corridor; D - Extensive flooding on the corridor. Overland flooding on the Sluice and Broadmeadow F - Historic flooding on the corridor. Overland flooding on the Broadmeadow, Bellinstown and Ballyboughill crossings G - Historic flooding on the Mayne River (Fluvial and tidal near Mayne Bridge)	A - Historic flooding in Tolka in the vicinity of the pipeline corridor; B - Historic flooding where route crosses the Mayne River C - Some overland flooding along Sluice River G - Historic flooding on the Mayne River (Fluvial and tidal near Mayne Bridge)	A - Historic flooding in Tolka in the vicinity of the pipeline corridor; D - Extensive flooding on the corridor. Overland flooding on the Sluice and Broadmeadow F - Historic flooding on the corridor. Overland flooding on the Broadmeadow, Bellinstown and Ballyboughill crossings G - Historic flooding on the Mayne River (Fluvial and tidal near Mayne Bridge)	A - Historic flooding in Tolka in the vicinity of the pipeline corridor; D - Extensive flooding on the corridor. Overland flooding on the Sluice and Broadmeadow E - Overland flooding on the Broadmeadow, Bellinstown and Ballyboughill crossings F - Historic flooding on the corridor. Overland flooding on the Broadmeadow crossings G - Historic flooding on the Mayne River (Fluvial and tidal near Mayne Bridge)	A - Historic flooding in Tolka in the vicinity of the pipeline corridor; D - Extensive flooding on the corridor. Overland flooding on the Sluice and Broadmeadow E - Overland flooding on the Broadmeadow, Bellinstown and Ballyboughill crossings F - Historic flooding on the corridor. Overland flooding on the Broadmeadow crossings G - Historic flooding on the Mayne River (Fluvial and tidal near Mayne Bridge)	A - Historic flooding in Tolka in the vicinity of the pipeline corridor; D - Extensive flooding on the corridor. Overland flooding on the Sluice and Broadmeadow F - Historic flooding on the corridor. Overland flooding on the Broadmeadow, Bellinstown and Ballyboughill crossings G - Historic flooding on the Mayne River (Fluvial and tidal near Mayne Bridge)
4.2.4	Potential impact on ecologically important and designated sites.	Route passes close to Broadmeadow Estuary (SPA/SAC/pNHA); Rogerstown Estuary (SAC/SPA/pNAH/Ramsar/SNR); Baldoye Estuary (SPA/SAC/pNHA)	Route passes close to Broadmeadow Estuary (SPA/SAC/pNHA); Rogerstown Estuary (SAC/SPA/pNAH/Ramsar/SNR); Baldoye Estuary (SPA/SAC/pNHA)	2 routes pass close to Baldoye Estuary (SPA/SAC/pNHA)	Route passes close to Broadmeadow Estuary (SPA/SAC/pNHA); Rogerstown Estuary (SAC/SPA/pNAH/Ramsar/SNR); Baldoye Estuary (SPA/SAC/pNHA)	3 routes pass close to Baldoye Estuary (SPA/SAC/pNHA); Broadmeadow Estuary (SAC/SPA/pNHA)	Route passes close to Broadmeadow Estuary (SPA/SAC/pNHA); Rogerstown Estuary (SAC/SPA/pNAH/Ramsar/SNR); Baldoye Estuary (SPA/SAC/pNHA)	2 routes pass close to Broadmeadow Estuary (SPA/SAC/pNHA); 2 routes pass close to Rogerstown Estuary (SAC/SPA/pNAH/Ramsar/SNR); Baldoye Estuary (SPA/SAC/pNHA)	2 routes pass close to Broadmeadow Estuary (SPA/SAC/pNHA); 2 routes pass close to Rogerstown Estuary (SAC/SPA/pNAH/Ramsar/SNR); Baldoye Estuary (SPA/SAC/pNHA)	Route passes close to Broadmeadow Estuary (SPA/SAC/pNHA); Rogerstown Estuary (SAC/SPA/pNAH/Ramsar/SNR); Baldoye Estuary (SPA/SAC/pNHA)
4.3	Hydrology - Marine Outfall									
4.3.1	Proximity to water bodies in terms of flooding and as an indicator of sensitive surface water receptors	Rush coastal area; Rogerstown Estuary (SAC/SPA/pNHA)	Rush coastal area; Rogerstown Estuary (SAC/SPA/pNHA)	Baldoye estuary (SPA/SAC/pNHA)	Rush coastal area; Rogerstown Estuary (SAC/SPA/pNHA)	Baldoye estuary (SPA/SAC/pNHA)	Rush coastal area; Rogerstown Estuary (SAC/SPA/pNHA)	Rush coastal area; Rogerstown Estuary (SAC/SPA/pNHA)	Rush coastal area; Rogerstown Estuary (SAC/SPA/pNHA)	Rush coastal area; Rogerstown Estuary (SAC/SPA/pNHA)
4.3.2	Potential to impact on shellfish waters	study area is not located within the designated shellfish waters	study area is not located within the designated shellfish waters	study area is not located within the designated shellfish waters	study area is not located within the designated shellfish waters	study area is not located within the designated shellfish waters	study area is not located within the designated shellfish waters	study area is not located within the designated shellfish waters	study area is not located within the designated shellfish waters	study area is not located within the designated shellfish waters
4.3.3	Area prone to flooding (based on historical data and predicted flood extents adjacent to the site as well as up and downstream locations)	2 No. Historic flooding locations in the study area; some coastal flooding between Drumanagh and Breakwater	2 No. Historic flooding locations in the study area; some coastal flooding between Drumanagh and Breakwater	2 No. Historic flooding locations near the study area; extensive coastal flooding near the north and south western part of the study area	2 No. Historic flooding locations in the study area; some coastal flooding between Drumanagh and Breakwater	2 No. Historic flooding locations near the study area; extensive coastal flooding near the north and south western part of the study area	2 No. Historic flooding locations in the study area; some coastal flooding between Drumanagh and Breakwater	2 No. Historic flooding locations in the study area; some coastal flooding between Drumanagh and Breakwater	2 No. Historic flooding locations in the study area; some coastal flooding between Drumanagh and Breakwater	2 No. Historic flooding locations in the study area; some coastal flooding between Drumanagh and Breakwater
4.3.4	Potential impact on ecologically important and designated sites.	Rogerstown Estuary (SAC/SPA/pNHA/Ramsar/SNR); 2 recreational bathing sites (good water quality); outfall into unpolluted coastal water	Rogerstown Estuary (SAC/SPA/pNHA/Ramsar/SNR); 2 recreational bathing sites (good water quality); outfall into unpolluted coastal water	Baldoye Estuary (SPA/SAC/pNHA)	Rogerstown Estuary (SAC/SPA/pNHA/Ramsar/SNR); 2 recreational bathing sites (good water quality); outfall into unpolluted coastal water	Baldoye Estuary (SPA/SAC/pNHA)	Rogerstown Estuary (SAC/SPA/pNHA/Ramsar/SNR); 2 recreational bathing sites (good water quality); outfall into unpolluted coastal water	Rogerstown Estuary (SAC/SPA/pNHA/Ramsar/SNR); 2 recreational bathing sites (good water quality); outfall into unpolluted coastal water	Rogerstown Estuary (SAC/SPA/pNHA/Ramsar/SNR); 2 recreational bathing sites (good water quality); outfall into unpolluted coastal water	Rogerstown Estuary (SAC/SPA/pNHA/Ramsar/SNR); 2 recreational bathing sites (good water quality); outfall into unpolluted coastal water
5.0	Hydrogeology -	Annsbrook	Baldurgan	Clonshagh	Cookstown	Cloghran	Newtowncorduff	Rathartan	Saucerstown	Tyrrelstown Little
5.1	Hydrogeology - Sites									
5.1.5	Groundwater Source Protection Area's and Zones of Contribution as per available GSI & EPA data	None: No SPA's or ZOC's in close proximity	None: No SPA's or ZOC's in close proximity	None: No SPA's or ZOC's in close proximity	None: No SPA's or ZOC's in close proximity	None: No SPA's or ZOC's in close proximity	None: No SPA's or ZOC's in close proximity	None: No SPA's or ZOC's in close proximity	None: No SPA's or ZOC's in close proximity	None: No SPA's or ZOC's in close proximity

Ref	Environmental Criteria	Annsbrook	Baldurgan	Clonshagh	Cookstown	Cloghran	Newtowncorduff	Rathartan	Saucerstown	Tyrrelstown Little
5.2	Hydrogeology - Pipelines									
5.2.1	Aquifer Classification - importance of the groundwater resource to a given area	Poor Bedrock Aquifer and Locally Important Bedrock Aquifer underlies the route	Poor Bedrock Aquifer and Locally Important Bedrock Aquifer underlies the route	Poor Bedrock Aquifer and Locally Important Bedrock Aquifer underlies the route	Poor Bedrock Aquifer and Locally Important Bedrock Aquifer underlies the route	Poor Bedrock Aquifer and Locally Important Bedrock Aquifer underlies the route	Poor Bedrock Aquifer and Locally Important Bedrock Aquifer underlies the route	Poor Bedrock Aquifer and Locally Important Bedrock Aquifer underlies the route	Poor Bedrock Aquifer and Locally Important Bedrock Aquifer underlies the route	Poor Bedrock Aquifer and Locally Important Bedrock Aquifer underlies the route
5.2.3	Groundwater Supplies - identification of water supply springs and bored wells based on GSI, EPA & FCC records	1 No. well with a moderate yield 4 No. bored wells with good yields 1 No. spring with good yields Possible additional groundwater abstraction points and wells nearby	1 No. well with a moderate yield 4 No. bored wells with good yields 1 No. spring with good yields Possible additional groundwater abstraction points and wells nearby	1 No. well with a moderate yield 6 No. bored wells with moderate to good yields 1 No. spring with moderate to good yield.	1 No. well with a moderate yield 4 No. bored wells with good yields 1 No. spring with good yields Possible additional groundwater abstraction points and wells nearby	1 No. well with a moderate yield 6 No. bored wells with moderate to good yields 1 No. spring with moderate to good yield.	1 No. well with a moderate yield 4 No. bored wells with good yields 1 No. spring with good yields Possible additional groundwater abstraction points and wells nearby	1 No. well with a moderate yield 10 No. bored wells with good yields 1 No. spring with moderate to good yield. Possible additional groundwater abstraction points and wells nearby	1 No. well with a moderate yield 10 No. bored wells with good yields 1 No. spring with moderate to good yield. Possible additional groundwater abstraction points and wells nearby	1 No. well with a moderate yield 4 No. bored wells with good yields 1 No. spring with good yields Possible additional groundwater abstraction points and wells nearby
5.2.4	Groundwater Source Protection Area's and Zones of Contribution as per available GSI & EPA data	No source protection areas or zones of contribution in close proximity	No source protection areas or zones of contribution in close proximity	No source protection areas or zones of contribution in close proximity	No source protection areas or zones of contribution in close proximity	No source protection areas or zones of contribution in close proximity	No source protection areas or zones of contribution in close proximity	No source protection areas or zones of contribution in close proximity	No source protection areas or zones of contribution in close proximity	No source protection areas or zones of contribution in close proximity
5.2.5	Identification of hydrogeological features from the GSI Karst database	2 No. springs within the corridor	2 No. springs within the corridor		2 No. springs within the corridor		2 No. springs within the corridor	4 No. springs within the corridor	4 No. springs within the corridor	2 No. springs within the corridor
5.3	Hydrogeology - Marine Outfall									
5.3.1	Aquifer Classification - importance of the groundwater resource to a given area	Poor Bedrock Aquifer and Locally Important Bedrock Aquifer	Poor Bedrock Aquifer and Locally Important Bedrock Aquifer	Poor Bedrock Aquifer	Poor Bedrock Aquifer and Locally Important Bedrock Aquifer	Poor Bedrock Aquifer	Poor Bedrock Aquifer and Locally Important Bedrock Aquifer	Poor Bedrock Aquifer and Locally Important Bedrock Aquifer	Poor Bedrock Aquifer and Locally Important Bedrock Aquifer	Poor Bedrock Aquifer and Locally Important Bedrock Aquifer
5.3.4	Groundwater Source Protection Area's and Zones of Contribution as per available GSI & EPA data	No source protection areas or zones of contribution in close proximity	No source protection areas or zones of contribution in close proximity	No source protection areas or zones of contribution in close proximity	No source protection areas or zones of contribution in close proximity	No source protection areas or zones of contribution in close proximity	No source protection areas or zones of contribution in close proximity	No source protection areas or zones of contribution in close proximity	No source protection areas or zones of contribution in close proximity	No source protection areas or zones of contribution in close proximity
6.0	Soils and Geology	Annsbrook	Baldurgan	Clonshagh	Cookstown	Cloghran	Newtowncorduff	Rathartan	Saucerstown	Tyrrelstown Little
6.1	Soils and Geology - Sites									
6.1.1	Potential to impact on Geological Heritage Sites/County Geological Sites	Imperceptible: 3.4km to Walshestown Stream Section (IGH 9), 3.7km to Nags Head Quarry (IGH 8), 8km to Feltrim Hill Quarry (IGH 8, 3)	Imperceptible: 4.8km to Nags Head Quarry (IGH 8), 5.2km to Walshestown Stream Section (IGH 9)	Imperceptible: 1.8km to Feltrim Quarry (IGH 8, 3)	Imperceptible: 5.5km to Nags Head Quarry (IGH 8), 6.1km to Walshestown Stream Section (IGH 9), 7.5km to Feltrim Hill Quarry (IGH 8, 3)	Imperceptible: 0.5km to Feltrim Hill Quarry (IGH 8, 3), 5.3km to Malahide Point (IGH 13), 5.0km Malahide Coast (IGH 3)	Imperceptible: 3.6km to Walshestown Stream Section (IGH 9), 4.7km to Nags Head Quarry (IGH 8)	Imperceptible: 1.8km to Skerries to Rush Coast (IGH 3, 8)	Imperceptible: 5.2km to Feltrim Hill Quarry (IGH 8, 3), 6.8km to Malahide Point (IGH 13)	Imperceptible: 1.4km Curkeen Hill Quarry (IGH 3, 8), 2.0km Milverton Quarry (IGH 8), 2.4km to Skerries to Rush Coast (IGH 3, 8)
6.1.2	Potential to interact with contaminated land	Imperceptible: No history of contamination identified. Agricultural land may be a source of nitrates.	Imperceptible: No history of contamination identified. Agricultural land may be a source of nitrates.	Imperceptible: Belcamp Lane (Moderate) - approx 400m to site, St. Doolaghs Quarries (Low) - approx 850m to site	Imperceptible: Sand & Gravel Pit - approx 650m to site	Imperceptible: No history of contamination identified. Agricultural land may be a source of nitrates.	Imperceptible: No history of contamination identified. Agricultural land may be a source of nitrates.	Imperceptible: Train line 100m from site. Agricultural land may be a source of nitrates.	Imperceptible: No history of contamination identified. Agricultural land may be a source of nitrates.	Imperceptible: Train line approx. 500m from site. Agricultural land may be a source of nitrates.
6.1.3	Potential to sterilize mineral resource	Imperceptible: No known mineral resources or registered quarries nearby	Imperceptible: No known mineral resources or registered quarries nearby	Imperceptible: No known mineral resources or registered quarries nearby	Imperceptible: No known mineral resources or registered quarries nearby	Imperceptible: 500m to Feltrim Hill Quarry	Imperceptible	Imperceptible	Imperceptible	Imperceptible
6.1.5	Potential impact on karst features	Imperceptible: No karst features identified	Imperceptible: No karst features identified	Imperceptible: No karst features identified	Imperceptible: No karst features identified	Imperceptible: 25% Shallow Bedrock	Imperceptible: No karst features identified	Imperceptible: No karst features identified	Imperceptible: No karst features identified	Imperceptible: 770m to Hariakes Well Karst Feature
6.1.7	Soils Types	Pre dominant Grey Brown Podzolics (BMinDW, deep well drained, basic soils); Along Streams some Surface/Groundwater gleys (BminPD, deep poorly drained, basic soils) and Alluvium (AlluvMIN)	Grey Brown Podzolics (BMinDW, deep well drained, basic soils), Acidic surface water / groundwater gleys (AminPD, poorly drained, acidic soils) and Basic surface water/ groundwater gleys (BminPD, poorly drained, basic soils)	Grey Brown Podzolics (BMinDW, deep well drained, basic soils) and Basic surface water / groundwater gleys (BminPD, poorly drained, basic soils)	Grey Brown Podzolics (BMinDW, deep well drained, basic soils), Acidic surface water / groundwater gleys (AminPD, poorly drained, acidic soils) and Basic surface water/ groundwater gleys (BminPD, poorly drained, basic soils)	Grey Brown Podzolics (BMinDW, deep well drained, basic soils), Basic surface water / groundwater gleys (BminPD, poorly drained, basic soils) and Renzinas/Lithosols (Shallow, well drained, basic soils)	Grey Brown Podzolics (BMinDW, deep well drained, basic soils) and Basic surface water / groundwater gleys (BminPD, poorly drained, basic soils)	Grey Brown Podzolics (BMinDW, deep well drained, basic soils) and Basic surface water / groundwater gleys (BminPD, poorly drained, basic soils)	Renzinas/Lithosols (Shallow, well drained, basic soils), Grey Brown Podzolics (BMinDW, deep well drained, basic soils), Basic surface water / groundwater gleys (BminPD, poorly drained, basic soils)	Grey Brown Podzolics (BMinDW, deep well drained, basic soils) and Basic surface water / groundwater gleys (BminPD, poorly drained, basic soils)
6.1.8	Sub Soil Types	Limestone Till	Limestone Till	Limestone Till; limestone gravels	Limestone Till	Limestone Till; limestone gravels	Limestone Tills (Irish Sea Basin Tills)	Limestone Tills (Irish Sea Tills). [Note Alluvium within LandParcel, outside site, adjacent to stream]	Limestone Gravels in centre of site. Limestone Tills at southern end [Note: Northern half of LandParcel has Alluvium associated with BroadMeadow river]	Sandstone & Shale Till
6.1.9	Depth to rock	indicative 5-10m	indicative 5-10m	indicative 5-10m	indicative 5-10m	indicative 3-10m	indicative 3-10m	indicative 3-10m	indicative 3-10m	indicative 3-10m
6.2	Soils and Geology - Pipelines									
6.2.3	Potential to sterilise mineral resource	3 No	3 No	2 No.	3 No	2 No.	3 No	3 No.	3 No.	3 No

Ref	Environmental Criteria	Annsbrook	Baldurghan	Clonshagh	Cookstown	Cloghran	Newtowncorduff	Rathartan	Saucerstown	Tyrrelstown Little
6.3	Soils and Geology - Marine Outfall									
6.3.3	Potential to sterilize mineral resource	No mineral resource within corridor	No mineral resource within corridor	No mineral resource within corridor	No mineral resource within corridor	No mineral resource within corridor	No mineral resource within corridor	No mineral resource within corridor	No mineral resource within corridor	No mineral resource within corridor
7.0	Agronomy & Agriculture - Sites									
7.4	Land Quality	Good	Good	Good	Good	Good	Good	Good	Good	Good
7.6	Potential Impacts on landholdings	Reduction in farm size, field angulation, removal of trees and hedgerows, impact on land drainage, impact on existing farm roadway	Reduction in farm size, field angulation, impact on land drainage, impact on existing farm roadway	Reduction in farm size, field angulation, impact on land drainage, impact on existing farm roadway	Reduction in farm size, field angulation, impact on land drainage, impact on existing farm roadway	Reduction in farm size, field angulation, impact on land drainage	Reduction in farm size, field angulation, removal of trees and hedgerows, impact on land drainage, impact on existing farm roadway	Reduction in farm size, field angulation, removal of hedgerows, impact on land drainage, impact on existing farm roadway	Reduction in farm size, field angulation, removal of hedgerows, impact on land drainage, impact on existing farm roadway	Reduction in farm size, field angulation, removal of trees and hedgerows, impact on land drainage
8.0	Noise									
8.1	Potential for Construction phase noise impact at Sensitive receptors	26 dwellings (PIR weighted) within 0.5km	6 dwelling (PIR weighted) within 0.5km	37 dwellings (PIR weighted) within 0.5km	7 dwellings (PIR weighted) within 0.5km	15 dwellings (PIR weighted) within 0.5km	40 dwellings (PIR weighted) within 0.5km	22 dwellings (PIR weighted) within 0.5km	57 dwellings (PIR weighted) within 0.5km	8 dwellings (PIR weighted) within 0.5km
8.2	Potential for Operational phase noise impact at Sensitive receptors	Facility shall reach 55 db(A) Daytime and 45 db(A) night at closest receptor	Facility shall reach 55 db(A) Daytime and 45 db(A) night at closest receptor	Facility shall reach 55 db(A) Daytime and 45 db(A) night at closest receptor	Facility shall reach 55 db(A) Daytime and 45 db(A) night at closest receptor	Facility shall reach 55 db(A) Daytime and 45 db(A) night at closest receptor	Facility shall reach 55 db(A) Daytime and 45 db(A) night at closest receptor	Facility shall reach 55 db(A) Daytime and 45 db(A) night at closest receptor	Facility shall reach 55 db(A) Daytime and 45 db(A) night at closest receptor	Facility shall reach 55 db(A) Daytime and 45 db(A) night at closest receptor
8.3	Existing Ambient Noise Climate in the Area (significant noise sources)	Relatively rural climate, within 1km of the M1 Motorway	Relatively rural farmland area	Close to M50 and M1 Motorways, under mina runway flight path for Dublin Airport.	Relatively rural farmland area	Borders M1 Motorway, under projected flight pat of planned parallel runway at Dublin Airport.	Borders M1 Motorway and N1 National Primary road.	Borders DART line	Rural Area, no significant noise sources.	Rural area, borders DART line
9.0	Air and Odour									
9.1	Potential for Construction phase Air Quality impact at Sensitive receptors	13 dwellings (H ₂ S dispersion factor) within 1km	10 dwellings (H ₂ S dispersion factor) within 1km	15 dwellings (H ₂ S dispersion factor) within 1km	10 dwellings (H ₂ S dispersion factor) within 1km	87 dwellings (H ₂ S dispersion factor) within 1km	19 dwellings (H ₂ S dispersion factor) within 1km	29 dwellings (H ₂ S dispersion factor) within 1km	142 dwellings (H ₂ S dispersion factor) within 1km	10 dwellings (H ₂ S dispersion factor) within 1km
9.2	Potential for Operational phase Air Quality impact at Sensitive receptors	Facility shall reach appropriate Air quality at standards at emission points	Facility shall reach appropriate Air quality at standards at emission points	Facility shall reach appropriate Air quality at standards at emission points	Facility shall reach appropriate Air quality at standards at emission points	Facility shall reach appropriate Air quality at standards at emission points	Facility shall reach appropriate Air quality at standards at emission points	Facility shall reach appropriate Air quality at standards at emission points	Facility shall reach appropriate Air quality at standards at emission points	Facility shall reach appropriate Air quality at standards at emission points
9.3	Potential for Odour impacts at operational phase	13 dwellings (H ₂ S dispersion factor) within 1km	10 dwellings (H ₂ S dispersion factor) within 1km	15 dwellings (H ₂ S dispersion factor) within 1km	10 dwellings (H ₂ S dispersion factor) within 1km	87 dwellings (H ₂ S dispersion factor) within 1km	19 dwellings (H ₂ S dispersion factor) within 1km	29 dwellings (H ₂ S dispersion factor) within 1km	142 dwellings (H ₂ S dispersion factor) within 1km	10 dwellings (H ₂ S dispersion factor) within 1km
9.4	Potential for Odour impacts at Construction phase	No Odour impacts anticipated during construction phase	No Odour impacts anticipated during construction phase	No Odour impacts anticipated during construction phase	No Odour impacts anticipated during construction phase	No Odour impacts anticipated during construction phase	No Odour impacts anticipated during construction phase	No Odour impacts anticipated during construction phase	No Odour impacts anticipated during construction phase	No Odour impacts anticipated during construction phase
9.5	Proximity to EPA Waste Licensed facility	No EPA waste licensed facilities within 1km of proposed locations	No EPA waste licensed facilities within 1km of proposed locations	No EPA waste licensed facilities within 1km of proposed locations	No EPA waste licensed facilities within 1km of proposed locations	No EPA waste licensed facilities within 1km of proposed locations	No EPA waste licensed facilities within 1km of proposed locations	No EPA waste licensed facilities within 1km of proposed locations	No EPA waste licensed facilities within 1km of proposed locations	No EPA waste licensed facilities within 1km of proposed locations
9.6	Proximity to EPA IPPC Licensed Intensive Agriculture facility	No EPA IPPC licensed Intensive Agri facilities within 1km of proposed locations	No EPA IPPC licensed Intensive Agri facilities within 1km of proposed locations	No EPA IPPC licensed Intensive Agri facilities within 1km of proposed locations	No EPA IPPC licensed Intensive Agri facilities within 1km of proposed locations	No EPA IPPC licensed Intensive Agri facilities within 1km of proposed locations	No EPA IPPC licensed Intensive Agri facilities within 1km of proposed locations	No EPA IPPC licensed Intensive Agri facilities within 1km of proposed locations	No EPA IPPC licensed Intensive Agri facilities within 1km of proposed locations	No EPA IPPC licensed Intensive Agri facilities within 1km of proposed locations
9.7	EPA Air Quality Zone Classification	ZONE D Rest of the Country(Rural Air Quality classification)	ZONE D Rest of the Country(Rural Air Quality classification)	ZONE A Dublin City(Urban Air Quality Classification)	ZONE D Rest of the Country(Rural Air Quality classification)	ZONE A Dublin City(Urban Air Quality Classification)	ZONE D Rest of the Country(Rural Air Quality classification)	ZONE D Rest of the Country(Rural Air Quality classification)	ZONE D Rest of the Country(Rural Air Quality classification)	ZONE D Rest of the Country(Rural Air Quality classification)
9.8	Wind rose Assessment	Sparse population within 500m in direction of prevailing winds, closest pop centre in this direction: Lusk is at >2km distance	Sparse population within 500m in direction of prevailing winds, closest pop centre in this direction: is at >5km distance	Sparse population within 500m in direction of prevailing winds, closest pop centre in this direction: Balgriffin is at 1km distance	Sparse population within 500m in direction of prevailing winds, closest pop centre in this direction: is at >5km distance	Sparse population within 500m in direction of prevailing winds, closest pop centre in this direction: Feltrim is at 2km distance	Sparse population within 500m in direction of prevailing winds, closest pop centre in this direction: Lusk is at 2km distance	Sparse population within 500m in direction of prevailing winds, closest pop centre in this direction: Rush is at 0.7km distance	Sparse population within 500m in direction of prevailing winds, closest pop centre in this direction: is at >5km distance	Sparse population within 500m in direction of prevailing winds, closest pop centre in this direction: Rush is at 1km distance
10.0	People and Communities									
10.2	Number of residential & commercial buildings 500m - 1km from site boundary	66	82	1,443	59	629	205	728	948	74
11.0	Traffic									
12.0	Planning Policy									
12.1	Existing Land Use on Site	Agricultural	Agricultural	Agricultural	Agricultural	Agricultural	Agricultural	Agricultural	Agricultural	Agricultural
13.0	Engineering Design - Pipelines									
13.1	Pipeline Length									
13.1.6	Total Pipeline Lengths									
13.2	Power Requirements									
13.3	Carbon Emissions									
13.4	Health and Safety									
		No Significant Differences	No Significant Differences	No Significant Differences	No Significant Differences	No Significant Differences	No Significant Differences	No Significant Differences	No Significant Differences	No Significant Differences

Ref	Environmental Criteria	Annsbrook	Baldurghan	Clonsagh	Cookstown	Cloghran	Newtowncorduff	Rathartan	Saucerstown	Tyrrelstown Little
13.5	Access / Right of Way / Wayleaves along Pipeline Corridors									
13.6	Crossings - Waterways, Rail, etc. along Pipeline Corridors									
13.7	Potential to Impact on Physical Infrastructure along Pipeline Corridors									
13.8	Potential to Impact on Strategic Utility Services along Pipeline Corridors									
		No Significant Differences								
13.9	Presence of Public Utilities within WwTP sites									
13.10	Land Ownership and Titles along Pipeline Corridors									
13.11	Route Traffic Management									
13.12	Construction Risk along Pipeline Corridors									
13.13	Operation and Maintenance - WwTP, Pumping Stations & Pipeline ancillaries									