

# Appendix C. Stage 1 Preliminary Options Assessment

## **C.1. Human Beings and Material Assets**

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Table C.1: Zone Appraisal: Residential Properties 25m

	Route Option A	Route Option B	Route Option C	Route Option D	Route Option E	Route Option F	Route Option G	Route Option H
Zone 1	0	0	0	0	0	0	0	0
Zone 2	0	0	0	0	0	0	0	0
Zone 3	0	0	0	0	0	0	0	1
Zone 4	1	5	0	0	0	0	0	0
Zone 5	0	0	0	0	0	0	0	0
Zone 6	0	0	0	0	2	0	0	0
Zone 7	0	0	0	0	0	0	0	0
Zone 8	0	6	0	0	0	0	0	0
Zone 9	0	0	0	0	0	0	0	0
Zone 10	1	1	2	1	2	2	1	2

Table C.2: Route Options Appraisal: Community Facilities

Route Options	Facilities within 25m of centreline
Route Option A	0
Route Option B	0
Route Option C	0
Route Option D	0
Route Option E	0
Route Option F	0
Route Option G	0
Route Option H	0

Table C.3: Route Options Appraisal: Quarries and Mines

Route Options	Quarries & Mines within 25m of centreline
Route Option A	0
Route Option B	0
Route Option C	0
Route Option D	0
Route Option E	0
Route Option F	0
Route Option G	0
Route Option H	0

Table C.4: Cross-over Link Appraisal: Sensitive Receptors

Crossover	Zone	Residential Sensitive Receptors within 25m of Centreline	Preference
CO1	3	0	High
	4	0	High
CO2	4	0	High
CO3	5	0	High
CO4	6	0	High
CO5	7	0	High
	8	0	High
CO6	8	0	High
	9	0	High
CO7	9	0	High
CO8	9	0	High

Table C.5: Public Utilities per Route and Zone

Route	Zone	Water Main	Sewer	Eircom (over)	Eircom (Under)	Fibre Optic	ESB LV	ESB MV	ESB 38kv	ESB 110kv	Total
Route A	Zone 1	1	0	0	0	0	1	1	0	0	3
	Zone 2	2	0	1	0	3	2	7	0	1	16
	Zone 3	3	0	2	0	0	0	5	0	0	10
	Zone 4	5	0	3	0	1	0	7	0	0	16
	Zone 5	3	0	1	0	1	1	6	0	0	12
	Zone 6	2	0	0	1	3	3	6	3	0	18
	Zone 7	4	0	1	2	2	1	7	1	0	18
	Zone 8	6	0	3	0	4	2	6	6	0	27
	Zone 9	7	2	5	0	4	0	12	8	0	38
	Zone 10	0	0	0	0	0	0	0	0	0	0
Route B	Zone 1	1	0	0	0	0	1	1	0	0	3
	Zone 2	2	0	1	0	3	2	8	0	0	16
	Zone 3	4	0	2	3	5	0	13	0	4	31
	Zone 4	8	0	3	0	7	2	10	0	0	30
	Zone 5	3	0	1	0	1	1	6	0	0	12
	Zone 6	2	0	0	1	3	3	6	3	0	18
	Zone 7	4	0	1	2	2	1	7	1	0	18
	Zone 8	23	0	7	2	12	3	8	4	0	59

Route	Zone	Water Main	Sewer	Eircom (over)	Eircom (Under)	Fibre Optic	ESB LV	ESB MV	ESB 38kv	ESB 110kv	Total
Route C	Zone 9	7	2	5	0	4	0	12	8	0	38
	Zone 10	0	0	0	0	0	0	0	0	0	0
	Zone 1	1	0	0	0	0	1	1	0	0	3
	Zone 2	2	0	1	0	3	2	7	0	1	16
	Zone 3	3	0	2	0	0	0	5	0	0	10
	Zone 4	4	0	3	0	1	2	6	0	1	17
	Zone 5	0	0	1	0	0	0	1	0	2	4
	Zone 6	3	0	2	2	0	0	8	1	0	16
	Zone 7	6	0	4	0	3	0	7	1	0	21
	Zone 8	2	0	1	2	0	0	1	0	0	6
Route D	Zone 9	11	0	3	2	6	0	16	1	0	39
	Zone 10	0	0	0	0	0	0	0	0	0	0
	Zone 1	1	0	0	0	0	1	1	0	0	3
	Zone 2	2	0	1	0	3	2	8	0	0	16
	Zone 3	2	0	2	1	0	0	4	0	1	10
	Zone 4	2	0	2	0	1	1	4	0	0	10
	Zone 5	0	0	1	0	0	0	1	0	2	4
	Zone 6	2	0	1	2	1	1	3	2	0	12
	Zone 7	4	0	1	2	2	1	7	1	0	18
	Zone 8	6	0	3	0	4	2	6	6	0	27
Route E	Zone 9	7	2	5	0	4	0	12	8	0	38
	Zone 10	0	0	0	0	0	0	0	0	0	0
	Zone 1	1	0	0	0	0	1	1	0	0	3
	Zone 2	2	0	1	0	3	2	8	0	0	16
	Zone 3	2	0	2	1	0	0	4	0	1	10
	Zone 4	2	0	2	0	1	1	4	0	0	10
	Zone 5	0	0	0	0	0	1	1	0	0	2
	Zone 6	3	0	2	2	0	0	6	2	1	16
	Zone 7	6	0	4	0	3	0	7	1	0	21
	Zone 8	2	0	1	2	0	0	1	0	0	6
Zone 9	11	0	3	2	6	0	16	1	0	39	

Route	Zone	Water Main	Sewer	Eircom (over)	Eircom (Under)	Fibre Optic	ESB LV	ESB MV	ESB 38kv	ESB 110kv	Total
	Zone 10	0	0	0	0	0	0	0	0	0	0
Route F	Zone 1	1	0	0	0	0	1	1	0	0	3
	Zone 2	2	0	1	0	3	2	7	0	1	16
	Zone 3	3	0	2	0	0	0	6	0	0	11
	Zone 4	3	0	2	0	2	0	5	0	1	13
	Zone 5	0	0	3	0	0	0	5	0	0	8
	Zone 6	2	0	2	0	0	0	10	2	1	17
	Zone 7	6	0	4	0	3	0	7	1	0	21
	Zone 8	2	0	1	2	0	0	1	0	0	6
	Zone 9	11	0	3	2	6	0	16	1	0	39
	Zone 10	0	0	0	0	0	0	0	0	0	0
Route G	Zone 1	1	0	0	0	0	1	1	0	0	3
	Zone 2	1	0	1	2	2	1	4	0	0	9
	Zone 3	0	0	0	0	0	2	2	0	0	4
	Zone 4	3	0	3	1	1	0	3	0	0	10
	Zone 5	0	0	3	0	0	0	3	1	0	7
	Zone 6	1	0	4	2	0	0	4	1	1	13
	Zone 7	7	0	5	1	0	0	10	0	0	23
	Zone 8	3	0	1	2	2	0	4	2	0	14
	Zone 9	11	0	3	2	6	0	16	1	0	39
	Zone 10	0	0	0	0	0	0	0	0	0	0
Route H	Zone 1	1	0	0	0	0	1	1	0	0	3
	Zone 2	1	0	1	0	2	0	4	0	0	8
	Zone 3	2	0	2	1	0	3	6	1	0	15
	Zone 4	0	0	1	0	0	0	2	0	0	3
	Zone 5	0	0	1	0	0	2	2	0	0	5
	Zone 6	0	0	3	1	0	0	4	1	1	10
	Zone 7	7	0	5	1	0	0	10	0	0	23
	Zone 8	3	0	1	3	0	0	3	0	0	10
	Zone 9	11	0	3	2	6	0	16	1	0	39
	Zone 10	0	0	0	0	0	0	0	0	0	0

Table C.6: Route Alignment Crossings

Route	Zone	National Road	Regional Road	Local Road	Access	Railway	Total Crossings
Route A	Zone 1	0	0	1	0	0	1
	Zone 2	1	0	3	3	0	7
	Zone 3	0	0	3	0	0	3
	Zone 4	1	0	3	4	0	8
	Zone 5	1	2	1	1	0	5
	Zone 6	4	1	1	3	1	10
	Zone 7	5	1	5	1	0	12
	Zone 8	4	0	2	6	0	12
	Zone 9	2	3	2	4	1	12
	Zone 10	0	0	0	0	0	0
Route B	Zone 1	0	0	1	0	0	1
	Zone 2	2	0	3	3	0	8
	Zone 3	4	0	4	6	0	14
	Zone 4	7	0	3	2	0	12
	Zone 5	1	2	1	1	0	5
	Zone 6	4	1	1	3	1	10
	Zone 7	5	1	5	1	0	12
	Zone 8	8	2	6	8	0	24
	Zone 9	0	0	0	0	0	0
	Zone 10	0	0	0	0	0	0
Route C	Zone 1	0	0	1	0	0	1
	Zone 2	1	0	3	3	0	7
	Zone 3	0	0	3	0	0	3
	Zone 4	1	0	4	1	0	6
	Zone 5	0	1	0	2	0	3
	Zone 6	1	0	2	2	0	5
	Zone 7	0	1	4	3	0	8
	Zone 8	0	1	1	0	0	2
	Zone 9	2	2	7	8	1	20
	Zone 10	0	0	0	0	0	0

Route	Zone	National Road	Regional Road	Local Road	Access	Railway	Total Crossings
Route D	Zone 1	0	0	1	0	0	1
	Zone 2	2	0	3	3	0	8
	Zone 3	0	0	1	1	0	2
	Zone 4	0	0	3	2	0	5
	Zone 5	0	0	0	2	0	3
	Zone 6	3	1	0	2	1	7
	Zone 7	5	1	5	1	0	12
	Zone 8	4	1	2	6	0	12
	Zone 9	2	0	2	4	1	12
	Zone 10	0	3	0	0	0	0
Route E	Zone 1	0	0	1	0	0	1
	Zone 2	2	0	3	3	0	8
	Zone 3	0	0	1	1	0	2
	Zone 4	1	0	3	0	0	4
	Zone 5	0	1	0	1	1	3
	Zone 6	1	0	2	4	0	7
	Zone 7	0	1	4	3	0	8
	Zone 8	0	1	1	0	0	2
	Zone 9	2	2	7	8	1	20
	Zone 10	0	0	0	0	0	0
Route F	Zone 1	0	0	1	0	0	1
	Zone 2	1	0	3	3	0	7
	Zone 3	0	0	3	0	0	3
	Zone 4	1	0	3	0	0	4
	Zone 5	0	1	2	2	1	6
	Zone 6	1	0	2	3	0	6
	Zone 7	0	1	4	3	0	8
	Zone 8	0	1	1	0	0	2
	Zone 9	2	2	7	8	1	20
	Zone 10	0	0	0	0	0	0
Route G	Zone 1	0	0	1	0	0	1



Route	Zone	National Road	Regional Road	Local Road	Access	Railway	Total Crossings
Route H	Zone 2	2	0	2	1	0	5
	Zone 3	0	0	1	0	0	1
	Zone 4	0	0	3	1	0	4
	Zone 5	0	1	1	0	1	3
	Zone 6	1	1	2	1	0	5
	Zone 7	0	1	9	3	0	13
	Zone 8	1	1	1	1	0	4
	Zone 9	2	2	7	8	1	20
	Zone 10	0	0	0	0	0	0
	Zone 1	0	0	1	0	0	1
	Zone 2	1	0	1	0	1	3
	Zone 3	0	1	3	1	0	5
	Zone 4	0	0	1	0	0	1
	Zone 5	0	0	2	2	0	4
	Zone 6	1	1	2	2	0	6
	Zone 7	0	1	9	3	0	13
	Zone 8	0	1	2	1	0	4
	Zone 9	2	2	7	8	2	20
	Zone 10	0	0	0	0	0	0

Table C.7: Cross-over Link Appraisal: Public utilities

Crossover Link	Zone	Water Main	Sewer	Eircom (O)	Eircom (U)	Fibre Optic	ESB LV	ESB MV	ESB 38kv	ESB 110kv	Total
CO1	3	1	0	1	1	0	0	1	0	0	4
CO2	4	2	0	1	0	1	1	3	0	0	8
CO3	5	1	0	1	0	0	1	3	0	1	7
CO4	6	1	0	0	0	1	0	4	1	0	7
CO5	8	3	0	0	1	1	0	4	2	0	11
CO6	8	3	0	1	0	1	0	3	2	0	10
CO7	9	1	0	0	0	1	0	5	0	0	7
CO8	9	2	0	2	0	1	0	0	0	0	5

Table C.8: Cross-over Link Appraisal: Potential Severance

Crossover	Zone	National Road	Regional Road	Local Road	Access	Railway	Total
CO1	3	0	0	1	0	0	1
CO2	4	1	0	1	0	0	2
CO3	5	0	1	1	0	1	3
CO4	6	2	0	0	1	0	3
CO5	8	1	1	0	0	0	2
CO6	8	1	0	2	0	0	3
CO7	9	1	0	0	1	0	2
CO8	9	1	0	1	0	0	2

**C.2. *Water Quality and Aquatic Ecology***

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Table C.9: Comparison of Total Number of Crossings Required per Route.

Route Options Zone	A	B	C	D	E	F	G	H
Zone 1	0	0	0	0	0	0	0	0
Zone 2	1	1	1	1	1	1	1	1
Zone 3	1	1	1	2	2	1	3	2
Zone 4	5	3	3	1	1	2	1	1
Zone 5	3	3	2	2	5	5	4	6
Zone 6	9	9	8	9	7	8	4	4
Zone 7	4	4	11	4	11	11	13	13
Zone 8	2	1	1	2	1	1	3	1
Zone 9	9	9	8	9	8	8	9	8
Zone 10	0	0	0	0	0	0	0	0
Total	34	31	35	30	36	37	38	36

Table C.10: Comparison of Total Number of Crossings Required per Crossover Option

Crossover Options	CO1	CO2	CO3	CO4	CO5	CO6	CO7	CO8
Zone 1	0	0	0	0	0	0	0	0
Zone 2	0	0	0	0	0	0	0	0
Zone 3	0	0	0	0	0	0	0	0
Zone 4	0	3	0	0	0	0	0	0
Zone 5	0	0	2	0	0	0	0	0
Zone 6	0	0	0	2	0	0	0	0
Zone 7	0	0	0	0	0	0	0	0
Zone 8	0	0	0	0	2	1	0	0
Zone 9	0	0	0	0	0	1	3	4
Zone 10	0	0	0	0	0	0	0	0
Total	0	3	2	2	2	2	3	4

Table C.11: Comparison of length in meters of Flood plain area encroached upon by route

Route Options Zone	A	B	C	D	E	F	G	H
Zone 1	0	0	0	0	0	0	0	0
Zone 2	0	0	0	0	0	0	0	420
Zone 3	0	0	0	0	0	0	0	58
Zone 4	0	0	0	0	0	0	0	0
Zone 5	185	185	364	364	340	325	490	0
Zone 6	0	0	0	0	0	0	0	315
Zone 7	105	113	0	105	0	0	75	75
Zone 8	325	387	0	325	0	0	0	0
Zone 9	979	979	313	979	313	313	979	313
Zone 10	298	298	48	298	48	48	298	48

Table C.12: Length of flood plain area encroached upon by crossover options, including number of envisaged crossings

Link Route Option	Floodplain area length (m)	Number of Crossing Envisaged
Option CO1	0	0
Option CO2	0	3
Option CO3	0	2
Option CO4	0	2
Option CO5	0	2
Option CO6	0	2
Option CO7	0	3
Option CO8	0	4

**C.3. Soils, Geology and Hydrogeology**

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Table C.13: Preliminary Assessment of Soil and Geology Impacts for Route Corridor A

Attribute	Attribute Importance	Impact	Level of Impact	Zone															
				1	2	3	4	5	6	7	8	9	10						
Poor ground conditions	High	Areas of compressible, low strength and poorly drained deposits	Significant Negative				✓	✓	✓										
	High	Volume of soft ground requiring excavation	Significant Negative				✓	✓	✓										
Agricultural soils	Low	Reduction in agricultural land, severance of farms and disturbance of farming activities	Slight Negative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Areas of made ground	Low	Localised areas of made ground which could have the potential to be contaminated and possess varying engineering properties.	Slight Negative																✓
Karst features	High	No major karst features are recorded within the study area; however some features may not be indicated on maps. Potential for inadequately controlled drainage to trigger previously dormant karst activity or collapse of features. Washout of clay filled karst features by road drainage possible in areas of cut where bedrock surface is close to the water table.	Significant Negative																✓

Table C.14: Preliminary Assessment of Soil and Geology Impacts for Route Corridor B

Attribute	Attribute Importance	Impact	Level of Impact	Zone															
				1	2	3	4	5	6	7	8	9	10						
Poor ground conditions	High	Areas of compressible, low strength and poorly drained deposits	Significant Negative				✓	✓	✓										
	High	Volume of soft ground requiring excavation	Significant Negative				✓	✓	✓										
Agricultural soils	Low	Reduction in agricultural land, severance of farms and disturbance of farming activities	Slight Negative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Areas of made ground	Low	Localised areas of made ground which could have the potential to be contaminated and possess varying engineering properties.	Slight Negative																✓
Karst features	High	No major karst features are recorded within the study area; however some features may not be indicated on maps. Potential for inadequately controlled drainage to trigger previously dormant karst activity or collapse of features. Washout of clay filled karst features by road drainage possible in areas of cut where bedrock surface is close to the water table.	Significant Negative																✓

Table C.15: Preliminary Assessment of Soil and Geology Impacts for Route Corridor C

Attribute	Attribute Importance	Impact	Level of Impact	Zone																
				1	2	3	4	5	6	7	8	9	10							
Poor ground conditions	High	Areas of compressible, low strength and poorly drained deposits	Significant Negative				✓	✓	✓											
	High	Volume of soft ground requiring excavation	Significant Negative				✓	✓	✓											
Agricultural soils	Low	Reduction in agricultural land, severance of farms and disturbance of farming activities	Slight Negative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Areas of made ground	Low	Localised areas of made ground which could have the potential to be contaminated and possess varying engineering properties.	Slight Negative																	✓
Karst features	High	No major karst features are recorded within the study area; however some features may not be indicated on maps. Potential for inadequately controlled drainage to trigger previously dormant karst activity or collapse of features. Washout of clay filled karst features by road drainage possible in areas of cut where bedrock surface is close to the water table.	Significant Negative																	✓

Table C.16: Preliminary Assessment of Soil and Geology Impacts for Route Corridor D

Attribute	Attribute Importance	Impact	Level of Impact	Zone										
				1	2	3	4	5	6	7	8	9	10	
Poor ground conditions	High	Areas of compressible, low strength and poorly drained deposits	Significant Negative				✓	✓	✓	✓	✓	✓	✓	✓
	High	Volume of soft ground requiring excavation	Significant Negative				✓	✓	✓	✓	✓	✓	✓	✓
Agricultural soils	Low	Reduction in agricultural land, severance of farms and disturbance of farming activities	Slight Negative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Areas of made ground	Low	Localised areas of made ground which could have the potential to be contaminated and possess varying engineering properties.	Slight Negative											✓
Karst features	High	No major karst features are recorded within the study area; however some features may not be indicated on maps. Potential for inadequately controlled drainage to trigger previously dormant karst activity or collapse of features. Washout of clay filled karst features by road drainage possible in areas of cut where bedrock surface is close to the water table.	Significant Negative									✓	✓	✓



Table C.18: Preliminary Assessment of Soil and Geology Impacts for Route Corridor F

Attribute	Attribute Importance	Impact	Level of Impact	Zone										
				1	2	3	4	5	6	7	8	9	10	
Poor ground conditions	High	Areas of compressible, low strength and poorly drained deposits	Significant Negative				✓	✓						✓
	High	Volume of soft ground requiring excavation	Significant Negative				✓	✓						✓
Agricultural soils	Low	Reduction in agricultural land, severance of farms and disturbance of farming activities	Slight Negative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Areas of made ground	Low	Localised areas of made ground which could have the potential to be contaminated and possess varying engineering properties.	Slight Negative											✓
Karst features	High	No major karst features are recorded within the study area; however some features may not be indicated on maps. Potential for inadequately controlled drainage to trigger previously dormant karst activity or collapse of features. Washout of clay filled karst features by road drainage possible in areas of cut where bedrock surface is close to the water table.	Significant Negative										✓	✓

Table C.19: Preliminary Assessment of Soil and Geology Impacts for Route Corridor G

Attribute	Attribute Importance	Impact	Level of Impact	Zone										
				1	2	3	4	5	6	7	8	9	10	
Poor ground conditions	High	Areas of compressible, low strength and poorly drained deposits	Significant Negative				✓	✓				✓	✓	
	High	Volume of soft ground requiring excavation	Significant Negative				✓	✓				✓	✓	
Agricultural soils	Low	Reduction in agricultural land, severance of farms and disturbance of farming activities	Slight Negative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Areas of made ground	Low	Localised areas of made ground which could have the potential to be contaminated and possess varying engineering properties.	Slight Negative											✓
Karst features	High	No major karst features are recorded within the study area; however some features may not be indicated on maps. Potential for inadequately controlled drainage to trigger previously dormant karst activity or collapse of features. Washout of clay filled karst features by road drainage possible in areas of cut where bedrock surface is close to the water table.	Significant Negative									✓	✓	
			Significant Negative											

Table C.20: Preliminary Assessment of Soil and Geology Impacts for Route Corridor H

Attribute	Attribute Importance	Impact	Level of Impact	Zone										
				1	2	3	4	5	6	7	8	9	10	
Poor ground conditions	High	Areas of compressible, low strength and poorly drained deposits	Significant Negative	✓	✓	✓								✓
	High	Volume of soft ground requiring excavation	Significant Negative	✓	✓									✓
Agricultural soils	Low	Reduction in agricultural land, severance of farms and disturbance of farming activities	Slight Negative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Areas of made ground	Low	Localised areas of made ground which could have the potential to be contaminated and possess varying engineering properties.	Slight Negative											✓
Karst features	High	No major karst features are recorded within the study area; however some features may not be indicated on maps. Potential for inadequately controlled drainage to trigger previously dormant karst activity or collapse of features. Washout of clay filled karst features by road drainage possible in areas of cut where bedrock surface is close to the water table.	Significant Negative									✓	✓	✓
			Significant Negative											



Table C.21: Preliminary Assessment of Soil and Geology Impacts for Crossover Options 1 to 8

Attribute	Attribute Importance	Impact	Level of Impact	Crossover Option									
				1	2	3	4	5	6	7	8		
Poor ground conditions	High	Areas of compressible, low strength and poorly drained deposits	Significant Negative		✓							✓	✓
	High	Volume of soft ground requiring excavation	Significant Negative		✓							✓	✓
Agricultural soils	Low	Reduction in agricultural land, severance of farms and disturbance of farming activities	Slight Negative	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		No major karst features are recorded within the study area; however some features may not be indicated on maps. Potential for inadequately controlled drainage to trigger previously dormant karst activity or collapse of features. Washout of clay filled karst features by road drainage possible in areas of cut where bedrock surface is close to the water table.											
Karst features	High		Significant Negative						✓			✓	✓

Table C.22: Preliminary Assessment of Hydrogeology Impacts on Route Option A

Attribute	Attribute Importance	Impact	Level of Impact	Zone														
				1	2	3	4	5	6	7	8	9	10					
Underlying aquifer with classification Rf	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative										✓					
Underlying aquifer with classification of Rkd	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative										✓					✓
Underlying aquifer with classification of Li	Medium	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Slight Negative				✓											
Underlying aquifer with 'High to Extreme' vulnerability	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative					✓					✓					✓
Wells	Low	Potential for permanent supply loss or water quality impacts from road drainage pollution/spillage leading to temporary loss. Any groundwater drawdown may permanently impact supply.	Slight Negative			✓								✓				✓

Table C.23: Preliminary Assessment of Hydrogeology Impacts on Route Option B

Attribute	Attribute Importance	Impact	Level of Impact	Zone																
				1	2	3	4	5	6	7	8	9	10							
Underlying aquifer with classification Rf	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative											✓						
Underlying aquifer with classification of Rkd	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative											✓						✓
Underlying aquifer with classification of Li	Medium	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Slight Negative				✓													
Underlying aquifer with 'High to Extreme' vulnerability	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative					✓					✓		✓					✓
Wells	Low	Potential for permanent supply loss or water quality impacts from road drainage pollution/spillage leading to temporary loss. Any groundwater drawdown may permanently impact supply.	Slight Negative							✓										✓

Table C.24: Preliminary Assessment of Hydrogeology Impacts on Route Option C

Attribute	Attribute Importance	Impact	Level of Impact	Zone												
				1	2	3	4	5	6	7	8	9	10			
Underlying aquifer with classification Rf	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative								✓	✓				
Underlying aquifer with classification of Rkd	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative								✓	✓	✓			
Underlying aquifer with classification of Li	Medium	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Slight Negative								✓					
Underlying aquifer with 'High to Extreme' vulnerability	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative										✓			
Wells	Low	Potential for permanent supply loss or water quality impacts from road drainage pollution/spillage leading to temporary loss. Any groundwater drawdown may permanently impact supply.	Slight Negative			✓						✓	✓	✓		

Table C.25: Preliminary Assessment of Hydrogeology Impacts on Route Option D

Attribute	Attribute Importance	Impact	Level of Impact	Zone														
				1	2	3	4	5	6	7	8	9	10					
Underlying aquifer with classification Rf	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative										✓					
Underlying aquifer with classification of Rkd	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative										✓					✓
Underlying aquifer with classification of Li	Medium	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Slight Negative										✓					
Underlying aquifer with 'High to Extreme' vulnerability	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative										✓		✓		✓	✓
Wells	Low	Potential for permanent supply loss or water quality impacts from road drainage pollution/spillage leading to temporary loss. Any groundwater drawdown may permanently impact supply.	Slight Negative											✓			✓	✓

Table C.26: Preliminary Assessment of Hydrogeology Impacts on Route Option E

Attribute	Attribute Importance	Impact	Level of Impact	Zone																	
				1	2	3	4	5	6	7	8	9	10								
Underlying aquifer with classification Rf	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative								✓										
Underlying aquifer with classification of Rkd	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative								✓									✓	
Underlying aquifer with classification of Li	Medium	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Slight Negative								✓										
Underlying aquifer with 'High to Extreme' vulnerability	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative										✓								
Wells	Low	Potential for permanent supply loss or water quality impacts from road drainage pollution/spillage leading to temporary loss. Any groundwater drawdown may permanently impact supply.	Slight Negative																✓		

Table C.27: Preliminary Assessment of Hydrogeology Impacts on Route Option F

Attribute	Attribute Importance	Impact	Level of Impact	Zone													
				1	2	3	4	5	6	7	8	9	10				
Underlying aquifer with classification Rf	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative										✓				
Underlying aquifer with classification of Rkd	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative										✓				✓
Underlying aquifer with classification of Li	Medium	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Slight Negative										✓				
Underlying aquifer with 'High to Extreme' vulnerability	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative										✓		✓		✓
Wells	Low	Potential for permanent supply loss or water quality impacts from road drainage pollution/spillage leading to temporary loss. Any groundwater drawdown may permanently impact supply.	Slight Negative										✓		✓		✓

Table C.28: Preliminary Assessment of Hydrogeology Impacts on Route Option G

Attribute	Attribute Importance	Impact	Level of Impact	Zone													
				1	2	3	4	5	6	7	8	9	10				
Underlying aquifer with classification Rf	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative										✓				
Underlying aquifer with classification of Rkd	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative										✓				✓
Underlying aquifer with classification of Li	Medium	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Slight Negative										✓				
Underlying aquifer with 'High to Extreme' vulnerability	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative										✓		✓		✓
Wells	Low	Potential for permanent supply loss or water quality impacts from road drainage pollution/spillage leading to temporary loss. Any groundwater drawdown may permanently impact supply.	Slight Negative							✓			✓		✓		✓



Table C.29: Preliminary Assessment of Hydrogeology Impacts on Route Option H

Attribute	Attribute Importance	Impact	Level of Impact	Zone														
				1	2	3	4	5	6	7	8	9	10					
Underlying aquifer with classification Rf	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative										✓					
Underlying aquifer with classification of Rkd	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative										✓					✓
Underlying aquifer with classification of Li	Medium	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Slight Negative										✓					
Underlying aquifer with 'High to Extreme' vulnerability	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative			✓							✓					✓
Wells	Low	Potential for permanent supply loss or water quality impacts from road drainage pollution/spillage leading to temporary loss. Any groundwater drawdown may permanently impact supply.	Slight Negative		✓								✓					✓

Table C.30: Preliminary Assessment of Hydrogeology Impacts for Crossover Options 1 to 8

Attribute	Attribute Importance	Impact	Level of Impact	Crossover Option									
				1	2	3	4	5	6	7	8		
Underlying aquifer with classification Rf	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative							✓			
Underlying aquifer with classification of Rkd	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative					✓		✓			✓
Underlying aquifer with 'High to Extreme' vulnerability	High	Potential for removal of subsoil cover, excavation of aquifer, drawdown in water levels, decrease in groundwater quality and reduction in aquifer recharge.	Moderate Negative		✓				✓				

**C.4. Air Quality**

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Table C.31: Property counts within 50m of each route

Zone	Route Option							
	A	B	C	D	E	F	G	H
1	0	0	0	0	0	0	0	0
2	3	2	3	2	2	3	0	0
3	1	0	1	0	0	1	0	2
4	1	11	1	2	2	0	0	1
5	0	1	0	0	0	2	0	3
6	1	1	2	2	3	2	1	0
7	8	8	2	8	2	2	0	0
8	2	20	0	2	0	0	2	3
9	2	2	1	2	1	1	2	1
10	3	3	3	3	3	3	3	3
Total	21	48	13	21	13	14	8	13

Table C.32: Designated Sites within 200m of each route

Zone	Route Option							
	A	B	C	D	E	F	G	H
1	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	W, S, N
3	-	-	-	S, N	S, N	-	S, N	-
4	-	-	-	-	-	-	-	-
5	W, S, N	W, S, N	W, S, N	W, S, N	W, S, N	W, S, N	W, S, N	-
6	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-
9	N	N	N	N	N	N	N	N
10	-	-	-	-	-	-	-	-

**Key:** W – Wexford Harbour & Slobs SPA  
S – Slaney River Valley SAC  
N – Slaney River Valley proposed NHA

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**C.5. Noise and Vibration**

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Table C.33: Property counts within 50m of each route

Zone	Route Option							
	A	B	C	D	E	F	G	H
1	0	0	0	0	0	0	0	0
2	3	2	3	2	2	3	0	0
3	1	0	1	0	0	1	0	2
4	1	11	1	2	2	0	0	1
5	0	1	0	0	0	2	0	3
6	1	1	2	2	3	2	1	0
7	8	8	2	8	2	2	0	0
8	2	20	0	2	0	0	2	3
9	2	2	1	2	1	1	2	1
10	3	3	3	3	3	3	3	3
Total	21	48	13	21	13	14	8	13

Table C.34: Property counts within 50m of crossovers

Crossover	Zone	Crossover Routes	No. of properties 50m
CO1	3	Route A & B	0
	4		0
CO2	4	Route C & D	0
CO3	5	Route C	0
CO4	6	Routes A, B, C & F	0
CO5	7	Routes A, C, D, E, F & H	0
	8		0
CO6	8	Routes B, C, E, F, & G	0
	9		0
CO7	9	All Routes	0
CO8	9		0

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**C.6. Agriculture**

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Table C.35: Landtake impact comparisons

Route Options/ Zones	A (ha)	B (ha)	C (ha)	D (ha)	E (ha)	F (ha)	G (ha)	H (ha)
Zone 1	8.1	8.1	8.1	8.1	8.1	8.1	8.3	8.3
Zone 2	36.3	38.1	36.3	40.7	40.7	36.3	31.2	28.8
Zone 3	30.9	19.5	30.8	22.2	22.2	31.2	27.8	30.7
Zone 4	33.4	20.2	27.4	26.9	26.8	32.3	25.9	17.3
Zone 5	8.4	7.7	14.4	14.4	12.2	23.2	26.9	37.8
Zone 6	53.1	53.1	60.6	52.7	54.4	56.7	32.5	29.0
Zone 7	19.1	19.1	59.7	19.4	59.7	59.7	122.1	122.5
Zone 8	44.8	33.8	26.1	44.8	26.1	26.1	21.8	18.9
Zone 9	70.1	70.1	87.4	70.2	87.4	87.4	70.1	87.4
Zone 10	9.4	9.4	8.6	9.7	8.6	8.6	9.4	8.6

Table C.36: Severance impact comparisons

Route Options/Zones	A score	B score	C score	D score	E score	F score	G score	H score
Zone 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Zone 2	59.6	49.1	59.7	55.4	55.4	59.7	14.8	42.5
Zone 3	47.5	18.2	47.5	20.8	20.8	41.9	27.5	11.7
Zone 4	44.8	17.7	27.1	21.7	21.7	51.2	36.8	14.2
Zone 5	5.4	5.9	66.6	66.6	31.1	10.8	35.0	48.9
Zone 6	36.6	35.6	62.4	35.2	26.2	55.5	28.4	45.5
Zone 7	10.4	10.4	49.6	10.4	49.6	49.6	94.0	94.2
Zone 8	36.1	25.1	20.3	36.1	20.3	20.3	47.8	16.8
Zone 9	41.9	41.9	92.2	41.9	92.2	92.2	41.9	92.2
Zone 10	9.2	9.2	8.0	9.2	8.0	8.0	9.2	8.0

Table C.37: Area of affected dairy and/or equine farm comparisons

Route Options/Zones	A (ha)	B (ha)	C (ha)	D (ha)	E (ha)	F (ha)	G (ha)	H (ha)
Zone 1	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Zone 2	120.1	159.7	120.1	159.7	159.7	120.1	125.4	133.0
Zone 3	163.4	76.3	133.6	73.5	73.5	133.6	14.1	115.1
Zone 4	254.9	292.0	219.8	101.7	101.7	157.6	19.0	113.0
Zone 5	0.0	0.0	91.3	91.3	69.6	62.4	166.5	33.6
Zone 6	102.8	102.8	81.4	98.9	42.1	81.4	133.8	83.0
Zone 7	57.3	57.3	149.7	57.3	149.7	149.7	153.1	153.1
Zone 8	150.7	128.8	47.7	150.7	47.7	47.7	93.5	47.7
Zone 9	18.7	43.8	223.9	18.7	223.9	223.9	18.7	223.9
Zone 10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**C.7. *Archaeology and Cultural Heritage***

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Table C.38: Total Impacts Zone 1

Route Options	RMPS	RPS	NIAH	Rank
A	0	0	0	High
B	0	0	0	High
C	0	0	0	High
D	0	0	0	High
E	0	0	0	High
F	0	0	0	High
G	0	0	0	High
H	0	0	0	High

All of the routes follow a shared path, or route corridor within Zone 1 which does not impact upon any known sites or monuments

Table C.39: Total Impacts Zone 2

Route Options	RMPS	RPS	NIAH	Rank
A	1	0	1	Low
B	1	0	0	Medium
C	1	0	1	Low
D	1	0	0	Medium
E	1	0	0	Medium
F	1	0	1	Low
G	0	0	0	High
H	0	0	0	High

Table C.40: Total Impacts Zone 3

Route Options	RMPS	RPS	NIAH	Rank
A	1	0	1	Medium
B	2	0	0	Medium
C	1	0	1	Medium
D	1	3	3	Low
E	1	3	3	Low
F	1	0	1	Medium
G	3	0	1	Medium
H	0	0	1	High

There is little difference between Routes A-C and F compared to Routes H or G. However, to highlight the most and least preferable route in this zone Routes A-C and F have been ranked as of medium preference

Table C.41: Total Impacts Zone 4

Route Options	RMPS	RPS	NIAH	Direct	Rank
A	6	2	6	1	Low
B	0	1	7	2	Low
C	0	0	1	0	High
D	0	0	2	0	Medium
E	0	0	2	0	Medium
F	1	2	9	0	Low
G	0	0	2	0	Medium
H	2	0	1	0	Medium

There is little difference between Routes D, E and G compared to Route C or H. However, to highlight the most and least preferable route in this zone Routes D, E and G have been ranked as of medium preference

Table C.42: Total Impacts Zone 5

Route Options	RMPS	RPS	NIAH	Direct	Rank
A	5	2	8	0	Low
B	5	2	8	0	Low
C	1	1	5	0	Medium
D	1	1	7	0	Medium
E	0	0	3	1	Medium
F	2	0	4	0	Medium
G	0	0	0	0	High
H	5	0	0	0	Medium

Table C.43: Total Impacts Zone 6

Route Options	RMPS	RPS	NIAH	Rank
A	1	0	1	Medium
B	1	0	1	Medium
C	1	0	0	High
D	1	0	1	Medium
E	1	0	3	Low
F	1	0	0	High
G	1	0	0	High
H	1	0	0	High

Table C.44: Total Impacts Zone 7

Route Options	RMPS	RPS	NIAH	Direct	Rank
A	2	0	0	0	High
B	2	0	0	0	High
C	6	2	6	1	Low
D	2	0	0	0	High
E	6	2	6	1	Low
F	6	2	6	1	Low
G	9	0	2	0	Medium
H	9	0	2	0	Medium

Table C.45: Total Impacts Zone 8

Route Options	RMPS	RPS	NIAH	Rank
A	9	0	5	Low
B	9	0	4	Low
C	0	0	0	High
D	9	0	5	Low
E	0	0	0	High
F	0	0	0	High
G	0	0	3	Medium
H	1	0	1	Medium

Table C.46: Total Impacts Zone 9

Route Options	RMPS	RPS	NIAH	Direct	Rank
A	19	2	6	2	High
B	19	2	6	2	High
C	21	1	6	2	Low
D	19	2	6	2	High
E	21	1	6	2	Low
F	21	1	6	2	Low
G	19	2	6	2	High
H	21	1	6	2	Low

Table C.47: Total Impacts Zone 10

Route Options	RMPS	RPS	NIAH	Direct	Rank
A	1	0	1	1	High
B	1	0	1	1	High
C	1	0	1	1	High
D	1	0	1	1	High
E	1	0	1	1	High
F	1	0	1	1	High
G	1	0	1	1	High
H	1	0	1	1	High

There is no preference to the route options within Zone 10 as they all impact upon the same monuments and share a single route corridor for much of the Zone

Table C.48: Crossover Assessment

Crossovers	RMPS	RPS	NIAH	Total
1	1	0	0	1
2	1	0	2	3
3	0	0	0	0
4	0	0	3	3
5	7	0	2	9
6	4	0	2	6
7	1	0	0	1
8	4	0	2	6