

7 Summary Chapter

7.1 Summary Chapter

7.1.1 The following tables provide a summary of the impact assessment for the modified TI and the total cumulative impact assessment for the modified TI plus all projects relevant to the specific discipline. Only the total cumulative impact is provided for each project. Details of the breakdown of the analyses can be found in the relevant chapter.

7.1.2 Where effects are significant in EIA terms, these have been highlighted in bold.

Physical Environment

Effect	Receptor	Impact Assessment of the Modified TI			Total cumulative impact assessment for the modified TI , Telford, Stevenson and MacColl plus relevant projects	
		Pre-mitigation significance of effect	Mitigation proposed	Post-mitigation significance of effect	Significance	Mitigation Proposed
HYDRODYNAMICS, SEDIMENTARY AND COASTAL PROCESSES						
<i>Construction and Decommissioning</i>						
Changes to the tidal and wave regimes	The Smith Bank, Designated Sites and Recreational Surfing Beaches	Negligible Significance	None	Negligible Significance	n/a	n/a
Increase in suspended sediment concentrations and changes in sediment type/thickness at the seabed as a result of export cable installation activities	The Smith Bank & seabed along the modified OfTI corridor	Minor Significance	None	Minor Significance	n/a	n/a
Increase in suspended sediment concentrations and changes in sediment type/thickness at the seabed as a result of OSP installation activities	The Smith Bank	Minor Significance	None	Minor Significance	n/a	
Increase in suspended sediment concentrations and changes in sediment type/thickness at the seabed across all installation works	The Smith Bank & seabed along the modified OfTI corridor	n/a			Minor significance	None
Disturbance of coastal morphology at the landfall site	Inverboyndie Landfall, seabed along the cable corridor and SSSIs	Negligible Significance	None	Negligible Significance	Negligible significance	None
<i>Operation</i>						
Changes to the tidal and wave regimes (Cables)	The Smith Bank, Designated Sites and Recreational Surfing Beaches	Negligible Significance	None	Negligible Significance	n/a	
Changes to the tidal and wave regimes (OSPs)	The Smith Bank, Designated Sites and Recreational Surfing Beaches	Negligible Significance	None	Negligible Significance	n/a	
Overall changes to the tidal regime	The Smith Bank	n/a			Minor Significance	None proposed
	Designated Sites	n/a			Minor Significance	None proposed

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		Pre-mitigation significance of effect	Mitigation proposed	Post-mitigation significance of effect	Significance	Mitigation Proposed
	Stratification Fronts	n/a			Minor Significance	None proposed
Overall changes to the wave regime	The Smith Bank	n/a			Minor Significance	None proposed
	Designated Sites	n/a			Minor Significance	None proposed
	Recreational Surfing Beaches	n/a			Minor Significance	None proposed
Changes to the sediment transport regime due to the presence of the OSP foundations	The Smith Bank	Negligible Significance	None	Negligible Significance	n/a	
	Designated Coastal Habitats	Minor Significance	None	Minor Significance	n/a	
Overall changes in sediment transport	The Smith Bank	n/a			Minor Significance	None proposed
	Designated Coastal Habitats	n/a			Minor Significance	None proposed
Scour effects due to the presence of the OSP foundations	The Smith Bank	Minor Significance	Scour protection	Negligible Significance	n/a	
Scour effects due to the exposure of export cables	The Smith Bank & seabed along the modified OfTI corridor	Negligible Significance	Scour protection	Negligible Significance	n/a	
Scour effects due to cable protection measures	The Smith Bank & seabed along the modified OfTI corridor	Negligible Significance	None	Negligible Significance	n/a	
Overall scour effects	The Smith Bank & seabed along the modified OfTI corridor	n/a			Minor Significance	Scour protection
HYDROLOGY, GEOLOGY AND CONTAMINATED LAND						
<i>Construction and Decommissioning</i>						
Temporary changes to surface runoff patterns and land drainage systems.	Land and field drainage systems	Negligible / Minor Significance	Construction stage Environmental Management Plan (EMP) to specify site best practices. All ground surfaces to be reinstated to pre-existing levels. Any affected field under-drainage systems fully reinstated. Substation drainage to be attenuated to greenfield rates and separated from any existing field drainage systems.	Negligible significance	Negligible significance	Best standard practice

Effect	Receptor	Impact Assessment of the Modified TI			Total cumulative impact assessment for the modified TI , Telford, Stevenson and MacColl plus relevant projects	
		Pre-mitigation significance of effect	Mitigation proposed	Post-mitigation significance of effect	Significance	Mitigation Proposed
Permanent effects of substation and associated drainage infrastructure.	Land and field drainage systems	Negligible / Minor Significance	Construction stage Environmental Management Plan (EMP) to specify site best practices. All ground surfaces to be reinstated to pre-existing levels. Any affected field under-drainage systems fully reinstated. Substation drainage to be attenuated to greenfield rates and separated from any existing field drainage systems.	Negligible significance	Negligible significance	Best standard practice
Temporary physical deterioration in water bodies	Water bodies	Minor- major significance	Use below-ground horizontal directional drilling (HDD) techniques to avoid affecting high sensitivity water bodies. Adopt site best practices to minimise temporary impacts. Fully reinstate water bodies to pre-existing condition following construction.	Negligible significance	Negligible significance	Best standard practice
Temporary water quality deterioration in water bodies	Water bodies	Minor- major significance	Adoption of site best practices to minimise pollution risk from construction plant and materials.	Negligible significance	Negligible significance	Best standard practice
Temporary soil erosion of working area and release of sediment into water environment	Water bodies	Minor - major significance	Adoption of site best practices. Construction on steep slopes will, where possible, be avoided. Best practice site sustainable drainage/sediment control practices will be adopted to ensure that this issue is tackled at source and there are no direct routes by which sediment-laden runoff can enter local water bodies.	Negligible significance	Negligible significance	Best standard practice
Temporary increased flood risk due to loss of floodplain storage or channel conveyance capacity	Water bodies	Minor - major significance	No filling of floodplain areas. Temporary crossings of low sensitivity water bodies, where HDD techniques are not used, will be designed to ensure no increase in flood risk to local receptors. On completion, the physical alteration of the channel geometry will be reinstated to its pre-existing condition, with temporary erosion protection measures employed where necessary to ensure bank vegetation becomes fully re-established.	Negligible significance	Negligible significance	Best standard practice
Permanent increased flood risk by introducing new receptors into flood risk areas or due to existing flood and coastal erosion management measures being damaged or otherwise compromised.	Water bodies	Minor - major significance	Location of the substation and other permanent assets and construction works in areas of low flood risk. Design and construction of new infrastructure to ensure that the integrity of existing flood defence assets is preserved.	Negligible significance	Negligible significance	Best standard practice
Changes to surface runoff and drainage	Water supplies/abstraction	Negligible - minor significance	Adoption of site best practices. Confirm source of supply from receptors and ensure water supply to these is not affected by development. Construction stage EMP to detail temporary diversions, downstream recharge etc.	Negligible significance	Negligible-minor significance	Best standard practice
Release of sediment to the water environment (temporary)	Aquifers and water supplies	Negligible - minor significance	Adoption of site best practices as above.	Negligible significance	Negligible-minor significance	Best standard practice
Subsoil compaction and reduced infiltration	Aquifers and water supplies	Negligible - minor significance	Limit area of compaction using same access route - detail in EMP.	Negligible significance	Negligible-minor significance	Best standard practice
Alteration of groundwater levels, disruption to flow paths	Aquifers and water supplies	Negligible - minor significance	No large scale abstraction proposed. Use sump pumps where necessary. Undertake ground investigation to determine the depth to groundwater. before undertaking detailed design.	Negligible significance	Negligible-minor significance	Best standard practice
Accidental spillage of pollutants (e.g. fuel oils and lubricants)	Aquifers and water supplies	Minor- medium significance	EMP to include site best practices including PPG 21 Pollution Incidents Response Planning, including responding in a timely manner and planning for alternative water supply in event of pollution of a local water supply.	Negligible - minor significance	Negligible-minor significance	Best standard practice

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		Pre-mitigation significance of effect	Mitigation proposed	Post-mitigation significance of effect	Significance	Mitigation Proposed
Effects from contaminated land and ground gas (e.g. inhalation, dermal inhalation, dermal contact, ingestion, direct ingestion, direct exposure) and the generation of contaminated waste	Human health	Major significance	Cable route alignment to avoid areas of contamination. Ground investigation at key locations to allow risks to be assessed and mitigated in detail. EMP to detail residual risk management measures; use of Personal Protective Equipment as last line of defence.	Minor significance	Minor significance	Best standard practice
Damage to nearby geologically important sites	White hills to Melrose Coast SSSI, Cullen to Whitehills Coast and Tarlair to Gardenstown Coast Local Nature conservation sites.	Major significance	Consultation with key stakeholders; detailed and careful route alignment aided by a coastal geomorphological assessment; design construction and decommissioning techniques to avoid impacts. EMP to detail site Best Practice techniques and relevant PPGs.	Negligible Significance	Negligible significance	Best standard practice
Sterilisation of mineral reserves	Mineral reserves	Minor significance	Consultation with key stakeholders and relevant parties.	Negligible significance	Negligible significance	Best standard practice
Disturbance and mobilisation of contaminated material	Surface water features	Minor significance	Ground investigation in areas identified as potential sources of significant contamination; EMP with contingency for encountering unexpected contamination such as Foot and Mouth burial sites; Method statement for drilling operations; and following best practice techniques and relevant PPGs.	Negligible significance	Negligible significance	Best standard practice
	Aquifers and water supplies	Minor - major significance		Negligible - minor significance	Negligible-minor significance	Best standard practice
	Coastal environment	Minor significance		Negligible significance	Negligible significance	n/a
Operation						
Changes to surface runoff patterns and land drainage systems.	Water bodies	Minor significance	Develop maintenance plan which uses designated routes and procedures designed to ensure maintenance operations do not affect local drainage systems.	Negligible significance	Negligible significance	Best standard practice
	Water supplies / abstraction	Negligible - minor significance	Confirm source of supply from receptors and ensure water supply to these is not affected by development. Detailed design to minimise alterations to surface runoff and drainage. In line with PPG5 Work and maintenance in or near water.	Negligible significance	Negligible significance	Best standard practice
Soil compaction and reduced infiltration resulting in increases in localised overland flooding.	Water bodies	Minor significance	Develop maintenance plan which uses designated routes and procedures designed to ensure maintenance operations do not result in compaction of agricultural soils.	Negligible significance	Negligible significance	Best standard practice
Physical deterioration in water bodies.	Water bodies	Minor significance	Develop maintenance plan which uses designated routes and procedures designed to ensure maintenance operations do not result in physical deterioration of water bodies.	Negligible significance	Negligible significance	Best standard practice
Water quality deterioration in water bodies.	Water bodies	Minor significance	Develop maintenance plan which uses designated routes and procedures designed to ensure maintenance operations do not result in deterioration in water quality within water bodies.	Negligible significance	Negligible significance	Best standard practice
Soil erosion and release of sediment into water environment	Water bodies	Minor significance	Develop maintenance plan which uses designated routes and procedures designed to mitigate the risk of maintenance operations resulting in sediment releases.	Negligible significance	Negligible significance	Best standard practice
Increased flood risk due to loss of floodplain storage or channel conveyance capacity	Water bodies	Minor significance	Develop maintenance plan which uses designated routes and procedures designed to mitigate the risk of maintenance operations affecting floodplain storage or conveyance.	Negligible significance	Negligible significance	Best standard practice

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Increased flood risk by introducing new receptors into flood risk areas or due to existing flood and coastal erosion management measures being damaged or otherwise compromised.	Water bodies	Minor significance	Where these cannot be avoided, develop maintenance plan which uses designated routes and procedures designed to mitigate the risk of maintenance operations affecting existing flood defences, including natural ones (e.g. sand dunes).	Negligible significance	Negligible significance	Best standard practice
Alteration of groundwater levels, disruption to flow paths	Aquifers and water supplies	Negligible - minor significance	No large scale abstraction proposed. Use sump pumps where necessary. Undertake ground investigation to determine the depth to groundwater and flow regime before undertaking detailed design.	Negligible significance	Negligible significance	Best standard practice
Accidental release of contaminants during substation operation	Aquifer / Water supply well	Major Significance	Regular inspections of site during operation to detect any release of contaminants. Confirm source of supply for PWS/N/0653. Detailed design to include the use of bunds around chemical/ fuel storage areas etc. (PPG8 Safe Storage and Disposal of used oils; PPG26 Safe storage - drums and intermediate bulk containers).	Minor Significance	Minor significance	Best standard practice
Contaminated land and ground gas at Substations and along cable route	Human Health	Major significance	Environmental Monitoring and Management Plan, to include for example requirements for long term gas monitoring, PPE, health and safety issues and maintenance procedures and identifying sensitive land use areas or designations	Minor significance	Minor significance	Best standard practice
ONSHORE NOISE						
<i>Construction & Decommissioning - OnTI Construction</i>						
Noise	141 Sensitive receptor locations - daytime	Negligible	Best practice noise control	Negligible	n/a	
	141 Sensitive receptor locations - nighttime	Significant	Working hour restrictions	Minor significance		
Vibration	141 Sensitive receptor locations	None	None Required	None	n/a	
<i>Operational Noise (Substation)</i>						
Noise	13 Sensitive receptor Locations	Will be designed to be neutral effect	Buildings to be designed to British Standards for noise reduction	Will be designed to be neutral effect	n/a	

Biological Environment

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
BENTHIC ECOLOGY						
<i>Construction & Decommissioning</i>						
Temporary Direct Seabed Disturbance	Sand and gravel sediment habitats and communities (biotopes)	Minor significance	n/a	Minor significance	n/a	
	Burrowed mud PMF habitat	Minor significance	n/a	Minor significance	n/a	
	All seabed features	n/a			Scoped out	
Temporary increased suspended sediment concentration (SSCs) and sediment deposition	Sand and gravel sediment habitats and communities (biotopes)	Minor significance	n/a	Minor significance	n/a	
	Burrowed mud PMF habitat	Minor significance	n/a	Minor significance	n/a	
	All seabed features	n/a	n/a	n/a	Negligible significance	None
Seabed contamination as a result of accidental spillage of chemicals	Sand and gravel sediment habitats and communities (biotopes) and burrowed mud PMF habitat.	Up to major significance	Adherence to an EMP	Negligible significance	Scoped out	
<i>Operation</i>						
Permanent net reduction of original habitat.	Sand and gravel sediment habitats and communities (biotopes).	Minor significance	n/a	Minor significance	n/a	
	Burrowed mud PMF habitat	Minor significance	n/a	Minor significance	n/a	
	Across all seabed habitats	n/a	n/a	n/a	Minor significance	None
Habitat and associated community change (MINNS)	Indigenous species	Minor significance	Good practice (vessel maintenance)	Minor significance	Minor significance	Good practice (vessel maintenance)
Effects on physical processes and related biological changes	Sand and gravel sediment habitats and communities (biotopes).	Not significant	n/a	Not significant	Scoped out	
Effects of EMFs	Electro-magnetic sensitive and migratory invertebrate species	Not significant	n/a	Not significant	Scoped out	
Effects of heat	Deep burrowing species such as <i>Nephrops norvegicus</i>	Not significant	n/a	Not significant	Scoped out	

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
FISH AND SHELLFISH ECOLOGY						
<i>Construction & Decommissioning</i>						
Underwater disturbance to the seabed (Increased SSCs and sediment re-deposition)	Adult and juvenile fish and shellfish	Minor significance	None	Minor significance	Minor significance	None
	Diadromous species	Minor significance	None	Minor significance		
	Fish and shellfish which lay eggs on the seabed (herring, sandeels and squid)	Minor significance	None	Minor significance		
Habitat Loss	Species of limited mobility	Not significant	None	Not significant	Minor significance	None
Noise	Plaice	Not significant	Soft start piling	Not significant	Minor significance	Soft-start piling
	Salmon and sea trout	Minor significance		Minor significance		
	Cod					
	Herring					
	Whiting					
	Larvae and Glass Eels					
Shellfish						
<i>Operation</i>						
EMF	Elasmobranchs	Minor significance	Cable burial / protection	Minor significance	Minor significance	Cable burial / protection
	River and sea lamprey					
	European eel					
	Salmon and sea trout					
	Other fish species					
	Shellfish species					
Changes to Fishing Activity	General (All)	Not significant	None	Not significant	Not significant	None
MARINE MAMMALS						
<i>Construction / Decommissioning</i>						

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Hearing Damage	Harbour seal Bottlenose dolphin Grey seal Harbour porpoise Minke whale	The modelling on which the assessment is based has been undertaken including mitigation measures (JNCC protocol and designated vessel routes) and therefore pre-mitigation effects are not separately identified)	None additional to JNCC protocol for minimising the risks to marine mammals Designated vessel routes	No significant long term impact for all species for all effects	Minor significance for all effects over the long term for all species	None additional to JNCC protocol for minimising the risks to marine mammals Designated vessel routes
Displacement/Disturbance						
Collision Risk (including risk of corkscrew injury from ducted propellers)						
Reduction in Prey Sources						
Reduction in Foraging Ability						
Toxic Contamination						
Operation						
Collision Risk (including risk of corkscrew injury from ducted propellers)	Harbour seal	Not significant for all effects for all species	Designated vessel routes	Not significant for all effects for all species	Minor significance for all effects for all species	Designated vessel routes
	Bottlenose dolphin					
Stranding due to Electromagnetic Fields	Grey seal					
Long Term Changes in Prey Availability	Harbour porpoise					
Toxic Contamination	Minke whale					
MARINE ORNITHOLOGY						
Construction & Decommissioning						
Disturbance, displacement & indirect effects	Fulmar	Minor risk - not significant	Wind farm and OfTI vessel corridors.	Not significant.	Minor risk - not significant	Wind farm and OfTI vessel corridors.
	Gannet	Minor risk - not significant			Minor risk - not significant	
	Shag	Minor risk - not significant			Minor risk - not significant	
	Eider	Minor risk - not significant			Minor risk - not significant	
	Long-tailed duck	Minor risk - not significant			Minor risk - not significant	
	Common scoter	Minor risk - not significant			Minor risk - not significant	
	Velvet scoter	Minor risk - not significant			Minor risk - not significant	

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	Red-throated diver	Minor risk - not significant			Minor risk - not significant	
	Great northern diver	Minor risk - not significant			Minor risk - not significant	
	White-billed diver	No risk - not significant			No risk - not significant	
	Puffin	Minor risk - not significant			Minor risk - not significant	
	Razorbill	Minor risk - not significant			Minor risk - not significant	
	Guillemot	Minor risk - not significant			Minor risk - not significant	
	Kittiwake	Minor risk - not significant			Minor risk - not significant	
	Herring gull	Minor risk - not significant			Minor risk - not significant	
	Great black-backed gull	Minor risk - not significant			Minor risk - not significant	
Operation						
Disturbance, displacement & indirect effects	Fulmar	Minor risk - not significant	Wind farm and OFTI vessel corridors.	Not significant.	Minor risk - not significant	Wind farm and OFTI vessel corridors.
	Gannet	Minor risk - not significant			Moderate risk - not significant	
	Shag	Minor risk - not significant			Minor risk - not significant	
	Eider	Minor risk - not significant			Minor risk - not significant	
	Long-tailed duck	Minor risk - not significant			Minor risk - not significant	
	Common scoter	Minor risk - not significant			Minor risk - not significant	
	Velvet scoter	Minor risk - not significant			Minor risk - not significant	
	Red-throated diver	Minor risk - not significant			Minor risk - not significant	
	Great northern diver	Minor risk - not significant			Minor risk - not significant	

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	White-billed diver	No risk - not significant			No risk - not significant	
	Puffin	Minor risk - not significant			Minor risk - not significant	
	Razorbill	Minor risk - not significant			Minor risk - not significant	
	Guillemot	Minor risk - not significant			Minor risk - not significant	
	Kittiwake	Minor risk - not significant			Minor risk - not significant	
	Herring gull	Minor risk - not significant			Moderate risk - not significant	
	Great black-backed gull	Minor risk - not significant			Minor risk - not significant	
INTERTIDAL ECOLOGY						
<i>Construction & Decommissioning</i>						
Temporary direct intertidal habitat disturbances	Sand and rock biotopes.	Not significant / minor significance	n/a	Not significant	n/a	
Temporary increased suspended sediment concentrations and sediment deposition	Sand and rock biotopes.	Not significant	n/a	Not significant	n/a	
<i>Operation</i>						
Heating and EMF effects	Sensitive and deep-burrowing species	Not significant	n/a	Not significant	n/a	
Habitat and community changes	Rock habitat and species	Not significant	n/a	Not significant	n/a	
TERRESTRIAL ECOLOGY						
<i>Construction & Decommissioning</i>						
Impacts on breeding and wintering coastal and terrestrial birds from habitat loss and disturbance / displacement	Terrestrial breeding birds	Minor significance	Conduct pre-construction surveys if works are ongoing March to July. Habitat restoration.	Negligible significance	Negligible significance	None required beyond standard best practice
	Coastal wintering birds	Minor significance	Avoid coastal works during winter months.	Negligible significance	Negligible significance	None required beyond standard best practice

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Impacts to species from habitat loss and disturbance/ displacement	Otter	Moderate significance	<p>Cover all excavations when not in use.</p> <p>Where excavations cannot be covered, provide means of escape.</p> <p>Avoid night working.</p> <p>When night working cannot be avoided, direct light onto work area only and minimise light spill.</p> <p>Works within 100 m of holts should cease 1hr before dusk and commence 1hr after dawn.</p> <p>Adhere to SEPA's PPGs.</p> <p>Enforce vehicle speed limits.</p> <p>ECoW present during works.</p>	Minor significance	Minor significance	None required beyond standard best practice
	Badger	Moderate significance	<p>Micro-site cable route to avoid sett(s).</p> <p>If sett(s) cannot be avoided then obtain license from SNH to destroy sett(s).</p> <p>Impose protection zones 30 m from sett(s) and mark with brightly coloured tape.</p> <p>Cover all excavations >5 m deep when not in use.</p> <p>Pipes of diameter >20 cm should be capped nightly.</p> <p>Avoid night working.</p> <p>When night working cannot be avoided, direct light onto work area only and minimise light spill.</p> <p>Works within 100 m of sett(s) should cease 1 hr before dusk and commence 1 hr after dawn.</p> <p>Enforce vehicle speed limits.</p> <p>ECoW present during works.</p> <p>Carry out preconstruction survey.</p> <p>Employ best practice.</p>	Minor significance	Minor significance	None required beyond standard best practice

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		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
	Red Squirrel	Minor-moderate significance	Micro-site cable route to avoid sensitive habitat features. Carry out preconstruction survey. Enforce vehicle speed limits. ECoW present during works. Carry out pre construction survey.	Negligible-minor significance	Negligible-minor significance	None required beyond standard best practice
	Water vole	Minor significance	Employ best practice.	Negligible-minor significance	Negligible-minor significance	None required beyond standard best practice
Impacts from damage habitat	Bat roost and habitat suitability	Minor-moderate significance	Micro-site cable route to avoid sensitive habitat features. Targeted baseline field surveys to be carried out prior to construction, once cable route confirmed, to inform detailed mitigation actions; surveys to include roost searches, Anabat surveys, commuting surveys and control surveys, all May-September. Carry out preconstruction survey. ECoW present during works. Habitat restoration. Avoid dawn, dusk and overnight works near areas with bat roost potential.	Negligible-minor significance	Negligible-minor significance	None required beyond standard best practice
Impacts on habitats and conservation designated sites from pollution, damage and disturbance	Wet modified bog	Minor significance	Adhere to SEPA's PPGs. Maintain vehicles and plant to avoid leaks. Avoid construction works in heavy rainfall. Delimit working areas to minimise zone of impact. Employ best practice. Enforce CEMP and construction method statements. Sediment control near burns. Avoid trenching alongside the River Deveron. Habitat restoration where onshore export cable has impacts.	Negligible significance	Negligible significance	None required beyond standard best practice
	Semi-improved and unimproved neutral grassland	Minor significance		Negligible significance	Minor significance	None required beyond standard best practice
	Watercourses and standing water	Minor significance		Minor significance	Minor significance	None required beyond standard best practice
	Marshy grassland	Minor significance		Negligible significance	Negligible significance	None required beyond standard best practice
	Waterbodies	Minor significance		Negligible significance	Negligible significance	None required beyond standard best practice
	Plantation and semi-natural woodlands	Minor significance		Negligible significance	Negligible significance	None required beyond standard best practice
	Arable land	Negligible significance		Negligible significance	Negligible significance	None required beyond standard best practice
	Improved grassland	Negligible significance		Negligible significance	Negligible significance	None required beyond standard best practice

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	Tall ruderal herb and fern	Negligible significance		Negligible significance	Negligible significance	None required beyond standard best practice
	Amenity grassland	Negligible significance		Negligible significance	Minor significance	None required beyond standard best practice
	Scattered and dense scrub	Negligible significance		Negligible significance	Minor significance	None required beyond standard best practice
<i>Operation</i>						
Impacts on breeding and wintering coastal and terrestrial birds from habitat loss and disturbance / displacement	Terrestrial breeding birds	Minor significance	Habitat restoration. Carry out preconstruction surveys. ECoW present during works.	Negligible significance	Negligible significance	None required beyond standard best practice
	Coastal wintering birds	Minor - negligible significance	Avoid coastal works during winter months.	Negligible significance	Negligible significance	None required beyond standard best practice
Impacts to species from habitat loss and disturbance/ displacement	Otter	Moderate significance	Cover all excavations when not in use. Where excavations cannot be covered, provide means of escape. Avoid night working. When night working cannot be avoided, direct light onto work area only and minimise light spill. Works within 100 m of holts should cease 1hr before dusk and commence 1hr after dawn. Adhere to SEPA's PPGs. Enforce vehicle speed limits. ECoW present during works.	Minor significance	Minor significance	None required beyond standard best practice

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	Badger	Moderate significance	Micro-site cable route to avoid sett(s). If sett(s) cannot be avoided then obtain license from SNH to destroy sett(s). Impose protection zones 30m from sett(s) and mark with brightly coloured tape. Cover all excavations >5 m deep when not in use. Pipes of diameter >20 cm should be capped nightly. Avoid night working. When night working cannot be avoided, direct light onto work area only and minimise light spill. Works within 100 m of sett(s) should cease 1 hr before dusk and commence 1 hr after dawn. Enforce vehicle speed limits. ECoW present during works. Carry out preconstruction survey. Employ best practice.	Minor significance	Minor significance	None required beyond standard best practice
	Red Squirrel	Minor significance	Micro-site cable route to avoid sensitive habitat features. Carry out preconstruction survey. ECoW present during works.	Negligible-minor significance	Negligible-minor significance	None required beyond standard best practice
	Water vole	Minor significance	Employ best practice.	Negligible-minor significance	Negligible-minor significance	None required beyond standard best practice
Impacts from damage habitat	Bat roost and habitat suitability	Minor-moderate significance	Micro-site cable route to avoid sensitive habitat features. Targeted baseline field surveys to be carried out prior to construction, once cable route confirmed, to inform detailed mitigation actions; surveys to include roost searches, Anabat surveys, commuting surveys and control surveys, all May-September. Carry out preconstruction survey. ECoW present during works. Habitat restoration. Avoid dawn, dusk and overnight works near areas with bat roost potential.	Negligible-minor significance	Negligible-minor significance	None required beyond standard best practice

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
Impacts on habitats and conservation designated sites from pollution, damage and disturbance	Wet modified bog	Minor significance	Adhere to SEPA's PPGs. Maintain vehicles and plant to avoid leaks.	Negligible significance	Negligible significance	None required.
	Semi-improved and unimproved neutral grassland	Minor significance	Avoid heavy rainfall.	Negligible significance	Negligible significance	None required beyond standard best practice
	Watercourses and standing water	Minor significance	Delimit working areas to minimise zone of impact.	Negligible significance	Negligible significance	None required beyond standard best practice
	Marshy grassland	Minor significance	Employ best practice.	Negligible significance	Negligible significance	None required beyond standard best practice
	Waterbodies	Minor significance	Enforce CEMP and construction method statements. Sediment control near burns. Avoid trenching alongside the River Deveron. Habitat restoration where onshore export cable has impacts.	Negligible significance	Negligible significance	None required beyond standard best practice
	Plantation and semi-natural woodlands	Minor significance		Negligible significance	Negligible significance	None required beyond standard best practice
	Arable land	Negligible significance		Negligible significance	Minor significance	None required beyond standard best practice
	Improved grassland	Negligible significance		Negligible significance	Minor significance	None required beyond standard best practice
	Tall ruderal herb and fern	Negligible significance		Negligible significance	Negligible-minor significance	None required beyond standard best practice
	Amenity grassland	Negligible significance		Negligible significance	Negligible-minor significance	None required beyond standard best practice
Scattered and dense scrub	Negligible significance	Negligible significance		Negligible-minor significance	None required beyond standard best practice	

Human Environment

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects		
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation	
COMMERCIAL FISH							
<i>Construction & Decommissioning</i>							
Adverse effects on commercially exploited fish and shellfish populations	Underwater disturbance to the seabed – all target species except squid	Minor significance	None	Minor significance	n/a		
	Underwater disturbance to the seabed – squid	Minor significance		Minor significance	n/a		
	Noise – whitefish	Minor significance	Soft start piling	Minor significance	n/a		
	Noise – herring	Minor significance		Minor significance	n/a		
	Noise – shellfish	Minor significance		Minor significance	n/a		
Overall adverse effects on commercially exploited fish and shellfish populations	Species associated with the seabed	n/a			Minor significance		
	Species sensitive to noise (cod and herring)	n/a			Minor significance	Soft start piling	
Adverse effects on recreational fish populations	Underwater disturbance to the seabed – salmon and sea trout	Minor significance	None	Minor significance	Minor significance	None	
	Noise – salmon and sea trout	Minor significance	Soft start piling	Minor significance	Minor significance	Soft start piling	
Temporary loss or restricted access to fishing grounds	Over-15 m <i>Nephrops</i> trawling	Minor significance	Ongoing discussions through the MFCFWG to include development of mitigation strategies and construction schedules	Minor significance	Minor significance	Ongoing discussions through the MFCFWG to include development of mitigation strategies and construction schedules	
	Under-15 m <i>Nephrops</i> trawling	Minor significance		Minor significance	Minor significance		
	Scallop dredging	Minor significance		Minor significance	Moderate significance		
	Squid trawling	Minor significance	Cable burial and protection	Minor significance	Minor significance		Cable burial and protection
	Whitefish trawling	Minor significance	Over-trawlability surveys	Minor significance	Minor significance		Over-trawlability surveys
	Creeling	Moderate significance	Ongoing fisheries liaison	Minor significance	Minor significance		Ongoing fisheries liaison
	Hand-lining for mackerel	Minor significance	Scallop gear trials	Minor significance	Minor significance		Scallop gear trials

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
Safety issues for fishing vessels	All vessels	Within acceptable limits	Updates on the construction programme will be provided to the fishing industry through the forum of the MFCFWG, FIRs, FLO and NtMs Safety zones and adherence to standard maritime practices	Within acceptable limits	Within acceptable limits	Updates on the construction programme will be provided to the fishing industry through the forum of the MFCFWG, FIRs, FLO and NtMs Safety zones and adherence to standard maritime practices
Increased steaming times to fishing grounds	Over-15 m <i>Nephrops</i> trawling	Minor significance	Ongoing discussions through the MFCFWG to include development of mitigation strategies and construction schedules Ongoing fisheries liaison	Minor significance	Minor significance	Ongoing discussions through the MFCFWG to include development of mitigation strategies and construction schedules Ongoing fisheries liaison
	Under-15 m <i>Nephrops</i> trawling	Minor significance		Minor significance	Minor significance	
	Scallop dredging	Minor significance		Minor significance	Minor significance	
	Squid trawling	Minor significance		Minor significance	Minor significance	
	Whitefish trawling	Minor significance		Minor significance	Minor significance	
	Creeling	Minor significance		Minor significance	Minor significance	
	Hand-lining for mackerel	Minor significance		Minor significance	Minor significance	
Displacement of fishing activity	Over-15 m <i>Nephrops</i> trawling	Minor significance	Ongoing discussions through the MFCFWG to include development of mitigation strategies and construction schedules Cable burial and protection Over-trawlability surveys Ongoing fisheries liaison Scallop gear trials	Minor significance	Minor significance	Ongoing discussions through the MFCFWG to include development of mitigation strategies and construction schedules Cable burial and protection Over-trawlability surveys Ongoing fisheries liaison Scallop gear trials
	Under-15 m <i>Nephrops</i> trawling	Minor significance		Minor significance	Minor significance	
	Scallop dredging	Minor significance		Moderate significance	Minor significance	
	Squid trawling	Minor significance		Minor significance	Minor significance	
	Whitefish trawling	Minor significance		Minor significance	Minor significance	
	Creeling	Moderate significance		Minor significance	Minor significance	
	Hand-lining for mackerel	Minor significance		Minor significance	Minor significance	

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
Interference with fishing vessels	Towed gear vessels	Minor significance	Ongoing discussions through the MFCFWG to include development of construction schedules	Minor significance	Minor significance	Ongoing discussions through the MFCFWG to include development of construction schedules
	Static gear vessels	Moderate significance	Information distributed through FIRs, FLO and NtMs Ongoing fisheries liaison	Minor significance	Minor significance	Information distributed through FIRs, FLO and NtMs Ongoing fisheries liaison
Operation						
Adverse effects on commercially exploited fish and shellfish populations	EMFs – Shellfish	Minor significance	Cable burial/protection	Minor significance	Minor significance	Cable burial/protection
	EMFs – Other commercial fish species	Minor significance		Minor significance	Minor significance	
Adverse effects on recreational fish populations	EMFs – salmon and sea trout	Minor significance	Cable burial/protection	Minor significance	Minor significance	Cable burial/protection
Complete loss or restricted access to fishing grounds	Over-15 m <i>Nephrops</i> trawling	Minor significance	Ongoing discussions through the MFCFWG Cable burial and protection Ongoing fisheries liaison	Minor significance	Minor significance	Ongoing discussions through the MFCFWG Cable burial and protection Ongoing fisheries liaison
	Scallop dredging	Minor significance		Minor significance	Moderate significance	
	Squid trawling	Minor significance		Minor significance	Minor significance	
	Whitefish trawling	Minor significance		Minor significance	Minor significance	
Safety issues for fishing vessels	All vessels	Within acceptable limits	Ongoing fisheries liaison Information distributed through FIRs, FLO and NtMs	Within acceptable limits	Within acceptable limits	Ongoing fisheries liaison Information distributed through FIRs, FLO and NtMs
Increased steaming times to fishing grounds	Over-15 m <i>Nephrops</i> trawling	Minor significance	Ongoing discussions through the MFCFWG Cable burial and protection Ongoing fisheries liaison	Minor significance	Minor significance	Ongoing discussions through the MFCFWG Cable burial and protection Ongoing fisheries liaison
	Scallop dredging	Minor significance		Minor significance	Minor significance	
	Squid trawling	Minor significance		Minor significance	Minor significance	
	Whitefish trawling	Minor significance		Minor significance	Minor significance	

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
Obstacles on the seabed post-construction	All vessels	Within acceptable limits	Seabed rectification procedures Over-trawlability surveys Compliance to obligatory standards by contractors	Within acceptable limits	Within acceptable limits	Seabed rectification procedures Over-trawlability surveys Compliance to obligatory standards by contractors
Displacement of fishing activity	Over-15 m <i>Nephrops</i> trawling	Minor significance	Ongoing discussions through the MFCFWG Cable burial and protection Ongoing fisheries liaison	Minor significance	Minor significance	Ongoing discussions through the MFCFWG Cable burial and protection Ongoing fisheries liaison
	Scallop dredging	Minor significance		Minor significance	Moderate significance	
	Squid trawling	Minor significance		Minor significance	Minor significance	
	Whitefish trawling	Minor significance		Minor significance	Minor significance	
Interference with fishing vessels	Static gear vessels	Minor significance	Ongoing fisheries liaison	Minor significance	Minor significance	Ongoing fisheries liaison
	Towed gear vessels	Minor significance	Information distributed through FIRs, FLO and NtMs	Minor significance	Minor significance	Information distributed through FIRs, FLO and NtMs
SHIPPING AND NAVIGATION						
<i>Construction & Decommissioning</i>						
Allision risk for commercial shipping, fishing and recreational vessels with OSP's during construction and decommissioning phases (partially constructed OSPs).	Fishing Vessels	Minor significance	n/a	Minor significance	Minor significance	Works Vessel Coordination
	Commercial Vessels	Minor significance	n/a	Minor significance		Coordination between all Developments
	Recreational Vessels	Minor significance	n/a	Minor significance		Promulgation of Information
Fishing vessel gear snagging with partially laid or unprotected cable during installation	Fishing Vessels	Moderate significance	Safety Zones during construction Guard Vessels Works Vessel Coordination Promulgation of Information including Fisheries Liaison	Minor significance	Scoped out	

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
Increasing ship-to-ship encounter and collision risk for commercial shipping, fishing vessels and recreational vessels during construction and decommissioning phases	Fishing Vessels	Moderate significance	Safety Zones during construction Guard Vessels Works Vessel Coordination Promulgation of Information including Fisheries Liaison	Minor significance	Minor significance	Safety Zones during construction Guard Vessels Works Vessel Coordination Promulgation of Information including Fisheries Liaison
	Recreational Vessel	Minor significance	n/a	Minor significance		
	Commercial shipping	Minor significance	n/a	Minor significance		
Deviations around cable installations during construction and decommissioning phases.	Commercial Shipping	Minor significance	n/a	Minor significance	n/a	
Displacement / re-routeing resulting in increased transit times associated with construction areas and safety zones.	Commercial ships, fishing vessels and recreational vessels.	n/a			Minor significance	None proposed
Operation and Maintenance						
Allision risk for commercial shipping, fishing and recreational vessels with OSP's during operation	Fishing Vessels	Moderate significance	Works Vessel Coordination Promulgation of Information including Fisheries Liaison	Minor significance	Minor significance	None proposed
	Commercial Vessels	Minor significance	n/a	Minor significance		
	Recreational Vessels	Minor significance	n/a	Minor significance		
Increasing ship-to-ship encounter and collision risk for commercial shipping, fishing vessels and recreational vessels during operation	Commercial Shipping	Minor significance	n/a	Minor significance	Minor significance	Works Vessel Coordination Coordination between all Developments Promulgation of Information
	Recreational Craft	Minor significance	n/a	Minor significance		
	Fishing Vessels	Minor significance	n/a	Minor significance		
Deviations around cable installations during operation	Commercial Shipping	Minor significance	n/a	Minor significance	n/a	
Displacement / re-routeing resulting in increased transit times associated with construction areas and safety zones / Vessels (<i>Whole project plus those developments listed in section 5.2.3.2).</i>	Commercial Ships, fishing vessels and recreational vessels	n/a			Minor significance	None

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
Fishing Gear Snagging on Cable	Fishing Vessels	Minor significance	Additional protection in event of cable burial not being possible. Ongoing surveys of cable once installed. Depending on the success of the trials and industry interest, modified scallop dredging gear may be implemented as an additional mitigation (but is not assumed here).	Minor significance	Scoped out	
Snagging risk to both anchoring commercial and recreational vessels due to the cable and associated protection during operational phase.	Commercial vessels	Moderate significance	Additional burial requirements or protection in proximity to anchorage area. Other mitigations strategies include, marine control centre and vessels setting up anchoring alarm zones to warn of dragging anchor near cables. Ongoing surveying of cable once installed.	Minor significance	Scoped out	
Anchoring on cable	Recreational Vessels	Minor significance	Not Required	Minor significance	Scoped out	
SEASCAPE, LANDSCAPE AND VISUALS						
<i>Construction & Decommissioning</i>						
Landscape/ seascape effect of OSPs	Seascape / landscape character receptors	Not significant	Not required	Not significant	Not significant	n/a
Visual effect of OSPs	Visual receptors	Not significant	Not required	Not significant	Not significant	n/a
Landscape/ seascape effect of modified offshore export cable route	Seascape/landscape character receptors Boyne Bay and Boyndie Bay Coastal Character Areas	Not significant	Not required	Not significant	Not significant	n/a
Landscape/ seascape effect of modified offshore export cable route	Seascape/landscape character receptors Boyne Bay and Boyndie Bay Coastal Character Areas	Not significant	Not required	Not significant	Not significant	n/a
Visual effect of modified offshore export cable route	Visual receptors in the Boyne Bay and Boyndie Bay	Not significant	Not required	Not significant	Not significant	n/a

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
Visual effect of modified offshore export cable route	Visual receptors other than those in the Boyne Bay and Boyndie Bay	Not significant	Not required	Not significant	Not significant	n/a
Effects of modified onshore cable route (and Landfall) on seascape/ landscape character and elements of the coast	Cliffs of North and South East Coast LCA and Boyndie Bay CCA	Significant	Cable installation works would result in the partial loss or alteration of the cliff face but loss would not be permanent and restoration would be anticipated to occur within the medium term.	Significant, adverse, short-term, reversible, effects on localised areas (cliff face and cliff top) Not significant (all other parts)	Not significant	n/a
	Beach		Beach pit and any other excavations would be backfilled once the export cables are installed and to allow tides to wash over the excavations to consolidate the backfill.	Not significant	Not significant	n/a
	Woodland		Route of onshore export cable route modified to avoid physical effects on characteristic woodlands and consumption dykes and/or use directional drilling to bore export cable under woodland.	Not significant	Not significant	n/a
	Field boundaries (consumption dykes) and arable farmland		Reinstatement of consumption dykes and arable land following cable installation.	Not significant	Not significant	n/a
Effects of modified onshore cable route (and landfall) on seascape/ landscape character and elements	Coastal Farmland (Western Coastal Farmland LCA) and the constituent landscape elements of Ancient Woodland, other woodland, field boundaries (consumption dykes and scrub hedgerows), arable farmland	Significant	Route of onshore export cable route modified to avoid physical effects on characteristic woodlands, consumption dykes and scrub hedgerows and/or use directional drilling to bore onshore cable under woodland. Reinstatement of consumption dykes, scrub hedgerows and arable land following cable installation.	Not significant	Not significant	n/a
Effects of modified onshore cable route (and landfall) on seascape/ landscape character and elements	River Valley (Deveron and Upper Ythan Valleys LCA) and the constituent landscape elements of semi-natural Ancient Woodland, Ancient Woodland, other woodland, farmland, field boundaries (consumption dykes, scrub hedgerows, field boundary trees)	Significant	Route of onshore export cable route modified to avoid physical effects on characteristic woodlands, consumption dykes, scrub hedgerows and field boundary trees and/or use directional drilling to bore onshore cable under woodland. Reinstatement of consumption dykes, scrub hedgerows, field boundary trees and arable land following cable installation.	Not significant	Not significant	n/a

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
Effects of modified onshore cable route (and landfall) on seascape/ landscape character and elements	Agricultural Heartland (Agricultural Heartland LCA) and the constituent landscape elements of Ancient Woodland, other woodland, arable farmland, field boundaries (consumption dykes, scrub hedgerows and field boundary trees)	Significant	Route of onshore export cable route modified to avoid physical effects on characteristic woodlands, consumption dykes, scrub hedgerows and field boundary trees and/or use directional drilling to bore onshore cable under woodland. Reinstatement of consumption dykes, scrub hedgerows, field boundary trees and arable land following cable installation.	Not significant	Not significant	n/a
Effects of modified onshore export cable (and landfall) on visual amenity	Residents of settlements of Banff, Kirkton of Alvah, Whitehills	Not significant	Not required	Not significant, short-term, reversible.	Not significant	n/a
				Adverse Banff and Whitehills, neutral Kirkton of Alvah.	Not significant	n/a
Effects of modified onshore export cable (and landfall) on visual amenity	Residents of settlements of Inverboyndie and Cuminestown	Significant	Onshore export cable route to be sited within part of modified onshore export cable route corridor to reduce/prevent visibility from Inverboyndie and Cuminestown.	Not significant	Not significant	n/a
Effects of modified onshore export cable (and landfall) on visual amenity	Residents of settlements of Keilhill and Fintry	Significant	Onshore export cable route to be sited within part of modified onshore export cable route corridor to reduce/prevent visibility from settlements.	Significant , adverse, short-term, reversible	Not significant	n/a
Effects of modified onshore export cable (and landfall) on visual amenity	Motorists using A and B roads – A98, B9038, B9139, A97, B9121, A947, B9015 and B9170	Significant adverse in views from short sections of the routes of up to 1 km in length.	Route of modified onshore export cable realigned to avoid physical effect on woodland and/or use directional drilling to bore export cable under Burn of Boyndie. Reinstatement of consumption dykes and farmland following cable installation.	Significant , adverse, short-term, reversible (for 500 m -2 km stretches of the routes). Not significant from the majority of the routes.	Not significant	n/a
Effects of modified onshore export cable (and landfall) on visual amenity	Cyclists/walkers using long distance routes and local paths	Significant adverse in views from short sections of the routes of up to 1 km in length.	Route of modified onshore export cable realigned to avoid physical effect on woodland and/or use directional drilling to bore export cable under Burn of Boyndie. Backfill beach pit excavations and restore cliff face following cable installation. Reinstate consumption dykes and arable farmland following cable installation.	Significant , adverse, short-term, reversible (for 500 m – 2 km stretches of the routes). Not significant from the majority of the routes.	Not significant	n/a

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
Effects of modified onshore export cable (and landfall) on visual amenity	People taking part in other recreational activities – Inverboyndie beach users, Banff Links Caravan Park Visitors	Significant	Route of modified onshore export cable realigned to reduce/prevent visibility from Caravan Park. Backfill beach pit excavations and restore cliff face following cable installation. Reinstate consumption dykes and arable farmland following cable installation.	Significant , adverse, short-term, reversible	Not significant	n/a
Effects of onshore substations on landscape character and elements	Agricultural Heartlands LCA	Significant in Area 1- substations area and surrounds between Burnside, Asleid, Boghead, Millbrex and Swanford. Not significant in all other parts of the LCA	Careful siting of substations within the landscape context.	Significant , adverse, short-term, reversible (in Area 1- substations area and surrounds between Burnside, Asleid, Boghead, Millbrex and Swanford). Not significant (in all other parts of the LCA).	Not significant	n/a
Visual effect of onshore substations	Residential properties in the vicinity of the substation sites and users of minor roads	Significant	Careful siting of substations in relation to visual receptors and their key views.	Significant , adverse, short-term, reversible (on views from properties in the vicinity of Upper Mains of Asleid, Burnside of Millbrex, North Millbrex, Smiddybank Farm, East Swanford, Blackpool, Bridge of Swanford, Upper Burnside and The Neuk). Significant , adverse, short-term, reversible (for sections of the minor roads to the south, south-west, east and north of the substation sites). Not significant (for residents of other properties and users of other roads).	Not significant	n/a
Operation						
Landscape/ seascape effect of OSPs	Seascape/landscape character receptors	Not significant	Not required	Not significant	Not significant	n/a
Visual effect of OSPs	Visual receptors	Not significant	Not required	Not significant	Not significant	n/a
Landscape/ seascape effect of modified offshore export cable route	Seascape/landscape character receptors	Not significant	Not required	Not significant	Not significant	n/a

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
Visual effect of modified offshore export cable route	Visual receptors	Not significant	Not required	Not significant	Not significant	n/a
Effects of modified onshore cable route (and landfall) on seascape/ landscape character and elements	Landscape/ seascape character areas along the cable route and constituent landscape elements of beach, woodland, field boundaries (consumption dykes, scrub hedgerows and field boundary trees) and farm land	Not significant	Avoidance of woodland removal. Reinstatement of ground cover and other vegetation and establishment of this over initial period following construction. Sensitive siting of kiosks.	Not significant	Not significant	n/a
Effects of modified onshore export cable (and landfall) on visual amenity	Residents of settlements, motorists using A and B roads, walkers and cyclists using long distance cycle routes and paths	Not significant	Avoidance of woodland removal. Reinstatement of ground cover and other vegetation and establishment of this over initial period following construction. Sensitive siting of kiosks.	Not significant	Not significant	n/a
Effects of modified onshore substations on landscape character and elements	Agricultural Heartlands LCA	Significant (in Area 1- substations area and surrounds between Burnside, Asleid, Boghead, Millbrex and Swanford). Not significant (in all other parts of the LCA).	Careful siting of substations in relation to visual receptors and their key views. Establishment of extensive woodland planting around the site.	Prior to woodland and hedgerows 15 year establishment - Significant (in Area 1- substations area and surrounds between Burnside, Asleid, Boghead, Millbrex and Swanford). Post woodland and hedgerows 15 year establishment – Not significant (in all parts of the LCA except for the area of the site). Not significant (in all other parts of the LCA).	Not significant	n/a
Visual effect of onshore substations	Views from properties in the vicinity of the substations sites and views obtained by users of local minor roads.	Significant (effects on residents of properties in the vicinity of the substations sites).	Careful siting of substations in relation to visual receptors and their key views. Establishment of extensive woodland planting around the site.	Prior to woodland and hedgerows 15 year establishment – Significant (effect on views obtained by residents of the properties in the vicinity of Upper Mains of Asleid, North Millbrex, Smiddybank Farm, East Swanford, Blackpool, Bridge of Swanford and Upper Burnside). Post woodland and hedgerows 15 year establishment – Significant (for views from properties in the vicinity of Upper Mains of Asleid) but not significant (for residents of other properties and users of roads).	Not significant	n/a

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
		Significant (for users of sections of the minor roads around the substation sites) but not significant (for residents of more distant properties and users of other roads).		Significant (for views obtained by users of the minor roads immediately to the south, south-west and east of the Onshore Substation sites) but not significant (for residents of other properties and users of roads).	Not significant	n/a
ARCHAEOLOGY						
Modified OfTI						
<i>Construction</i>						
Direct effect as a result of installation of OSP	Recorded cultural heritage assets	No effect	Geophysical and geotechnical assessment facilitating micro-siting and/or geoarchaeological assessment Written Scheme of Identification (WSI)	No effect	n/a	n/a
Direct effect resulting from installation of OSPs	Unknown cultural heritage assets	Minor-major significance	Geophysical and geotechnical assessment facilitating micro-siting and/or geoarchaeological assessment. WSI Reporting protocol for finds of archaeological interest	Minor / negligible significance	n/a	n/a
Direct effect resulting from burial of inter-tidal cables	Unknown cultural heritage assets	Minor-major significance	Geophysical and geotechnical assessment facilitating micro-siting and/or geoarchaeological assessment WSI Reporting protocol for finds of archaeological interest	Minor / negligible significance	n/a	n/a
Direct effect resulting from burial of offshore cables	Recorded cultural heritage assets	Major significance	Geophysical and geotechnical assessment facilitating micro-siting and/or geoarchaeological assessment WSI Reporting protocol for finds of archaeological interest	Minor / negligible significance	n/a	n/a

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
Direct effect resulting from burial of offshore cables	Unknown cultural heritage assets	Minor - Major significance	Geophysical and geotechnical assessment facilitating micro-siting and/or geoarchaeological assessment Avoidance of effect through Exclusion Zones or offsetting through the recovery / preservation by record (depending upon WSI provisions) WSI Reporting protocol for finds of archaeological interest	Minor / negligible significance	n/a	n/a
Direct effect by construction vessel	Recorded cultural heritage assets	Major significance	Geophysical and geotechnical assessment facilitating micro-siting and/or geoarchaeological assessment Avoidance of effect through Exclusion Zones or offsetting through the recovery / preservation by record (depending upon WSI provisions) WSI Reporting protocol for finds of archaeological interest	Minor / negligible significance	n/a	n/a
Direct effect by construction vessel	Unknown cultural heritage assets	Minor- major significance	Geophysical and geotechnical assessment facilitating micro-siting and/or geoarchaeological assessment Avoidance of effect through Exclusion Zones or offsetting through the recovery / preservation by record (depending upon WSI provisions) WSI Reporting protocol for finds of archaeological interest	Minor / negligible significance	n/a	n/a
Indirect effect from construction vehicles and other machinery (inter-tidal)	Recorded cultural heritage assets	Major significance	Avoidance/micro-siting Programme of Archaeological Works	Minor / negligible significance	n/a	n/a
Indirect effect from construction vehicles and other machinery (inter-tidal)	Unrecorded cultural heritage assets	Major significance	Programme of Archaeological Works	Minor / negligible significance	n/a	n/a

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
Direct/indirect effects resulting for all construction works	Recorded cultural heritage assets	n/a	n/a	n/a	Minor-negligible significance	Geophysical and geotechnical assessment facilitating micro-siting and/or geoarchaeological assessment
	Unrecorded cultural heritage assets	n/a	n/a	n/a	Minor-negligible significance	WSI Reporting protocol for finds of archaeological interest Avoidance of effect through Exclusion Zones or offsetting through the recovery/preservation by record (depending upon WSI provisions) Programme of Archaeological Works
Operation						
Direct effect by IMR (Inspection, Maintenance and Repair) vessel	Recorded cultural heritage assets	Major significance	Geophysical and geotechnical assessment facilitating micro-siting and/or geoarchaeological assessment Avoidance of effect through Exclusion Zones or offsetting through the recovery / preservation by record (depending upon WSI provisions) WSI Reporting protocol for finds of archaeological interest	Minor / negligible significance	n/a	n/a
Direct effect by IMR (Inspection, Maintenance and Repair) vessel	Unknown cultural heritage assets	Minor-major significance	Geophysical and geotechnical assessment facilitating micro-siting and/or geoarchaeological assessment Avoidance of effect through Exclusion Zones or offsetting through the recovery / preservation by record (depending upon WSI provisions) WSI Reporting protocol for finds of archaeological interest	Minor / negligible significance	n/a	n/a
Indirect effect due to changes in scour and sedimentation	Recorded cultural heritage assets	No effect		No effect	n/a	n/a

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
Indirect effect due to changes in scour and sedimentation	Unknown cultural heritage assets	Minor-major significance	Geophysical and geotechnical assessment facilitating micro-siting and/or geoarchaeological assessment Avoidance of effect through Exclusion Zones or offsetting through the recovery / preservation by record (depending upon WSI provisions) WSI Reporting protocol for finds of archaeological interest	Minor / negligible significance	n/a	n/a
Indirect effect due to changes to the setting of designated Cultural Heritage Receptors	Recorded cultural heritage assets	Minor-major significance	Micro-siting, screening Effect removed on decommissioning	Minor / negligible significance	No effect	n/a
Direct/indirect effects resulting for all operation and maintenance activities	Recorded cultural heritage assets	n/a	n/a	n/a	Minor / negligible significance	Geophysical and geotechnical assessment facilitating micro-siting and/or geoarchaeological assessment
	Unknown cultural heritage assets	n/a	n/a	n/a	Minor / negligible significance	WSI Reporting protocol for finds of archaeological interest
Decommissioning						
As construction phase, but effects are considered to already have occurred if similar construction footprint is applied.						

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
Modified OnTI						
<i>Construction</i>						
Direct effect resulting from burial of onshore cables	Known cultural heritage assets	Minor- major significance , depending upon receptor sensitivity	Geophysical and geotechnical assessment facilitating micro-siting and/or geoarchaeological assessment WSI Programme of Archaeological works	Minor / negligible significance	n/a	n/a
Direct effect resulting from burial of onshore cables	Unknown cultural heritage assets	Minor- major, significance depending upon receptor sensitivity	WSI Programme of Archaeological works	Minor / negligible significance	n/a	n/a
Direct effect resulting from construction of substation and associated buildings and infrastructure	Unknown cultural heritage assets	Minor- major significance , depending upon receptor sensitivity	Geophysical and geotechnical assessment facilitating micro-siting and/or geoarchaeological assessment WSI Programme of Archaeological works	Minor / negligible significance	n/a	n/a
Indirect effect from construction vehicles and other machinery	Recorded cultural heritage assets	Major significance	Avoidance through micro-siting WSI	Minor / negligible significance	n/a	n/a
Direct/indirect effects resulting for all construction works	Recorded cultural heritage assets	n/a	n/a	n/a	Minor-negligible significance	Geophysical and geotechnical assessment facilitating micro-siting and / or geoarchaeological assessment
	Unrecorded cultural heritage assets	n/a	n/a	n/a	Minor-negligible significance	WSI Programme of Archaeological works

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
<i>Operation</i>						
Indirect effect due to changes to the setting of designated Cultural Heritage Receptors	Recorded cultural heritage assets	Minor-major, significance depending upon magnitude of effect	Micro-siting, screening Effect removed on decommissioning	Minor / Negligible significance	n/a	n/a
Direct/indirect effects resulting for all operation and maintenance activities	Recorded cultural heritage assets	n/a	n/a	n/a	Minor / negligible significance	Micro-siting, screening
	Unknown cultural heritage assets	n/a	n/a	n/a	Minor / negligible significance	
<i>Decommissioning</i>						
Effects arising from the decommissioning of the modified OfTI are considered to be the same as those arising in the construction phase. No predicted decommissioning effects are predicted from the decommissioning of the modified OnTI.						
SOCIO-ECONOMICS						
<i>Construction</i>						
GVA	Businesses	Major (+) significance	None	Major (+) significance	Major (+) significance	None
Employment	Residents/businesses	Major (+) significance	None	Major (+) significance	Major (+) significance	None
Leisure Tourism	Visitors/businesses	Minor significance	None	Minor significance	Minor significance	None
Business Tourism	Visitors/businesses	Negligible significance	None	Negligible significance	Negligible significance	None
Walking	Residents/visitors	Minor significance	None	Minor significance	Minor significance	None
Surfing & Sea Kayaking	Residents/visitors	Negligible significance	None	Negligible significance	Negligible significance	None
<i>Operations</i>						

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
GVA	Businesses	Minor (+) significance	None	Minor (+) significance	Minor (+) significance	None
Employment	Residents/businesses	Minor (+) significance	None	Minor (+) significance	Minor (+) significance	None
Leisure Tourism	Visitors/businesses	Negligible significance	None	Negligible significance	Negligible significance	None
Business Tourism	Visitors/businesses	Negligible significance	None	Negligible significance	Negligible significance	None
Walking	Residents/visitors	Minor significance	None	Minor significance	Minor significance	None
Surfing & Sea Kayaking	Residents/visitors	Negligible significance	None	Negligible significance	Negligible significance	None
<i>Decommissioning</i>						
GVA	Businesses	Minor (+) significance	None	Minor (+) significance	Minor (+) significance	None
Employment	Residents/businesses	Minor (+) significance	None	Minor (+) significance	Minor (+) significance	None
Leisure Tourism	Visitors/businesses	Negligible significance	None	Negligible significance	Negligible significance	None
Business Tourism	Visitors/businesses	Negligible significance	None	Negligible significance	Negligible significance	None
Walking	Residents/visitors	Minor significance	None	Minor significance	Minor significance	None
Surfing & Sea Kayaking	Residents/visitors	Negligible significance	None	Negligible significance	Negligible significance	None
TRAFFIC AND TRANSPORT						
<i>Construction & Decommissioning</i>						
Severance & Intimidation	Links: B9105/B9121/C7s/C29s/C121B	Minor significance	None	Minor significance	Minor significance	None
	Settlements: Fintry and Cuminstown					
Driver / Pedestrian Delay	Links: B9105/B9121/C7s/C29s/C121B	Minor significance	None	Minor significance	Minor significance	None
	Settlements: Fintry and Cuminstown					

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
Pedestrian Amenity	Links: B9105/B9121/C7s/C29s/C121B	Minor significance	Construction Traffic Management Plan	Minor significance	Minor significance	Construction Traffic Management Plan
	Settlements: Fintry and Cuminstown					
Accidents & Safety	Links: B9105/B9121/C7s/C29s/C121B	Minor significance	Construction Traffic Management Plan & Abnormal Load Route Review	Minor significance	Minor significance	Construction Traffic Management Plan & Abnormal Load Route Review
	Settlements: Fintry and Cuminstown					
Dust & Dirt	Links: B9105/B9121/C7s/C29s/C121B	Moderate significance	Construction Traffic Management Plan	Minor significance	Minor significance	Construction Traffic Management Plan
	Settlements: Fintry and Cuminstown					
Operation						
N/A					N/A	
OTHER HUMAN ACTIVITIES						
Construction & Decommissioning						
Effects on offshore wind farm projects	Beatrice Offshore Wind Farm	Not significant	None	Not significant	Not significant	None
Effects on military activity	D809 military practice and exercise area and regional military activity	Not significant	None	Not significant	Not significant	None
Effects on oil and gas activity and infrastructure	Licence holders for oil and gas blocks 12/21b, 12/26b and 12/27	Not significant	Ongoing consultation with licence holders to remain informed of their exploration plans	Not significant	Minor significance	Assumes ongoing consultation between Moray Firth developers and license holders
Damage to subsea cables	SHEFA-2 telecommunications cable	Moderate significance	Cable burial protection measures Cable crossing / proximity agreements Adherence to appropriate guidance	Minor significance	Minor significance	Assumes implementation of industry standard practice by all proposed projects (note: also assumes that in most cases, buried cables / other buried structures will remain in-situ when projects are decommissioned).
Health and safety risk associated with unexploded ordnance	Offshore construction workers	Major significance	Pre-construction UXO survey UXO Safety Plan	Minor significance	Minor significance	Assumes implementation of industry standard practice by all proposed projects (note: also assumes that in most cases, buried cables / other buried structures will remain in-situ when projects are decommissioned).

Effects	Receptor	Impact Assessment of the Modified TI			Total Cumulative Impact Assessment for the Modified TI, Telford, Stevenson and MacColl Plus Relevant Projects	
		Pre-mitigation Significance of Effect	Mitigation Proposed	Post-mitigation Significance of Effect	Significance	Mitigation
<i>Operation</i>						
Effects on offshore wind farm projects	Beatrice Offshore Wind Farm	Not significant	None	Not significant	Not significant	None
Effects on military activity	D809 military practice and exercise area and regional military activity	Not significant	In relation to OSPs, adherence to any consent conditions on the lighting, marking and charting of infrastructure	Not significant	Not significant	None
Effects on oil and gas activity and infrastructure	Licence holders for oil and gas blocks 12/21b, 12/26b and 12/27	Minor significance	Ongoing consultation with licence holders to remain informed of their exploration plans Adherence to appropriate guidance to resolve conflicts of interest	Minor significance	Minor significance	Assumes ongoing consultation between Moray Firth developers and license holders
Damage to subsea cables	SHEFA-2 telecommunications cable	Minor significance	Adherence to appropriate guidance	Not significant	Minor significance	Assumes implementation of industry standard practice by all proposed projects (note: also assumes that in most cases, buried cables / other buried structures will remain in-situ when projects are decommissioned).
Health and safety risk associated with unexploded ordnance	Offshore operation and maintenance workers	Not significant	As per Construction/ Decommissioning mitigation measures, as required, where intrusive works are planned	Not significant	Minor significance	Assumes implementation of industry standard practice by all proposed projects (note: also assumes that in most cases, buried cables / other buried structures will remain in-situ when projects are decommissioned).