Appendix 11.1 Tables

Table 11.1 Guidelines used in the preparation of the Landscape and Visual ImpactAssessment

Environmental Protection Agency, EPA (2003). Advice Notes on Current Practice in the preparation of EIS, Ireland;

Landscape Institute, LI, and Institute of Environmental Management and Assessment, IEMA, (2013). *Guidelines for Landscape and Visual Impact Assessment*, Third Edition, UK, Routledge;

Landscape Institute, LI, Advice Note 01/11 (2011). *Photography and Photomontage in Landscape and Visual Impact Assessment*, UK;

Department of the Environment and Local Government, DoEHLG (June 2000). Landscape and Landscape Assessment: Consultation Draft of Guidelines for Planning Authorities, Ireland;

Countryside Agency in conjunction with Scottish Natural Heritage (2002). Landscape Character Assessment: Guidance for England and Scotland, UK;

Cavan County Council, Cavan County Development Plan 2014-2020;

Monaghan County Council, Monaghan County Development Plan 2007-2013;

Monaghan County Council, Monaghan County Development Plan 2013-2019; and

Monaghan County Council, Monaghan Landscape Character Assessment 2008.

Table 11.2 Determination of Landscape Value

Landscape Value is assessed as being High, Moderate or Low and is determined by;

- Landscape Quality (condition) a measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements
- Scenic Quality The term used to describe landscapes that appeal primarily to the senses (primarily but not wholly the visual senses)
- **Rarity** The presence of rare elements or features in the landscape or the presence of a rare Landscape Character Type
- **Representativeness** Whether the landscape contains a particular character and/or features or elements which are considered particularly important examples
- Conservation Interests The presence of features of wildlife, earth science or archaeological

or historical and cultural interest can add to the value of the landscape as well as having value in their own right.

- **Recreation Value** Evidence that the landscape is valued for recreational activity where experience of the landscape is important
- **Perceptual Aspects** A landscape may be valued for its perceptual qualities, notable wildness and/or tranquillity
- Associations Some landscapes are associated with particular people, such as artists or writers, or event sin history that contribute to perceptions of the natural beauty of the area.¹

Table 11.3 Determination of Landscape Capacity

Landscape Capacity is defined as "the ability that the landscape has to absorb specific types of development"². It is assessed as being High, Moderate or Low and takes cognisance of the guidance in the relevant County Landscape Character Assessments as well as project-specific landscape assessment

Table 11.4 Determination of Landscape Sensitivity

Sensitivity	Criteria
High	A landscape of particularly distinctive character susceptible to relatively small changes of
	the type proposed
Moderate	A landscape of moderately valued characteristics reasonably tolerant of change of the
	type proposed
Low	A very robust or degraded landscape which is potentially tolerant of substantial change
	of the type proposed

Table 11.5 Determination of Visual Sensitivity

Sensitivity	Criteria
High	Where the changed landscape is an important element in the view – this may include residential properties and areas of settlement, viewpoints within valued or sensitive landscapes
Moderate	Where the changed landscape is a moderately important element in the view – this
	might include local roads as well as recreation and tourist areas/routes
Low	Where the changed landscape is a less important element in the view – this might
	include views from main roads, places of work and industrial zones

Table 11.6 Magnitude of Landscape Change Criteria

Magnitude	Criteria
High	Notable change in landscape characteristics over an extensive area ranging to a very
	intensive change over a more limited area

¹ Landscape Institute, LI, and Institute of Environmental Management and Assessment, IEMA, (2013) *Guidelines for Landscape and Visual Impact Assessment*

² Meath County Council (2007), Meath County Landscape Character Assessment

Medium	Moderate change in localised areas		
Low	irtually imperceptible change in landscape components		
Negligible	No discernible change in any component		

Table 11.7 Magnitude of Visual Change Criteria

Magnitude	Criteria					
High	The development would cause a considerable change in the existing view over a wide					
	area or an intensive change over a limited area					
Medium	The development would cause minor changes to the existing view over a wide area or					
	noticeable change over a limited area					
Low	The development would cause very minor changes to the view over a wide area or					
	minor changes over a limited area					
Negligible	The development would cause a barely discernible change in the existing view					

Table 11.8 Significance of Landscape Effects Matrix³

Significance of effects		Sensitivity			
•	ated Moderate and above are ed significant)	High	Moderate	Low	
of ge	High	Major	Moderate-Major	Moderate	
	Medium-High	Moderate-Major	Moderate	Minor-Moderate	
Magnitude chan	Medium	Moderate	Moderate	Minor	
agn	Low-Medium	Moderate	Minor-Moderate	Minor-Negligible	
Š	Low	Minor-Moderate	Minor	Negligible	
	Low-Negligible	Minor-Moderate	Minor-Moderate	Negligible	
	Negligible	Negligible	Negligible	Negligible	

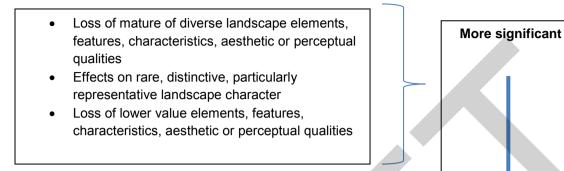
Table 11.9 Categories of Landscape and Visual Significance of Effect

Description of landscape effect	Description of visual effect		
 The development is well designed to complement the scale, landform and pattern of the landscape It incorporates measures for mitigation to ensure that the development would blend in well with surrounding landscape features and elements It avoids conflict with national policies towards protection of the landscape 	 Where there is no discernible improvement or deterioration in the existing view 		
The development is out of scale with the ovisting landscape	 Where the proposed development would cause a 		
	 The development is well designed to complement the scale, landform and pattern of the landscape It incorporates measures for mitigation to ensure that the development would blend in well with surrounding landscape features and elements It avoids conflict with national policies towards protection of the landscape 		

³ Note that the matrix is a guide - the determination of significance of effects also requires an element of professional judgement

effect	 It is partially visually obtrusive It detrimentally affects an area of recognised landscape quality 	 barely perceptible deterioration in the existing view This will typically occur where the viewer is at some distance from the development and the development newly appears in the view, but not as a point of principal focus. It would also occur where the proposed development is closely located to the viewpoint but are seen at an acute angle and at the extremity of the overall view
Moderate adverse effect	 The development is out of scale with the landscape It is visually obtrusive and would have an adverse effect on the landscape Mitigation would not prevent the development from adversely affecting the landscape in the longer term as some features of interest would be partly destroyed or their setting diminished. It would have an adverse effect on a landscape of recognised quality 	Where a development would cause a noticeable deterioration in the existing view
Major adverse effect	 The development would be clearly incompatible with the scale and pattern of the landscape It would be visually intrusive and would disrupt valued views of the area It is likely to degrade, diminish or even destroy the integrity of a range of characteristic features and elements or their setting It would be substantially damaging to a high quality or highly vulnerable landscape causing it to change and be considerably diminished in quality and, It cannot be adequately mitigated for 	 Where the development would cause a very noticeable deterioration in the existing view This will typically occur where the development obstructs an existing view of local landscape and the development would dominate the future view

Table 11.10: Scale of Significance



- Loss of new, uniform, homogeneous elements, features, characteristics, qualities
- Effects on areas in poorer condition or of degraded character
- Effects on lower-value landscapes

Table 11.11: Monaghan Landscape Character Assessment: Landscape Character Areas and Recommendations

Landscape Unit	Landscape Character Area	Condition	Sensitivity	Monaghan County Landscape Character Assessment Recommendations
А	Mullyash Uplands	Good	High	"The upland flat areas of this landscape would be
	(Towers 102 to	Condition		sensitive to most forms of development owing to the
	128 incl.)			extent of visual exposure. These areas together with the
				summit of Mullyash should be avoided for any form of
				large scale development or indeed tall structures."
В	Monaghan	Good	Moderate	"In general, this landscape would not be regarded as
	Drumlin Uplands	Condition		highly scenic and hence, the capacity to accommodate
	(Towers 129 to			development without undue compromise to the farmed
	136 incl.)			landscape pattern is good. This landscape character
				area may be a good location for telecommunications
				masts owing to its elevated nature. Such development
				types may be accommodated by this landscape albeit
				subject to careful design and siting. The summit of the
				ridgeline must be avoided as the negative visual impact
				of tall structures viewed on a hilltop against the skyline is
				substantially greater. Further down slope, these
				structures may be camouflaged against the backdrop of
				the landscape pattern and even judiciously placed

				wooded clumps."
С	Ballybay Castleblayney Lakelands (Towers 137 to 142 incl.)	Very Good Condition	High	"The lough and lough shore landscape settings comprising reeds and riparian vegetation are highly scenic and ecologically valuable. These would be highly sensitive to any form of development. The visual catchment or geographic areas around each lake from which the lake and associated wetland can be seen would be regarded as highly sensitive to development. Further development on the immediate lakeshore is not recommended. Tall structures will be difficult to site in this "amost valley" like landscape as these will be visible over a long range."
D	Drumlin and Upland Farmland of South Monaghan (Towers 143 to 211 incl.)	Good Condition	High/ Moderate	"Higher rocky remote landscapes would be highly sensitive to any changes involving large developments or tall structures. There are many locations where long range scenic views can be gained. Development needs are to be guided in recognition of the need to maintain these views."
E	Highlands of East Cavan (Towers 212 to 236 incl.)	Good Condition	High	"Restrict development that would obstruct views and regulate development to minimise intrusions. The landscape of Lough an Lea Mountain is fragile and sensitive to unsympathetic development."

Table 11.12: Monaghan Landscape Character Assessment: Landscape Character Types and Recommendations

Landscape Character Type	Upland Plateau	Drumlin Foothills	Farmed Foothills	Farmed Lakelands	Upland Farmland with Rock Outcrops
Length of proposed development passing through LCT	approximately 9.2km	approximately 9.7km	approximately 14km	approximately 0.4km	approximately 0.7km
Descriptions in Monaghan Landscape Character	This is an upland farmed landscape. There is little variation in	This landscape comprises a mixed topography of rising ground	This landscape type has a rolling topography with	Complex lowland landscape containing loughs, small	This landscape type has a rolling topography created by the
Assessment	landform, therefore medium	interspersed with chains of drumlins	occasional steep sided hills	rivers and low elevation drumlin	irregularly shaped hills.

to long range	of a low height	and scattered	hills. It is	The ridgelines
views are	albeit located in	drumlins. Long	bounded to the	associated with
available. Pasture	this elevated	ranging views	north and south	these hills are
is generally in a	context. This	are available	by elevated	irregular and
poor condition,	landscape	from higher	topography.	jagged in profile.
being badly	comprises a	upland pasture	This area takes	A number of rock
drained and	transition from the	and moorland.	on many of the	outcrops occur
exposed. Field	pastoral lowland of	Where land	characteristics of	on or near the
boundaries are	the Drumlin	uses are given	a broad valley	summits along
usually defined by	Farmland.	over to pasture,	landscape.	these ridges. It
uncut hedgerows.		the scale of the		is a relatively
		field sizes is		open landscape
		small. Marshy		and medium to
		areas are often		long range views
		associated with		are possible in
		peatbog.		certain locations.

Table 11.13: Monaghan County Development Plan: Areas of Primary and Secondary Amenity

Areas of Primary Amenity	Landscape Unit	Proximity to line route (approximately)
PA2 – Lough Muckno and Environs	C Ballybay Castleblayney Lakelands	6.5km
Areas of Secondary Amenity	Landscape Unit	Proximity to line route (approximately)
SA4 – Mullyash Mountain	A Mullyash Uplands	6.4km
SA7 – Castleshane Woods and Environs	Blackwater Valley & Drumlin Farmland	5.1km
SA8 – Billy Fox Memorial Park and Environs	C Ballybay Castleblayney Lakelands	6km
SA11 – Dromore River and lake system including White Lake and Bairds Shore	C Ballybay Castleblayney Lakelands	7.8km
SA12 – Lough Major and Environs	A Mullyash Uplands	2.3km
SA14 – Lisanisk Lake	A Mullyash Uplands	7.3km
SA15 – Lough Naglack	Carrickmacross Drumlin and Low Farmland	7.7km
SA16 – Rahans Lake	Carrickmacross Drumlin and Low Farmland	7.4km

Views from Scenic Description Routes		Landscape Unit	Proximity to line route (approximately)	
SV9	View of St Macarten"s Cathedral Monaghan from Berry Brae	B Monaghan Drumlin Uplands	9.2km	
SV10	View from Castleshane Brae	Blackwater Valley & Drumlin Farmland	6km	
SV11	View northwards at Tullybuck	A Mullyash Uplands	3.2km	
SV12, SV13 and SV14	Scenic drive and views of open countryside from Mullyash	A Mullyash Uplands	6.1, 7.5 and 7.3km	
SV15, SV16 and Scenic drive along Lough Muckno SV17		C Ballybay Castleblayney Lakelands	7.5km, 9.5km, 8.6km	
SV18 and SV19	SV18 and SV19 Distant views of Lough Muckno and Slieve Gullion		5km, 5.2km	
SV20	Views of Slieve Gullion at Taplagh, Broomfield	D Drumlin and Upland Farmland of South Monaghan	8km	
SV21 Scenic views of Lough Eglish		D Drumlin and Upland Farmland of South Monaghan	1.3km	
SV22	SV22 Scenic drive at Beagh, Shantonagh and Corlat		0.7km	
SV23	View of Lough Bawn & Co. Cavan	D Drumlin and Upland Farmland of South Monaghan	3.8km	

Table 11.14: Monaghan County Development Plan: Views from Scenic Routes

Table 11.15: Cavan County Development Plan: Recognised landscape features

Designation	Location	Landscape Unit	Proximity to line route (approximately)
Scenic viewing points and scenic routes	Lough an Leagh Gap	E Highlands of East Cavan	2.1km
River/lakeside amenities and	Dun na Ri Forest Park, Kingscourt	E Highlands of East Cavan	2.8km

parks			
	Annafarney, Shercock, Lough Sillan	E Highlands of East Cavan	6km
	Annagh Lake, Butlersbridge	Outside Study Area	
High Landscape Areas and Major Lakes	Lough an Leagh Mountain	E Highlands of East Cavan	1.5km
Major Lakes and Lakes Environs	Lough Silan	E Highlands of East Cavan	3.5km
Areas of Special Landscape Interest	Kingscourt/ Dun na Rí	E Highlands of East Cavan	2.8km
County Heritage Sites	Moybologue Church	E Highlands of East Cavan	7km
	Dun na Ri Forest Park, Kingscourt	E Highlands of East Cavan	2.8km
Walking Routes	Lough an Leagh Walk, Kingscourt	E Highlands of East Cavan	1.5km
	Dun na Rí Forest Park	E Highlands of East Cavan	2.8km
	Castle Walk, Bailieboro	E Highlands of East Cavan	8km

Table 11.16: Historic Designed Landscapes with main features substantially present

Name Condition as described in National Inventory of Architectural Heritage		Landscape Unit	Proximity to line route (approximately)
Lakelands	s Main features substantially present – peripheral features unrecognisable		1.4km
Ballybay House	Main features substantially present – peripheral features unrecognisable	C Ballybay Castleblayney Lakelands	1.8km
Laragh House	Main features substantially present – peripheral features unrecognisable	D Drumlins and Upland of South Monaghan	3.1km
Loughbawn House Main features substantially present – no loss of integrity		D Drumlins and Upland of South Monaghan	5.1km
Carrickcreeny Glebe House	Main features substantially present – peripheral features unrecognisable	D Drumlins and Upland of South Monaghan	4.0km

Shantonagh House	Main features substantially present – peripheral features unrecognisable	D Drumlins and Upland of South Monaghan	2.5km
Lough Fea House	Main features substantially present – no loss of integrity	Carrickmacross Drumlin & Lowland Farmland	5.0km

Table 11.17: Ecological Designations within 5km of proposed line route

Site code		County	Site name	Landscape Unit	Proximity to line route (approximately)
001595	pNHA	Monaghan	Loughbawn House Loughs	D Drumlin and Upland Farmland of South Monaghan	4.5km
001605	pNHA	Monaghan	Lough Egish	D Drumlin and Upland Farmland of South Monaghan	0.5km
001268	pNHA	Monaghan	Cordoo Lough	B Monaghan Drumlin Uplands	1.3km
001666	pNHA	Monaghan	Tassan Lough	A Mullyash Uplands	0.3km
001607	pNHA	Monaghan	Lough Smiley (just outside the 5km study area)	C Ballybay Castleblayney Lakelands	6km
ASSI179	ASSI	Armagh	Strahan"s Lough	LCA 66 Armagh Drumlins (Northern Ireland)	2.9km
ASSI183	ASSI	Armagh	Strahan"s Lough	LCA 66 Armagh Drumlins (Northern Ireland)	1.4km
ASSI182	ASSI	Armagh	Strahan"s Lough	LCA 66 Armagh Drumlins (Northern Ireland)	0.6km

Table 11.18: Summary of landscape and visual effects

SUMMARY OF RESIDUAL LANDSCAPE EFFECTS Physical landscape effects Sensitivity Operation Significance Construction Receptor Magnitude Impact Magnitude of Impact of change change LCA 66 Armagh Moderate/High Minor -Not significant Minor-moderate Low Low Drumlins (Northern moderate Ireland) Moderate/High Not significant Landscape Unit A Minor-moderate Minor-Low low moderate Not significant Landscape Unit B Moderate Low Minor Low Minor Landscape Unit C Moderate Low Minor Low Minor Not significant Landscape Unit D Moderate Minor Minor Not significant Low Low Landscape Unit E Moderate/High Minor-Not significant Minor-moderate Low Low moderate Landscape Character effects in unscreened areas within 600-800m of the development Operation Significance Receptor Sensitivity Construction Magnitude of Magnitude of Impact Impact change change LCA 66 Armagh Moderate/High Medium-high Significant Moderate-major Moderate-Moderate-Drumlins (Northern high major Ireland) Mullyash Uplands Moderate/High Medium-high Moderate-Moderate-Significant Moderate-major high major Monaghan Drumlin Moderate Moderate-Medium-high Moderate Moderate Significant Uplands high Ballybay Castleblaney Medium-high Significant Moderate Moderate Moderate-Moderate Lakelands high

Denne lie and the land	Marilanata			NA La		O'ana ifi a ana tulu
Drumlin and Upland Farmland of South Monaghan	Moderate	Medium-high	Moderate	Moderate- high	Moderate	Significant lk
Highlands of East Cavan	Moderate/High	Medium-high	Moderate-major	Moderate- high	Moderate- major	Significant
Landscape effects on d	esignated landscap	e features within 5kn	n (up to 10km where	e elevated)		
Receptor	Sensitivity	Construction	•••	Operation		Significance
		Magnitude of change	Impact	Magnitude of change	Impact	
Lough Muckno and environs	High	No change	No impact	No change	No impact	Not significant
Billy Fox Memorial Park and environs	High	No change	No impact	No change	No impact	Not significant
Dromore River and lake system including White Lake and Bairds Shore	High	No change	No impact	No change	No impact	Not significant
Lough Major and environs	High	No change	No impact	No change	No impact	Not significant
Lisanisk lake	High	No change	No impact	No change	No impact	Not significant
Lough Naglack	High	No change	No impact	No change	No impact	Not significant
Rahan''s lake	High	No change	No impact	No change	No impact	Not significant
Dun na Ri forest park, Co. Cavan	High	No change	No impact	No change	No impact	Not significant
Lough an Leagh Mountain, Co. Cavan	High	Low-negligible	Minor-moderate	Low-negligible	Minor- moderate	Not significant
Landscape effects on a		ignated for ecologic	al reasons that have	e potential amen	ity value	
Receptor	Sensitivity	Construction		Operation		Significance
		Magnitude of change	Impact	Magnitude of change	Impact	
Loughbawn house Loughs, Co. Monaghan	High	No change	No impact	No change	No impact	Not significant
Lough Eglish, Co Monaghan	High	Low-negligible	Minor-moderate	Low-negligible	Minor- moderate	Not significant
Cordoo Lough, Co Monaghan	High	Negligible	Negligible	Negligible	Negligible	Not significant
Tassan Lough, Co. Monaghan	High	Low-medium	Moderate	Low-medium	Moderate	Significant

Lough Smiley, Co. Monaghan	High	No change	No impact	No change	No impact	Not significant
Strahan's Lough	High	No change	No impact	No change	No impact	Not significant
Crossbane Lough	High	No change	No impact	No change	No impact	Not significant
Drumcarn ASSI	High	Negligible	Negligible	Negligible	Negligible	Not significant
Landscape effects on H	listoric Designed	Landscapes with main	features substant	ially present within	n 5km of deve	lopment
Receptor	Sensitivity	Sensitivity Construction		Operation		Significance
		Magnitude of change	Impact	Magnitude of change	Impact	
Lakelands, Co. Monaghan	Moderate	Negligible	Negligible	Negligible	Negligible	Not significant
Shantonagh House, Co.	Moderate	Negligible	Negligible	Negligible	Negligible	Not significant

SUMMARY OF RESIDUAL VISUAL EFFECTS									
Settlements within 5km of proposed development Receptor Sensitivity Construction Operation Sign									
		Magnitude of change	Impact	Magnitude of change	Impact	_			
Clontribret	High	Negligible	Negligible	Negligible	Negligible	Not significant			
Creaghanroe	High	Negligible	Negligible	Negligible	Negligible	Not significant			
Annayalla	High	Negligible	Negligible	Negligible	Negligible	Not significant			
Doohamlet	High	Low	Minor-moderate	Low	Minor- moderate	Not significant			
Ballybay	High	Negligible	Negligible	Negligible	Negligible	Not significant			
Castleblayney	High	Negligible	Negligible	Negligible	Negligible	Not significant			
Shercock	High	No change	No impact	No change	No impact	Not significant			
Kingscourt	High	No change	No impact	No change	No impact	Not significant			
Teevurcher	High	No change	No impact	No change	No impact	Not significant			
Kilmainhamwood	High	No change	No impact	No change	No impact	Not significant			

Receptor	d paths within 5km of t Sensitivity	Construction		Operation		Significance
		Magnitude of change	Impact	Magnitude of change	Impact	-
N2	Low	Medium	Minor	Medium-high	Minor- moderate	Not significant
R183	Low	Medium	Minor	Medium-high	Minor- moderate	Not significant
R180	Low	Medium	Minor	Medium	Minor	Not significant
R181	Low	Medium	Minor	Medium	Minor	Not significant
R178	Low	Medium	Minor	Medium	Minor	Not significant
R162	Low	Medium	Minor	Medium	Minor	Not significant
R165	Low	Medium	Minor	Medium	Minor	Not significant
The Monaghan Way	Moderate	Medium	Moderate	Medium	Moderate	Significant (localised)
Lough an Leagh walk, Co. Cavan	Moderate	Low-negligible	Minor-moderate	Low- negligible	Minor- moderate	Not significant
Dun na Ri Forest park walks, Co. Cavan	Moderate	No change	No impact	No change	No impact	Not significant
Castle walk, Balieboro, Co. Cavan	Moderate	No change	No impact	No change	No impact	Not significant
Views from unscreened	I individual properties					
Receptor	Sensitivity	Construction		Operation		Significance
		Magnitude of change	Impact	Magnitude of change	Impact	
Unscreened properties within 500m	High	Between Low and High	Between Minor- moderate and Major	Between Low and High	Between Minor- moderate and Major	Significant
Unscreened properties within 500m-1km	High	Between Negligible and Medium	Between Negligible and Moderate	Between Negligible and Medium	Between Negligible and Moderate	varying in significance an reducing to not significant beyond approximately 60 800m
Unscreened properties within 1km-1.5km	High	Between No impact and Negligible	Between No impact and Minor-moderate	Between No change and Negligible	Between No impact and Minor- moderate	Not significant

Unscreened properties further than 1.5km	High	Negligible	Negligible	Negligible	Negligible	Not significant
Scenic viewpoints with	hin 5km of develop	ment (up to 10km for o	elevated viewpoints			
Receptor	Sensitivity	Magnitude of change	Impact	Magnitude of change	Impact	Significance
SV11 (Monaghan)	High	No change	No impact	No change	No impact	Not significant
SV12 (Monaghan)	High	Negligible	Negligible	Negligible	Negligible	Not significant
SV13 (Monaghan)	High	No change	No impact	No change	No impact	Not significant
SV14 (Monaghan)	High	Negligible	Negligible	Negligible	Negligible	Not significant
SV15 (Monaghan)	High	No change	No impact	No change	No impact	Not significant
SV16 (Monaghan)	High	No change	No impact	No change	No impact	Not significant
SV17 (Monaghan)	High	No change	No impact	No change	No impact	Not significant
SV18 (Monaghan)	High	No change	No impact	No change	No impact	Not significant
SV19 (Monaghan)	High	No change	No impact	No change	No impact	Not significant
SV21 (Monaghan)	High	Low	Minor-moderate	Low	Minor- moderate	Not significant
SV22 (Monaghan)	High	Low	Minor-moderate	Low	Minor- moderate	Not significant
SV23 (Monaghan)	High	No change	No impact	No change	No impact	Not significant
SV 8 (Cavan)	High	Low	Minor-moderate	Low	Minor- moderate	Not significant