

REPORT

Hoylake Beach Management Plan

Identification of short-listed options

Client: Wirral Council

Reference: PC2553-RHD-ZZ-XX-RP-Z-0001

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1 Background

Hoylake Beach extends approximately 2km from the Red Rocks in the southwest to the RNLI Lifeboat Station in the northeast (**Figure 2-1**).

To support the development of the Beach Management Plan (BMP) for Hoylake Beach, there was a need for a better understanding of coastal change (such as changes in the supply of sediment, currents and waves) and how habitats will develop (such as saltmarsh and sand dunes) at Hoylake Beach. A Geomorphology and Ecology Study was therefore commissioned by Wirral Council to investigate these aspects in order to provide an evidence base upon which the BMP can be developed.

The study showed that beach levels at Hoylake Beach will continue to rise over the next 50 years, based on how the beach has developed in the past and predicted sea-level rise. The rate of increase in beach levels was predicted to outpace sea-level rise and consequently beach levels will rise and migrate seawards.

The BMP is being developed. This report presents the development and appraisal of the long list of options and identifies those options to be taken forward to detailed assessment.

2 Hoylake BMP

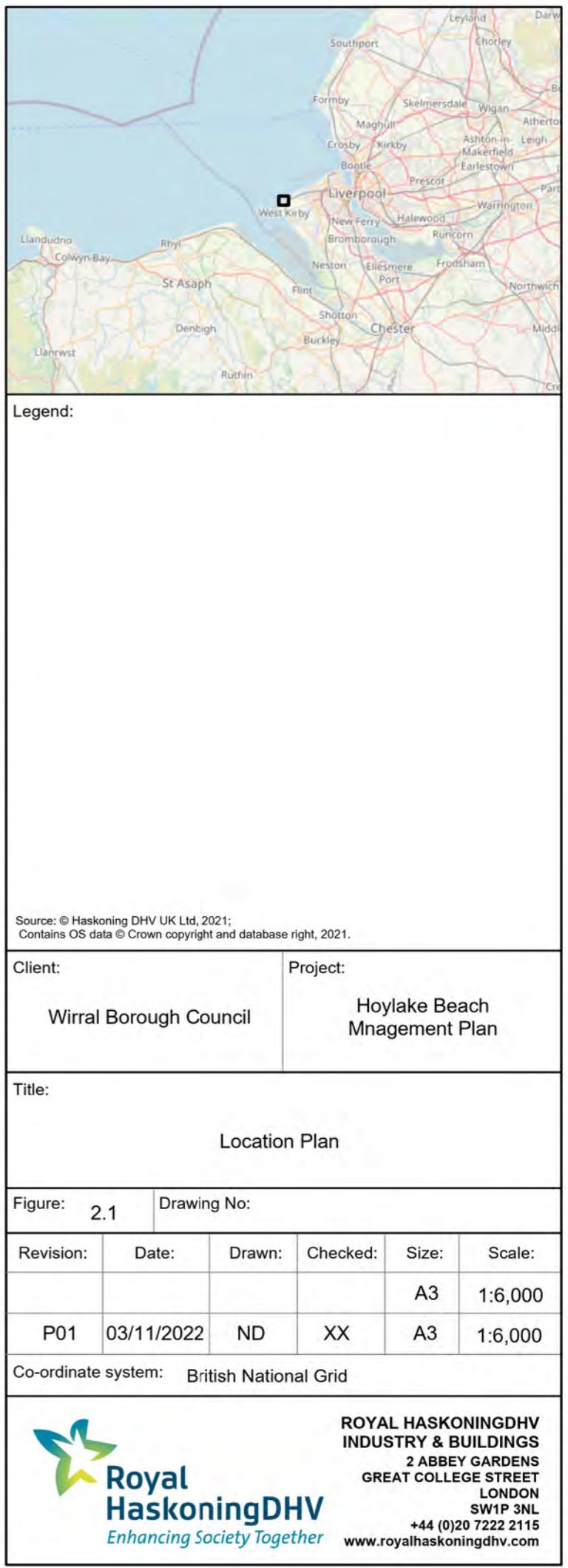
The Hoylake BMP will set out Wirral's Council's proposals for the day-to-day management of Hoylake Beach over the next five years (to 2027), whilst also setting out measures aligned to longer-term (50 years) management of the frontage. It is being developed in consultation with Natural England and informed by extensive public consultation.

2.1 Objectives of the BMP

The objectives of this BMP take account of the findings of the Hoylake Beach Geomorphology and Ecology Study, the views expressed on the management of the Beach (particularly the recent consultation exercise carried out on the study) and consultation with Natural England.

The objectives of this BMP are to:

- Not compromise or adversely impact on the integrity of designated sites.
- Promote biodiversity and contribution to mitigating climate change.
- Minimise disturbance to wildlife.
- Maintain and enhance the amenity benefit, wellbeing and health of the local community and visitors.
- Ensure the safety of users and access across the beach.
- Contribute to the reduction in the risk of flooding and/or erosion to local property and infrastructure.
- Provide recommendations on further studies and monitoring to inform future management.



3 Long List Options Appraisal

3.1 Assessment Methodology

3.1.1 Assessment Criteria

Using the findings of the Geomorphology and Ecology Study and consultation, assessment criteria have been developed. The assessment criteria allow the identification, measurement and comparison of the potential environmental effects associated with the different management options. These assessment criteria will help to guide the detailed assessment and focus on the important environmental issues identified in the development of the BMP. The assessment criteria are set out in **Table 3-1**.

Table 3-1 BMP Assessment Criteria

Receptor	Assessment Criteria
Population and Human Health	Will the option protect and enhance human health through provision of improved coastal erosion and flood protection to people and property?
	Will the option reduce the extent of sandy beach?
	Will the option enhance health and safety on the beach?
	Will the option enhance recreation and tourism?
	Will the option limit public access to coastal areas?
	Will the option enhance human health through the provision of an open sandy beach for recreational activities?
	Does the option have the potential to increase nuisance (e.g. pests, windblown sand) and pollution on the beach?
Critical Infrastructure and Material Assets	Will the option result in the windblown sand issues to services, drains and/or transport links?
	Will the option affect beach access to emergency services?
Biodiversity	Will the option cause loss or damage to a designated wildlife site?
	Will the option cause loss or damage to a protected habitat?
	Will the option reduce biodiversity?
	Will the option result in increased disturbance to wildlife from recreational activities?
	Will the option reduce the Natural Value Capital of the beach?
Climatic factors	Does the option contribute to mitigating climate change?
Water	Will the option have the potential to significantly alter coastal processes?
	Will the option have adverse impacts upon water quality?
	Will the option have the potential to affect the status of WFD a waterbody?
Landscape/Seascape	Will the option avoid adverse effects on and, where appropriate, enhance landscape/seascape character?

3.1.2 Development of Long List of Potential Options

3.1.2.1 Beach Management Approaches

The following Beach Management Approaches (BMAs) have been identified for Hoylake Beach:

- **Do Nothing** - Hoylake Beach develops naturally with no management.
- **Maintain and Remove** - the current extent of vegetation on Hoylake Beach is maintained and its seaward expansion is prevented using mechanical means.
- **Do Everything** – continued removal of all vegetation using mechanical means.
- **Do Everything (strip)** – continued removal of a strip of vegetation immediately seaward of the seawall by mechanical means. This option would form part of either the Do Nothing or Maintain options.
- **Beach Nourishment** - placement of appropriately sized sand to a specified thickness on top of the existing vegetation. This would create a sandy beach at a higher elevation than the current vegetated beach. Vegetation would be continually removed, on the nourished area and in-front, using mechanical means, if required.

3.1.2.2 Beach Management Scenarios

In order to apply the BMAs to Hoylake Beach, four Beach Management Scenarios (BMSs) have been developed that divide the frontage up into different Management Areas (MAs), as follows:

1. **Scenario A**
MA1a - Whole frontage
2. **Scenario B**
MA1b - RNLI station to Alderley Road Slipway
MA2b - Alderley Road Slipway to Red Rocks
3. **Scenario C**
MA1c - RNLI station to Alderley Road Slipway
MA2c - Alderley Road Slipway to King's Gap
MA3c - King's Gap to Red Rocks
4. **Scenario D**
MA1d - RNLI Station to King's Gap
MA2d - King's Gap to Red Rocks

The whole frontage scenario has been discounted and not considered further, as this scenario would not meet the objectives of the BMP.

In applying the BMAs, the character and usage of Hoylake Beach has been taken into account, with Do Everything, Do Everything (strip) and Beach Nourishment options being applied only from the RNLI Station to King's Gap as this stretch of the beach is considered to represent the primary recreation and amenity section of the beach.

3.1.2.3 Option Appraisal Methodology

The effect of each option has been considered according to the following symbols, as appropriate, based upon the anticipated magnitude of the effect:

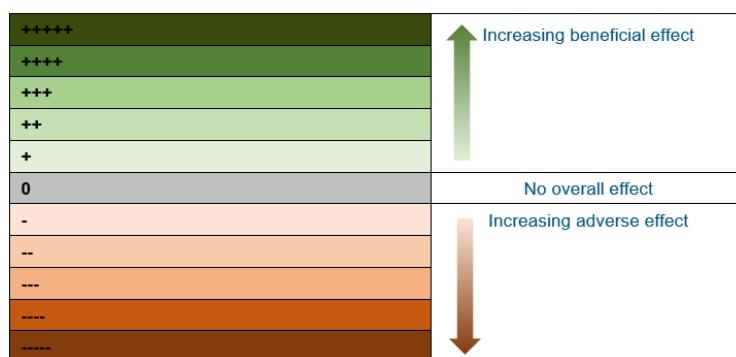
Symbol	Effect
+++	Major beneficial effect
++	Moderate beneficial effect
+	Minor beneficial effect
0	Neutral / Not significant / No effect
-	Minor adverse effect
--	Moderate adverse effect
---	Major adverse effect

In order to understand the cumulative effect of an option, that is the combined effect of the Beach Management Approaches, across the entirety of Hoylake Beach, the effect of individual options have been combined.

For example:

- if the effect of two options is ++/-, the - cancels out one of the +'s and the cumulative effect is +
- if the effect of two options is ++/+, the +'s combine to +++

Depending on the result of the cumulative assessment, the following colour coding has been applied:



An economic appraisal has also been carried out on the long list of potential options to compare the likely financial implications of taking the options forward. At this stage the appraisal comprises a qualitative comparison of the options using the following symbols and associated costs:

£	£0 - £10,000 per annum
££	£10,001 - £20,000 per annum
£££	£20,001 - £50,000 per annum
££££	£50,001 - £100,000 per annum
£££££	£100,001 - £200,000 per annum

3.2 Long List of Options

The application of the BMAs to the BMSs resulted in a long list of 23 potential options, as shown **Table 3-2**, and presented in **Appendix A**.

Table 3-2 Hoylake BMP Long List of Potential Options

No	Beach MA	Do Nothing	Maintain	Do Everything (strip)	Do Everything	Beach Nourishment
1	MA1b - RNLI to Alderley Road Slipway		✓			
	MA2b - Alderley Road Slipway to Red Rocks	✓				
2	MA1b - RNLI to Alderley Road Slipway				✓	
	MA2b - Alderley Road Slipway to Red Rocks		✓			
3	MA1b - RNLI to Alderley Road Slipway				✓	
	MA2b - Alderley Road Slipway to Red Rocks	✓				
4	MA1b - RNLI to Alderley Road Slipway					✓
	MA2b - Alderley Road Slipway to Red Rocks		✓			
5	MA1b - RNLI to Alderley Road Slipway					✓
	MA2b - Alderley Road Slipway to Red Rocks	✓				
6	MA1b - RNLI to Alderley Road Slipway		✓	✓		
	MA2b - Alderley Road Slipway to Red Rocks	✓				
7	MA1b - RNLI to Alderley Road Slipway	✓		✓		
	MA2b - Alderley Road Slipway to Red Rocks		✓			
8	MA1b - RNLI to Alderley Road Slipway		✓	✓		
	MA2b - Alderley Road Slipway to Red Rocks		✓			
9	MA1b - RNLI to Alderley Road Slipway	✓		✓		
	MA2b - Alderley Road Slipway to Red Rocks	✓				
10	MA1c - RNLI to Alderley Road Slipway				✓	
	MA2c - Alderley Road Slipway to King's Gap		✓			
	MA3c - King's Gap to Red Rocks	✓				
11	MA1c - RNLI to Alderley Road Slipway					✓
	MA2c - Alderley Road Slipway to King's Gap		✓			
	MA3c - King's Gap to Red Rocks	✓				
12	MA1c - RNLI to Alderley Road Slipway					✓
	MA2c - Alderley Road Slipway to King's Gap				✓	
	MA3c - King's Gap to Red Rocks		✓			
13	MA1c - RNLI to Alderley Road Slipway					✓
	MA2c - Alderley Road Slipway to King's Gap				✓	
	MA3c - King's Gap to Red Rocks	✓				
14	MA1c - RNLI to Alderley Road Slipway		✓	✓		
	MA2c - Alderley Road Slipway to King's Gap		✓			
	MA3c - King's Gap to Red Rocks	✓				

No	Beach MA	Do Nothing	Maintain	Do Everything (strip)	Do Everything	Beach Nourishment
15	MA1d - RNLI to King's Gap		✓			
	MA2d - King's Gap to Red Rocks	✓				
16	MA1d - RNLI to King's Gap				✓	
	MA2d - King's Gap to Red Rocks		✓			
17	MA1d - RNLI to King's Gap				✓	
	MA2d - King's Gap to Red Rocks	✓				
18	MA1d - RNLI to King's Gap					✓
	MA2d - King's Gap to Red Rocks		✓			
19	MA1d - RNLI to King's Gap					✓
	MA2d - King's Gap to Red Rocks	✓				
20	MA1d - RNLI to King's Gap	✓		✓		
	MA2d - King's Gap to Red Rocks		✓			
21	MA1d - RNLI to King's Gap		✓	✓		
	MA2d - King's Gap to Red Rocks	✓				
22	MA1d - RNLI to King's Gap	✓		✓		
	MA2d - King's Gap to Red Rocks	✓				
23	MA1d - RNLI to King's Gap		✓	✓		
	MA2d - King's Gap to Red Rocks		✓			

3.3 Long List Options Appraisal

When determining the potential effect of an option, the following has been taken into account:

- Where Do Everything (strip) has been proposed, the effect is not considered to be as significant as the Do Everything option, given its reduced magnitude. For example, where Do Everything results in a major effect, Do Everything (strip) results in a minor effect.
- The magnitude of effect is affected by the length of beach that an option is applied to. For example, the potential effect of Do Nothing from the RNLI Station to King's Gap is considered to be greater than Do Nothing from the RNLI Station to Alderley Road Slipway.

The long list options appraisal for BMS B can be seen in **Table 3-4**, for BMS C in **Table 3-5** and for BMS D in **Table 3-6**, along with the rationale for determining the potential effect of the options in **Table 3-3**. The economic appraisal can be seen in **Table 3-7**.

Table 3-3 Rationale to determine potential effect of option

Receptor	Criteria	Rationale to determine effect of each option
Population and human health	Will the option protect and enhance human health through provision of improved coastal erosion and flood protection to people and property?	Do Nothing option allows salt marsh to develop which causes waves to dissipate reducing the risk of coastal flooding and erosion. Furthermore, the Do Nothing option allows the development of sand dunes further reducing the risk of flooding and erosion. Beach Nourishment raises beach levels; therefore, reducing the risk of coastal flooding and erosion to a lesser extent. Do Everything would remove all vegetation, thus increasing wave exposure and associated coastal flooding and erosion risk. Maintain and Remove would result in no change to the current situation.
	Will the option reduce the extent of sandy beach?	Do Nothing option allows salt marsh to develop which would reduce the extent of sandy beach. Beach Nourishment and Do Everything would remove all vegetation therefore increasing the sandy beach area. Maintain and Remove would result in no change to the current situation.
	Will the option enhance health and safety on the beach?	Do Nothing would affect health and safety as the development of salt marsh creates an uneven surface which is more difficult to traverse, particularly for the young and elderly. The development of gullies and creeks over the long term would also pose health and safety risks. Do Everything and Beach Nourishment would remove existing hazards, and prevent their future development. Maintain and Remove would result in no change to the current situation.
	Will the option enhance recreation and tourism?	Do Nothing would increase wildlife tourism by improving habitats for a range of wildlife/birds; however, would reduce all other tourism and recreation activities due to restricted access through development of salt marsh. Do Everything and Beach Nourishment would enhance and maintain the sandy beach which would allow the continuation of tourism and recreational activities to take place. Maintain and Remove would result in no change to the current situation.
	Will the option limit public access to coastal areas?	Do Nothing would restrict access by salt marsh development as per health and safety. Do Everything and Beach Nourishment remove existing hazards, thereby enhancing and maintaining public access. Maintain and Remove would result in no change to the current situation.
	Will the option enhance human health through the provision of an open sandy space for recreational activities?	Do Nothing would reduce the extent of an open sandy beach and therefore reduce the space available for recreational activities on the beach. Do Everything and Beach Nourishment would create and maintain open sandy space for recreational activities. Maintain and Remove would result in no change to the current situation.
	Does the option have the potential to increase nuisance (e.g. pests, windblown sand) and pollution on the beach?	Over the long term Do Nothing could lead to an increase in pests and pollution from trapping of litter. Do Everything and Beach Nourishment would create nuisance from windblown sand. Maintain and Remove would result in no change to the current situation.
Critical Infrastructure and Material Assets	Will the option result in the windblown sand issues to services, drains and/or transport	Do Nothing would lead to a reduction in windblown sand as the development of salt marsh would reduce the sandy area of the beach. Do Everything and Beach Nourishment would create additional sandy beach and therefore potentially increasing the supply of windblown sand. Maintain and Remove would result in no change to the current situation.
	Will the option affect beach access to emergency services?	Do Nothing option allows salt marsh to develop, negatively affecting beach access. Whilst Do Everything and Beach Nourishment would prevent this due to the removal of vegetation. Maintain and Remove would result in no change to the current situation.

Receptor	Criteria	Rationale to determine effect of each option
Biodiversity	Will the option cause loss or damage to a designated wildlife site?	Do Nothing benefits the existing designated wildlife sites by allowing the natural development of the foreshore and associated habitats and species it supports. Do Everything and Beach Nourishment would remove the existing designated/protected habitats through the removal of vegetation. Whilst Maintain and Remove would preserve the existing vegetation, it would result in a negative effect on designated sites, given it prevents them from developing naturally.
	Will the option cause loss or damage to a protected habitat?	
	Will the option reduce biodiversity?	Do Nothing option will allow biodiversity of the beach to increase due to the development of saltmarsh. Do Everything and Beach Nourishment would reduce biodiversity through the removal of the existing vegetation. Maintain and Remove would result in no change to the current situation.
	Will the option result in increased disturbance to wildlife from recreational activities?	Do Nothing would reduce the extent of sandy beach and beach access, thereby reducing disturbance effects. Do Everything and Beach Nourishment would increase disturbance through the removal of the existing vegetation. Maintain and Remove would result in no change to the current situation.
	Will the option reduce the Natural Value Capital of the beach?	See rationale for ' <i>Will the option reduce biodiversity?</i> '
Climatic Factors	Does the option contribute to mitigating climate change?	Do Nothing would contribute to mitigating climate change due to the development of salt marsh that stores carbon. Do Everything and Beach Nourishment would reduce the availability of carbon storage, thereby adversely affecting climate change. Maintain and Remove would result in no change to the current situation.
Water	Does the option have the potential to significantly alter coastal processes?	Do Nothing, Maintain and Remove, and Do Everything would have no significant effect on coastal processes and water quality. Beach Nourishment has the potential to effect water quality, dependent upon the characteristics of the material used, and coastal processes.
	Will the option have adverse impacts upon water quality?	
	Will the option have the potential to affect the status of WFD a waterbody?	Do Nothing would have a beneficial effect on the WFD, through the natural beach development. Maintain and Remove, Do Everything and Beach Nourishment would prevent the natural beach development thus having an adverse effect on the WFD.
Landscape / Seascapes	Will the option avoid adverse effects on and, where appropriate, enhance landscape/seascape character?	Do Nothing would have a beneficial effect on local landscape and seascape character, through natural beach development. Do Everything and Beach Nourishment would have an adverse effect as they would change the natural landscape/seascape character preventing it from developing naturally. Maintain and Remove would result in no change to the current situation.

Table 3-4 Beach Management Scenario B - Long List Options Appraisal (yellow cell denotes taken forward to short list)

Beach Management Scenario B		MA1b = RNLI Station to Alderley Road MA2b = Alderley Road to Red Rocks								
Beach Management Option		Option 1 MA1b = Maintain and Remove MA2b = Do Nothing	Option 2 MA1b = Do Everything MA2b = Maintain and Remove	Option 3 MA1b = Do Everything MA2b = Do Nothing	Option 4 MA1b = Beach Nourishment MA2b = Maintain and Remove	Option 5 MA1b = Beach Nourishment MA2b = Do Nothing	Option 6 MA1b = Maintain and Remove / Do Everything (strip) MA2b = Do Nothing	Option 7 MA1b = Do Nothing / Do Everything (strip) MA2b = Maintain and Remove	Option 8 MA1b = Maintain and Remove / Do Everything (strip) MA2b = Maintain and Remove	Option 9 MA1b = Do Nothing / Do Everything (strip) MA2b = Do Nothing
Receptor	Criteria									
Population and human health	Will the option protect and enhance human health through provision of improved coastal erosion and flood protection to people and property?	0 / +++	-- / 0	-- / +++	+ / 0	+ / +++	(+/- = 0) / +++	(++/- = +) / 0	(+/- = 0) / 0	(++/- = +) / +++
	Will the option reduce the extent of sandy beach?	0 / ---	++ / 0	++ / ---	++ / 0	++ / ---	(-/+ = 0) / ---	(--/+ = -) / 0	(-/+ = 0) / 0	(-/+ = -) / ---
	Will the option enhance health and safety on the beach?	0 / ---	++ / 0	++ / ---	++ / 0	++ / ---	(-/+ = 0) / ---	(--/+ = -) / 0	(-/+ = 0) / 0	(-/+ = -) / ---
	Will the option enhance recreation and tourism?	0 / --	++ / 0	++ / --	++ / 0	++ / --	(-/+ = 0) / --	(-/+ = 0) / 0	(-/+ = 0) / 0	(-/+ = 0) / --
	Will the option limit public access to coastal areas?	0 / ---	++ / 0	++ / ---	++ / 0	++ / ---	(-/+ = 0) / ---	(-/+ = -) / 0	(-/+ = 0) / 0	(-/+ = -) / ---
	Will the option enhance human health through the provision of an open sandy beach for recreational activities?	0 / --	++ / 0	++ / --	++ / 0	++ / -	(-/+ = 0) / --	(-/+ = 0) / 0	(-/+ = 0) / 0	(-/+ = 0) / --
	Does the option have the potential to increase nuisance (e.g. pests, windblown sand) and pollution on the beach?	0 / --	-- / 0	- / --	-- / 0	-- / --	(-/- = --) / --	(-/- = --) / 0	(-/- = --) / 0	(-/- = --) / --
Critical Infrastructure and Material Assets	Will the option result in the windblown sand issues to services, drains and/or transport	0 / +++	-- / 0	-- / +++	-- / 0	-- / +++	(+/- = 0) / +++	(++/- = +) / 0	(+/- = 0) / 0	(++/- = +) / +++
	Will the option affect beach access to emergency services (RNLI Station - Alderley Rd area only)?	0	+++	+++	+++	+++	+	---	+	---
Biodiversity	Will the option cause loss or damage to a designated wildlife site?	- / +++	-- / -	-- / +++	-- / -	-- / +++	(-/- = --) / +++	(++/- = +) / -	(-/- = --) / -	(++/- = +) / +++
	Will the option cause loss or damage to a protected habitat?	- / +++	-- / -	-- / +++	-- / -	-- / +++	(-/- = --) / +++	(++/- = +) / -	(-/- = --) / -	(++/- = +) / +++
	Will the option reduce biodiversity?	0 / +++	-- / 0	-- / +++	-- / 0	-- / +++	(-/- = --) / +++	(++/- = +) / 0	(-/- = --) / 0	(++/- = +) / +++
	Will the option result in increased disturbance to wildlife from recreational activities?	- / +++	-- / -	-- / +++	-- / -	-- / +++	(-/- = --) / +++	(++/- = +) / -	(-/- = --) / -	(++/- = +) / +++
	Will the option reduce the Natural Value Capital of the beach?	0 / +++	-- / 0	-- / +++	-- / 0	-- / +++	(-/- = --) / +++	(++/- = +) / 0	(-/- = --) / 0	(++/- = +) / +++
Climatic Factors	Does the option contribute to mitigating climate change?	0 / +++	-- / 0	-- / +++	-- / 0	-- / +++	(+/- = 0) / +++	(++/- = +) / 0	(+/- = 0) / 0	(++/- = +) / +++
Water	Does the option have the potential to significantly alter coastal processes?	0	0	0	-	-	0	0	0	0
	Will the option have adverse impacts upon water quality?	0	0	0	-	-	0	0	0	0
	Will the option have the potential to affect the status of WFD a waterbody?	- / +++	-- / -	-- / +++	-- / -	-- / +++	(-/- = --) / +++	(++/- = +) / -	(-/- = --) / -	(++/- = +) / +++
Landscape/Seascape	Will the option avoid adverse effects on and, where appropriate, enhance landscape/seascape character?	0 / ++	-- / 0	-- / ++	-- / 0	-- / ++	(+/- = 0) / ++	(++/- = +) / 0	(+/- = 0) / 0	(++/- = +) / ++
Overall effect of option		+10	-13	+8	-12	+7	+1	-2	-17	+16

Table 3-5 Beach Management Scenario C - Long List Options Appraisal

Beach Management Scenario C		MA1c = RNLI Station to Alderley Road MA2c = Alderley Road to King's Gap MA3c = Kings Gap to Red Rocks				
Beach Management Option		Option 10 MA1c = Do Everything MA2c = Maintain and Remove MA3c = Do Nothing	Option 11 MA1c = Beach Nourishment MA2c = Maintain and Remove MA3c = Do Nothing	Option 12 MA1c = Beach Nourishment MA2c = Do Everything MA3c = Maintain and Remove	Option 13 MA1c = Beach Nourishment MA2c = Do Everything MA3c = Do Nothing	Option 14 MA1c = Maintain and Remove/ Do Everything (strip) MA2c = Maintain and Remove MA3c = Do Nothing
Receptor	Criteria					
Population and human health	Will the option protect and enhance human health through provision of improved coastal erosion and flood protection to people and property?	-- / + / ++	+ / + / ++	+ / -- / +	+ / -- / ++	(+/- = 0) / + / ++
	Will the option reduce the extent of sandy beach?	++ / - / --	++ / - / --	++ / ++ / -	++ / ++ / --	(-/+ = 0) / - / --
	Will the option enhance health and safety on the beach?	++ / - / --	++ / - / --	++ / ++ / -	++ / ++ / --	(-/+ = 0) / - / --
	Will the option enhance existing recreation and tourism?	++ / - / -	++ / - / -	++ / ++ / -	++ / ++ / -	(-/+ = 0) / - / -
	Will the option limit public access to coastal areas?	++ / - / --	++ / - / --	++ / ++ / -	++ / ++ / --	(-/+ = 0) / - / --
	Will the option enhance human health through the provision of an open sandy beach for recreational activities?	++ / - / -	++ / - / -	++ / ++ / -	++ / ++ / -	(-/+ = 0) / - / --
	Does the option have the potential to increase nuisance (e.g. pests, windblown sand) and pollution on the beach?	-- / - / -	-- / - / -	-- / - / -	-- / - / -	(-/- = -) / - / -
Critical Infrastructure and Material Assets	Will the option result in the windblown sand issues to services, drains and/or transport	-- / + / ++	-- / + / ++	-- / -- / +	-- / -- / ++	(+/- = 0) / + / ++
	Will the option affect beach access to emergency services? (RNLI- Alderley Rd)	++	++	++	++	++
Biodiversity	Will the option cause loss or damage to a designated wildlife site?	-- / - / ++	-- / - / ++	-- / - / -	-- / -- / ++	(-/- = --) / - / ++
	Will the option cause loss or damage to a protected habitat?	-- / - / ++	-- / - / ++	-- / - / -	-- / -- / ++	(-/- = --) / - / ++
	Will the option reduce biodiversity?	-- / - / ++	-- / - / ++	-- / - / -	-- / -- / ++	(-/- = --) / - / ++
	Will the option result in increased disturbance to wildlife from recreational activities?	-- / - / ++	-- / - / ++	-- / - / -	-- / -- / ++	(-/- = --) / - / ++
	Will the option reduce the Natural Value Capital of the beach?	-- / - / ++	-- / - / ++	-- / - / -	-- / -- / ++	(-/- = --) / - / ++
Climatic Factors	Does the option contribute to mitigating climate change?	-- / + / ++	-- / + / ++	-- / -- / +	-- / -- / ++	(+/- = 0) / + / ++
Water	Will the option have the potential to significantly alter coastal processes?	0	-	-	-	0
	Will the option have adverse impacts upon water quality?	0	-	-	-	0
	Will the option have the potential to affect the status of WFD a waterbody?	-- / - / ++	-- / - / ++	-- / - / -	-- / -- / ++	(-/- = --) / - / ++
Landscape/Seascape	Will the option avoid adverse effects on and, where appropriate, enhance landscape/seascape character?	-- / 0 / ++	-- / 0 / ++	-- / - / 0	-- / -- / ++	(0/- = -) / 0 / ++
Overall effect of option		-8	-8	-30	-10	-12

Table 3-6 Beach Management Scenario D - Long List Options Appraisal (yellow cell denotes taken forward to short list)

Beach Management Scenario D		MA1d = RNLI Station to Kings Gap MA2d = Kings Gap to Red Rocks									
Beach Management Option		Option 15 MA1d = Maintain and Remove MA2d = Do Nothing	Option 16 MA1d = Do Everything MA2d = Maintain and Remove	Option 17 MA1d = Do Everything MA2d = Do Nothing	Option 18 MA1d = Beach Nourishment MA2d = Maintain and Remove	Option 19 MA1d = Beach Nourishment MA2d = Do Nothing	Option 20 MA1d = Maintain and Remove/Do Everything (strip) MA2d = Do Nothing	Option 21 MA1d = Do Nothing/ Do Everything (strip) MA2d = Maintain and Remove	Option 22 MA1d = Maintain and Remove /Do Everything (strip) MA2d = Maintain and Remove	Option 23 MA1d = Do Nothing/Do Everything (strip) MA2d = Do Nothing	
Receptor	Criteria										
Population and human health	Will the option protect and enhance human health through provision of improved coastal erosion and flood protection to people and property?	0 / ++	--- / 0	--- / ++	++ / 0	++ / ++	(++/- = +) / ++	(+/- = 0) / 0	(+/- = 0) / 0	(+/- = 0) / ++	
	Will the option reduce the extent of sandy beach?	0 / --	+++ / 0	+++ / --	+++ / 0	+++ / --	(--/+ = -) / --	(-/+ = 0) / 0	(-/+ = 0) / 0	(-/+ = 0) / --	
	Will the option enhance health and safety on the beach?	0 / --	++ / 0	++ / --	++ / 0	++ / --	(-/+ = -) / --	(-/+ = 0) / 0	(-/+ = 0) / 0	(-/+ = 0) / --	
	Will the option enhance existing recreation and tourism?	0 / -	+++ / 0	+++ / -	++ / 0	++ / -	(-/+ = 0) / -	(-/+ = 0) / 0	(-/+ = 0) / 0	(-/+ = 0) / -	
	Will the option limit public access to coastal areas?	0 / --	+++ / 0	+++ / --	++ / 0	++ / --	(-/+ = -) / --	(-/+ = 0) / 0	(-/+ = 0) / 0	(-/+ = 0) / --	
	Will the option enhance human health through the provision of an open sandy beach for recreational activities?	0 / -	+++ / 0	+++ / -	++ / 0	++ / -	(-/+ = 0) / -	(-/+ = 0) / 0	(-/+ = 0) / 0	(-/+ = 0) / -	
	Does the option have the potential to increase nuisance (e.g. pests, windblown sand) and pollution on the beach?	0 / -	-- / 0	-- / -	-- / 0	-- / -	(-/- = -) / -	(-/- = --) / 0	(-/- = --) / 0	(-/- = --) / -	
Critical Infrastructure and Material Assets	Will the option result in the windblown sand issues to services, drains and/or transport	0 / ++	--- / 0	--- / ++	--- / 0	--- / ++	(+/- = 0) / ++	(++/- = +) / 0	(+/- = 0) / 0	(++/- = +) / ++	
	Will the option affect beach access to emergency services? (RNLI Station-Alderley Rd)	0	+++	+++	+++	+++	(0/- = -) / --	(-/+ = -) / 0	(0/+ = +) / 0	(-/+ = -) / --	
Biodiversity	Will the option cause loss or damage to a designated wildlife site?	- / ++	--- / -	--- / ++	-- / -	-- / ++	(-/- = --) / ++	(++/- = +) / -	(-/- = --) / -	(++/- = +) / ++	
	Will the option cause loss or damage to a protected habitat?	- / ++	--- / -	--- / ++	-- / -	-- / ++	(-/- = --) / ++	(++/- = +) / -	(-/- = --) / -	(++/- = +) / ++	
	Will the option reduce biodiversity?	0 / ++	--- / 0	--- / ++	-- / 0	-- / ++	(-/- = --) / ++	(++/- = +) / 0	(-/- = --) / 0	(++/- = +) / ++	
	Will the option result in increased disturbance to wildlife from recreational activities?	- / ++	--- / -	--- / ++	-- / -	-- / ++	(-/- = --) / ++	(++/- = +) / -	(-/- = --) / -	(++/- = +) / ++	
	Will the option reduce the Natural Value Capital of the beach?	0 / ++	--- / 0	--- / ++	-- / 0	-- / ++	(-/- = --) / ++	(++/- = +) / 0	(-/- = --) / 0	(++/- = +) / ++	
Climatic Factors	Does the option contribute to mitigating climate change?	0 / ++	--- / 0	--- / ++	-- / 0	-- / ++	(+/- = 0) / ++	(++/- = +) / 0	(+/- = 0) / 0	(++/- = +) / ++	
Water	Will the option have the potential to significantly alter coastal processes?	0	0	0	--	--	0	0	0	0	
	Will the option have adverse impacts upon water quality?	0	0	0	--	--	0	0	0	0	
	Will the option have the potential to affect the status of WFD a waterbody?	- / ++	--- / -	--- / ++	-- / -	-- / ++	(-/- = --) / ++	(++/- = +) / -	(-/- = --) / -	(++/- = +) / ++	
Landscape/Seascape	Will the option avoid adverse effects on and, where appropriate, enhance landscape/seascape character?	0 / ++	-- / 0	-- / ++	-- / 0	-- / ++	(0/- = -) / ++	(++/- = +) / 0	(0/- = -) / 0	(++/- = +) / ++	
Overall effect of option		+7	-18	-1	-13	+2	-9	+2	-18	+15	

Table 3-7 Economic Appraisal of Long List of Potential Options (those in bold have been taken forward to short list)

Option		Cost
Option 1	MA1b = Maintain and Remove	££
	MA2b = Do Nothing	
Option 2	MA1b = Do Everything	£££
	MA2b = Maintain and Remove	
Option 3	MA1b = Do Everything	££
	MA2b = Do Nothing	
Option 4	MA1b = Beach Nourishment	£££££
	MA2b = Maintain and Remove	
Option 5	MA1b = Beach Nourishment	££££
	MA2b = Do Nothing	
Option 6	MA1b = Maintain and Remove / Do Everything (strip)	££
	MA2b = Do Nothing	
Option 7	MA1b = Do Nothing / Do Everything (strip)	££
	MA2b = Maintain and Remove	
Option 8	MA1b = Maintain and Remove / Do Everything (strip)	£££
	MA2b = Maintain and Remove	
Option 9	MA1b = Do Nothing / Do Everything (strip)	£
	MA2b = Do Nothing	
Option 10	MA1c = Do Everything	££
	MA2c = Maintain and Remove	
	MA3c = Do Nothing	
Option 11	MA1c = Beach Nourishment	££££
	MA2c = Maintain and Remove	
	MA3c = Do Nothing	
Option 12	MA1c = Beach Nourishment	£££££
	MA2c = Do Everything	
	MA3c = Maintain and Remove	
Option 13	MA1c = Beach Nourishment	££££
	MA2c = Do Everything	
	MA3c = Do Nothing	
Option 14	MA1c = Maintain and Remove/ Do Everything (strip)	£££
	MA2c = Maintain and Remove	

Option		Cost
	MA3c = Do Nothing	
Option 15	MA1d = Maintain and Remove	££
	MA2d = Do Nothing	
Option 16	MA1d = Do Everything	£££
	MA2d = Maintain and Remove	
Option 17	MA1d = Do Everything	££
	MA2d = Do Nothing	
Option 18	MA1d = Beach Nourishment	£££££
	MA2d = Maintain and Remove	
Option 19	MA1d = Beach Nourishment	££££
	MA2d = Do Nothing	
Option 20	MA1d = Maintain and Remove/Do Everything (strip)	££
	MA2d = Do Nothing	
Option 21	MA1d = Do Nothing/ Do Everything (strip)	£££
	MA2d = Maintain and Remove	
Option 22	MA1d = Maintain and Remove /Do Everything (strip)	£££
	MA2d = Maintain and Remove	
Option 23	MA1d = Do Nothing/Do Everything (strip)	£
	MA2d = Do Nothing	

4 Short listed options

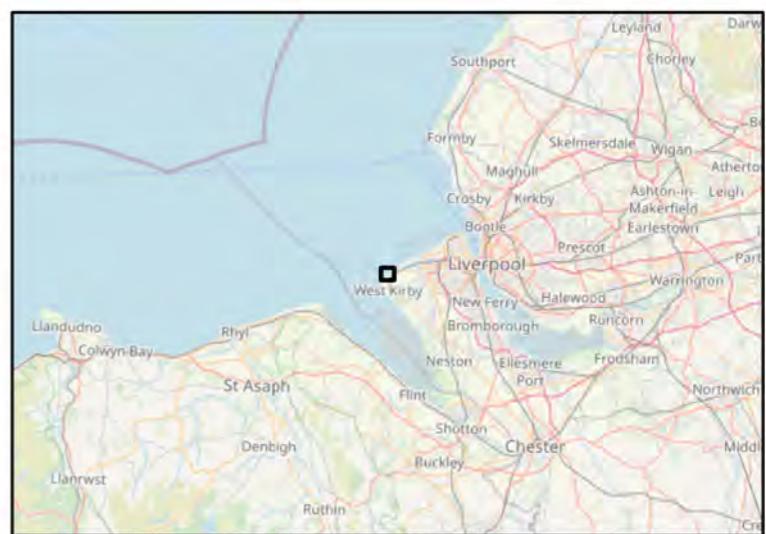
Using the findings of the long list appraisal, the short listed options are:

- Option 1** MA1b (RNLI Station - Alderley Rd) Maintain and Remove
MA2b Do Nothing (Alderley Rd - Red Rocks) Do Nothing
- Option 3** MA1b (RNLI Station - Alderley Rd) Do Everything
MA2b (Alderley Rd - Red Rocks) Do Nothing
- Option 5** MA1b (RNLI Station - Alderley Rd) Beach Nourishment
MA2b (Alderley Rd - Red Rocks) Do Nothing
- Option 9** MA1b (RNLI Station - Alderley Rd) Do Nothing / Do Everything (strip)
MA2b (Alderley Rd - Red Rocks) Do Nothing
- Option 15** MA1d (RNLI Station - King's Gap) Maintain and Remove
MA2d (King's Gap - Red Rocks) Do Nothing
- Option 23** MA1d (RNLI Station - Kings Gap) Do Nothing / Do Everything (Strip)
MA2d (Kings Gap - Red Rocks) Do Nothing



Appendix A

Figures - Long List of Options



Legend:

RNLI to Alderley Road Slipway (MA1b)

Maintain and Remove

- █ Extent of Existing Vegetation
- █ Vegetation Removal

Alderley Road Slipway to Red Rocks (MA2b)

Do Nothing

- █ Extent of Existing Vegetation
- █ Extent of Predicted Vegetation

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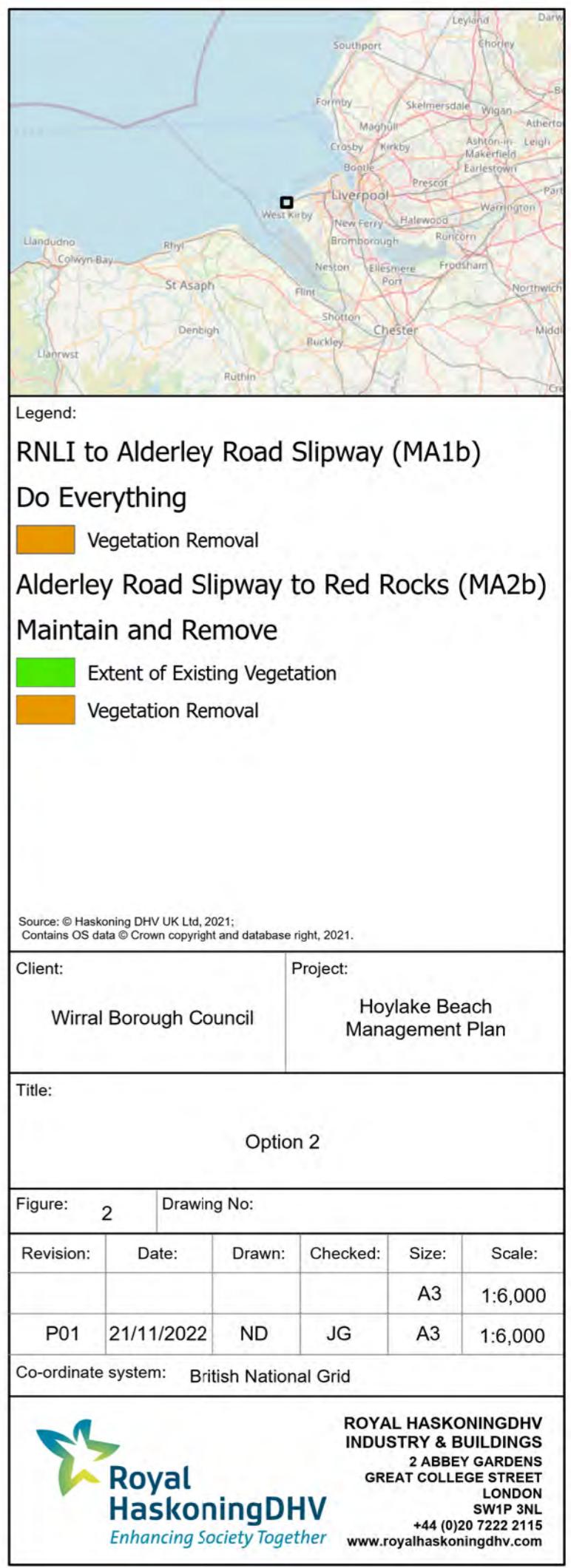
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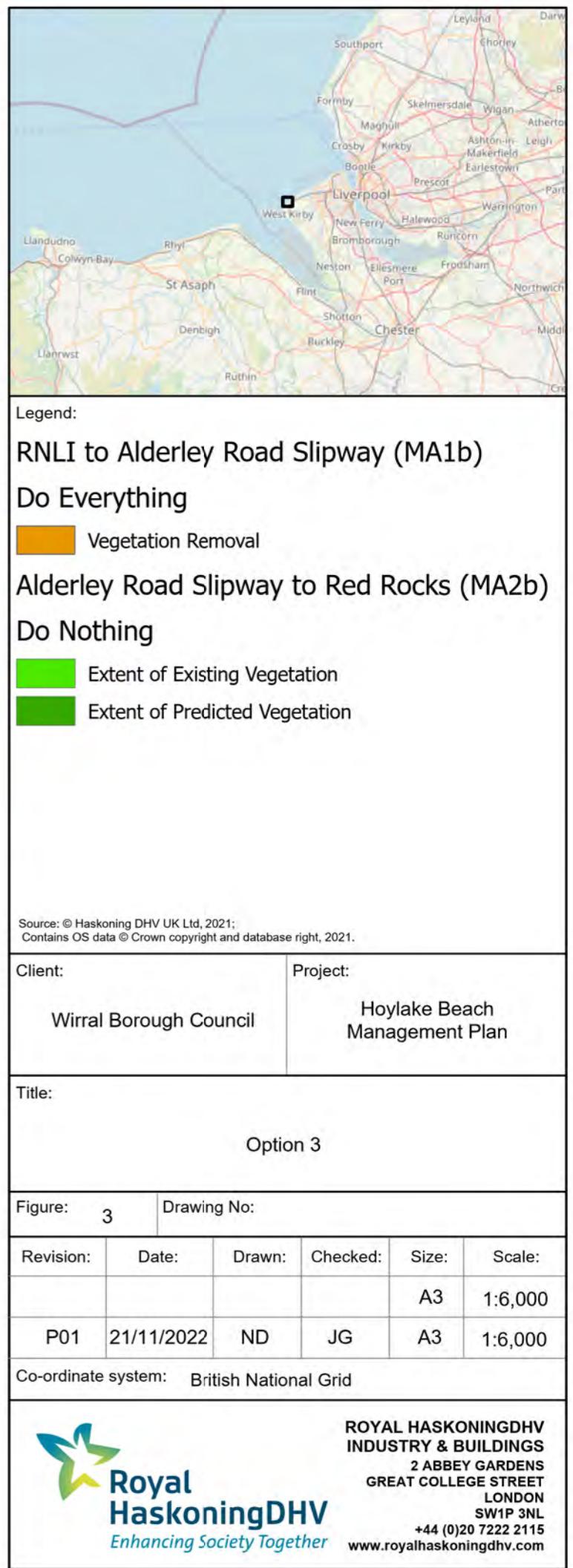
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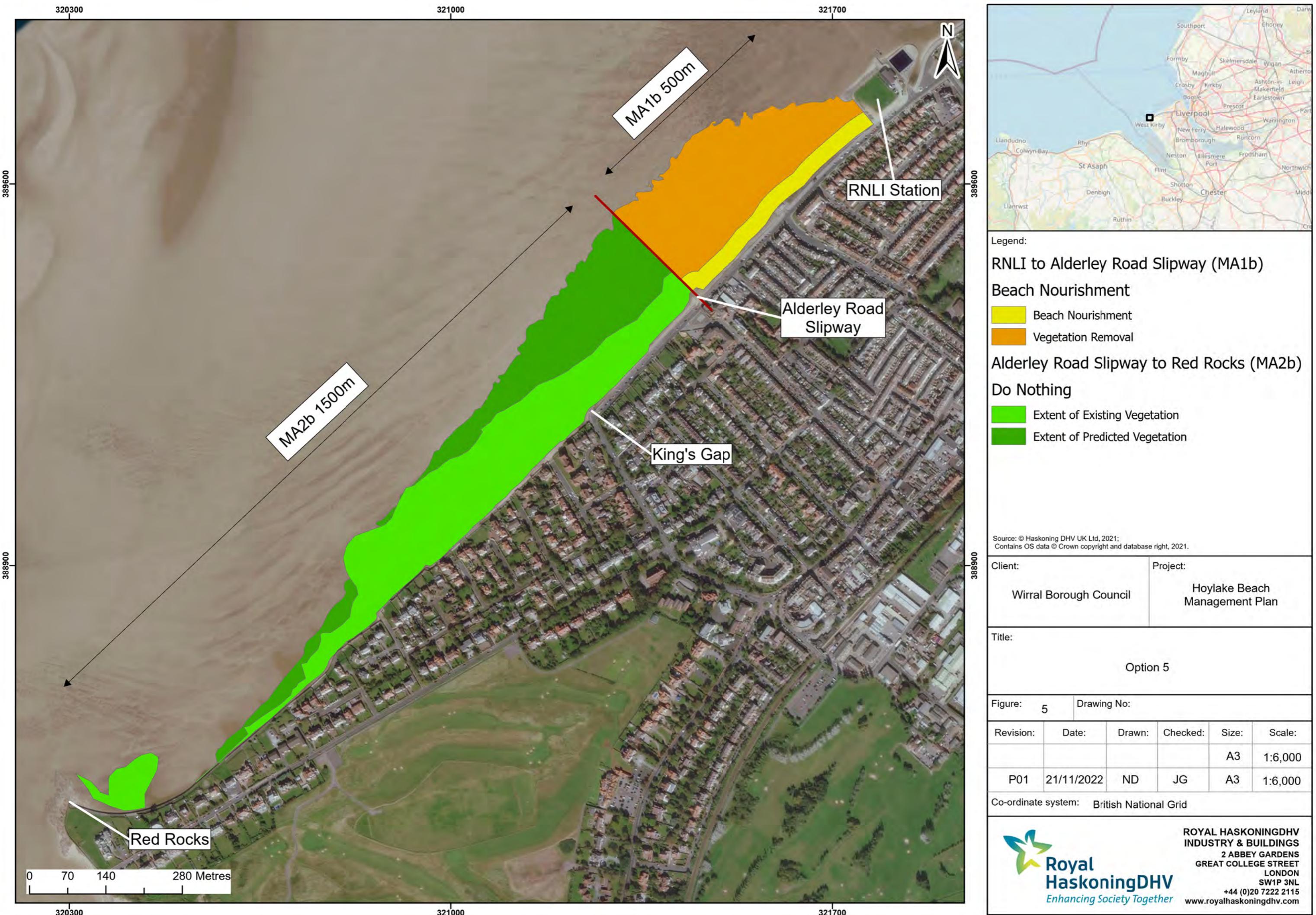
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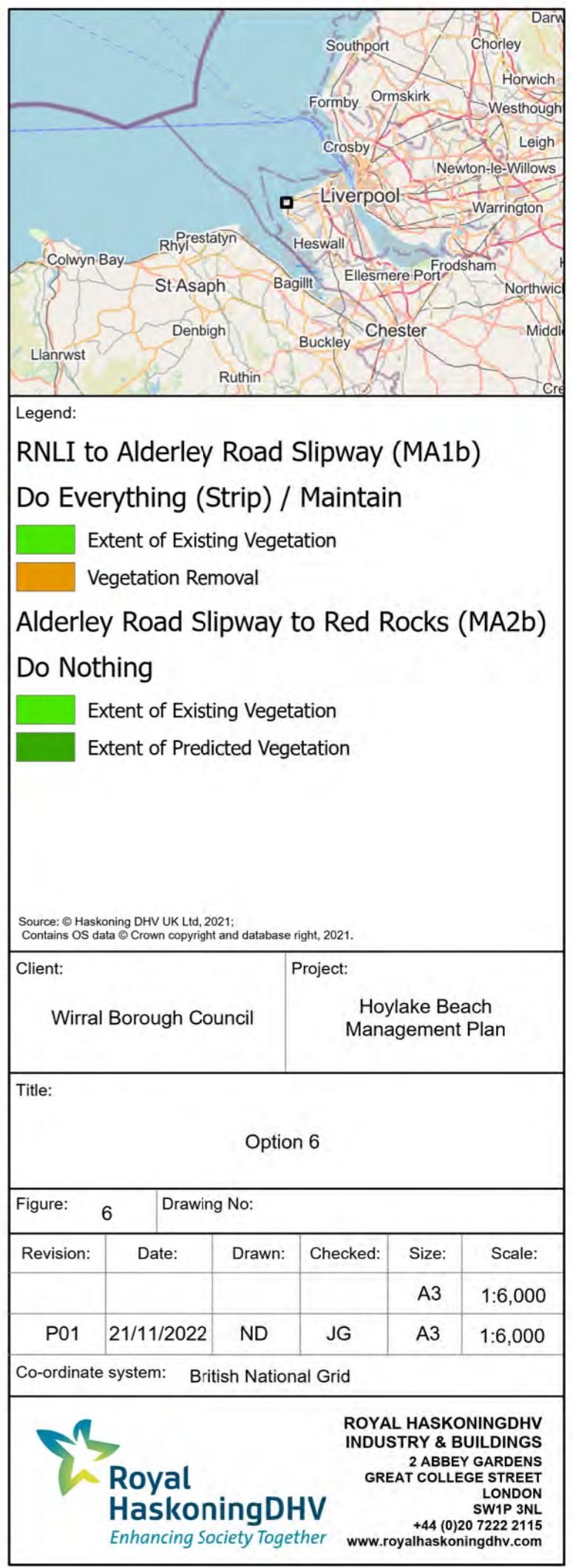


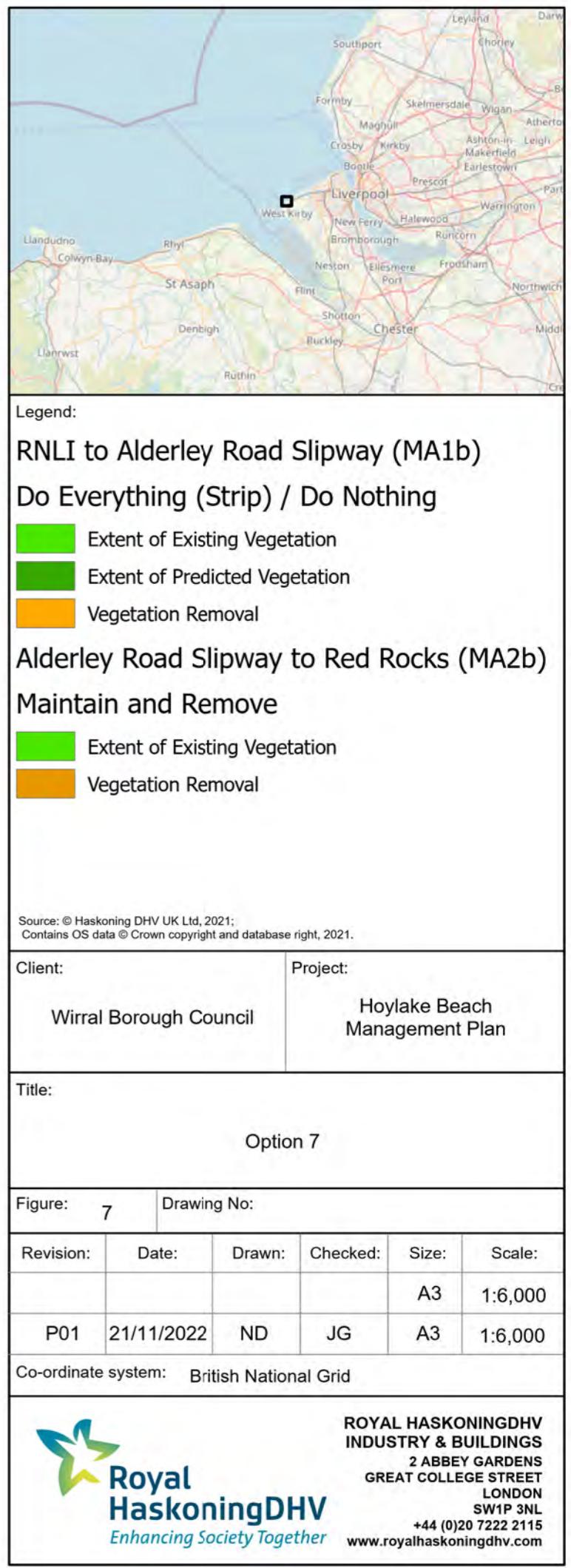




Legend:					
RNLI to Alderley Road Slipway (MA1b)					
Beach Nourishment					
	Beach Nourishment				
	Vegetation Removal				
Alderley Road Slipway to Red Rocks (MA2b)					
Maintain and Remove					
	Extent of Existing Vegetation				
	Vegetation Removal				
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Client: Wirral Borough Council Project: Hoylake Beach Management Plan					
Title: Option 4					
Figure: 4 Drawing No:					
Revision:	Date:	Drawn:	Checked:	Size:	Scale:
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Co-ordinate system: British National Grid					
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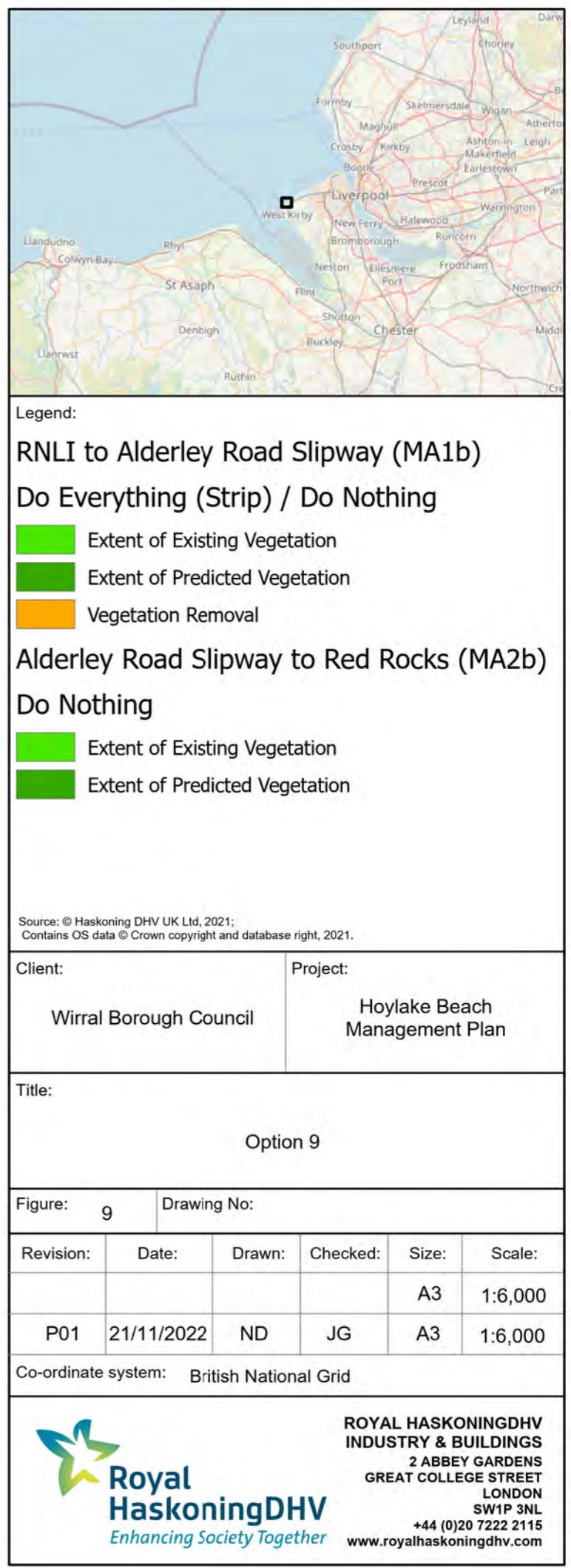


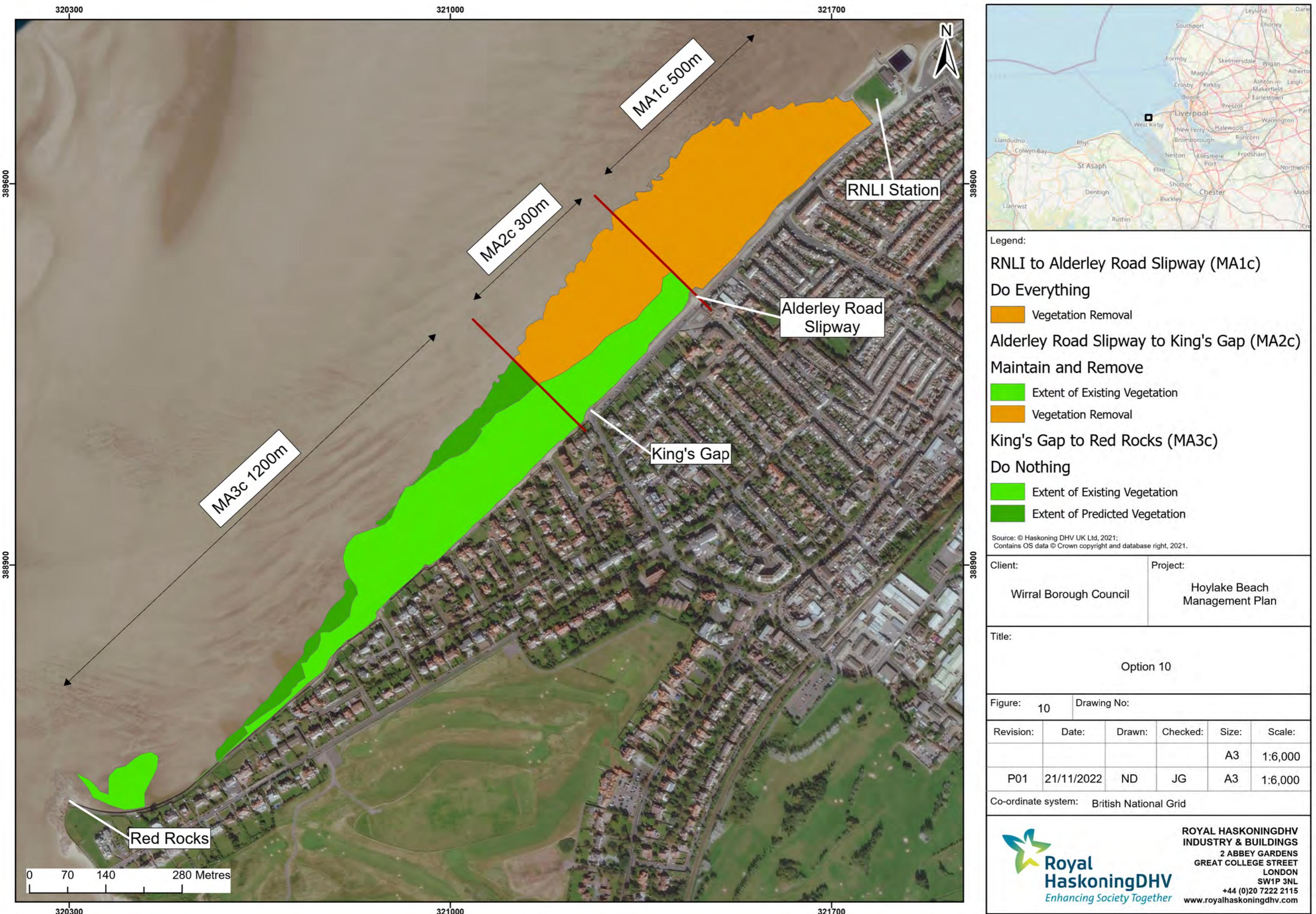


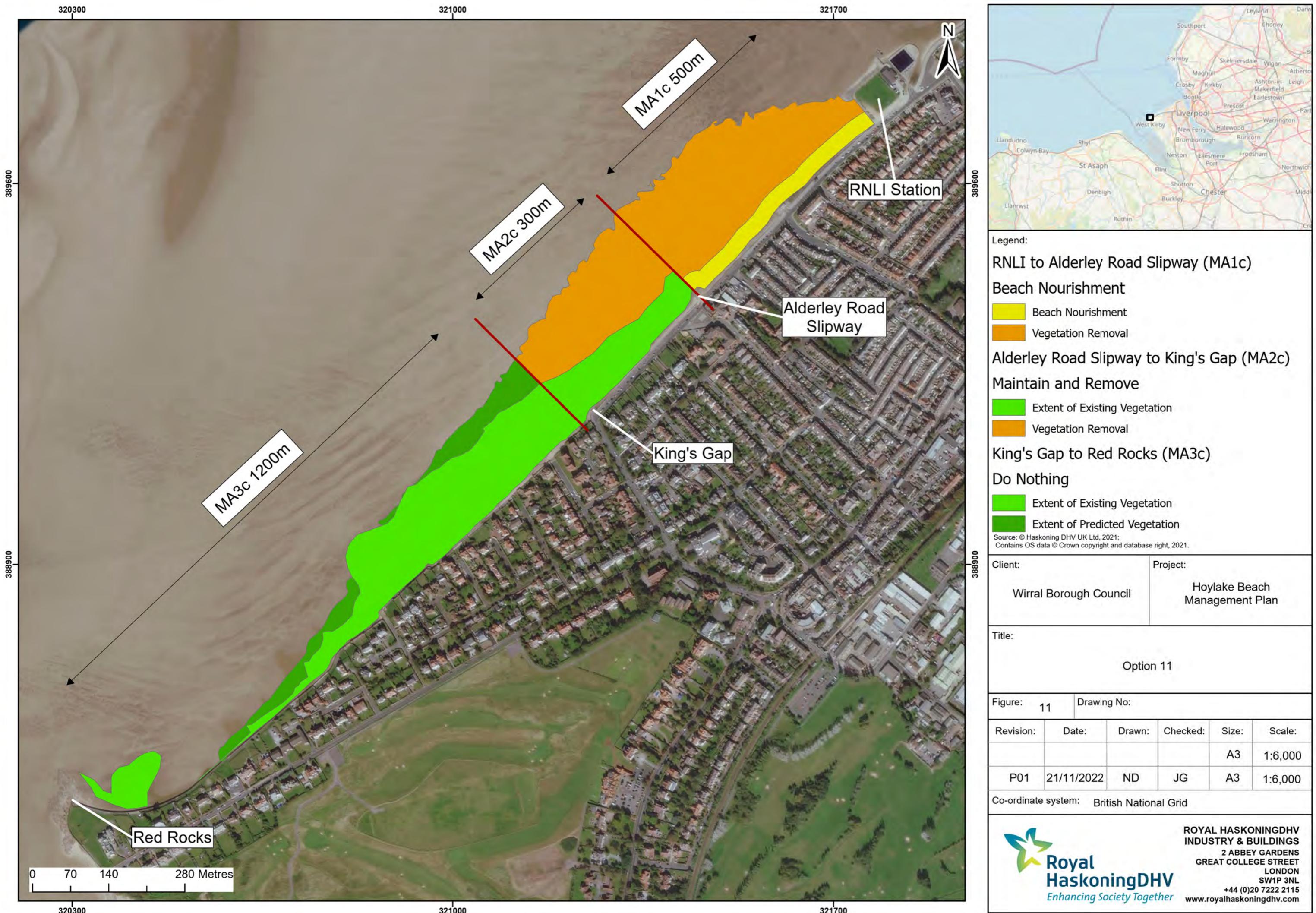


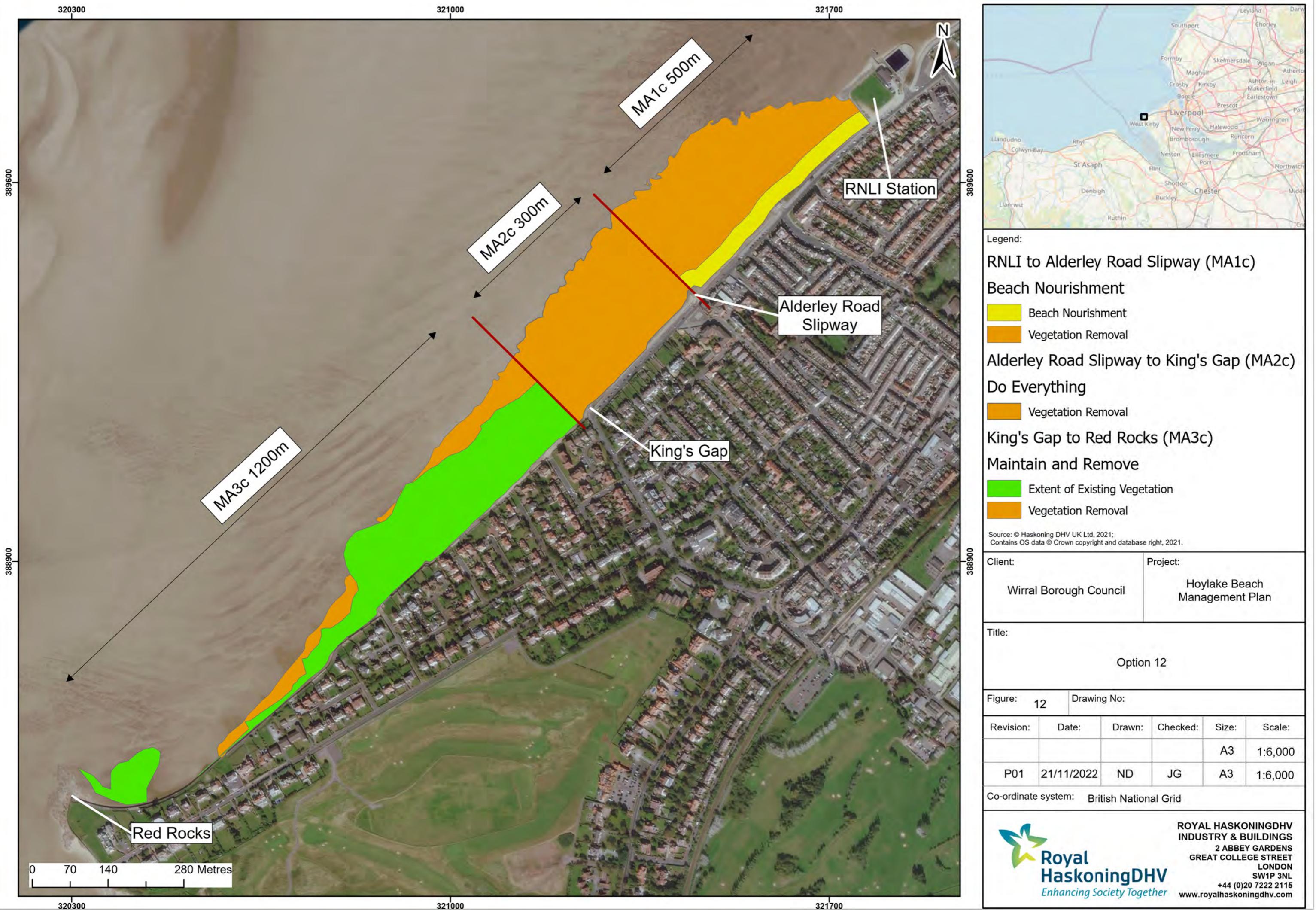


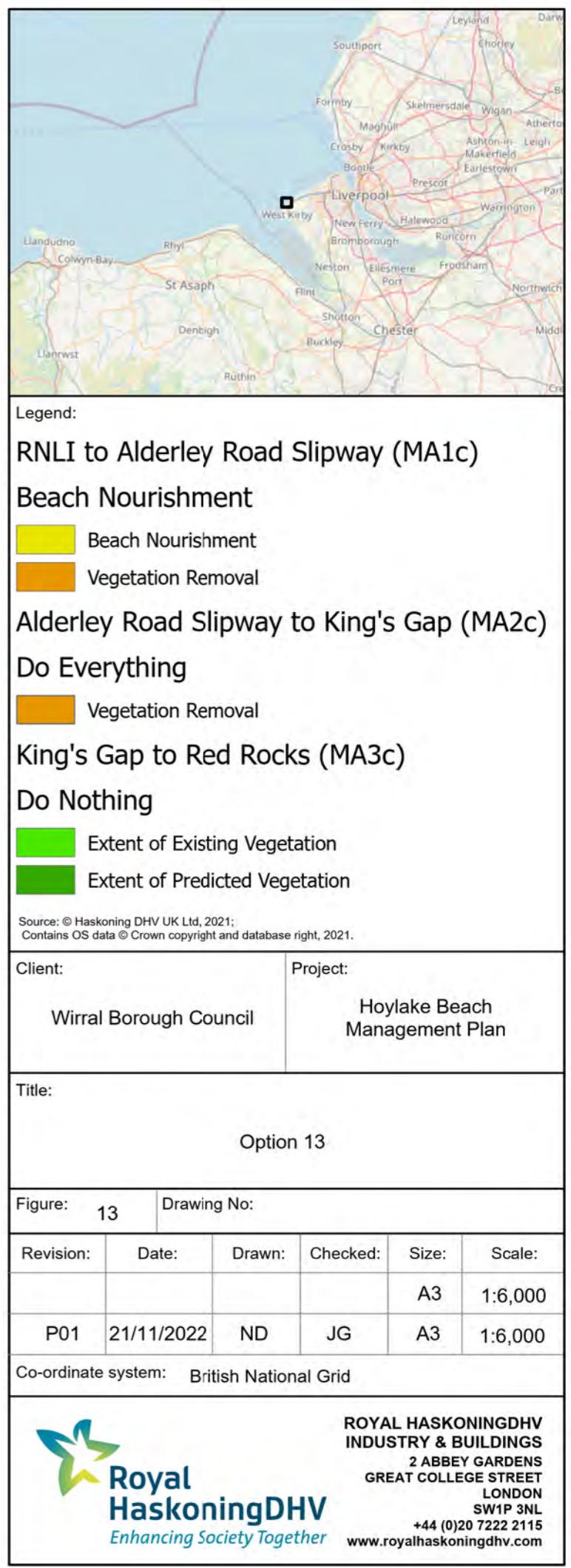
 Legend: RNLI to Alderley Road Slipway (MA1b) Do Everything (Strip) / Maintain <ul style="list-style-type: none"> Extent of Existing Vegetation (Green) Vegetation Removal (Orange) Alderley Road Slipway to Red Rocks (MA2b) Maintain and Remove <ul style="list-style-type: none"> Extent of Existing Vegetation (Green) Vegetation Removal (Orange) 					
Source: © Haskoning DHV UK Ltd, 2021; Contains OS data © Crown copyright and database right, 2021.					
Client: Wirral Borough Council	Project: Hoylake Beach Management Plan				
Title: Option 8					
Figure: 8	Drawing No:				
Revision:	Date:	Drawn:	Checked:	Size:	Scale:
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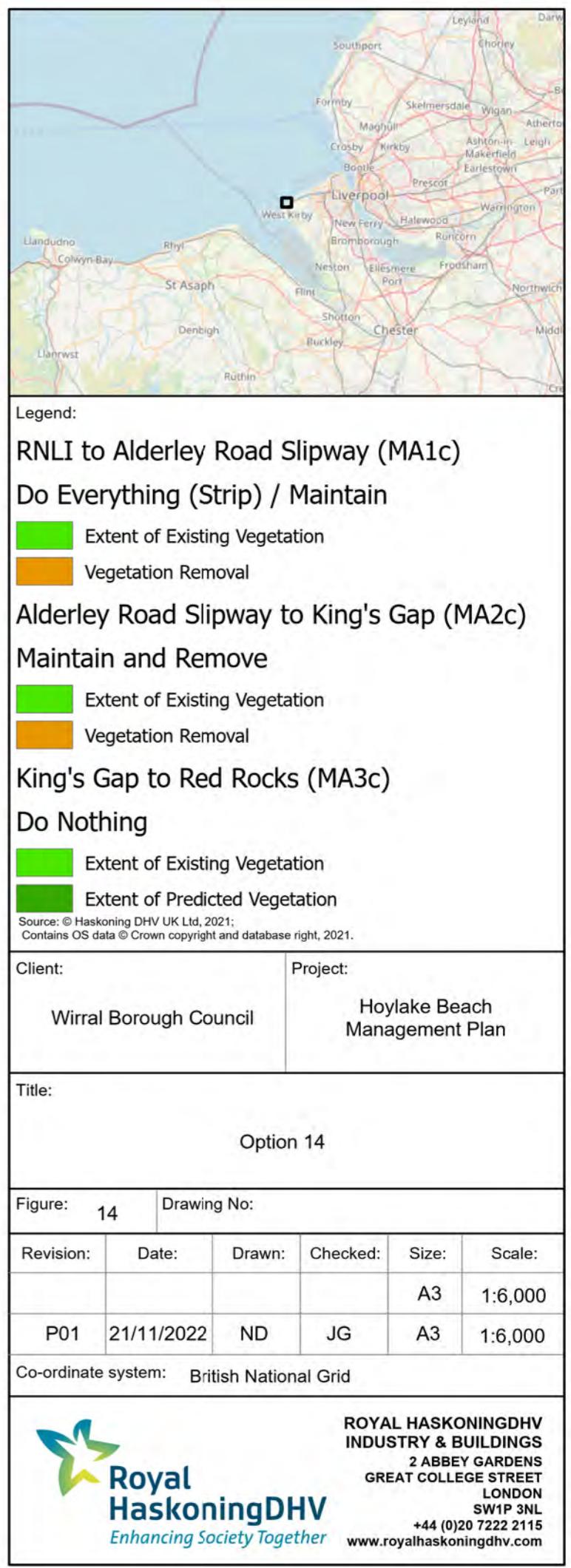


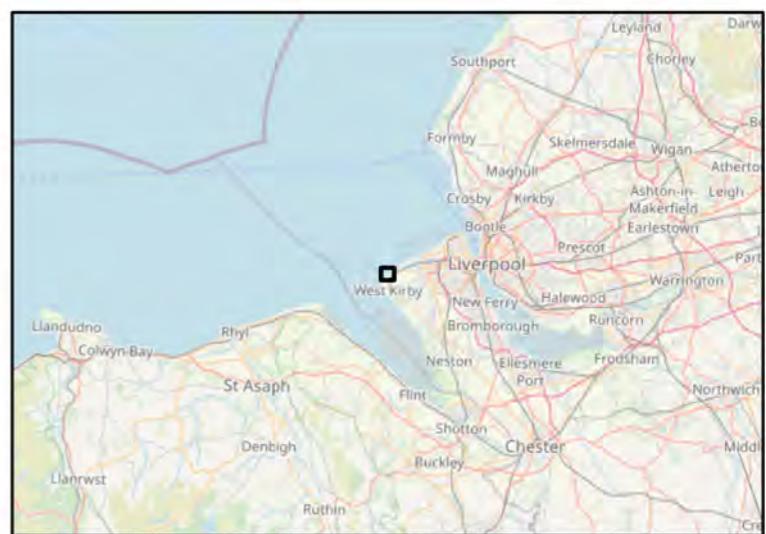












Legend:

RNLI to King's Gap (MA1d)

Maintain and Remove

- Extent of Existing Vegetation
- Vegetation Removal

King's Gap to Red Rocks (MA2d)

Do Nothing

- Extent of Existing Vegetation
- Extent of Predicted Vegetation

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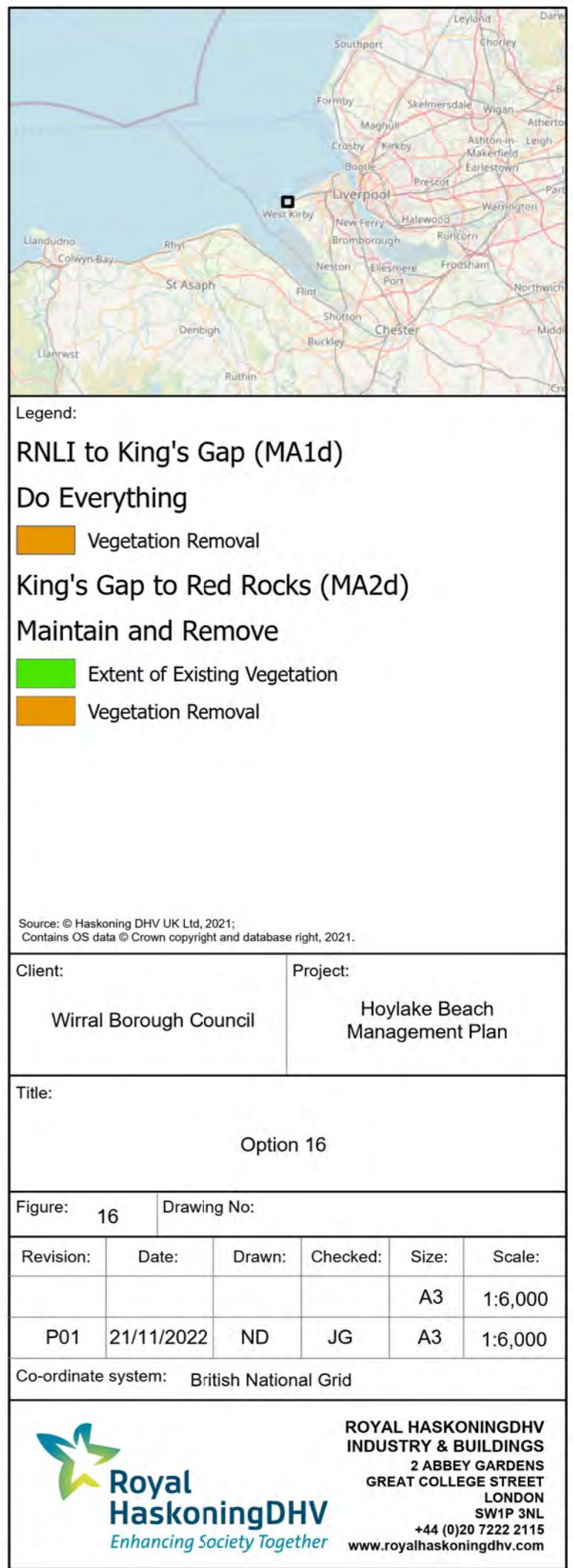
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Wirral Borough Council	Hoylake Beach Management Plan

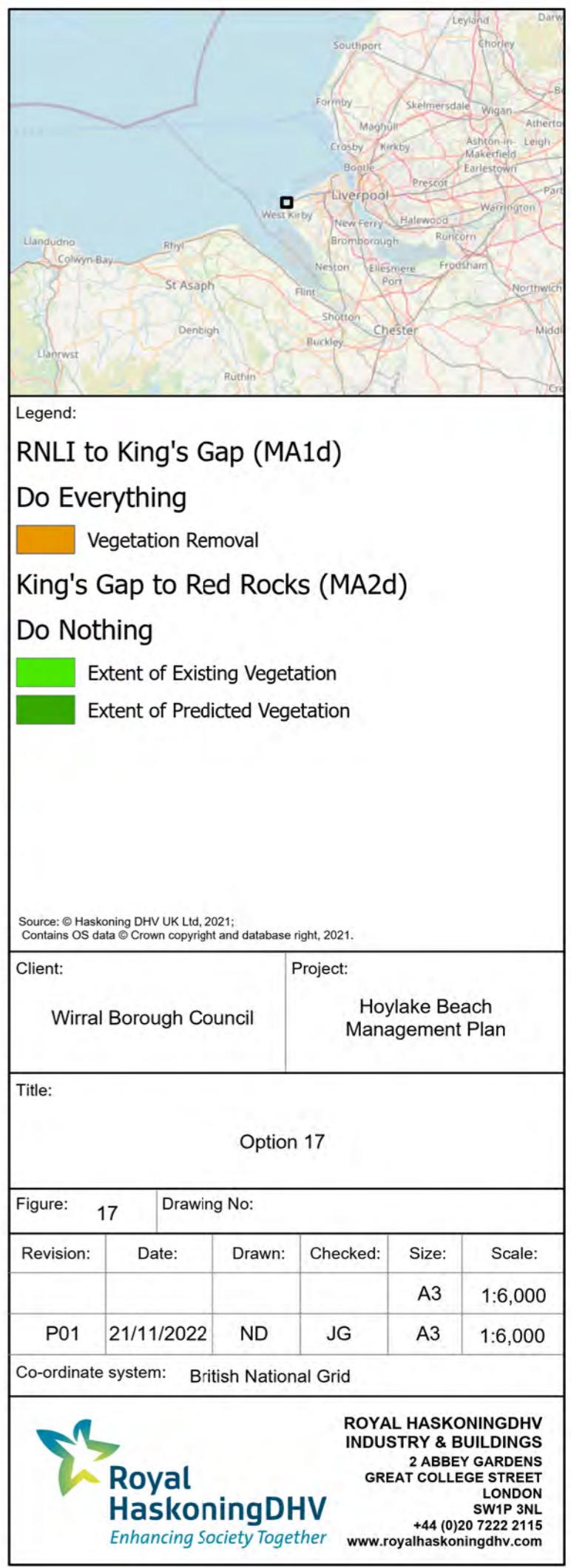
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Option 15	

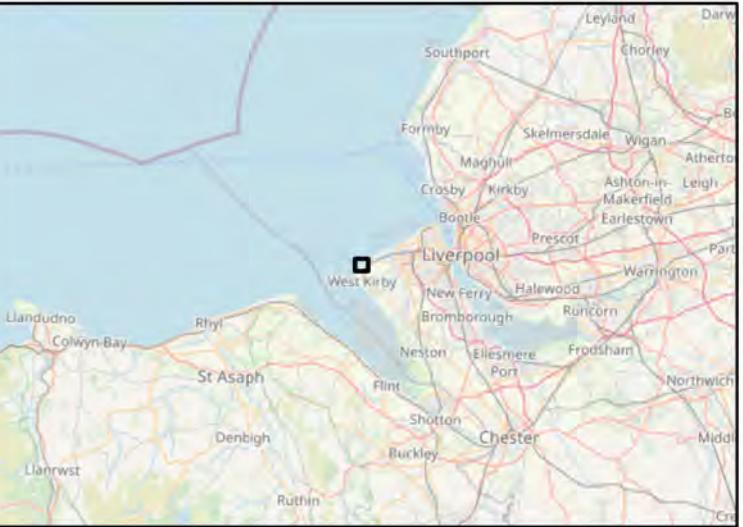
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Co-ordinate system: British National Grid







Legend:

RNLI to King's Gap (MA1d)

Beach Nourishment

- Beach Nourishment
- Vegetation Removal

King's Gap to Red Rocks (MA2d)

Maintain and Remove

- Extent of Existing Vegetation
- Vegetation Removal

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Title:

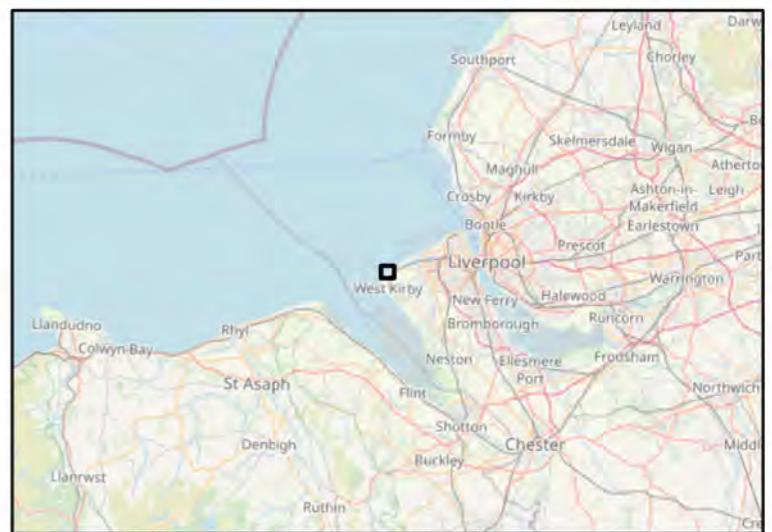
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P01	21/11/2022	ND	JG	A3	1:6,000

Co-ordinate system: British National Grid





Legend:

RNLI to King's Gap (MA1d)

Beach Nourishment

Yellow Beach Nourishment
Orange Vegetation Removal

King's Gap to Red Rocks (MA2d)

Do Nothing

Green Extent of Existing Vegetation
Dark Green Extent of Predicted Vegetation

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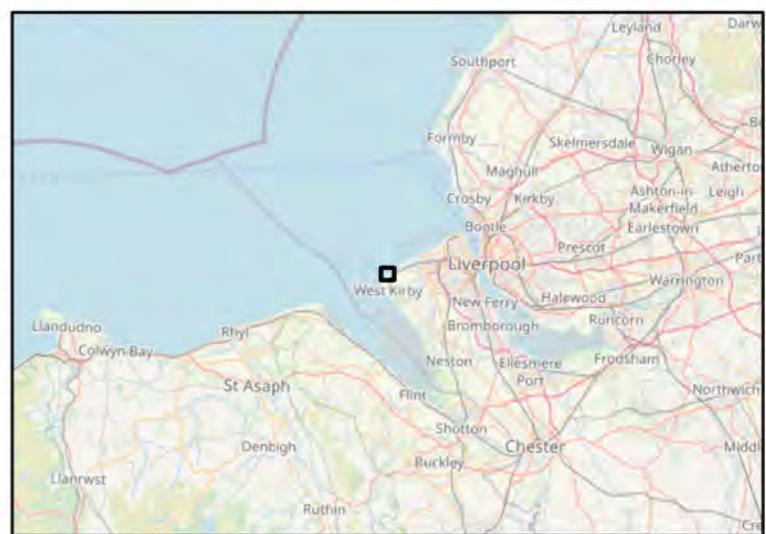
Project:
Hoylake Beach Management Plan

Title:
Option 19

Figure: 19 Drawing No:

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Co-ordinate system: British National Grid



Legend:

RNLI to King's Gap (MA1d)

Do Everything (Strip) / Do Nothing

Extent of Existing Vegetation

Extent of Predicted Vegetation

Vegetation Removal

King's Gap to Red Rocks (MA2d)

Maintain and Remove

Extent of Existing Vegetation

Vegetation Removal

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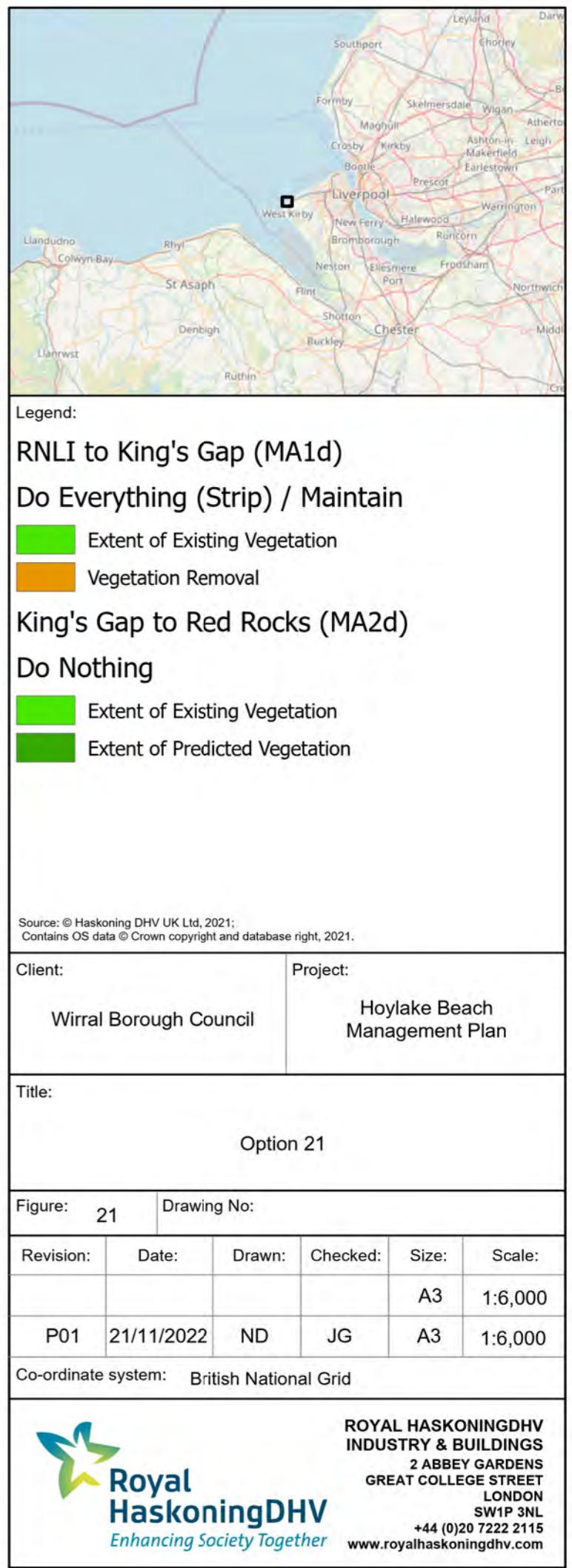
Project:
Hoylake Beach Management Plan

Title:
Option 20

Figure: 20 Drawing No:

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Co-ordinate system: British National Grid





Client:		Project:			
Wirral Borough Council		Hoylake Beach Management Plan			
Title: Option 22					
Figure: 22		Drawing No:			
Revision:	Date:	Drawn:	Checked:	Size:	Scale:
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P01	21/11/2022	ND	JG	A3	1:6,000
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Legend:
King's Gap to Red Rocks (MA1d)
Do Everything (Strip) / Maintain

█ Extent of Existing Vegetation
█ Vegetation Removal

King's Gap to Red Rocks (MA2d)
Maintain and Remove

█ Extent of Existing Vegetation
█ Vegetation Removal

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Client:	Wirral Borough Council	Project:	Hoylake Beach Management Plan
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Title:			
Option 23			

Figure:	23	Drawing No.:	
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