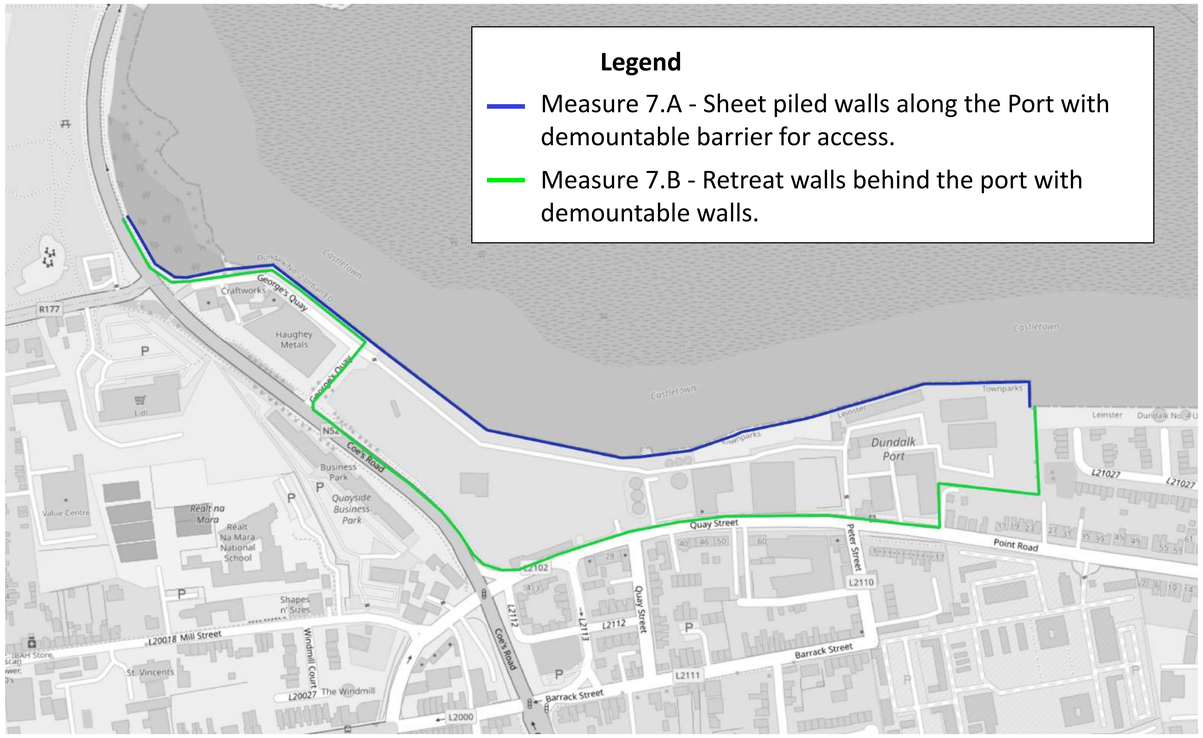
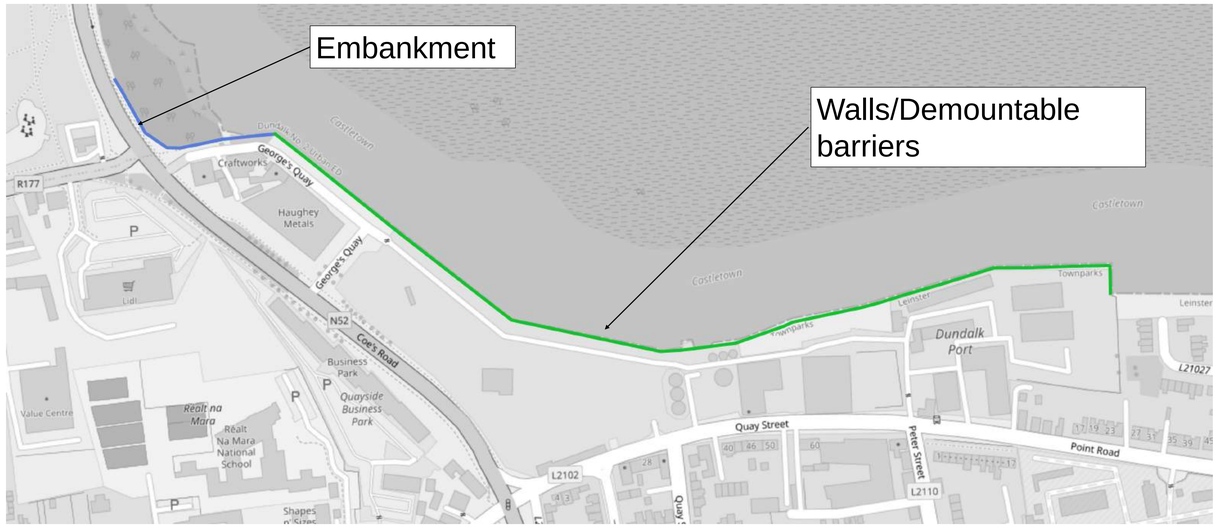
DUNDALK PORT - OVERVIEW OF MEASURES



OPTION 1: Hold the line

This option includes sheet piled walls along the Port with demountable barriers for access purposes. Defences are required adjacent to the R215 (Inner Relief Road) on the west side of Dundalk port. The wall would be at maximum 1.2m high.



Advantages

It would reduce the operational challenges for the installation of barriers to the port.

It would limit the impact on Public Realms, alongside Quay Road, etc.

It would reduce the impact on the stores along the Port.

Limitations

It would require a MARA consent,

It can prevent easy access to boats/ships.

Potential impact on the Dundalk Bay SAC during construction.

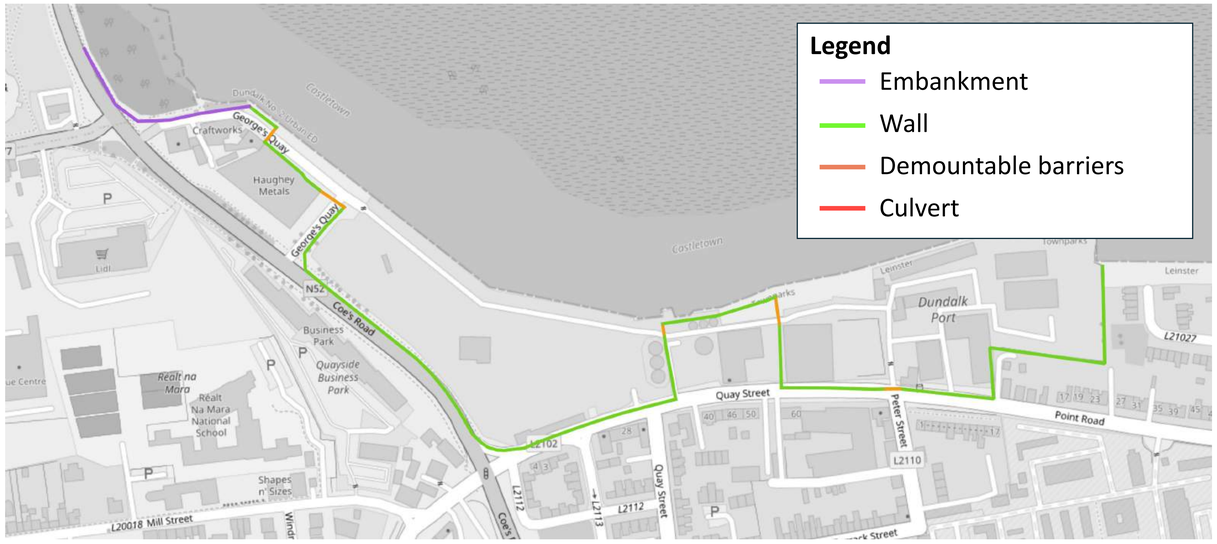
It would have some impact on Port operations.

Dundalk
FLOOD RELIEF SCHEME

Rialtas na hÉireann Government of Ireland | Tionscadal Éireann Project Ireland 2040 | Comhairle Contae Lú Louth County Council | binnies an RSK company | NICHOLAS O'DWYER an RSK company

OPTION 2: Managed Retreat

This option comprises of mainly retreat defences, with a wall positioned behind most of the port area. Strategically located demountable barriers/flood gates would be positioned at access points. The wall would be at maximum 1.2m high.



Advantages

This option would reduce the impact on the port operations in comparison to Option 1.

This option would have lower environmental impact than Option 1.

Limitations

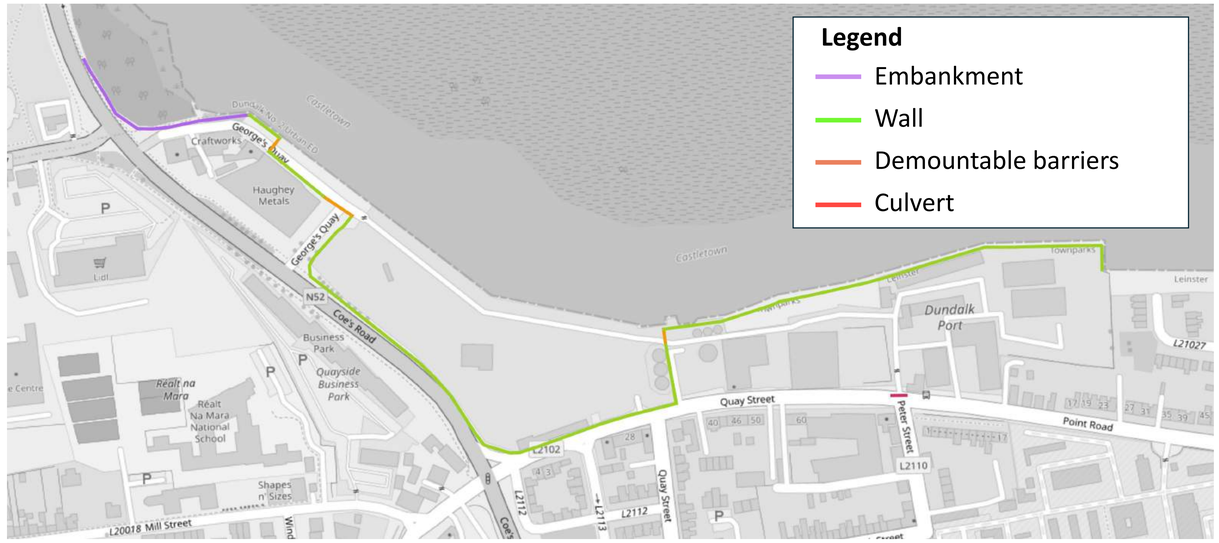
This option would not prevent the port from being flooded,

This option would have higher operational issues with the need to install at least 4 barriers during high tides.

This option would rely on additional flood gates compared to Options 1 and 3, leading to operational constraints.

OPTION 3: Partial Managed Retreat

This option includes partly hold the line defences and managed retreat defences, with circa half of the defences being managed retreat to protect the residential properties, stores and offices, and managed retreat defences elsewhere. The wall would be at maximum 1.2m high.



Advantages

This option would reduce the impact on the port operations compared to Option 1.

This option would have lower environmental impact than Option 1.

The operational constraints would be slightly decreased compared to Option 2.

Limitations

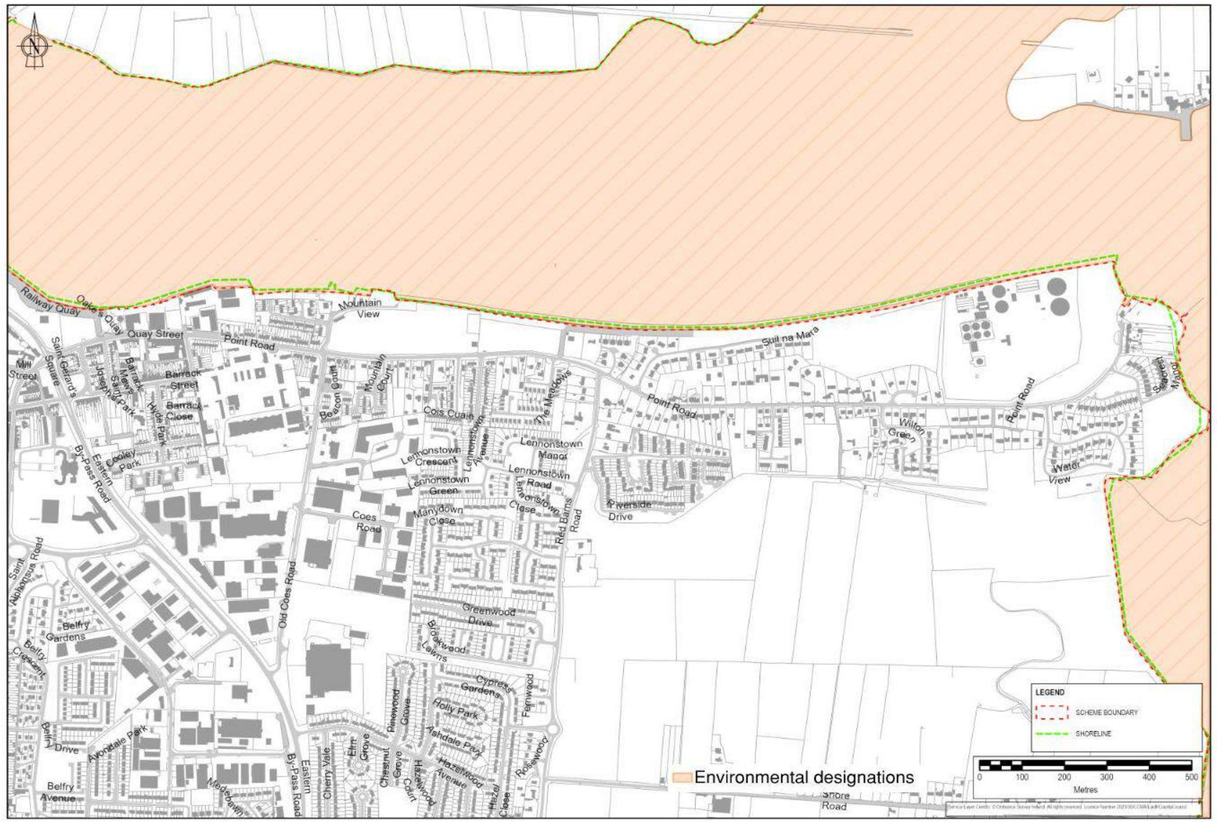
Would not prevent the port from being flooded,

This would have higher operational issues with the need to install at least 4 barriers during high tides.

NAVVY BANK

Navvy Bank extends approximately 2km along the southern bank of Castletown River east of Dundalk Port. The frontage comprises a steep stone-faced slope with a crest wall.

SPA and SAC designations extend beyond the existing slope (see overview map to the right).



COASTAL FLOOD RISK

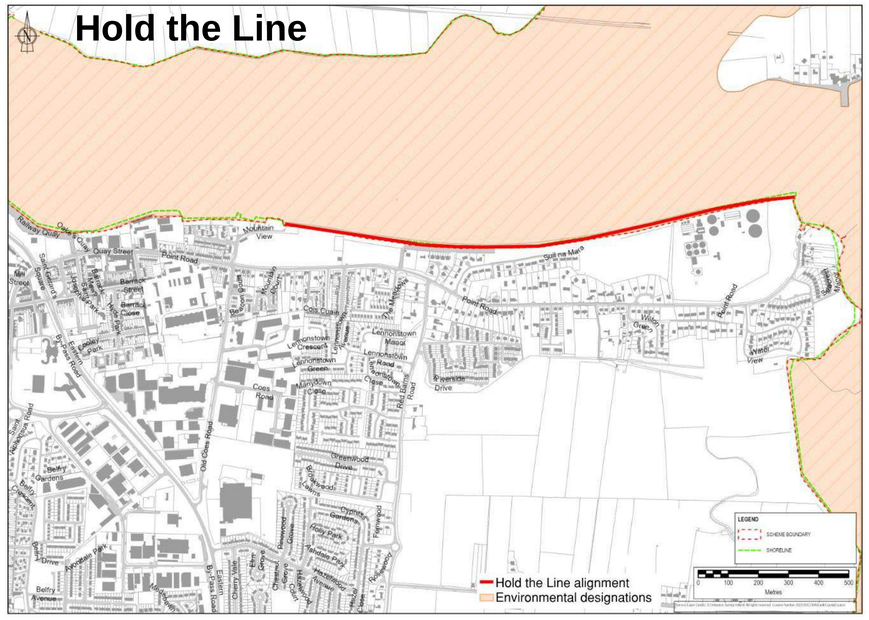
The map to the left shows predicted flood depths along the Navvy Bank coastline due to coastal and tidal flooding for the 0.5% AEP event at the Present-Day scenario. These extents confirm the need for interventions to mitigate flood risk to the community.

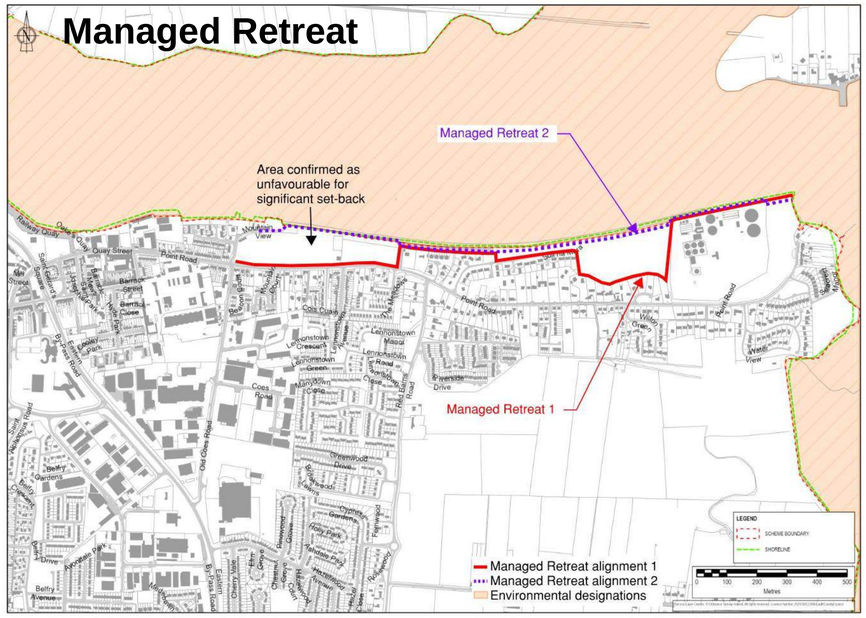
CONSTRAINTS

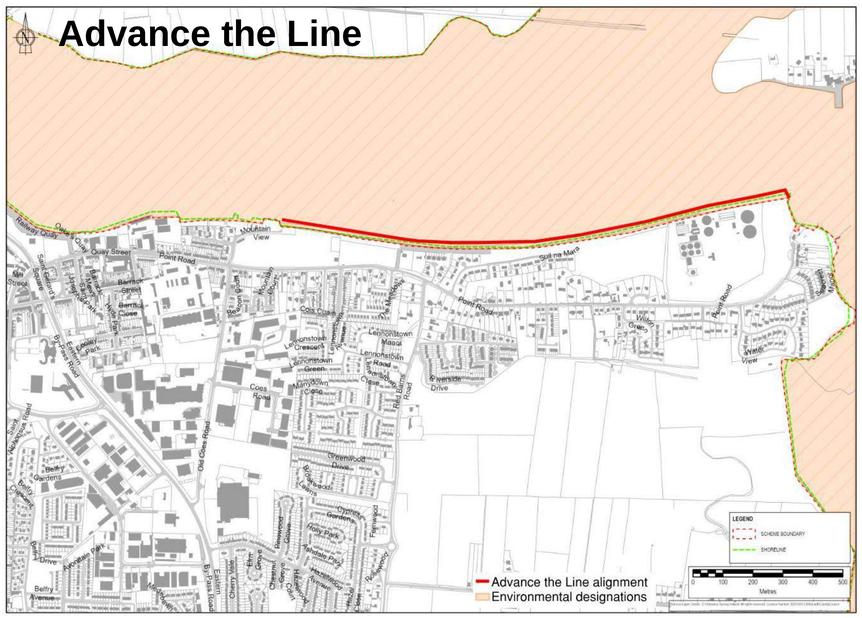
In addition to the presence of the SAC/ SPA, policies within this area are constrained by the presence of social and cultural factors, such as the Navvy Bank walkway, Soldier's Point monument and viewpoint, as well as utilities.

NAVVY BANK APPLICABLE POLICIES

The Hold the Line, Managed Retreat and Advance the Line policies are compared below.







Policy	Shortlisted
Hold the Line	**Yes**
Managed Retreat 1	**No** – would leave walkway exposed during storms and encroaches on amenities and coastal properties
Managed Retreat 2	**No** – would leave walkway exposed to storms and conflicts with landside constraints
Advance the Line	**No** – Encroachment into SAC/ SPA and no obvious advantage over alternatives.

NAVVY BANK MEASURES AND OPTIONS

MEASURES NOT APPLICABLE TO NAVVY BANK

The following measures were not developed further into options for Navvy Bank.

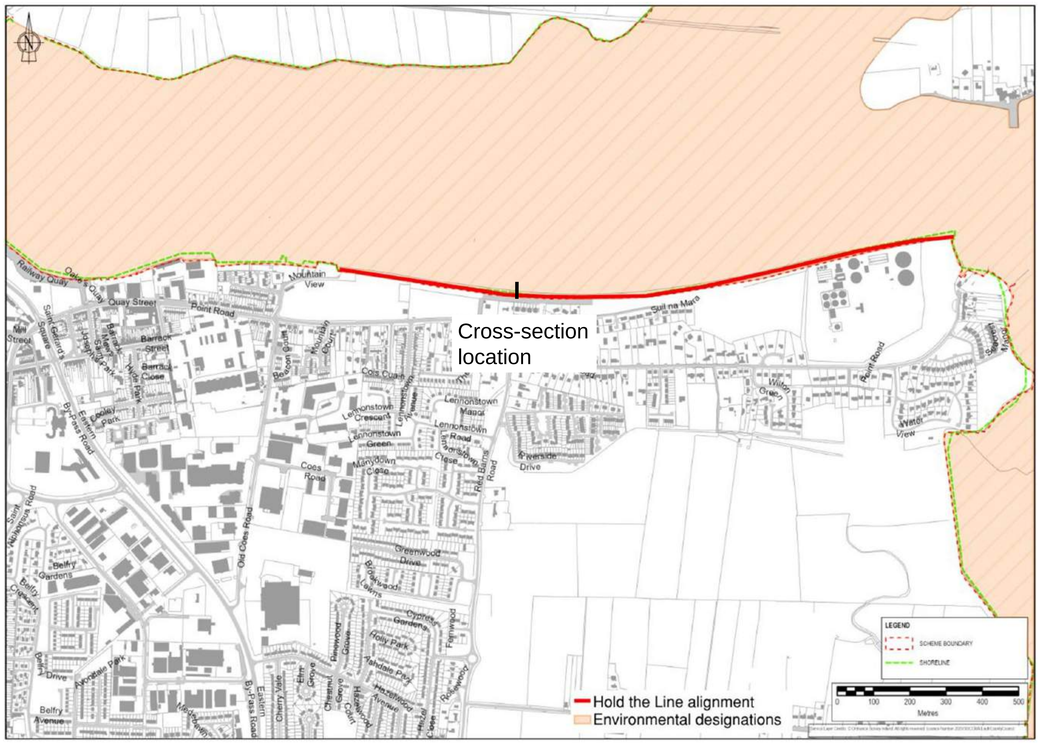
Measure	Applicability
Measure E – Flood Storage measures	Insufficient space available to be technically feasible.
Measure G – Saltmarsh restoration	Not applicable for the coastline conditions at Navvy Bank
Measure H – Beach management	Not applicable for the coastline conditions at Navvy Bank
Measure I – Demountable defences	Length of defence required makes demountable defences impractical to implement
Measure K - M Flood prevention measures	Deemed to provide insufficient levels of protection to meet the aims of the scheme.
Measure N – Flood preparedness measures	Deemed to provide insufficient levels of protection to meet the aims of the scheme.

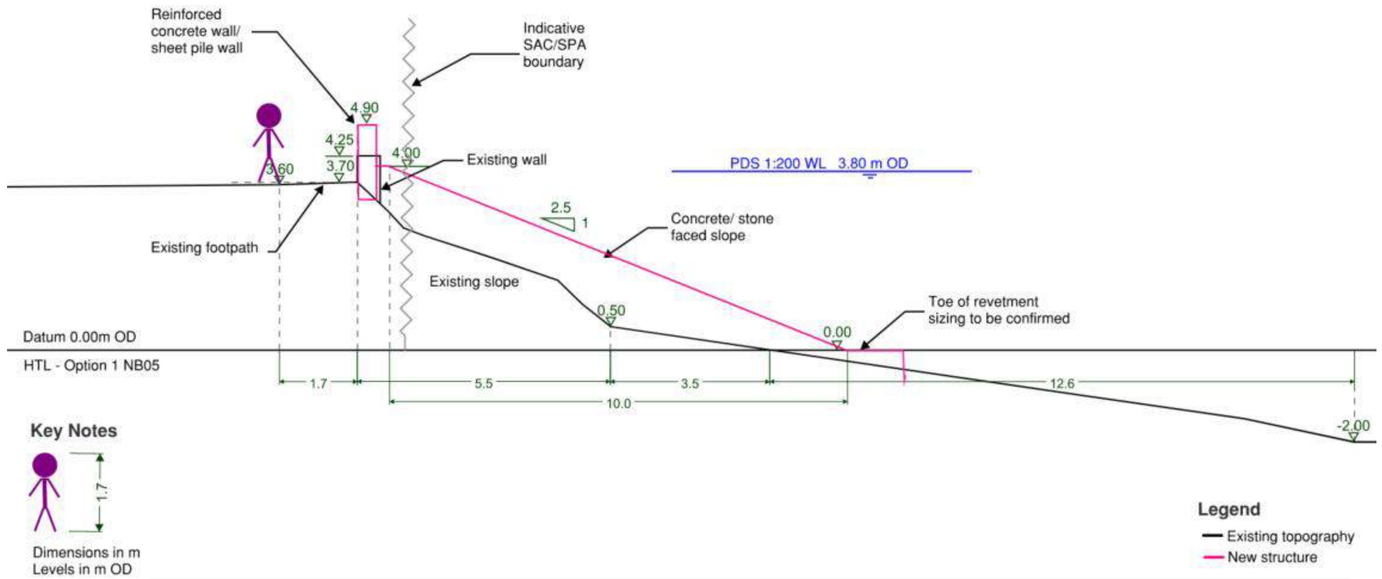
Options (Longlist)	Applicable policies	Comments	Decision
Option 1 – Relative smooth (e.g. stone) slope with wall **(Measure A and C)**	Hold the Line	Similar to what is there at present; higher wall crests compared with Option 2	**Shortlisted**
Option 2- Armoured (rock) revetment with wall **(Measure C)**	Hold the Line	Presence of rock could minimise crest raising	**Shortlisted**
Option 3 – Wave wall **(Measure A)**	Hold the Line	High wall crests required without revetment	**Discounted**
Option 4 – Raising of the footway **(Measure B)**	Hold the Line	Significant raising required with no advantage over other alternatives	**Discounted**
Option 5 – Property level protection **(Measure J)**	Managed Retreat	Deemed to provide insufficient levels of protection	**Discounted**
Option 6 – Tidal barrage **(Measure D)**	Advance the line	Impacts on coastal processes and SAC/ SPA. Impacts on navigation. Significant maintenance requirements. Not adaptable to climate change	**Discounted**
Option 7 – Breakwaters **(Measure D)**	Advance the Line	Requires raising of existing wall in addition and large footprint inside SAC	**Discounted**
Option 8 – Groynes **(Measure F)**	Advance the Line	Offers limited effectiveness against flooding mechanisms in this location; measure doesn't work in isolation	**Discounted**

NAVVY BANK OPTIONS

Option 1 – Stone slope with wall (Hold the Line)

This option comprises of raising the level of the existing wall and constructing a new smooth revetment along the alignment of the existing slope. Raising of the walkway and viewing platform as well as general landscaping may be considered to minimise visual impacts on existing amenities.





Advantages

- Minimal impact on existing landside features and amenities.
- Similar in form to the existing arrangement.

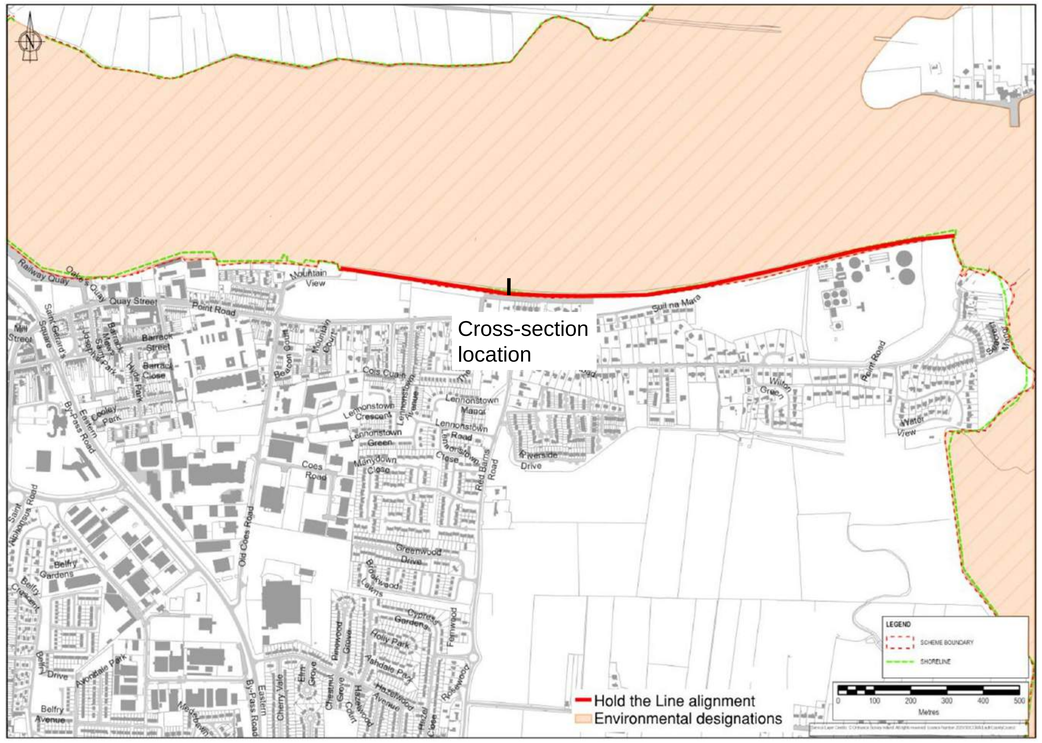
Limitations

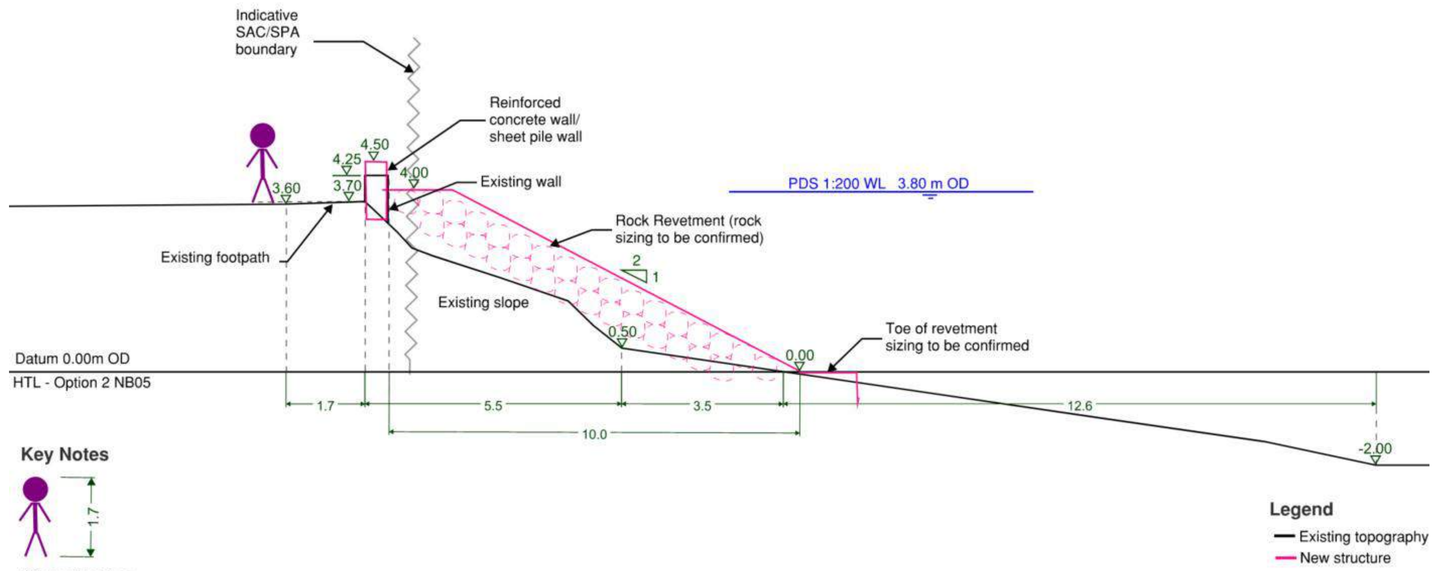
- Replacement with a relatively smooth slope (similar to existing) would require widening of the revetment, increasing encroachment into the SAC/SPA.
- Raising of the footpath could be required to minimise visual impacts along the public walkway.
- Adaptation measures could require wall raising and significant slope extension, leading to further encroachment into the SAC/SPA and potentially unacceptable crest heights.

NAVVY BANK OPTIONS

Option 2 – Armoured (rock) revetment with wall (Hold the Line)

This option comprises of raising the level of the existing wall and constructing a new rock armour revetment along the alignment of the existing slope.





Advantages

- The presence of rock armour enhances wave energy dissipation, allowing for a lower crest height compared to Option 1.
- Minimal disruption to existing landside features.

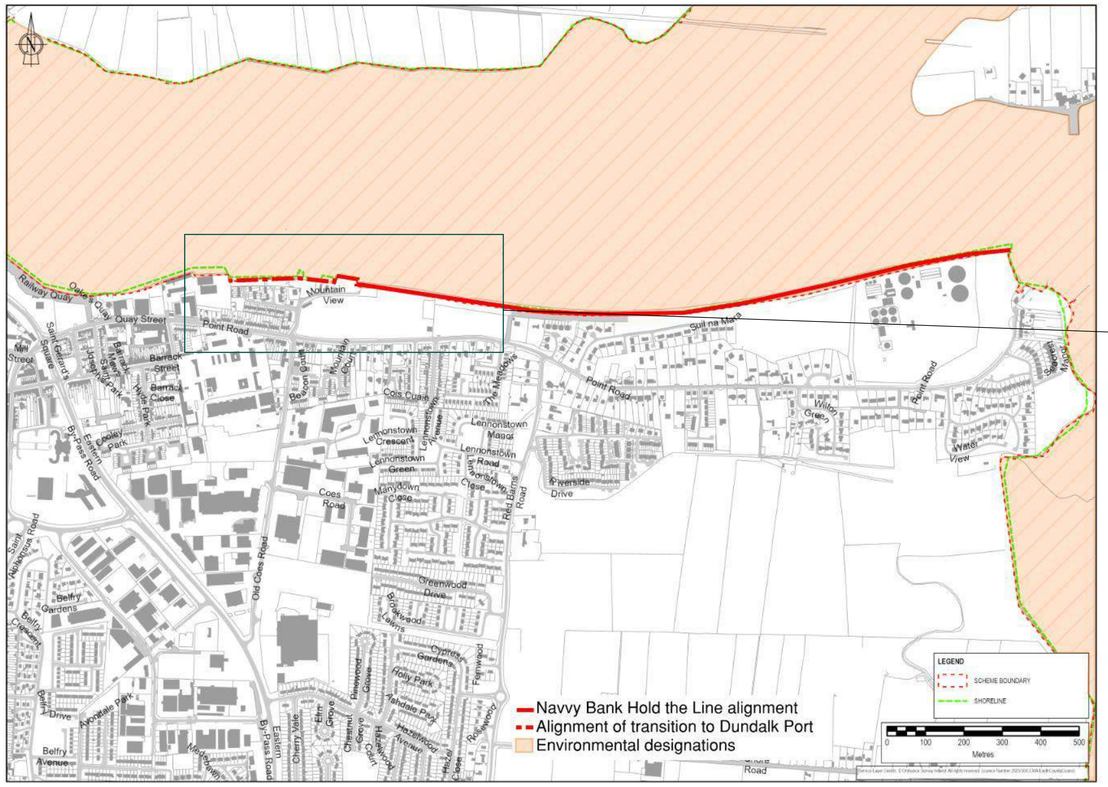
Limitations

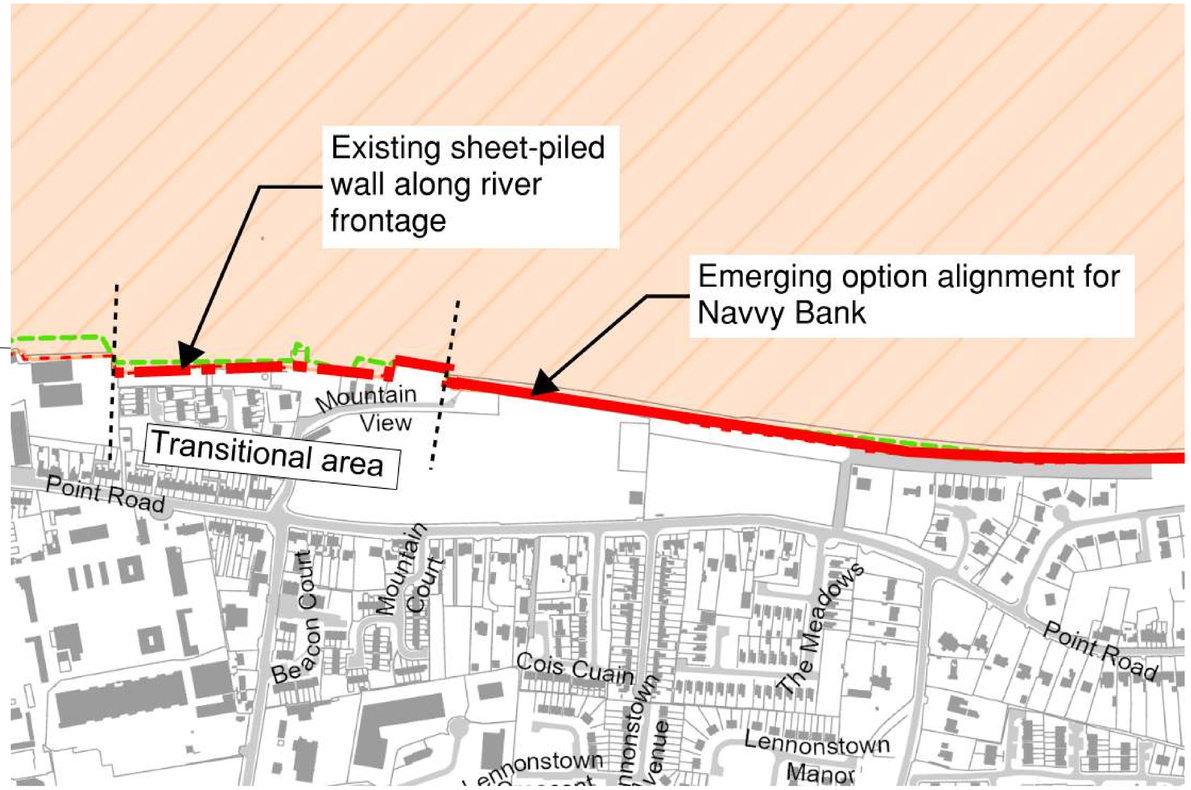
- The defence footprint encroaches further into the SAC/SPA.
- Presence of rock may impact hydrodynamics and sediment processes locally.
- Adaptation measures could require widening of the rock revetment further into SAC/SPA and walls with higher visual presence.

NAVVY BANK OPTIONS

Connection to Dundalk Port

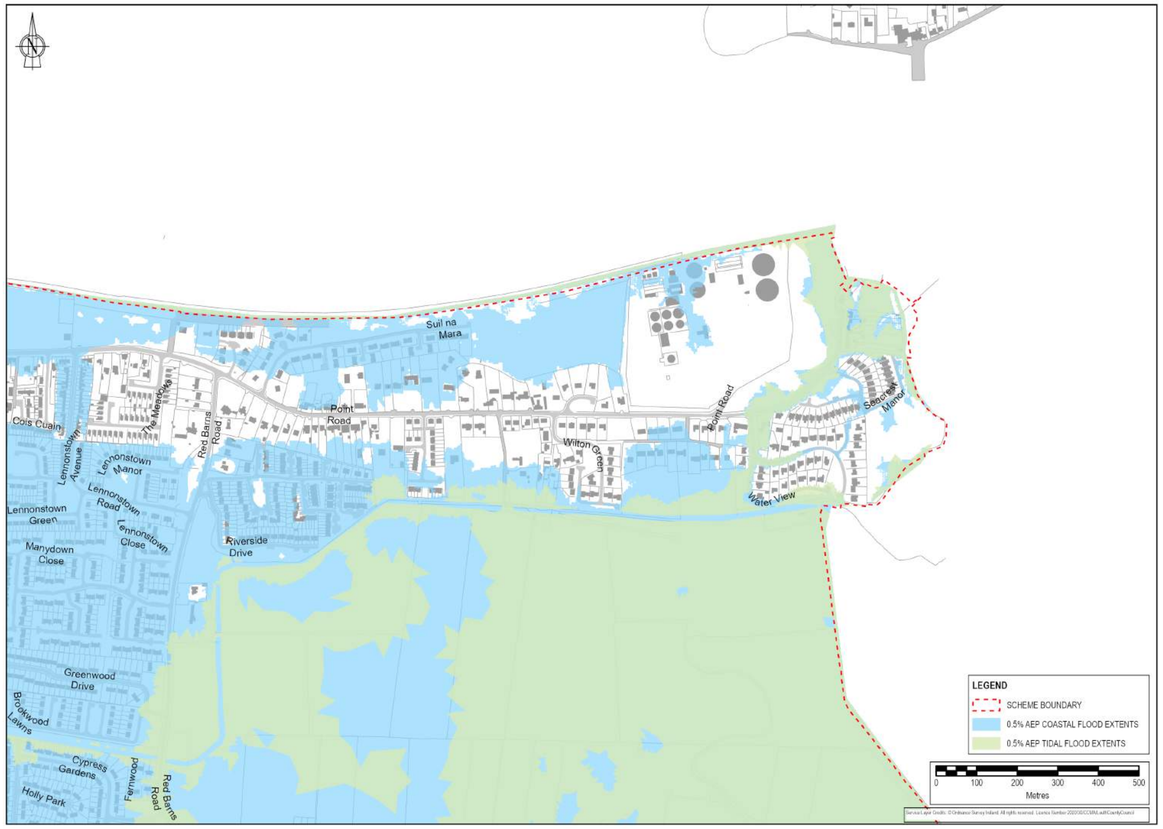
Option in the transitional area includes replacement of the existing sheet-piled wall with a new sheet-piled wall. The crest level of the defence in this area could gradually reduce from higher defence levels at Navvy Bank (which is at risk from both coastal and tidal flooding) to levels inside the Port (at risk from tidal flooding only).





SOLDIER'S POINT

The Soldier's Point comprises predominantly natural banks, property walls, and a stone-faced revetment. SAC and SPA designations extend to the coastline, as shown below.



AREAS

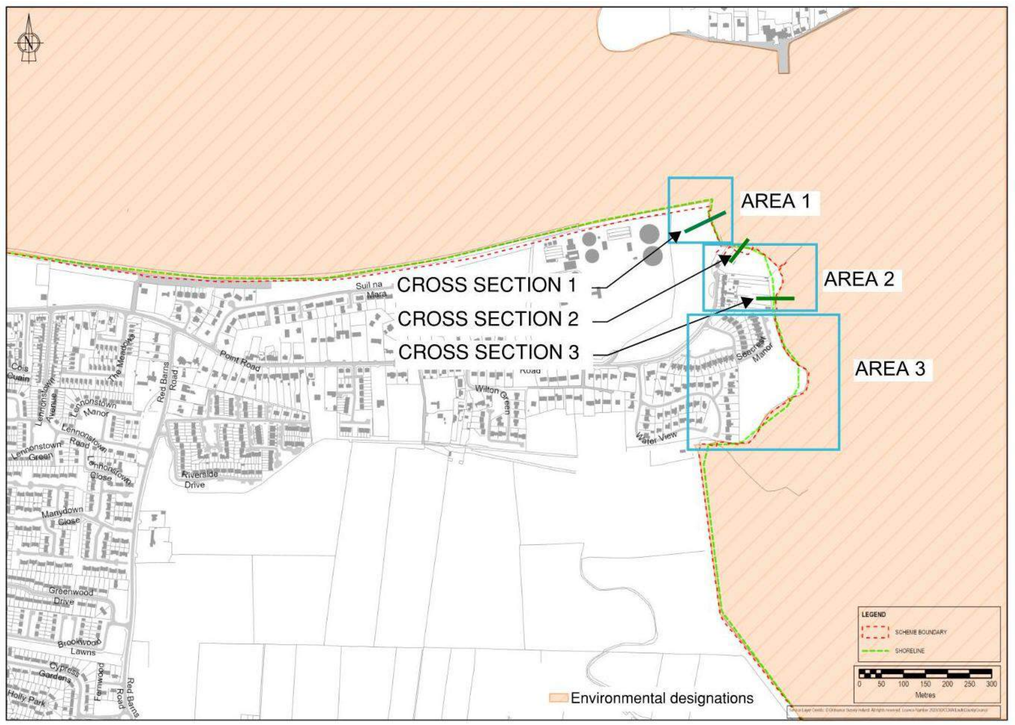
Due to the variable nature of the shoreline within the Soldier's Point area, this length of defence has been further subdivided, with different options and policies applicable to each area.

COASTAL FLOOD RISK

The map to the left shows predicted flood depths along the Navvy Bank coastline due to coastal and tidal flooding for the 0.5% AEP event at the Present-Day scenario.

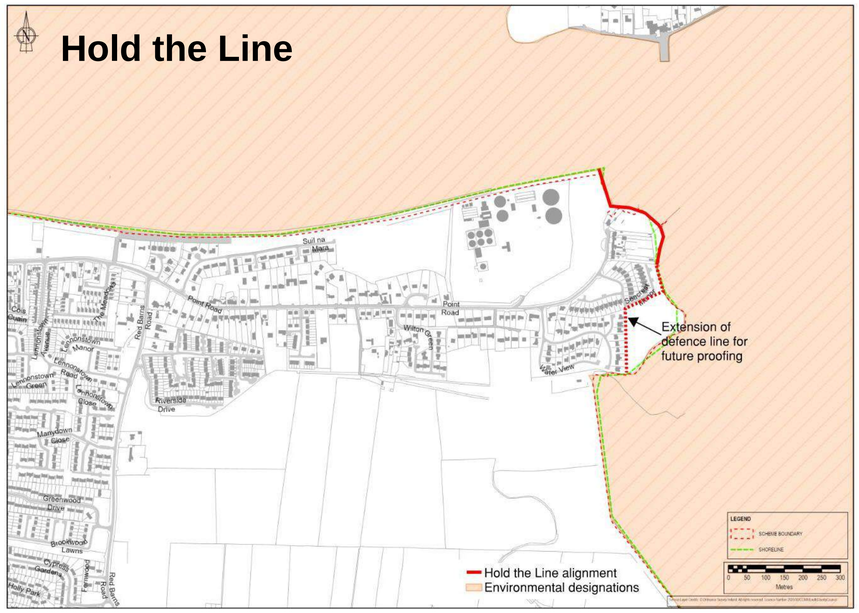
CONSTRAINTS

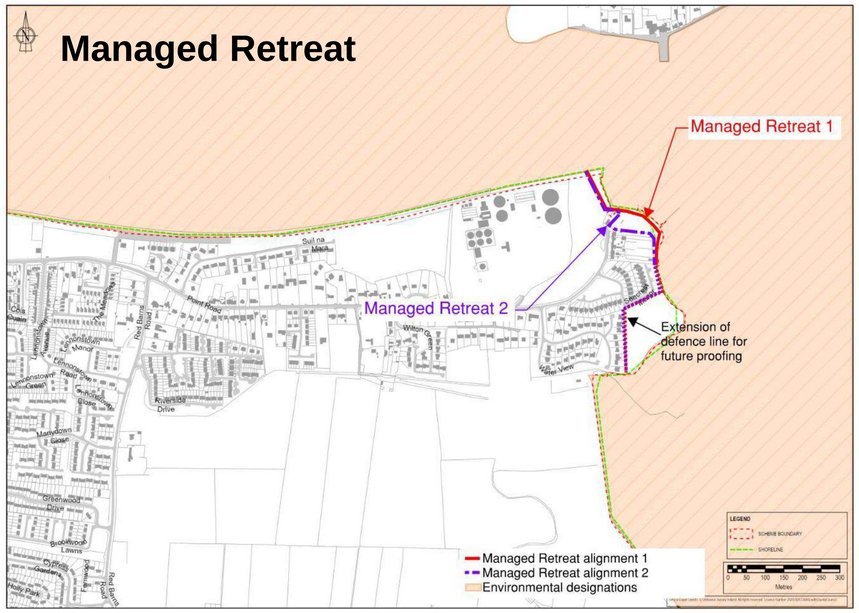
In addition to the SAC/ SPA, policies within this area are constrained by the presence of social and cultural factors, such as the Soldier's Point monument and viewpoint as well as the coastal properties.

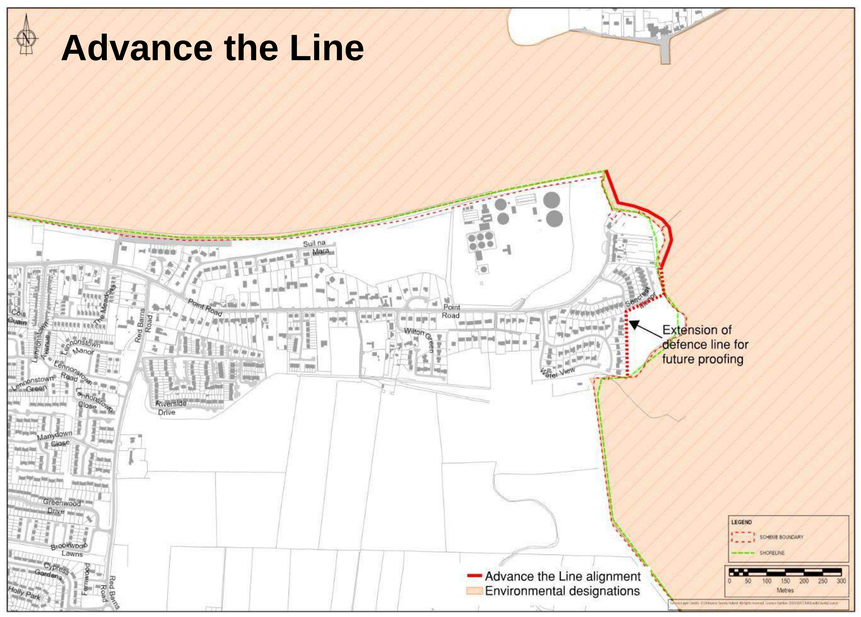


SOLDIER'S POINT APPLICABLE POLICIES

The Hold the Line, Managed Retreat and Advance the Line policies are compared below.







Policy	Shortlisted
Hold the Line	**Yes**
Managed Retreat 1	**Yes**
Managed Retreat 2	**No** – Limits future developments in the northern extent
Advance the Line	**No** – Encroachment into SAC/ SPA and no obvious advantage over alternatives.

SOLDIER'S POINT MEASURES AND OPTIONS

MEASURES NOT APPLICABLE TO SOLDIER'S POINT

The following measures were not developed further into options for Soldier's Point

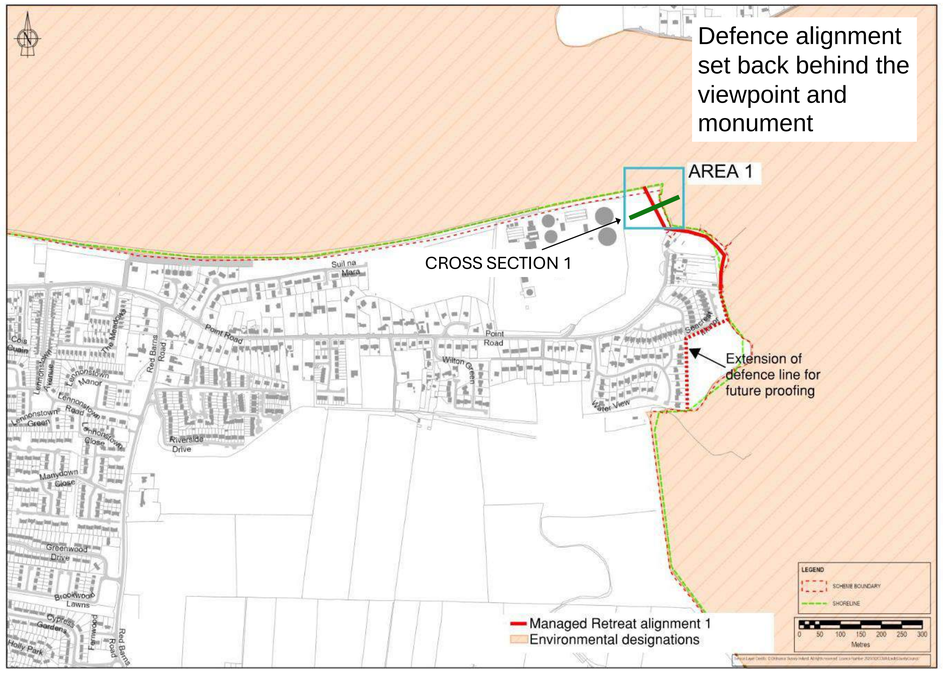
Measure	Applicability
Measure E – Flood Storage measures	Insufficient space available to be technically feasible.
Measure G – Saltmarsh restoration	Not applicable for the coastline conditions at Soldier's Point
Measure H – Beach management	Not applicable for the coastline conditions at Soldier's Point
Measure I – Demountable defences	Length of defence required makes demountable defences impractical to implement
Measure K - N Flood prevention and preparedness measures	Deemed to provide insufficient levels of protection to meet the aims of the scheme.

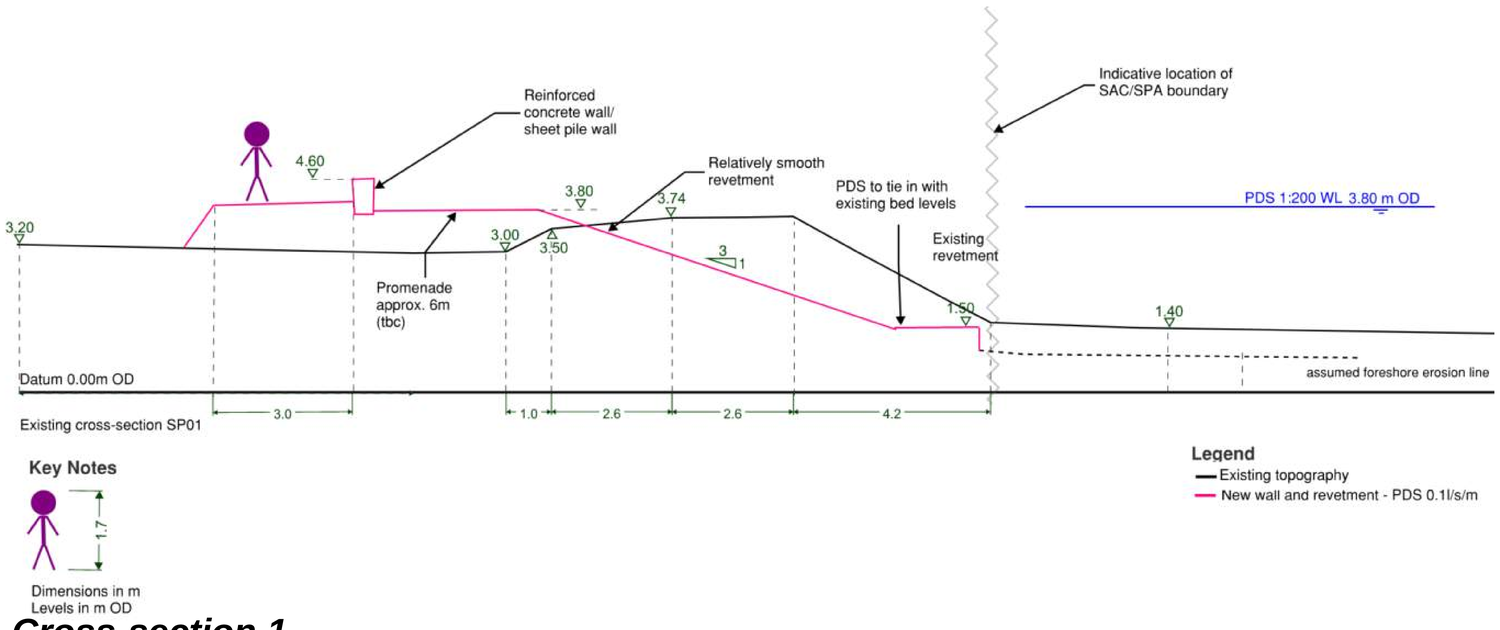
Options (Longlist)	Applicable Policies	Comments	Decision
Option 1 - Armoured revetment with wave wall in Area 1, with vegetated slope and flood walls in Area 2 **(Measures A, B and C)**	Hold the Line	Requires encroachment into the SAC/ SPA with no obvious advantage over Option 2	**Discounted**
Option 2 - Smooth revetment with set back wall along Area 1, with vegetated slope and flood walls in Area 2 **(Measures A, B, and C)**	Managed Retreat 1	Minimal encroachment into SAC, revetment requires lower wall crest compared to grass slopes	**Shortlisted**
Option 3 - Grassed slope with wall **(Measure B)**	Hold the Line	High crest required for grassed slopes	**Discounted**
Option 4 - Property level protection for coastal properties **(Measure J)**	Managed Retreat	Insufficient levels of protection to meet the aims of the scheme	**Discounted**
Option 5 - Construction of breakwaters **(Measure D)**	Advance the Line	Requires construction of continuous flood walls and encroachment into SAC with limited benefit over land-based alternatives	**Discounted**
Option 6 - Groynes constructed on beach area **(Measure F)**	Hold the Line	Offers limited effectiveness against flooding mechanisms in this location.	**Discounted**

SOLDIER'S POINT OPTIONS

AREA 1: Option 2 – Smooth revetment with set back wall along Area 1 (Managed Retreat)

This option comprises of setting the wall back significantly along this section and constructing a new smooth revetment along the seaward side. This could involve construction of a new public walkway behind the wall, to achieve the required crest levels. The transition between the Soldier's Point and Navvy Bank defences may then be set back behind the viewpoint and monument, which would remain unaffected and outside the defence line.





Cross-section 1

Advantages

- Minimal works at the marsh boundary. Footprint of proposed defence is outside the SAC/ SPA.
- Required footprint for adaptation measures could be incorporated into current scheme.

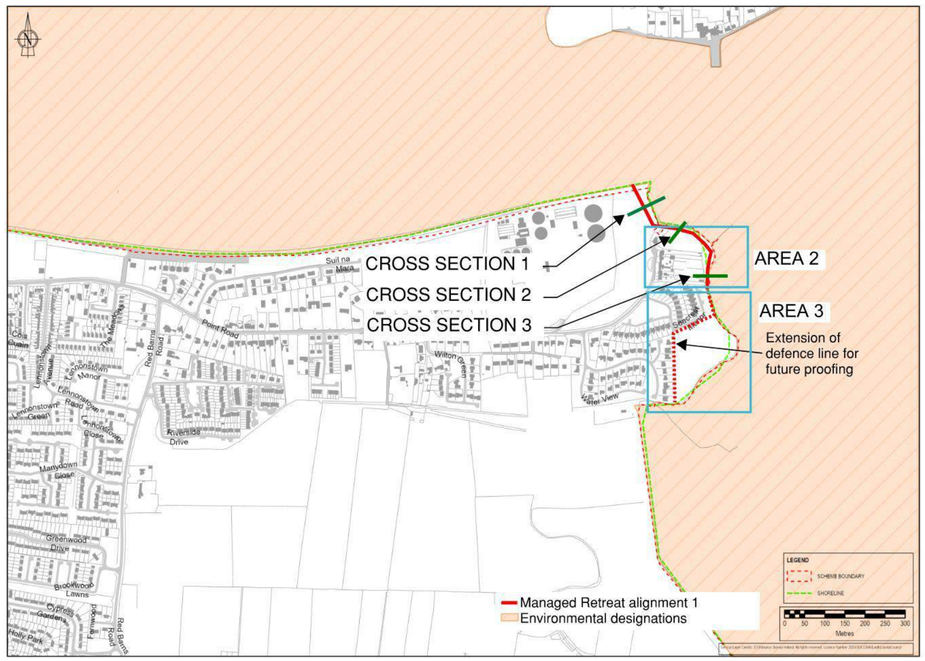
Limitations

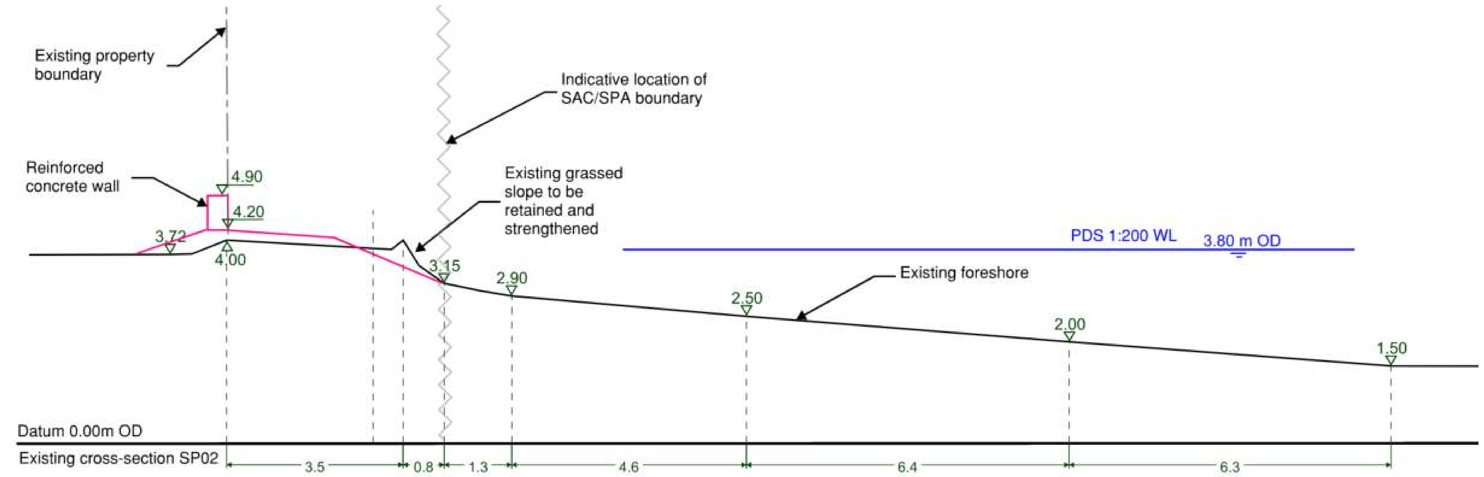
- There may be a requirement to purchase land which is currently privately owned to avoid encroaching into the SAC.
- Wall raising and significant slope extension could be required for future scenarios.

SOLDIER'S POINT OPTIONS

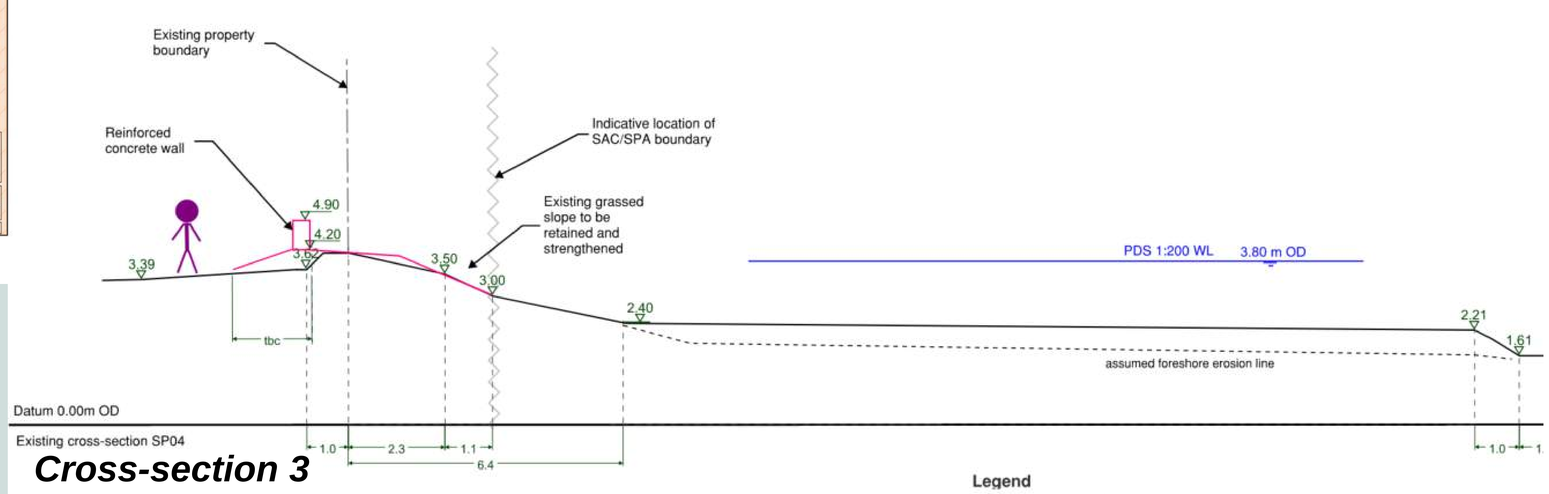
AREA 2: Option 2 – vegetated slope and flood walls in Area 2 (Managed Retreat)

Along the seaward edge of the properties, approximately 2-3m of land may need to be purchased as part of this option. A reinforced concrete wall may be situated along the top of the existing grassed slope.





Cross-section 2



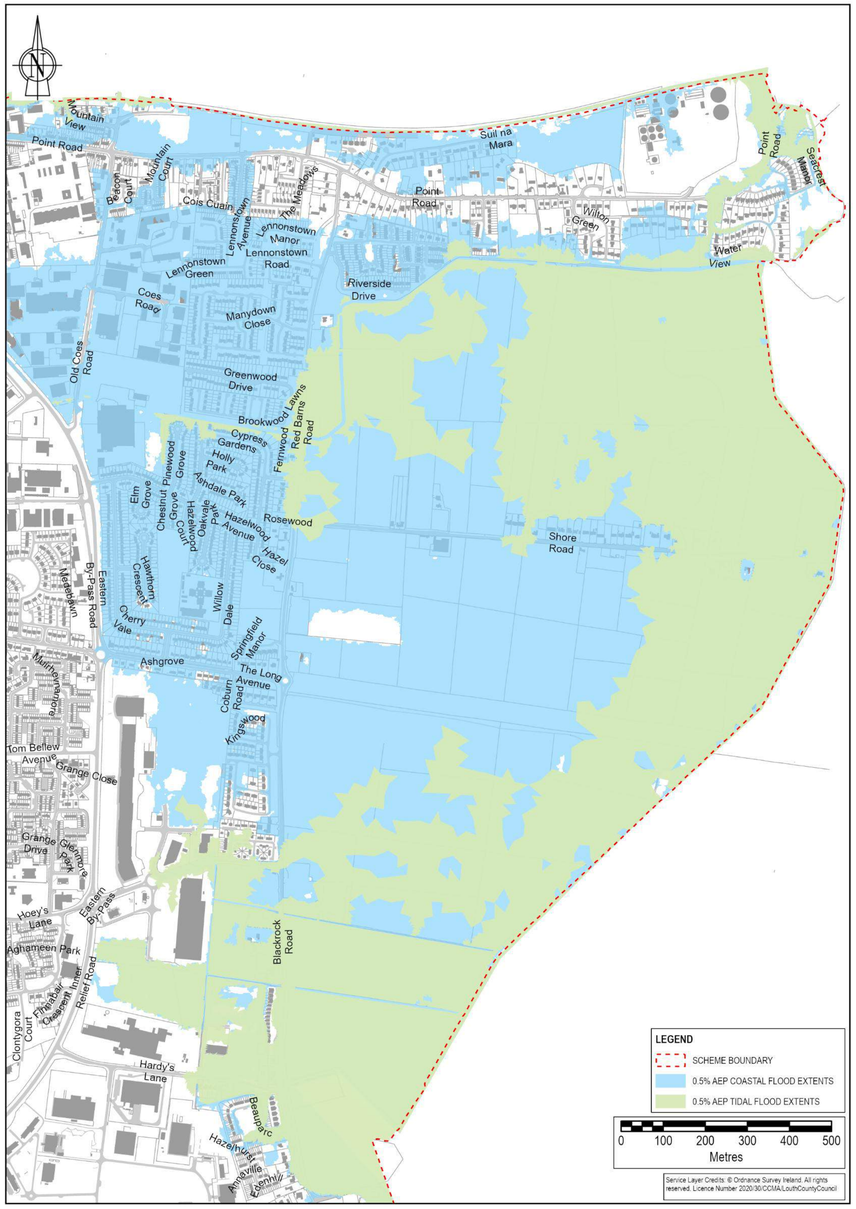
Cross-section 3

AREA 3

Works along Area 3 are not required to address flooding for the present day, however it may be beneficial to construct these as part of this scheme to address the future flood risk. This could involve extending Option 2 (as shown in Cross-Section 3) along the alignment shown above.

LORD LIMERICK

The Lord Limerick embankment extends approximately 3.4km along the coastline. Saltmarsh lies beyond the embankment, forming part of the wider environmentally designated area (see right).



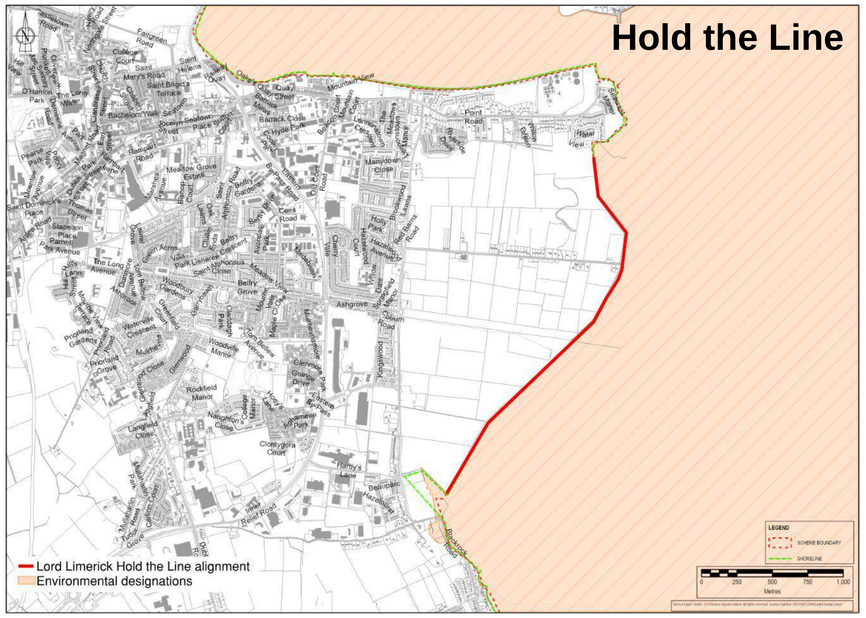
COASTAL FLOOD RISK

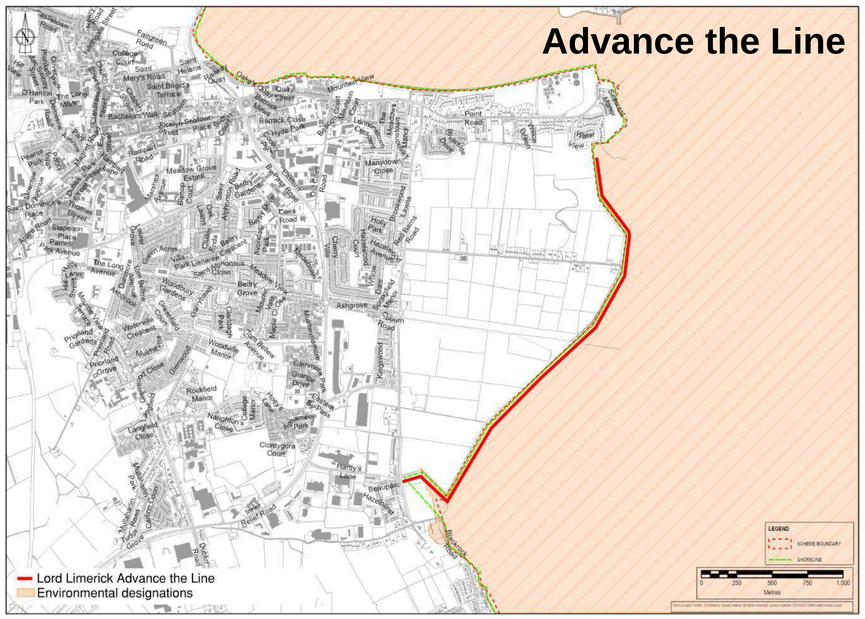
The map to the left shows predicted flood depths along the Lord Limerick frontage due to coastal and tidal flooding for the 0.5% AEP event at the Present-Day scenario.

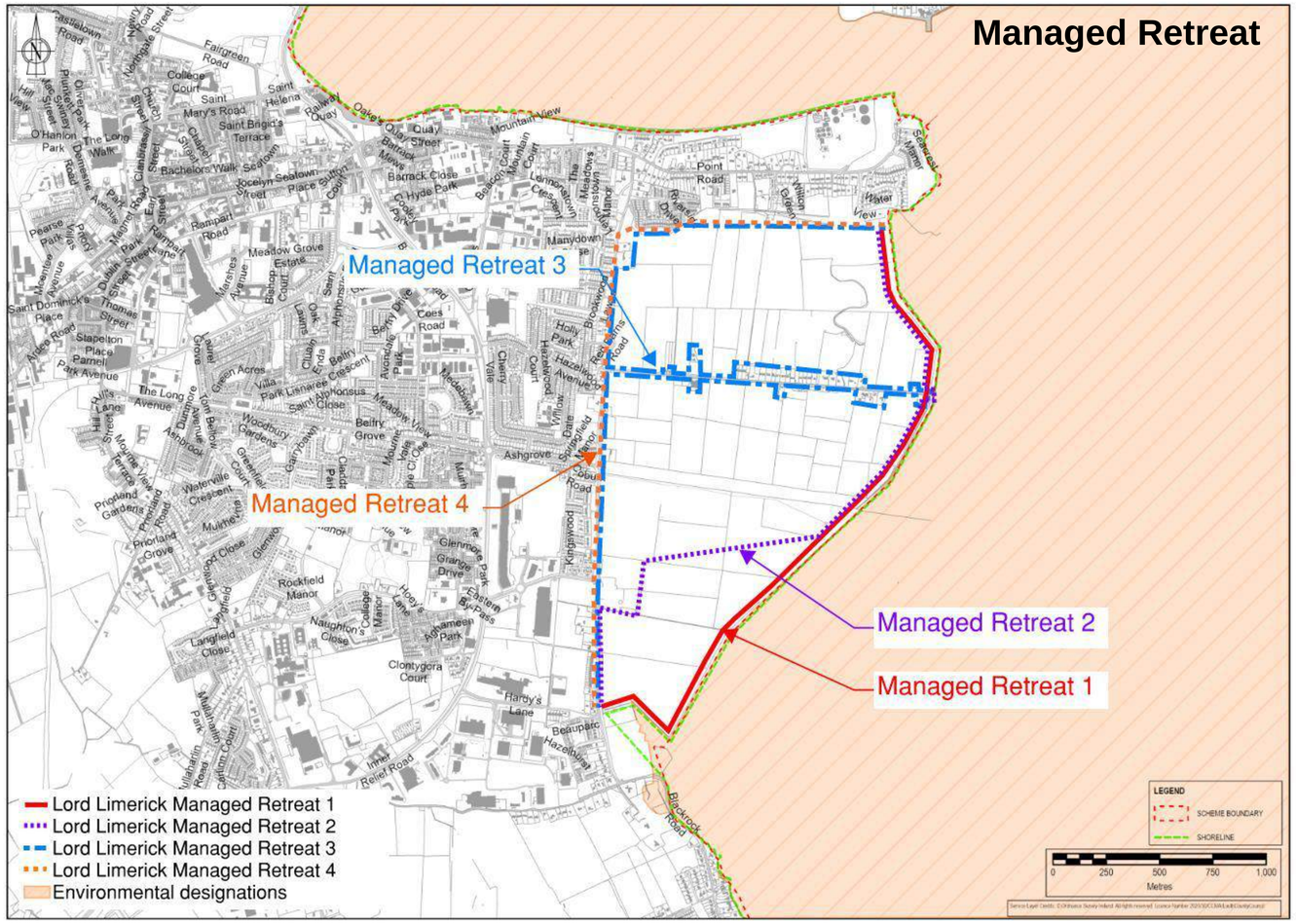
Key receptors in this area include properties along Shore Road, the firing range and agricultural land.

LORD LIMERICK APPLICABLE POLICIES

Hold the Line, Managed Retreat and Advance the Line policies are compared below.







LORD LIMERICK APPLICABLE POLICIES AND MEASURES

Policy	Shortlisted
Hold the Line	**Yes**
Managed Retreat 1	**Yes**
Managed Retreat 2	**Yes**
Managed Retreat 3	**No** – Longer defence compared to alternatives with no obvious advantage over MR 1 and 2. No protection to firing range.
Managed Retreat 4	**No** – Relocation of properties along Shore Road is considered to be socially unacceptable. No protection to firing range.
Advance the Line	**No** – Encroachment into SAC/ SPA and no obvious advantage over alternatives.

MEASURES NOT APPLICABLE TO LORD LIMERICK

The following measures were not put forward to develop the longlist of options.

Measure	Applicability
Measure D – Offshore breakwaters	Significant encroachment into SAC/ SPA and no obvious advantage over alternatives.
Measure E – Flood Storage measures	Significant space required and deep excavation / water ponding. Not adaptable to climate change.
Measure F – Groynes	Not applicable in isolation as a flood protection measure, requires additional works along the existing defence line.
Measure H – Beach management	Not applicable
Measure I – Demountable defences	Length of defence required makes demountable defences impractical to implement
Measure J – N Property level protection, Flood prevention & Flood preparedness	Deemed to provide insufficient level of protection to meet scheme objectives.

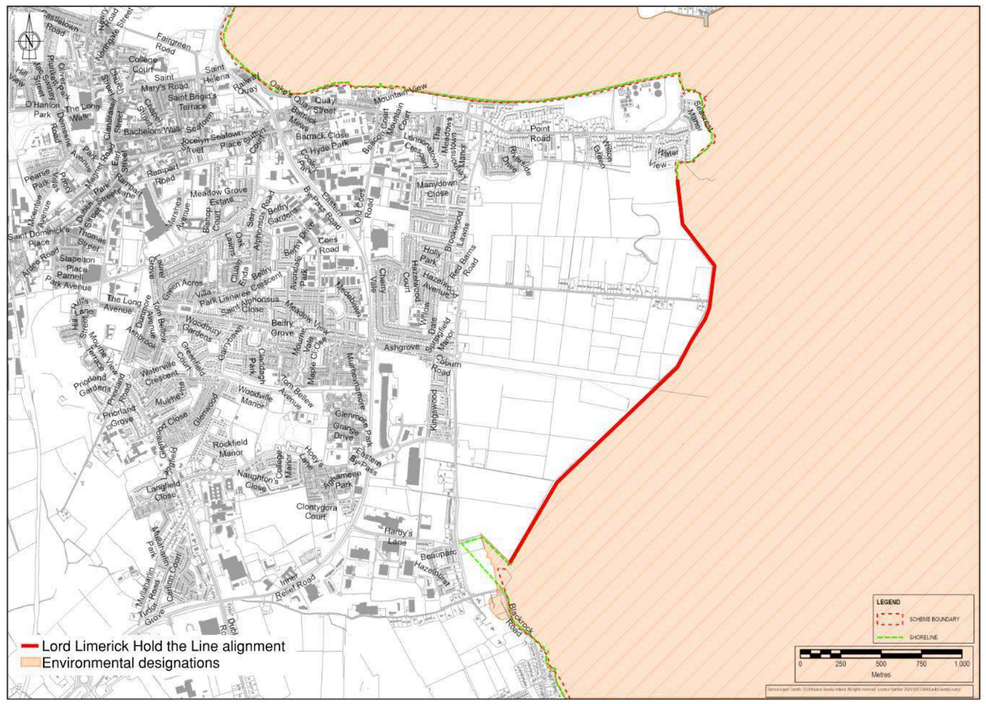
LORD LIMERICK OPTIONS

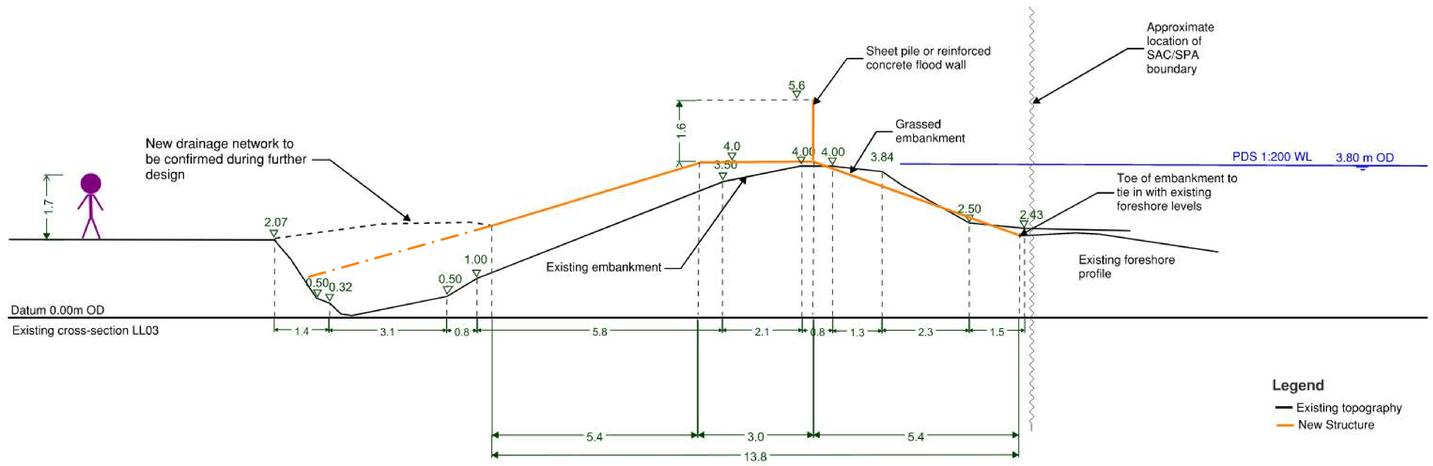
Options (Longlist)	Applicable policies	Comments	Decision
Option 1 – Grassed embankment along existing alignment **(Measure B)**	Hold the Line	Significant crest increase required compared to existing, with high volumes of material required, large defence footprint.	**Discounted**
Option 2 – Grassed embankment with wall **(Measure A and B)**	Hold the Line	Smaller footprint than Option 1. May become inappropriate if archaeological constraints are present.	**Shortlisted**
Option 3- Armoured embankment **(Measure C)**	Hold the Line	Lower wall crest compared to Option 2 and smaller footprint. Presence of rock may impact the marsh. May become inappropriate if archaeological constraints are present.	**Shortlisted**
Option 4 – New wall along existing alignment **(Measure A)**	Hold the Line	High crest required. Likely to cause erosion of the marsh.	**Discounted**
Option 5 **-** New grassed embankment at a set-back alignment **(Measure B)**	Managed Retreat 1	High crest required. Significant land take to accommodate the defence footprint.	**Discounted**
Option 6 - Grassed embankment with wall **(Measure A and C)**	Managed Retreat 1	Option 6 (grassed) may be more aesthetically pleasing compared to Option 8 (rock) but with larger footprint.	**Shortlisted**
Option 7- Armoured embankment **(Measure C)**	Managed Retreat 1	Option 7 offers no obvious advantage against Option 8	**Discounted**
Option 8- Armoured embankment with wall **(Measure A and C)**	Managed Retreat 1	Smallest defence footprint among Options in this policy. Minimal impact on the marsh.	**Shortlisted**
Option 9 - Armoured embankment with wall and marsh reclamation **(Measure A, C and G)**	Managed Retreat 2	Minimal impact on the marsh. Habitat and amenity enhancement opportunities along the R172.	**Shortlisted**
Option 10 - Armoured embankment with wall, flood wall along R172 and marsh reclamation **(Measure A, C & G)**	Managed Retreat 2	Minimal impact on the marsh. Habitat and amenity enhancement opportunities with more space for saltmarsh compared to Option 9.	**Shortlisted**

LORD LIMERICK OPTIONS

Option 2 – Grassed embankment with wall (Hold the Line)

This option comprises of constructing a grassed embankment along the existing alignment with a wave wall on the crest.





Advantages

- Alignment may minimise land take requirements compared to set-back alternatives.
- Minimal disruption on the landward side of the defence and existing amenities could be retained.
- Wall height may be further optimised to avoid obstructing views on the embankment crest.

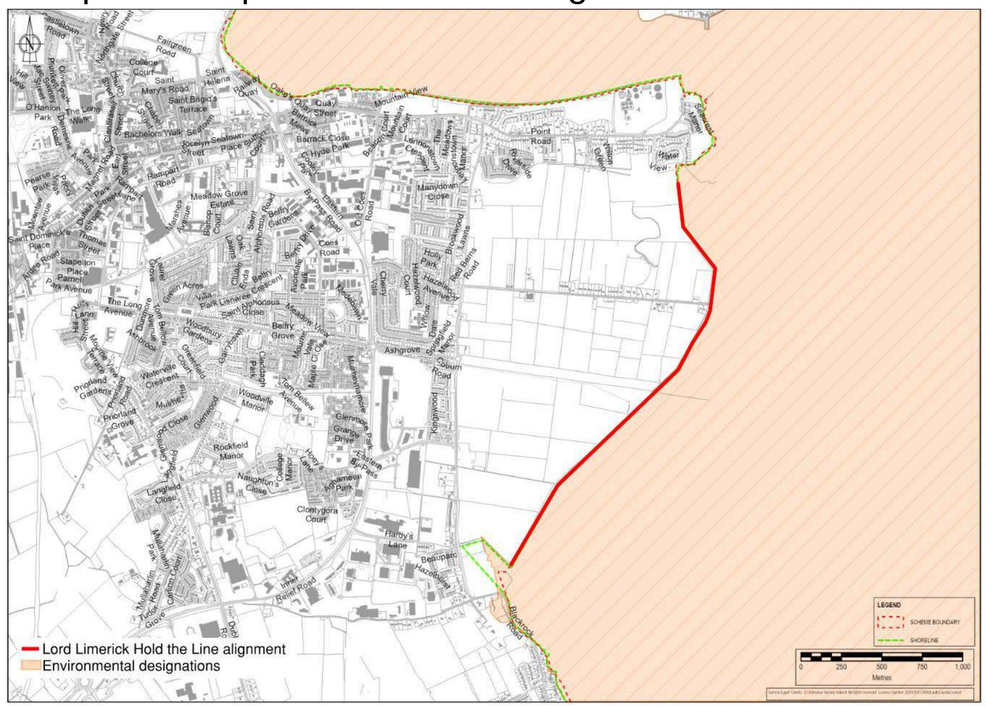
Limitations

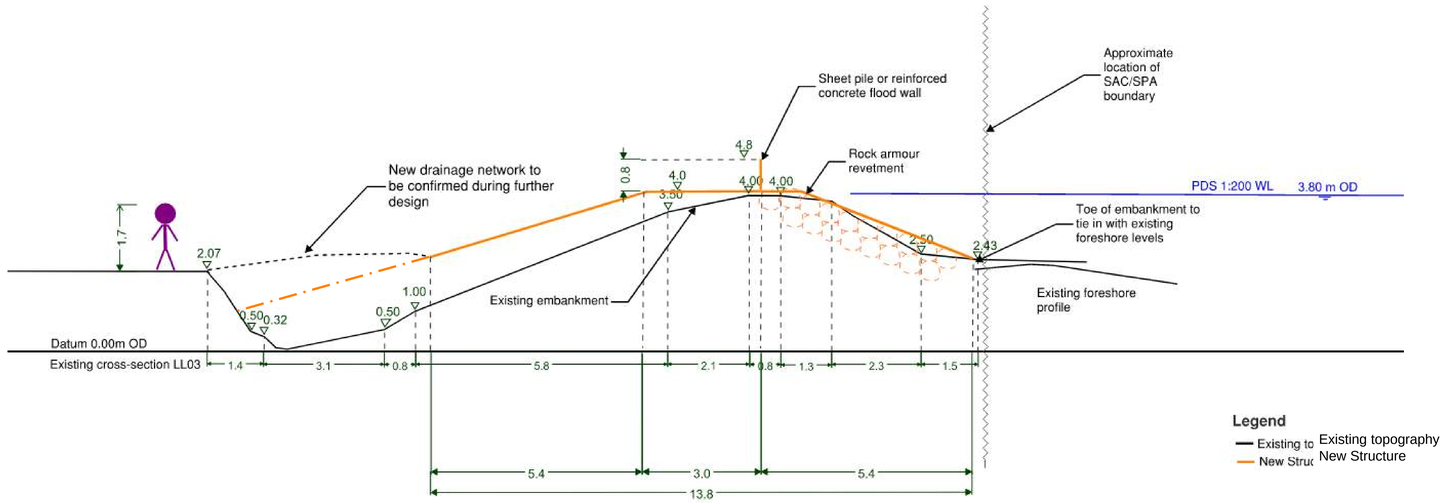
- The existing embankment may need full reconstruction. Works at the boundary of the marsh.
- Potential archaeology constraints present at the existing embankment.
- Defence crest heights are high if no roughness features are provided on the seaward slope.
- Adaptation measures are sensitive to the presence and condition of the marsh. Footprint could need to encroach further into environmentally designated areas in the future.

LORD LIMERICK OPTIONS

Option 3 – Armoured embankment (Hold the Line)

This option comprises of constructing a new armoured revetment along the existing alignment with a wave wall on the crest.





Advantages

- Alignment may minimise land take requirements compared to set-back alternatives.
- Minimal disruption on the landward side of the defence and existing amenities could be retained.
- Presence of rock helps reduce storm damage and keep wall height low and easier to adapt in the future.

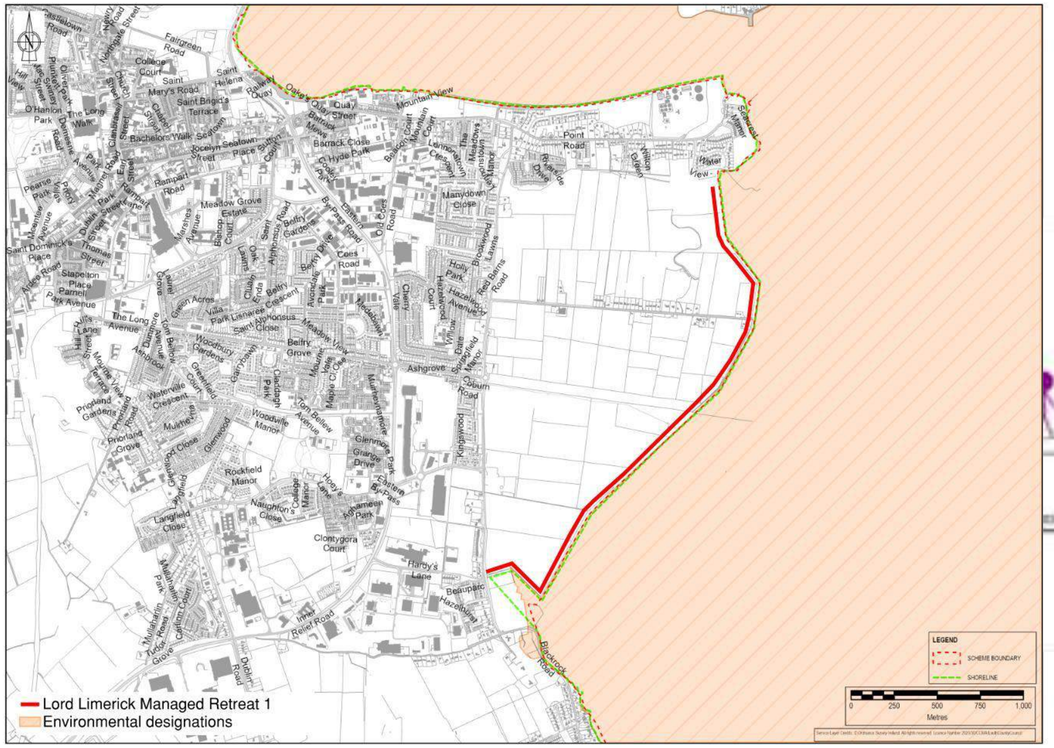
Limitations

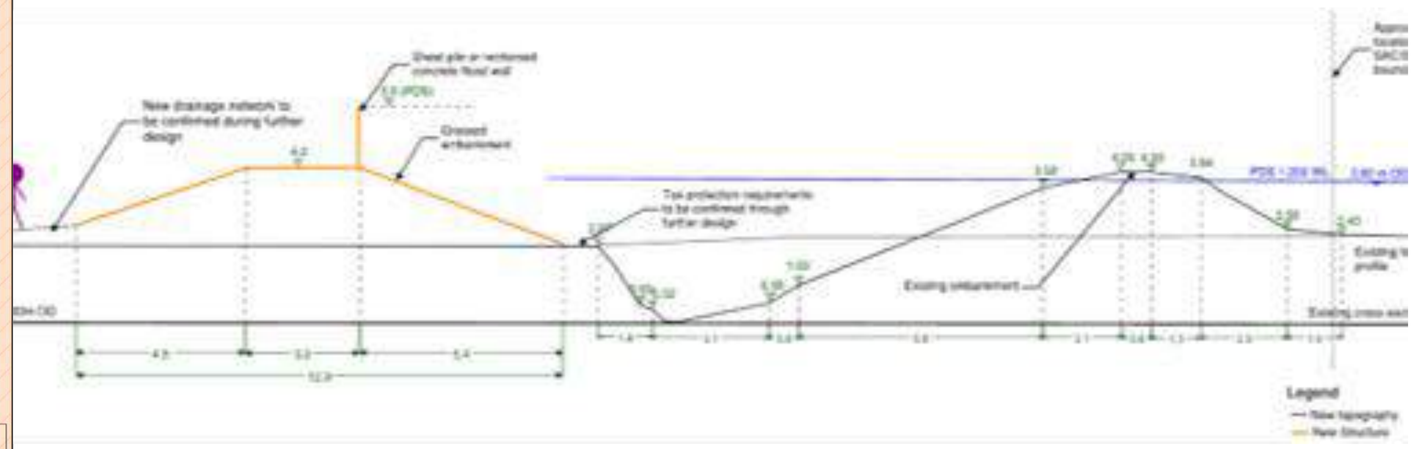
- The existing embankment may need full reconstruction. Works at the boundary of the marsh.
- Potential archaeology constraints present at the existing embankment.
- Replacement of the existing grass slope with rock may alter hydrodynamic and sediment processes at the marsh edge, potentially contributing to localised erosion.
- Adaptation measures are sensitive to the presence and condition of the marsh. Footprint could need to encroach further into environmentally designated areas in the future.

LORD LIMERICK OPTIONS

Option 6 – Grassed embankment with wall (Managed Retreat 1)

This option comprises of constructing a grassed embankment along a set back alignment with a wave wall on the crest.





Advantages

- No works proposed on the salt marshes
- The existing embankment could remain as is.
- The set-back alignment doesn't affect potential marsh shift landward.
- Land required for future adaptation measures can be incorporated within the current scheme (subject to land acquisition).
- Wall height can be optimised to minimise visual impacts from the embankment crest.

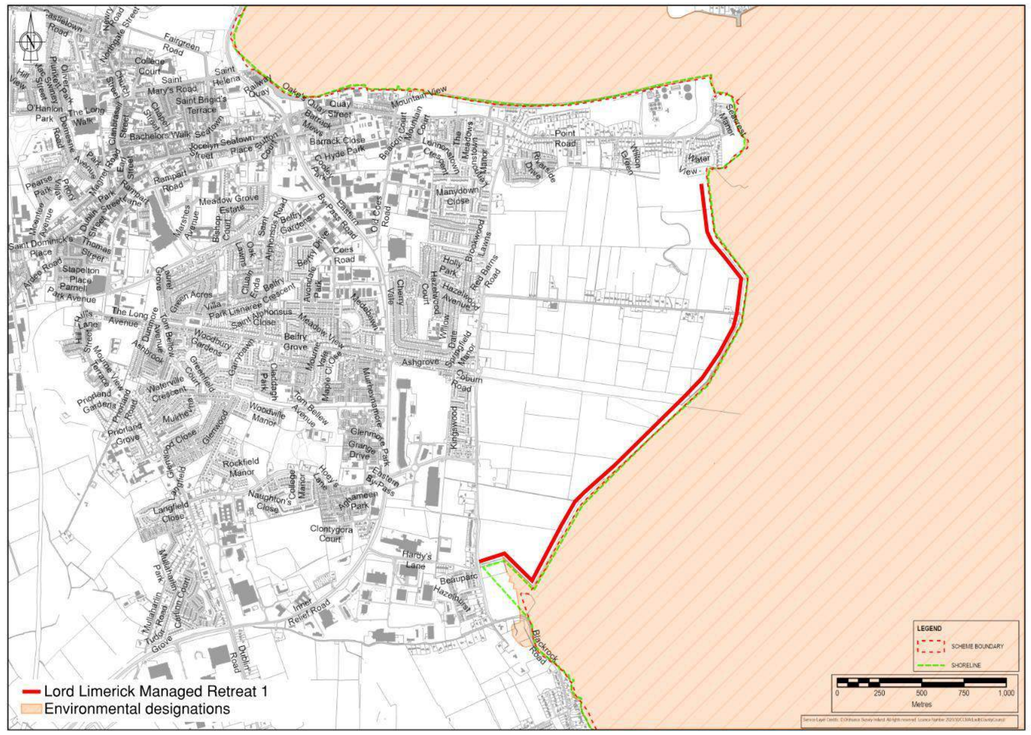
Limitations

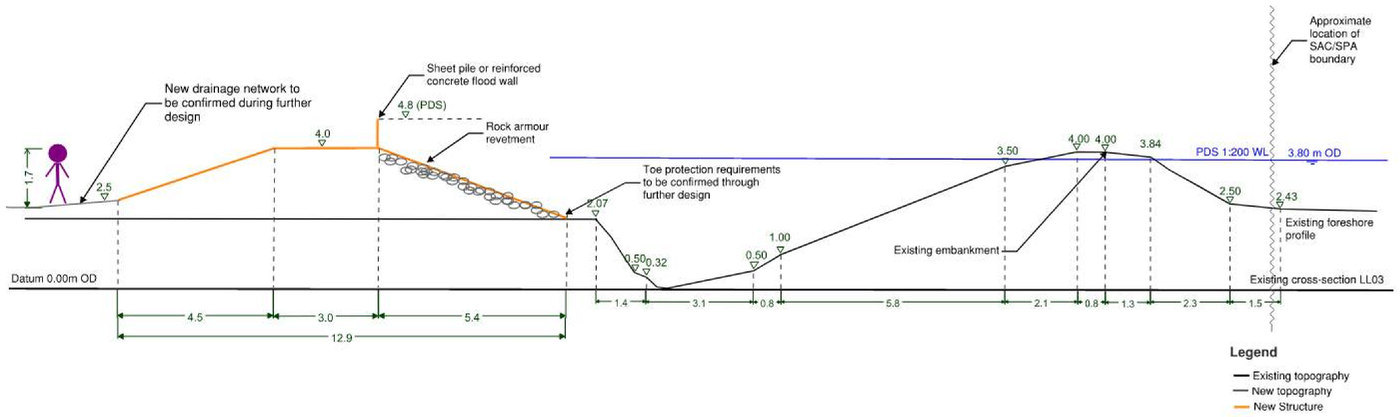
- Short sections of defence would still be required at the marsh boundary (end of Shore Road, firing range).
- Limited opportunities for habitat enhancement compared to Options 9 and 10.
- Higher wall crest compared to Option 8 due to the absence of roughness features on the seaward slope.
- Adaptation measures are sensitive to the presence and condition of marsh. Footprint may need to extend seaward in the future.

LORD LIMERICK OPTIONS

Option 8 – Armoured embankment with wall (Managed Retreat 1)

This option comprises of constructing a new armoured revetment along a set back alignment with a wave wall on the crest.





Advantages

- No works proposed on the salt marshes
- The existing embankment could remain as is.
- The set-back alignment doesn't affect potential marsh shift landward.
- Land required for future adaptation measures can be incorporated within the current scheme (subject to land acquisition).
- Wall along the embankment crest is lower compared to Option 6, making the defence easier to adapt in the future.

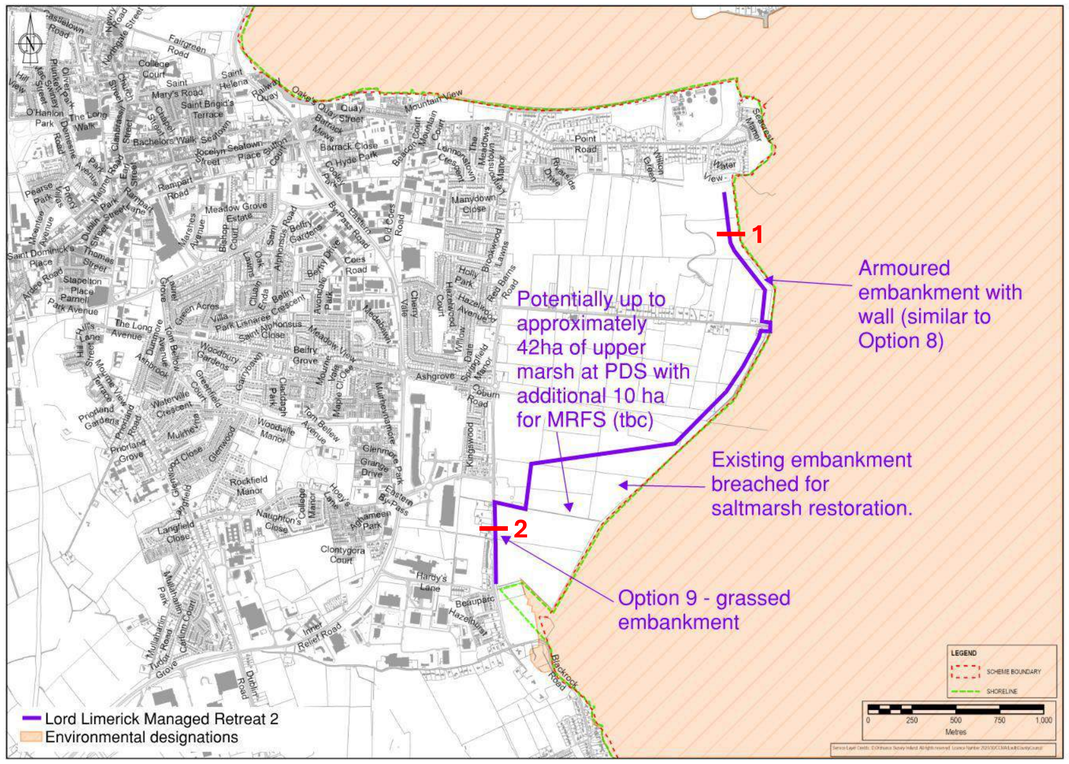
Limitations

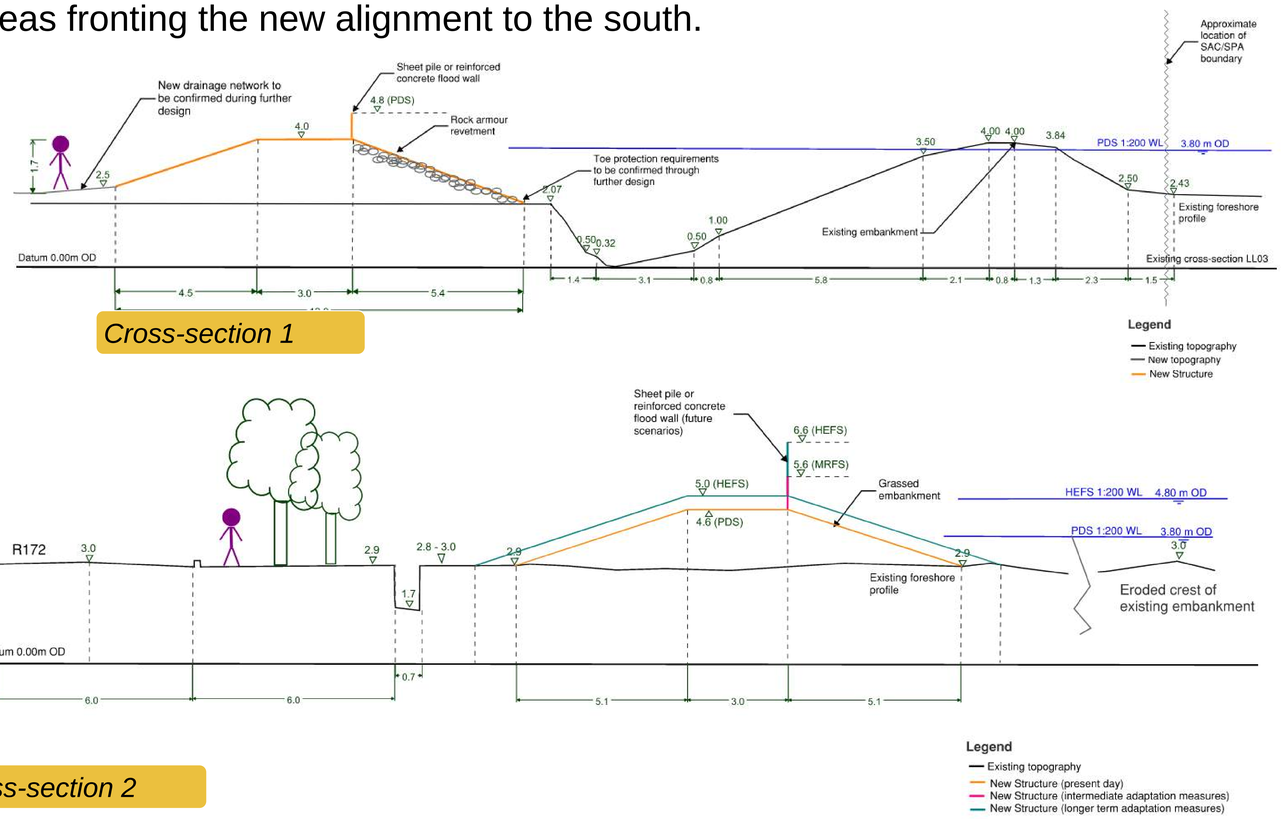
- Short sections of defence may be close to the marsh boundary (end of Shore Road, firing range).
- Limited opportunities for habitat enhancement compared to Options 9 and 10.
- Rock finish may be less visually attractive than grass alternatives.
- Adaptation measures are sensitive to the presence and condition of marsh. Footprint may need to extend seaward in the future.

LORD LIMERICK OPTIONS

Option 9 – Embankments (armoured and grassed) with wall and marsh reclamation (Managed Retreat 2)

This option comprises of constructing a set-back rock armoured embankment with a wave wall in the north (as per Option 8), transitioning to a grassed embankment adjacent to the R172. Marsh reclamation is proposed in areas fronting the new alignment to the south.





Advantages

- No works proposed on the salt marshes
- The existing embankment could remain as is.
- The set-back alignment doesn't affect potential marsh shift landward.
- Marsh reclamation may offer habitat enhancement opportunities.
- Required footprint for adaptation measures may be incorporated into current scheme (land take).

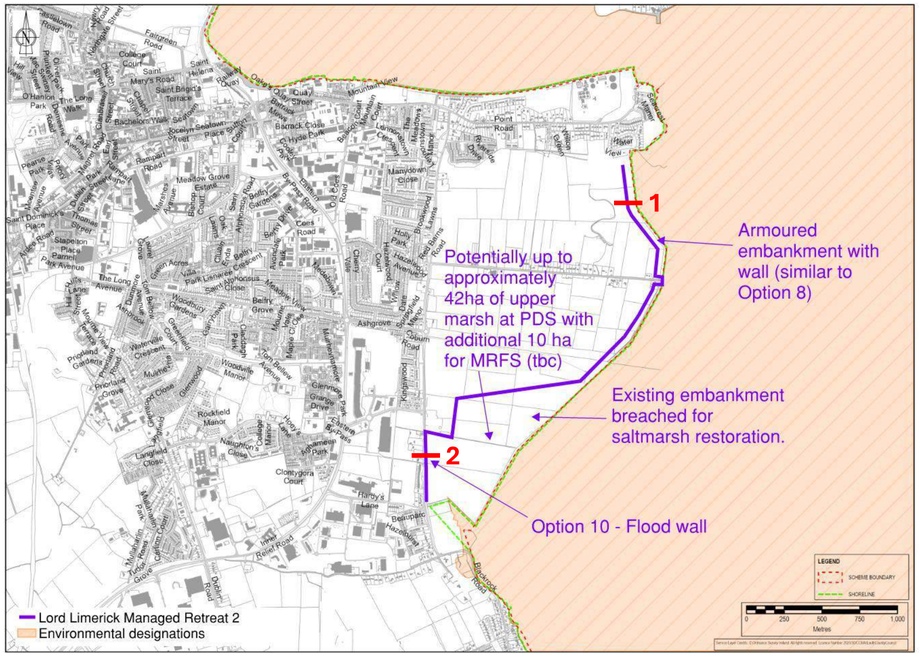
Limitations

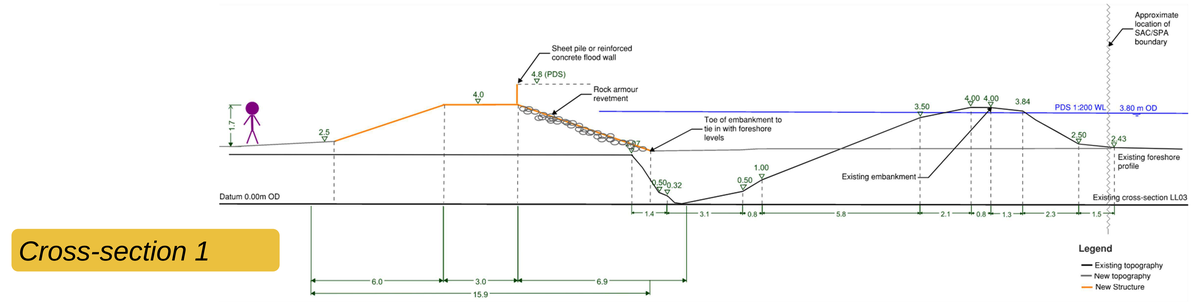
- Additional land take required compared to Options 2, 3, 6 and 8. Potential programme implications.
- Possibly larger footprint seaward of R172 compared to Option 10 – reducing space available for marsh reclamation.

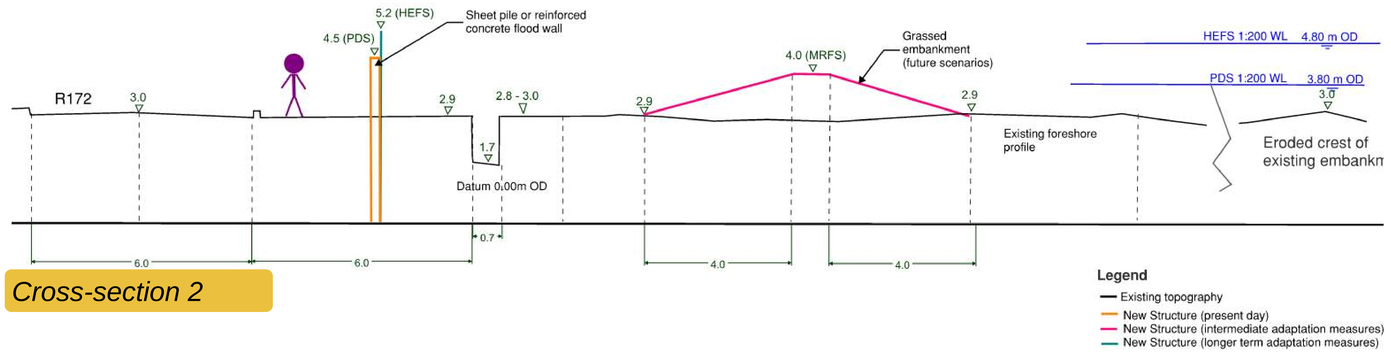
LORD LIMERICK OPTIONS

Option 10 (with Option 8) – Armoured embankment with wall, flood wall & marsh reclamation (Managed Retreat 2)

This option comprises of constructing a new rock armoured embankment along a set back alignment with a wave wall on the crest along the northern part of the Lord Limerick area (similar to Option 8). For the southern extent, a flood wall could be constructed along the alignment shown below.







Advantages

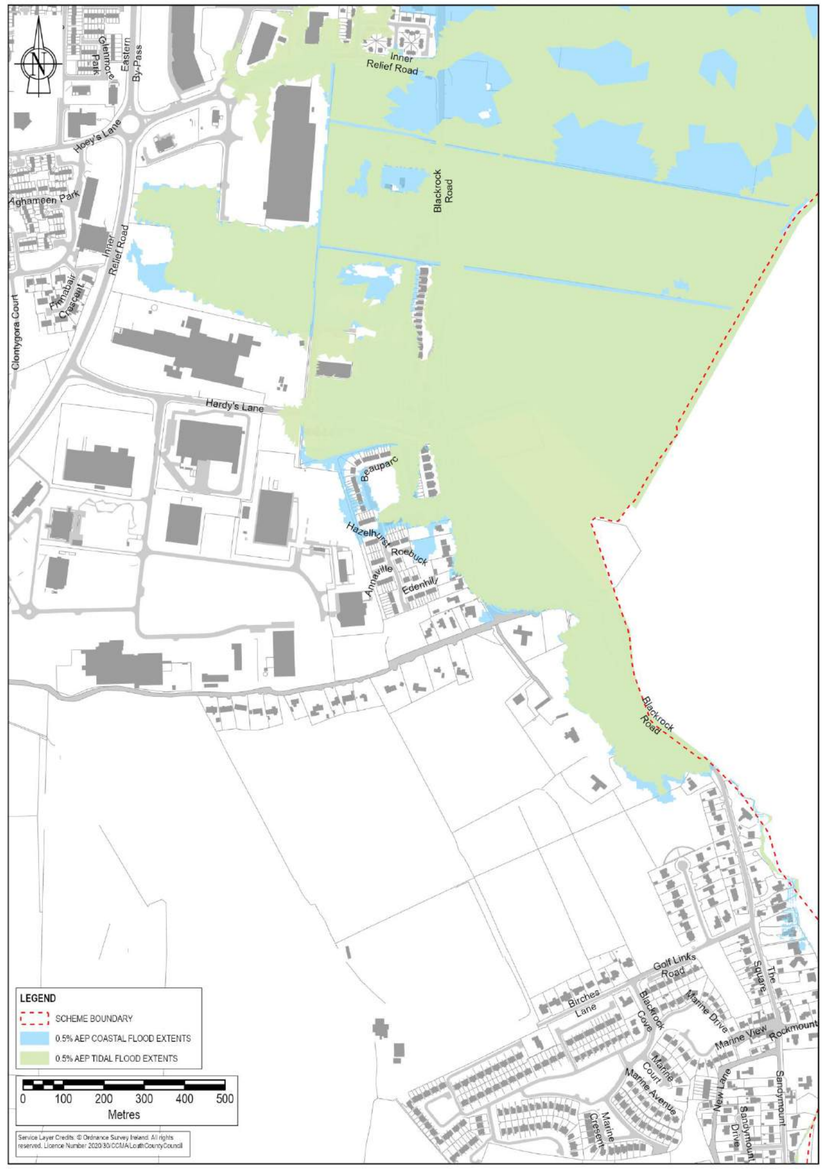
- No works proposed on the salt marshes
- The existing embankment could remain as is.
- The set-back alignment doesn't affect potential marsh shift landward.
- Marsh reclamation may offer habitat enhancement opportunities.
- The wall has a smaller footprint at present day compared to Option 9; however, future adaptation (see Section 2) may require a new embankment and associated land take.
- Option may become attractive in case sourcing suitable embankment fill material proves challenging or limited.

Limitations

- Additional land take required compared to Options 2, 3, 6 and 8. Potential programme implications.
- Wall crest may obstruct seaward views if not combined with wave-dissipating features (e.g. grass bund).
- Future adaptation measures are likely to require construction within the reclaimed marsh, reducing the area available for marsh habitat.

THE LOAKERS

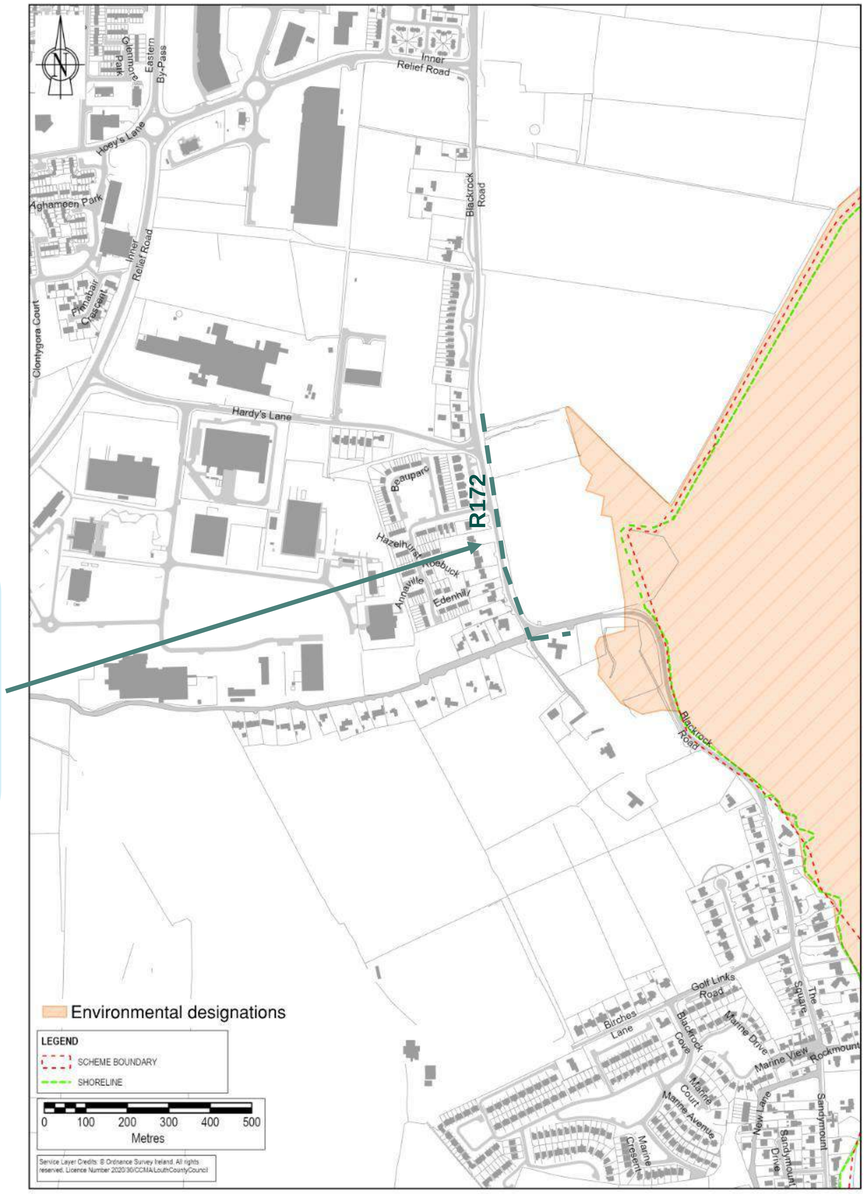
The Loakers area extends approximately 800m south of Lord Limerick. The coastline fronting the coastal road is a mix of farmland to the north and marsh to the south. SAC and SPA designations are illustrated below (map to the right).



COASTAL FLOOD RISK

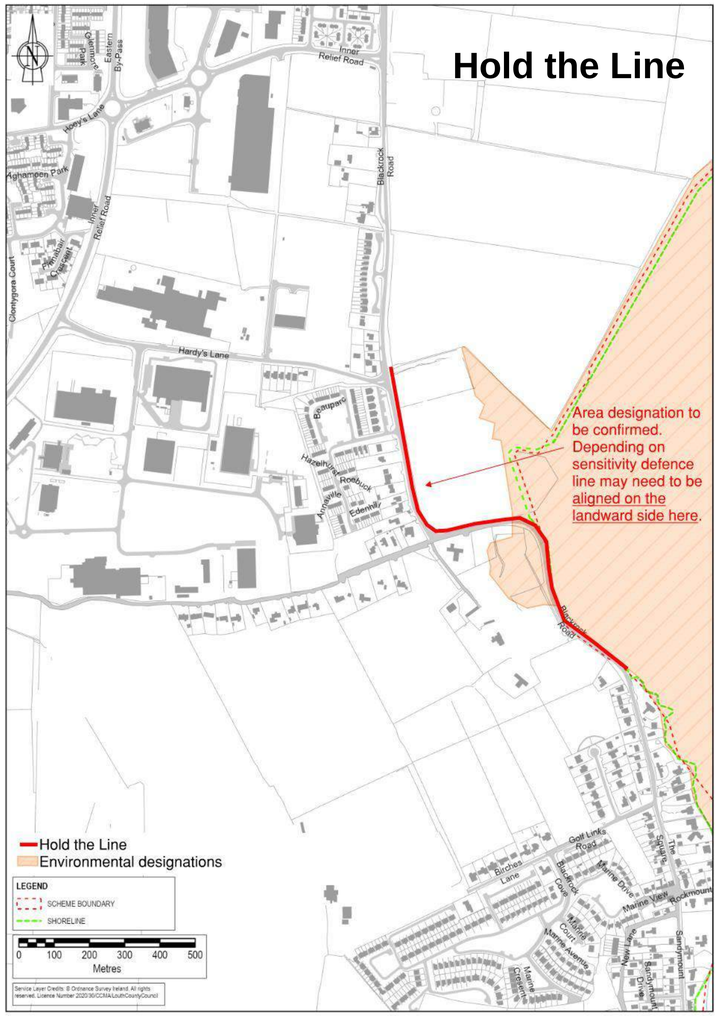
The map to the left shows predicted flood depths along the The Loakers coastline due to coastal and tidal flooding for the 0.5% AEP event at the Present-Day scenario.

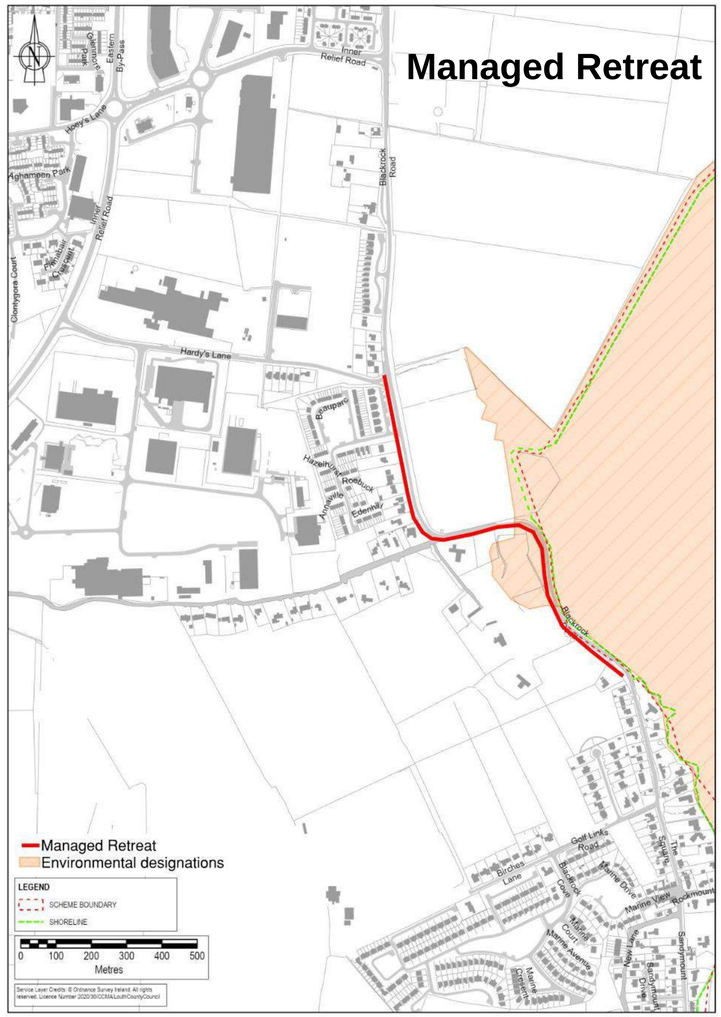
In addition to minimising flood risk to the properties in the area, the defence alignments also aim to maintain the R172 as a primary evacuation route.

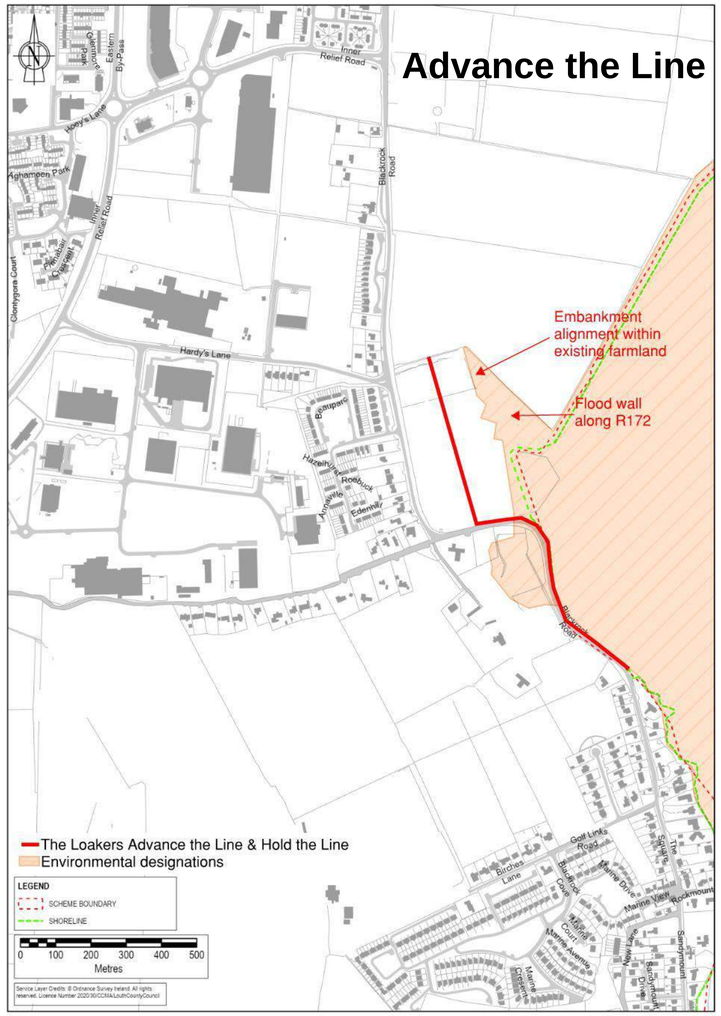


THE LOAKERS APPLICABLE POLICIES

The Hold the Line, Managed Retreat and Advance the Line policies are compared below.







Policy	Shortlisted
Hold the Line	**Yes**
Managed Retreat	**No** – not applicable due to the constraint of maintaining the road access.
Advance the Line	**Yes**

THE LOAKERS MEASURES AND OPTIONS

MEASURES NOT APPLICABLE TO THE LOAKERS

The following measures were not developed further into options for The Loakers.

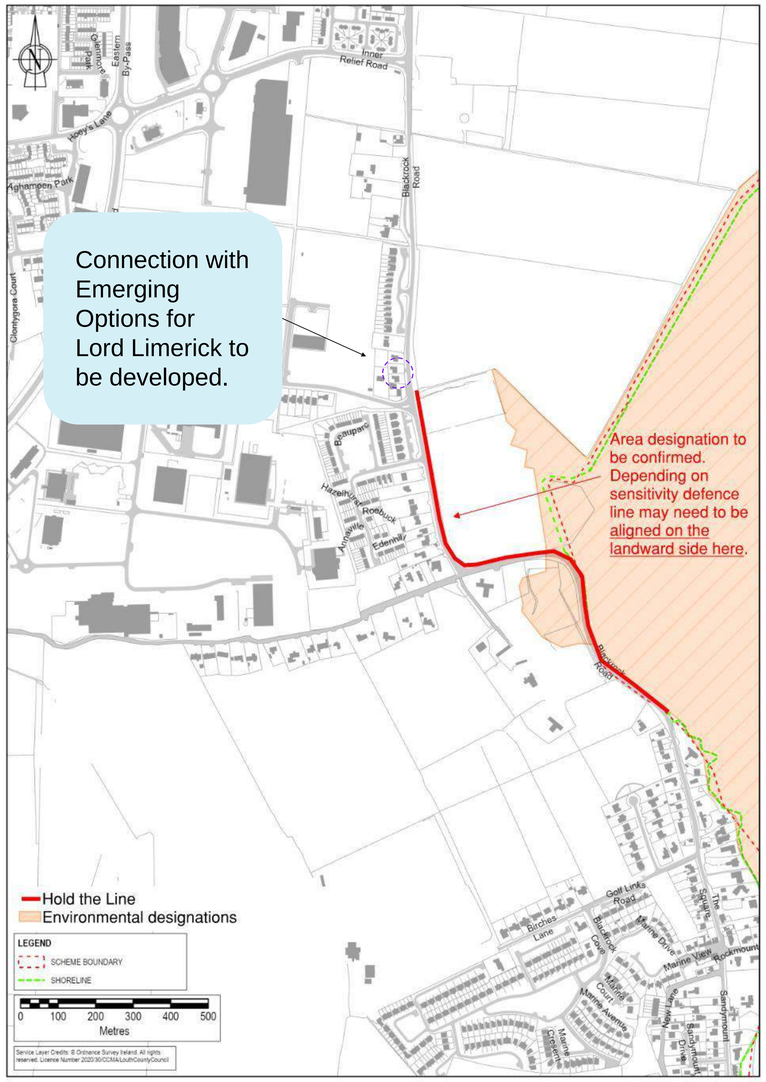
Measure	Applicability
Measure D – Breakwaters	Not applicable for the geomorphology present at The Loakers
Measure E – Flood Storage measures	Insufficient space available to be technically feasible.
Measure F – Groynes	Not effective in isolation; landside defence is required
Measure G – Saltmarsh restoration	Not applicable as insufficient space due to presence of R172 road.
Measure H – Beach management	Not applicable for the coastline conditions at The Loakers
Measure I – Demountable defences	Length of defence required makes demountable defences impractical to implement
Measure K - N Flood prevention and preparedness measures	Deemed to provide insufficient levels of protection to meet the aims of the scheme.

Options (Longlist)	Applicable Policies	Comments	Decision
Flood wall along R172 combined with grassed embankment as future adaptation measure **(Measure A and B)**	Hold the Line	Lower wall crest required when combined with embankment.	**Shortlisted**
Grassed embankment seaward of the R172 with potential for addition of wave wall for future adaptation **(Measure A and B)**	Advance the Line	Construction in the marsh but not within the SAC/ SPA.	**Shortlisted**
Concrete slope with wave wall **(Measure A and C)**	Advance the Line	High crest and large footprint required.	**Discounted**
Property level protection for coastal properties **(Measure J)**	Managed Retreat	Insufficient levels of protection to meet the aims of the scheme	**Discounted**
Raising of the road **(Measure B)**	Hold the Line	Requires significant construction with potential for increased risk of surface water flooding.	**Discounted**

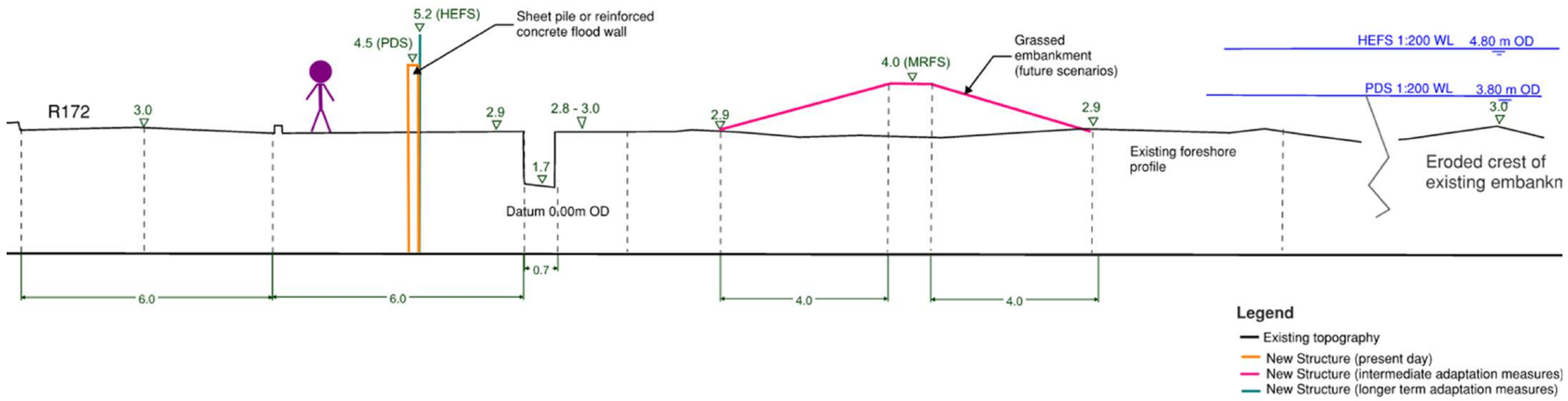
THE LOAKERS OPTIONS

Option 1 – Hold the Line

This option comprises of constructing a new wall adjacent to the R172. Adaptations for future include raising the height of the wall and construction of a grassed embankment on the seaward side of the wall.



Option 1 is a continuation of Option 10 considered at Lord Limerick (see Poster 53)



Advantages

- Minimal impact on the SAC/ SPA
- Option may become attractive in case sourcing suitable embankment fill material proves challenging or limited.
- Adaptation measures are sensitive to the levels of the foreshore that may develop in the future.

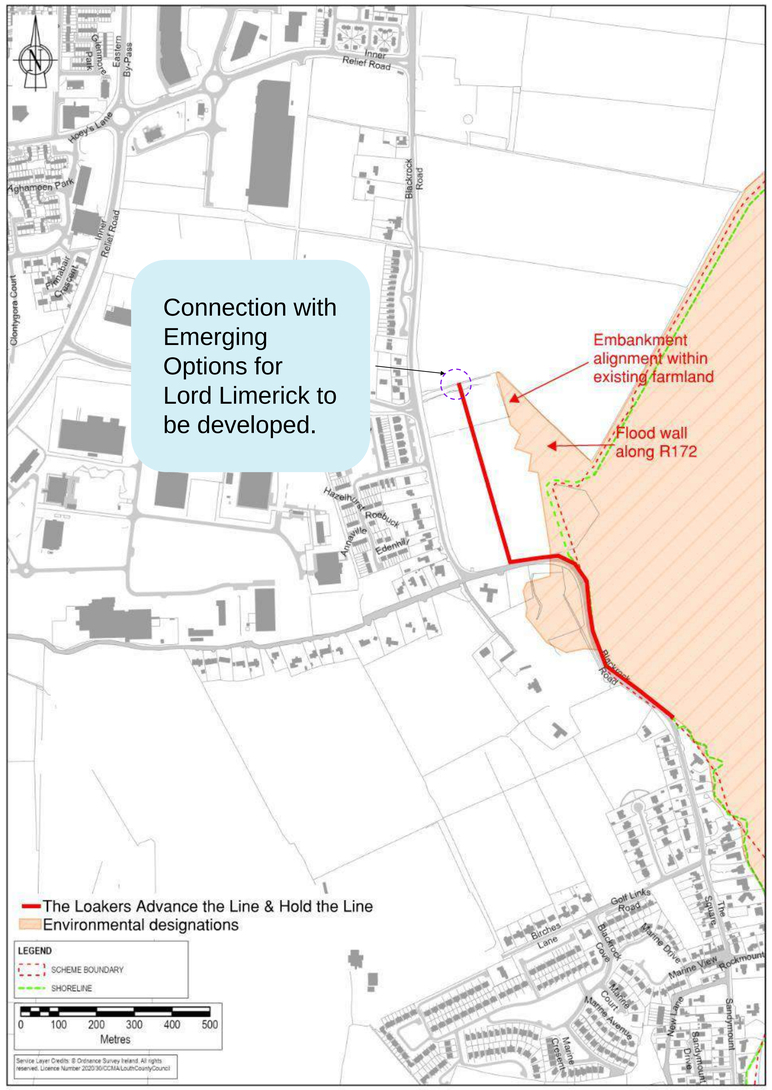
Limitations

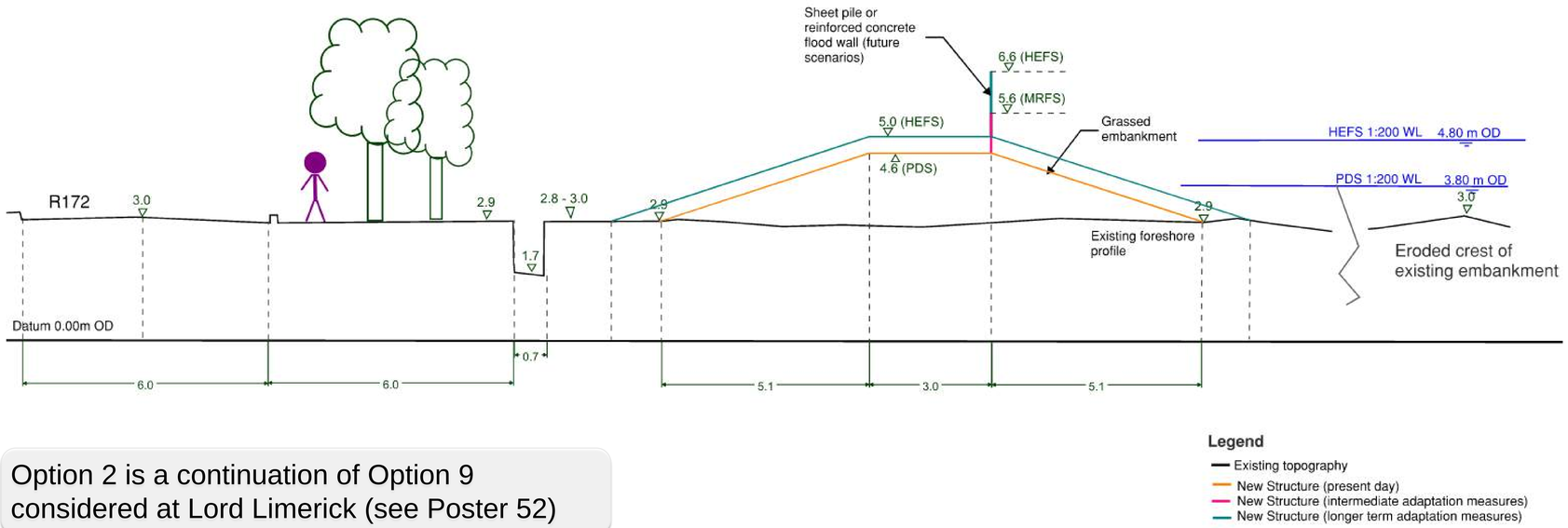
- The wall crest may obstruct seaward views if not combined with exposed features to dissipate waves.
- It may be less attractive to residential properties at the northern end, with less amenity enhancement opportunities compared to Option 2.

THE LOAKERS OPTIONS

Option 2 – Hold the Line & Advance the Line

This option comprises of constructing a grassed embankment through the northern stretch of The Loakers, seaward of the road, with a flood wall along the alignment at the southern end (as for Option 1). Options for future adaptation include adding a wall to the embankment and raising the crest.





Option 2 is a continuation of Option 9 considered at Lord Limerick (see Poster 52)

Advantages

- Minimal impact on the SAC/ SPA.
- Option could create a longer coastal footpath if combined with Lord Limerick, increasing public amenities in the area.
- Likely more visually attractive compared to Option 1.
- Adaptable to climate change with the future addition of a wave wall.

Limitations

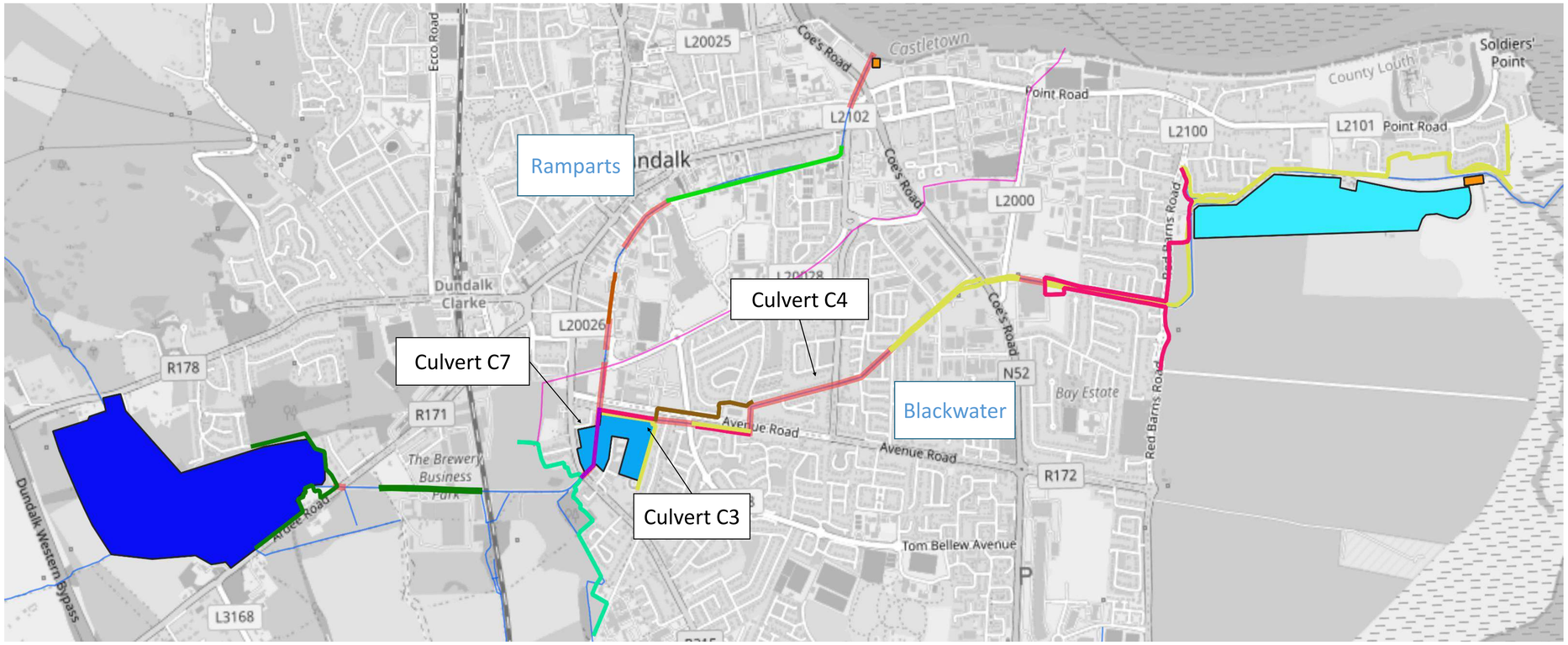
- Obstruction of existing sea views at the coastal properties along the R172 road.
- Farmland east of the road would need to be purchased.
- This requires a higher embankment than for Option 1, which means that there could be increased material requirements and associated costs.

RAMPARTS/BLACKWATER - OVERVIEW OF MEASURES

Overview of all measures initially considered at optioneering stage:

Legend

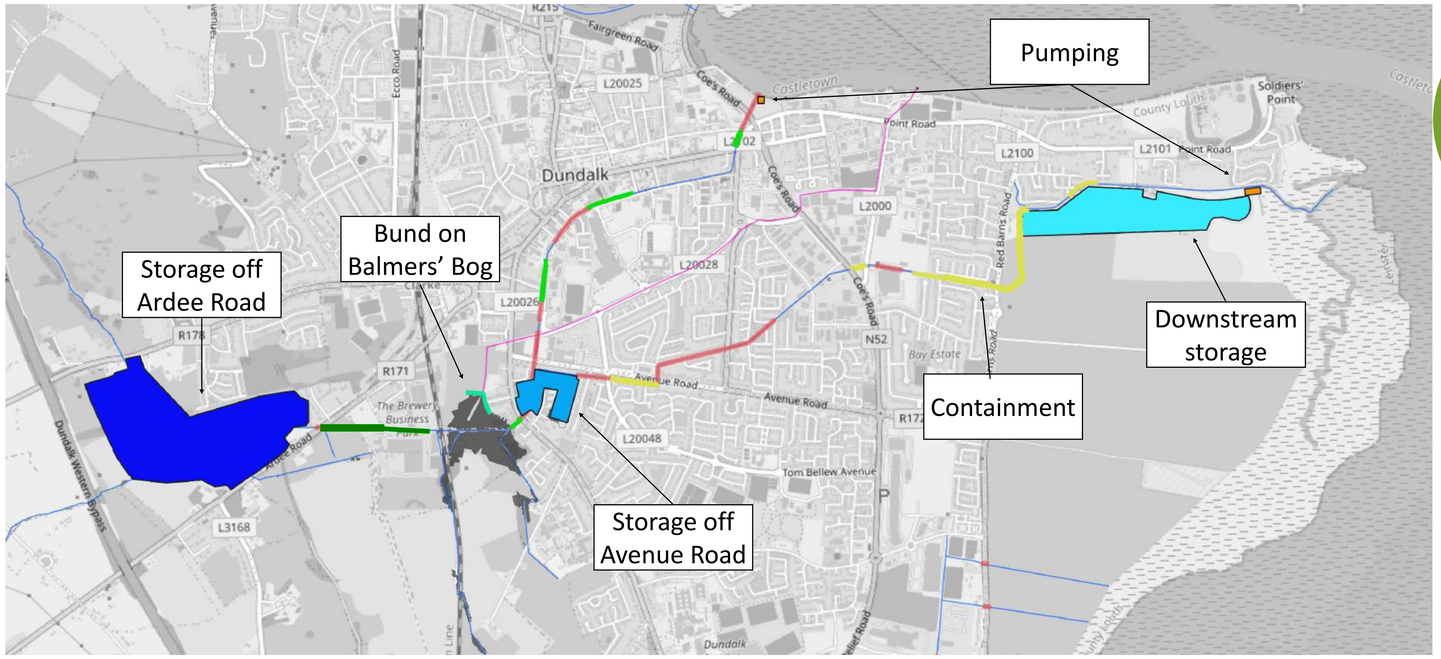
- Measure 5.A – Upstream storage off the Ardee Road.
- Measure 5.B - Small storage near Avenue Road
- Measure 5.C – Downstream Storage along Blackwater River
- Measure 5.D - Containment along Blackwater
- Measure 5.E - Containment along Rampart river
- Measure 5.F – Containment in Brewery Park and upstream
- Measure 5.G - Bund downstream of Balmers's bog.
- Measure 5.H - Improvement of conveyance along Blackwater (culverts C3 and C4, etc.)
- Measure 5.I - Improvement of conveyance along Ramparts
- Measure 5.J - Optimised distribution of flow between culverted systems (Ramparts/ Blackwater) near Avenue Road
- Measure 5.K - Diversion of culvert C3
- Measure 5.L - Pumping on downstream Blackwater and Rampart



Discarded measures	
5.I – Improvement of conveyance along Blackwater (culverts C3 & C4)	This measure was discarded due to local buildability constraints and having little impact on flooding.
5.J – Optimised distribution of flow between Ramparts / Blackwater near Avenue Road	This measure was discarded due to the limited impact on flooding, and it will not be Climate Change adaptable.
5.K – Diversion of culvert C3 and/or C4	This measure was discarded due to being disruptive to the area and surrounding services.

OPTION 1: Maximise Storage with some Containment

Throttled storage upstream of the Ardee road to significantly reduce the downstream flooding and storage near Avenue Road. Additional containment measures are required on the Ramparts and Blackwater in addition to a bund downstream of Balmers' Bog. Downstream pumping OR downstream storage is required.



Measures

- Measure 5.A – Upstream storage off the Ardee Road.
- Measure 5.B - Small storage near Avenue Road
- Measure 5.C – Downstream Storage along Blackwater River
- Measure 5.D - Containment along Blackwater
- Measure 5.E - Containment along Rampart river
- Measure 5.F – Containment in Brewery Park and upstream
- Measure 5.G - Bund downstream of Balmers's bog.
- Measure 5.L - Pumping on downstream Blackwater and Rampart

Existing Structures

- Existing Watercourses
- Existing Culverts
- Flood Extent

Advantages

Storage of the Ardee Road reduces the flooding downstream and reduces the amount of works east of Ardee Road.

Potential for biodiversity enhancement / habitat creation.

Limited risk to heritage areas.

Good climate adaptation potential for storage measures.

Limitations

Significant footprint required for the 3 storage areas.

Potential environmental impact near proposed storages.

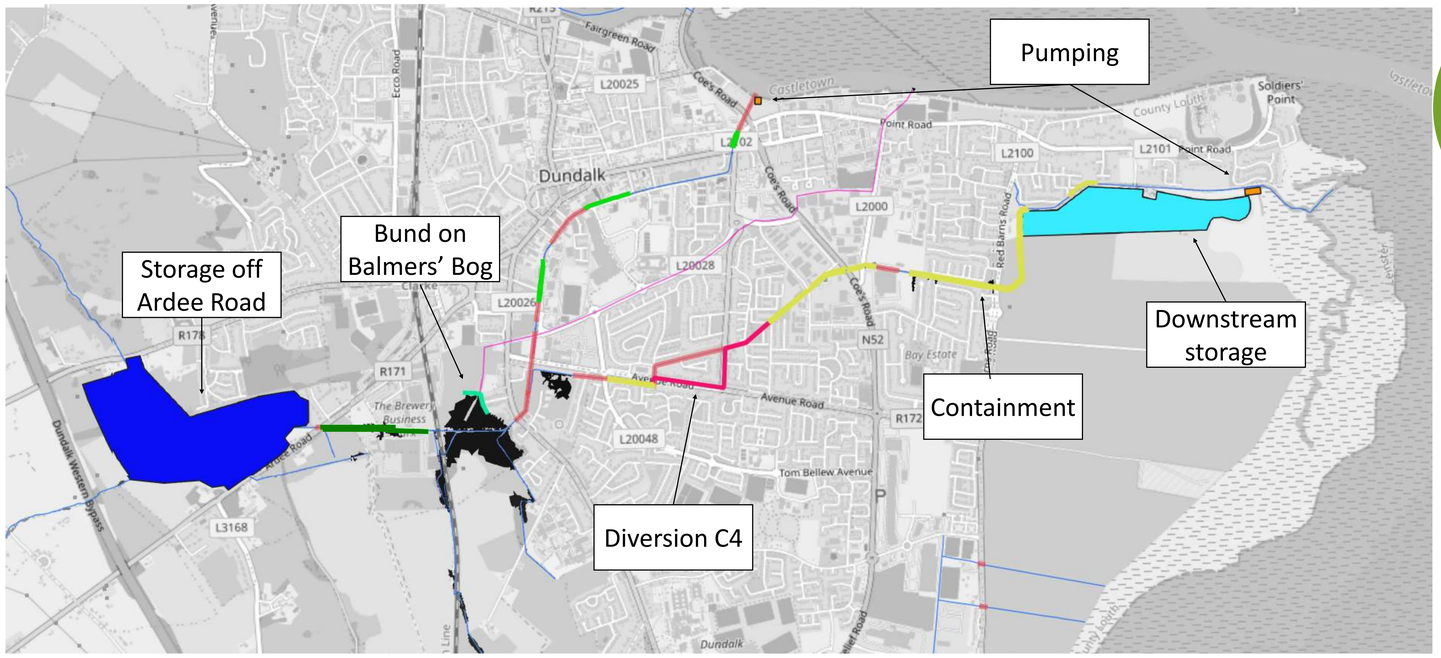
Visual impact and acceptance dependent on height of walls.

Disruption to local businesses and resident near containment defences during construction.

Challenging access behind houses

OPTION 2: Mix of Storage, Containment and Conveyance

Same as Option 1, except that the C4 is upgraded and/or diverted along Avenue Road. Storage off Avenue Road is removed. Downstream pumping or balancing storage is required in the PDS.



Measures

- Measure 5.A – Upstream storage off the Ardee Road.
- Measure 5.C – Downstream Storage along Blackwater River
- Measure 5.D - Containment along Blackwater
- Measure 5.E - Containment along Rampart river
- Measure 5.F – Containment in Brewery Park and upstream
- Measure 5.H - Improvement of conveyance along Blackwater (culvert C4)
- Measure 5.G - Bund downstream of Balmers's bog.
- Measure 5.L - Pumping on downstream Blackwater and Rampart

Existing Structures

- Existing Watercourses
- Existing Culverts
- Flood Extent

Advantages

Storage of the Ardee Road reduces the flooding downstream and reduces the amount of works east of Ardee Road.

Potential for biodiversity enhancement / habitat creation.

Limited risk to heritage areas.

C4 upgrade reduces flooding upstream and downstream.

Limitations

Significant footprint required for the 2 storage areas.

Potential environmental impact near proposed storages.

Visual impact and acceptance dependent on height of walls.

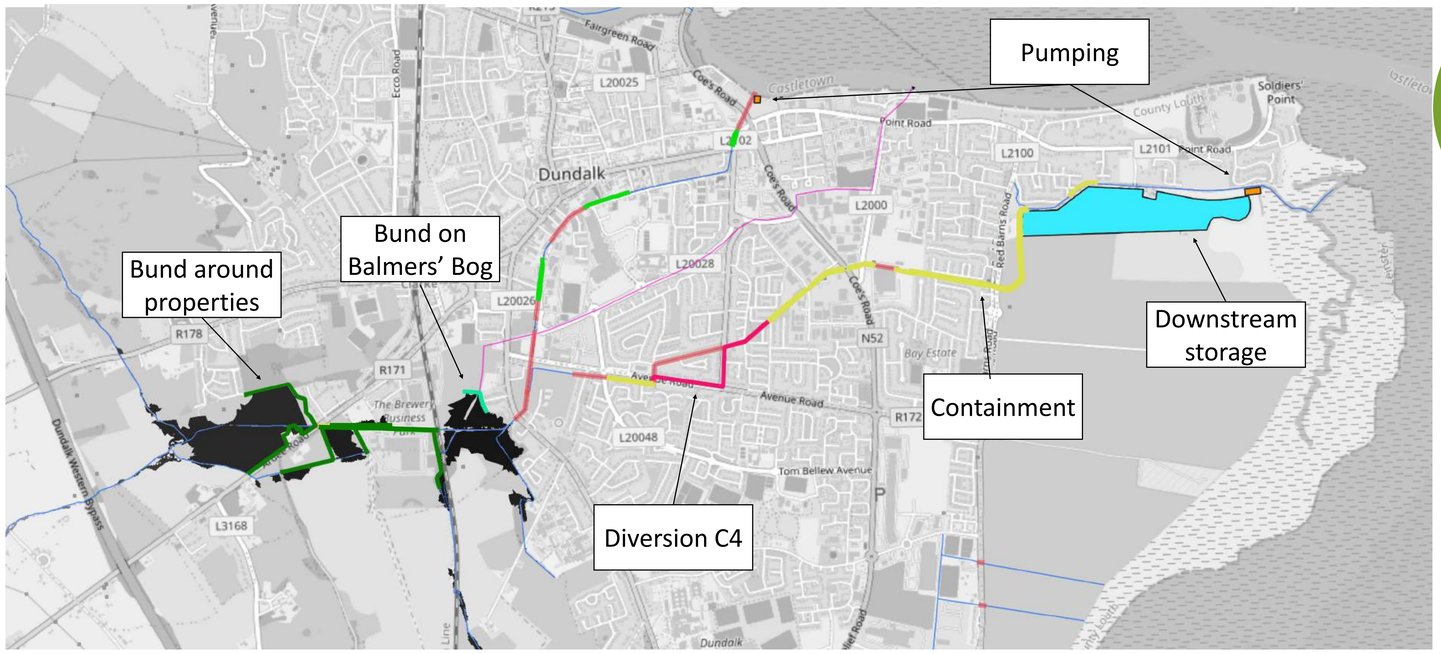
Disruption to local businesses and resident near containment defences during construction.

Alteration to stream habitats.

Challenging access behind houses.

OPTION 3: Containment and Conveyance

A bund to protect the properties west of Ardee Road would naturally create a storage without limiting his outflow. This would result in lower bund wall than for Options 1 and 2 but would release more flows downstream. The C4 upgrade or diversion is required, alongside additional containment options on both rivers. Downstream pumping or storage is required.



Measures

- Measure 5.C – Downstream Storage along Blackwater River
- Measure 5.D - Containment along Blackwater
- Measure 5.E - Containment along Rampart river
- Measure 5.F – Containment in Brewery Park and upstream
- Measure 5.H - Improvement of conveyance along Blackwater (culvert C4)
- Measure 5.G - Bund downstream of Balmers's bog.
- Measure 5.L - Pumping on downstream Blackwater and Rampart

Existing Structures

- Existing Watercourses
- Existing Culverts
- Flood Extent

Advantages

The bund upstream of Ardee road naturally creates a storage which reduces the flows downstream but less than Options 1 and 2.

Potential for biodiversity enhancement / habitat creation.

Limited risk to heritage area.

This option presents the smallest footprint for storage areas.

C4 upgrade reduces flooding upstream and downstream.

Limitations

Significant footprint required for the downstream storage area and significant containment defences required in spatially constrained areas.

Potential environmental impact near the downstream storage

Visual impact and acceptance dependent on height of walls.

Disruption to local businesses and resident near containment defences during construction and worsen compared to Options 1 and 2.

Alteration to stream habitats.

Challenging access behind houses.

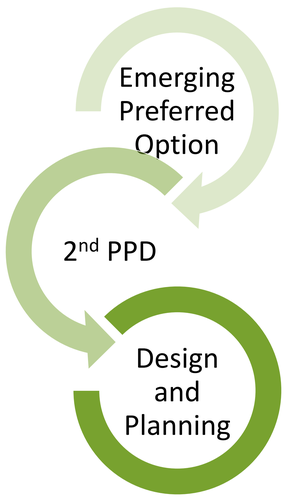
NEXT STEPS

Once the preferred option is identified in Q3 2026, the flood scheme will progress, and the below indicative programme will be revisited to identify any opportunities to advance part or all of the works.

Project Timeline

Activity	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Stage I - Scheme Development and Design																
Stage II - Planning / Development Consent																
Stage III - Detailed Design and Tender																
Stage IV - Construction																
Stage V -Handover of Works																

WHAT IS NEXT:



Following this PPD and the gathering of the public's information and opinion, an emerging preferred option will be identified which best meets the Social, Economic, Environmental and Technical criteria to deliver a sustainable solution.

A second PPD will be held to present this Preferred Option.

The Preferred Option will be developed, designed and brought forward for statutory consultation and submitted for planning in 2028

THANK YOU FOR YOUR ATTENDANCE.
IT IS IMPORTANT FOR US TO HEAR YOUR OPINIONS SO THEY CAN BE CONSIDERED WHEN DECISIONS ARE MADE.

CONTACT US

Please have your say – speak to the project representatives today and fill in the questionnaire.

Further questions can be directed to:
Louth County Council or to Nicholas O'Dwyer Limited

Dundalk Flood Relief Scheme
Nicholas O'Dwyer Ltd. Unit 4E Nutgrove Office Park, Nutgrove Avenue, Dublin D14 V3F6

DundalkArdeeFRS@nodwyer.com
https://www.floodinfo.ie/frs/en/dundalk/home/