

SHANNON TOWN AND ENVIRONS FLOOD RELIEF SCHEME PUBLIC CONSULTATION EVENT NO. 2



MGW0293
Shannon Town and Environs Flood
Relief Scheme Public Consultation
Event No.2
F01
29 January 2024

PUBLIC CONSULTATION EVENT NO.2 REPORT

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
F01	Final	KD	KF	PJ	29/01/2024

Approval for issue

PJ

29 January 2024

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Clare County Council

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1 INTRODUCTION

RPS Consulting Engineers has been commissioned by Clare County Council to assist in the delivery of the Shannon Town and Environs Flood Relief Scheme (FRS) (hereafter referred to as the Shannon FRS).

The objective of this project is the identification, design and submission (for planning consent) of a flood scheme, that is technically, socially, environmentally and economically acceptable, to alleviate the risk of flooding to the community of Shannon to a determined standard of protection, and to procure, manage and oversee the construction of that scheme.

The overall project is divided into five stages which are as follows:

- **Stage I:** Identification and development of a preferred scheme;
- **Stage II:** Planning process;
- **Stage III:** Detailed construction design, compilation of work packages and the preparation of tenders for contracts;
- **Stage IV:** Construction supervision and project management services; and
- **Stage V:** Handover of works.

As part of the options process, a consultation event was held on Wednesday, 25th October 2023.

The purpose of the consultation event was to allow interested parties the opportunity to offer their views on the emerging preferred options for Shannon FRS being considered and welcome any comments/observations.

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2 CONSULTATIONS

2.1 Public Consultation Event

Clare County Council along with the Office of Public Work (OPW) and Shannon Airport Authority held a public consultation event on the implementation of the Shannon FRS on the evening of the 25th October 2023 from 4pm to 8pm at Tracey's Oakwood Hotel, Shannon, Co. Clare. This event was attended by RPS employees and staff from the OPW and Clare County Council. This was the second consultation event.

The event was advertised in the Clare Echo (duration of 1 week), in the edition published on 19th October 2023 and the Clare Champion (duration of 2 weeks), in the edition published on 13th October 2023 and the 20th October 2023. A copy of the consultation notice has been included in **Figure 2.1** below. The event was advertised on Clare FM from Friday 20th October 2023 to 25th October 2023. The event was also advertised via social media and the project website (see **Section 2.2**).

This was the second public consultation event held for the scheme. The first event served as an introduction to the development of a FRS for Shannon. It was held as part of the Constraints process and formed a virtual consultation event held online from 18th June 2021. The event was advertised as being open for a two-week period but access to the event was available up until early November.



Public Information Notice

Shannon Town & Environs Flood Relief Scheme

Emerging Preferred Options

Public Consultation Event

Venue: Treacys Oakwood Hotel, Airport Road, Shannon, Co Clare

Date: Wednesday, 25th October 2023

Time: 4pm – 8pm

Clare County Council in conjunction with the OPW and Shannon Airport Authority are progressing the implementation of the Shannon Town & Environs Flood Relief Scheme. The scheme is likely to include for works along the Shannon Estuary as well as a number of tributaries within Shannon town and the industrial estates. Interested parties are invited to attend a public consultation event to be held on the 25th October from 4pm - 8pm at Treacys Oakwood Hotel in Shannon. Representatives of Clare County Council, the OPW and RPS will be available to answer queries.

For individuals who may not be able to attend in person details will also be available on the project website at www.shannontownandenvironsfrs.com.

The purpose of the event is to allow interested parties the opportunity to offer their views on the emerging preferred options being considered. Any comments/observations can be provided at the event or forwarded to shannonfrs@rpsgroup.com.

Figure 2.1: Public Information Notice as Published in the Newspaper October 2023

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The format of the event was centred around the presentation of information boards (see **Figure 2.2** to **Figure 2.5** and also **Appendix A** for consultation documentation). These notice boards displayed overview maps showing the proposed works on the following watercourses as indicated below:

Location	Option Elements
Urlan Beg	<ul style="list-style-type: none"> • Flood walls • Diversion Culvert to the Airport Drainage Canal • Culvert Maintenance
Clonloghan	<ul style="list-style-type: none"> • Flood walls and embankments • Pumping Station Upgrade
Embankment Back Drain	<ul style="list-style-type: none"> • Culvert Maintenance (Outfall)
Culvert 1	<ul style="list-style-type: none"> • Diversion Culvert to Culvert 2
Culvert 2	<ul style="list-style-type: none"> • Storage Tank • Culvert Upgrade
Culleen	<ul style="list-style-type: none"> • Flood walls • Culvert Upgrade
Mogullaan	<ul style="list-style-type: none"> • Flood embankments

Attendees were requested to complete an attendance log and were invited to fill out comment sheets setting out their views and concerns regarding the Shannon FRS. A number of people took away the comment sheet. No completed comment sheets have been returned to date.

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Figure 2.2: Public Consultation Notice Boards

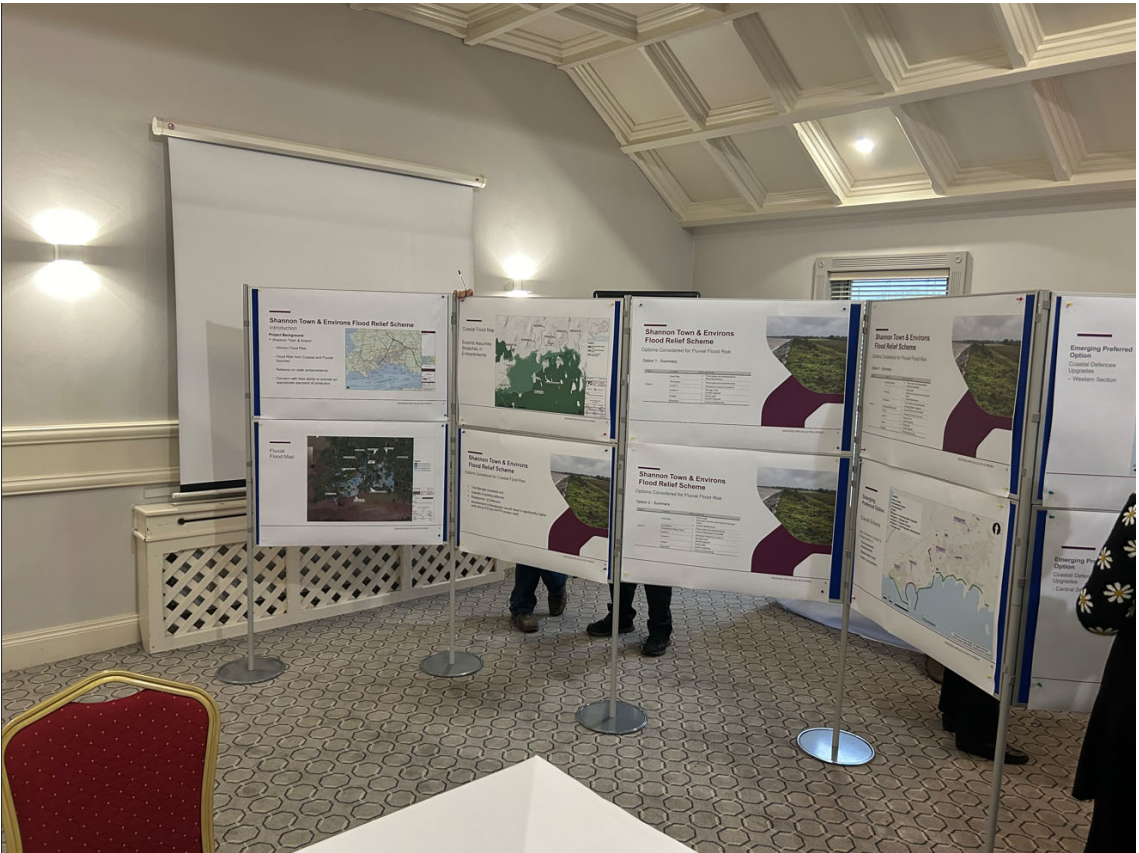


Figure 2.3: Public Consultation Notice Boards

PUBLIC CONSULTATION EVENT NO.2 REPORT



Figure 2.4: Public Consultation Notice Boards



Figure 2.5: Public Consultation Notice Boards

2.2 Shannon Flood Relief Scheme Website

Details of the public consultation were also posted on the Shannon FRS Website (www.shannontownandenvironsfrs.com) with the opportunity for members of the public to submit comments online until 5th December 2023. No completed comment sheets were returned for the event via this avenue.

2.3 Consultations with Statutory and Non-Statutory Bodies

An Options Selection Letter was issued to stakeholders on 26th October 2023, requesting comment on the Emerging Preferred Option for Shannon FRS by 25th November 2023. Details of the consultees, their responses to date and a sample of the letters are provided in **Appendix B**.

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3 SUMMARY OF ISSUES RAISED

3.1 Public Consultation

A total of 28 people attended the public consultation event and to date no completed comment sheets were provided at the consultation event or have been received via the website/email/post. A summary of the comments discussed are shown below.

The key issues raised are summarised below.

- Why certain lands in the town are included in the remit of the Shannon FRS and others are not. In particular, there were a number of comments/discussions with farmers who owned properties outside of the scheme study area and queried why their lands were not being included in the Shannon FRS.
- A number of attendees had concerns about lands outside of the remit of the Shannon Town and Flood Relief Scheme, e.g., lands at Ballycalla Newmarket.
- There are very poor ground conditions around Atlantic Aviation group which resulted in difficulties in construction of Atlantic Aviation building. Old buildings adjacent suffered very significant cracking (noted that this was due to a fault in the ground).
- Importance of maintaining existing slip (and access) near breakwater.
- Lack of availability of flood insurance in Shannon.
- Consultees discussed a number of locations that they were interested in developing.
- The front desk of the Shannon Municipal District (MD) had not been made aware of the event and did not have the details to hand when contacted by a member of the public.

Overall, the event was positively received and there was very good engagement with the attendees. The venue worked well, with plenty of parking and the central location allowed for easy access.

3.2 Stakeholder Consultation

The following section summaries the response from stakeholder consultation. See **Appendix B – Appendix Table 1 Consultation Responses** for a detailed response.

3.2.1 Department of Housing, Local Government and Heritage – Development Applications Unit

Archaeology

- It is advised that the OPW Project Archaeologist (PA) team is engaged with by the design team to advise on all aspects of this scheme from design, through EIAR compilation to construction.
- It is essential that archaeologists look beyond standard sources such as the SMR/RMP/NIAH when constructing baseline inventories of the archaeological, built and cultural heritage within a given study area so as to capture features that do not enjoy formal protection/designation.
- It is essential that an Underwater Archaeology Impact Assessment (UAIA) be carried out – as early in the EIA process as possible.

Nature Conservation

- Consideration needs to be given to the design and location of the lagoon embankment and sluices to ensure that the objective of restoring the lagoon habitat can be achieved.
- A thorough understanding of the baseline hydro-geomorphological regime and impacts as a result of the Proposed Scheme should be gained and any consequential impact on related habitats established.
- The findings of recent bird surveys for other projects should be reviewed and included as part of this project.

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- There are records of two legally protected (Flora Protection Order) plant species in areas that may be impacted directly or indirectly by the proposed works. These are Opposite Leaved Pond Weed (*Groenlandia densa*) and Triangular Club-rush (*Scirpus triqueter*).

3.2.2 Shannon Foynes Port Authority

- No issues with the proposed works on the clear understanding that Shannon Foynes Port Authority retain clear vehicular access rights to our jetty and facilities at all times on a 24/7 basis.

3.2.3 Shannon Chamber of Commerce

- The project has the opportunity to connect and reinforce Shannon's three key components (airport, industrial zones, living town) and its linkage with and influence on the wider region.
- It is essential that there is constant sharing of information, insights and solutions between the teams involved in each and every planning and development project currently underway.
- Shannon Chamber welcomes the fact that work on the Shannon Flood Relief scheme is underway but urges acceleration in timescale from design to implementation.
- Given the contribution Shannon makes to the economy in terms of GDP, any impact of a breach on Shannon would have a catastrophic impact, not just on Shannon and its hinterland, but on the wider Atlantic Economic Corridor and national economies.
- Shannon Chamber supports the preferred Option 3.
- Support the plans to ensure that the toe of the embankments will not encroach further into the estuary due to the sensitivity of the habitat.
- Why is there a gap in the line of the embankments at the southern end of Drumgeely Hill?
- Strengthening of embankments adjacent to Shannon Golf Club is a welcome proposal.
- The recently raised pathway between the point and the road at Glass na Rinne is in an area subject to extensive pooling of water during the winter.
- Access roads at the top of a number of embankments are afforded a significant width. In contrast, other diagrams show a much narrower width for existing walkways. As highlighted in numerous submissions and engagements with the Council by Shannon Chamber and other key stakeholders, there is potential for a high-quality greenway from Shannon Airport, via the existing embankments, to Bunratty and onwards to Sixmilebridge and Limerick. The design solution must incorporate walking, running, cycling and other uses along the top of the full stretch of embankments.
- Upgraded pumping stations are welcome, however, it is essential that the design solutions extend beyond capital works to include maintenance works and implementation of pumping stations should not adversely impact flood risk at other areas.
- There may be potential to have an early warning system based on voluntary incident reports from those who regularly use the embankments – walkers, runners, dog walkers, parkrun goers and cyclists.
- What is the function of the storage area between Shannon Town Centre and Rossbracken? Is this an upgrade of an existing tank? What are the risks associated with location in this area? Have other areas been considered?
- The new Shannon Town Park included a wetland area in the form of a mini stream and pond. There have been some difficulties in day-to-day operation which may be useful in finalising designs for the proposed new box culvert in this area.
- Engineers from the 1960s who are still alive today could be important sources of knowledge and information. We recommend that the designers actively engage with these and other such resources during the design phase.

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3.2.4 Transport Infrastructure Ireland (TII)

- Consultations should be had with the relevant Local Authority/National Roads Design Office with regard to the locations of existing and future national road schemes in the area, e.g., N19 Shannon Airport Access Road Improvement Scheme.
- TII would be specifically concerned as to potential significant impacts the development would have on the national road network (and junctions with national roads) in the proximity of the proposed development, e.g., N/M18, N19.
- The developer should assess visual impacts from existing national roads.
- The developer should have regard to any EIAR and all conditions and/or modifications imposed by An Bord Pleanála regarding road schemes in the area. The developer should, in particular, have regard to any potential cumulative impacts.
- A hydraulic analysis should be undertaken to identify the impact of proposed flood alleviation works on the hydraulic capacity of any TII Structures impacted and the potential for scour at the structure.
- Subject to meeting the appropriate thresholds and criteria and having regard to best practice, a Traffic and Transport Assessment (TTA) be carried out in accordance with relevant guidelines.
- The designers are asked to consult TII Publications to determine whether a Road Safety Audit is required.
- In the interests of maintaining the safety and standard of the national road network, the EIAR should identify the methods/techniques proposed for any works traversing/in proximity to the national road network.
- In relation to haul route identification, the applicant/developer should clearly identify haul routes proposed and fully assess the network to be traversed. Where abnormal loads are a feature of the proposed development, separate structure approvals/permits and other licences may be required in connection with the proposed haul route and all structures on the haul route should be checked by the applicant/developer to confirm their capacity to accommodate any abnormal load.

3.3 Lessons Learned and Suggested Improvements

As a result of the public consultation event there were a number of lessons learned including:

1. The front desk of the Shannon MD had not been made aware of the event and did not have the details to hand when contacted by a member of the public. All Shannon MD staff to be made aware of future events in advance of public advertising.
2. A household leaflet drop in the locality was mentioned as another means of informing the public of the upcoming event.

Appendix A

Consultation Documentation



COMHAIRLE CONTAE AN CHLÁIR
CLARE COUNTY COUNCIL



OPW

Oifig na
nOibreacha Poiblí
Office of Public Works



SHANNON TOWN & ENVIRONS FLOOD RELIEF SCHEME

Public Consultation Event
Emerging Options
25/10/2023

rpsgroup.com

rps MAKING
COMPLEX
EASY

Shannon Town & Environs Flood Relief Scheme

Public Consultation Event

Emerging Options

October 25th, 2023

Treacys Oakwood Hotel, Shannon



COMHAIRLE CONTAE AN CHLÁIR
CLARE COUNTY COUNCIL



OPW
Oifig na
nOibreacha Poiblí
Office of Public Works



Shannon Town & Environs Flood Relief Scheme

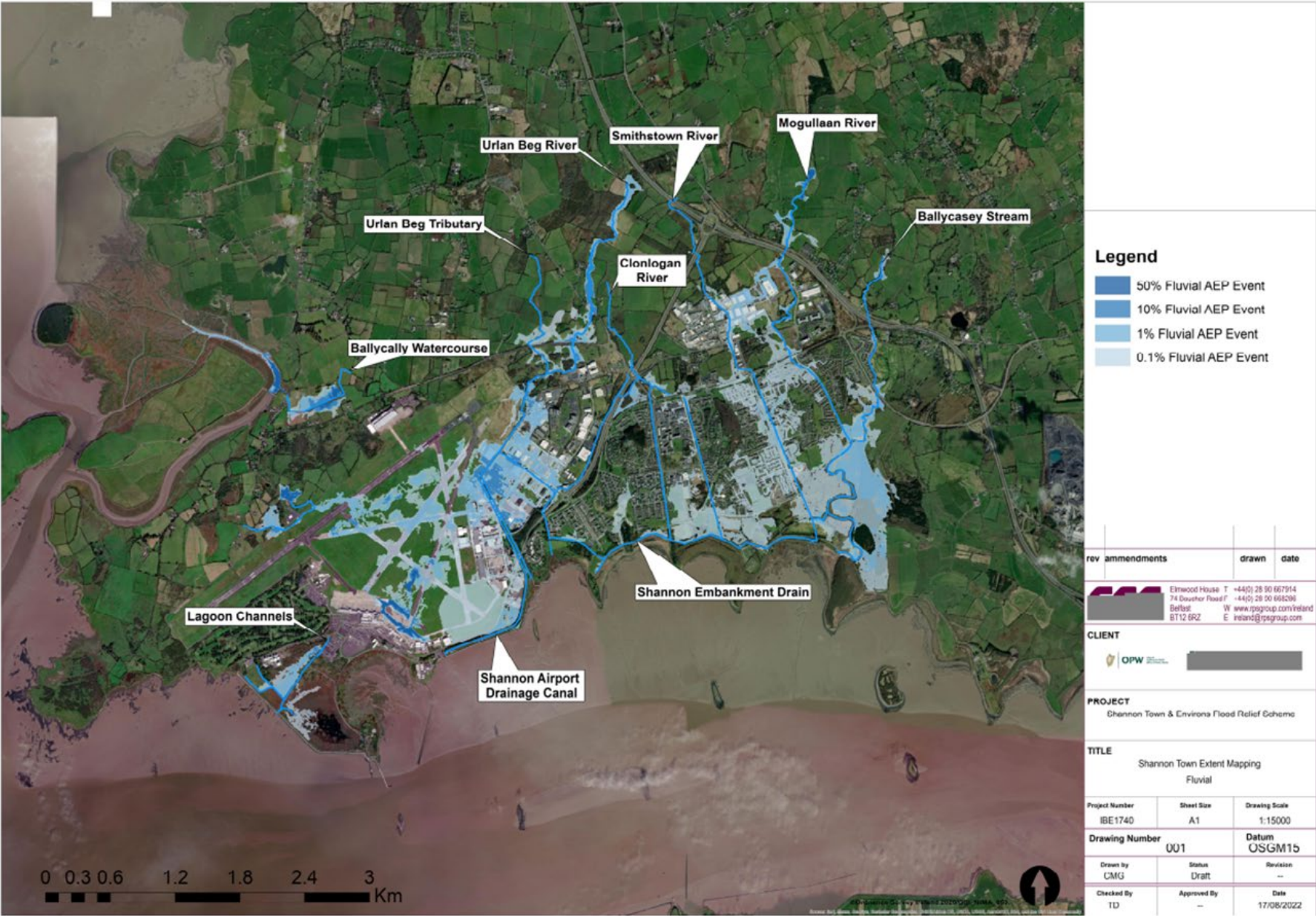
Introduction

Project Background

- Shannon Town & Airport
 - Historic Flood Risk
 - Flood Risk from Coastal and Fluvial Sources
 - Reliance on older embankments
 - Concern with their ability to provide an appropriate standard of protection

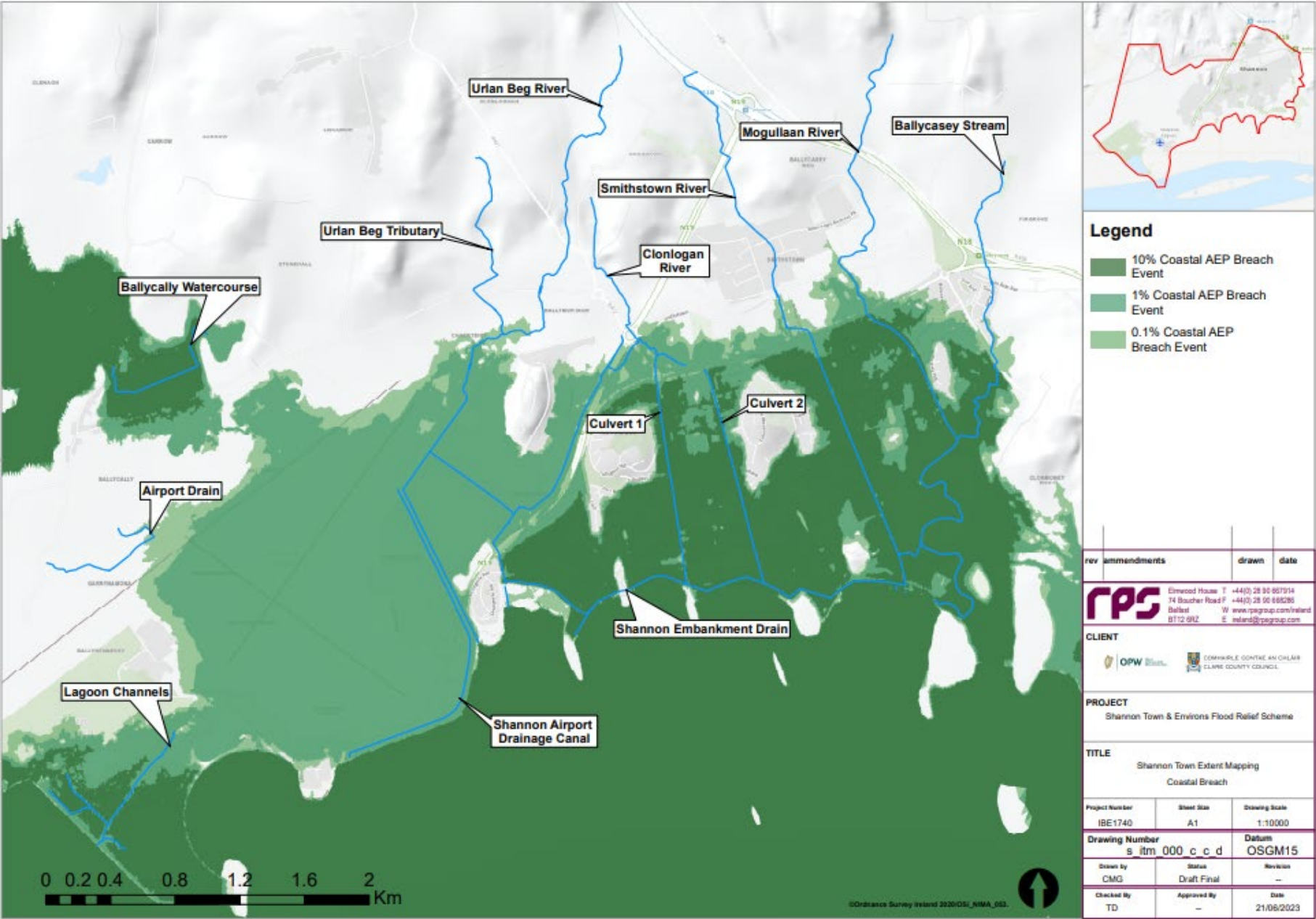


Fluvial Flood Map



Coastal Flood Map

Extents Assumes Breaches in Embankments



Shannon Town & Environs Flood Relief Scheme

Options Considered for Coastal Flood Risk

- Tidal Barrage (screened out)
- Upgrade of existing defences
- Realignment of Defences
- Abandonment of Breakwater (would result in significantly higher walls along N19 and WWTP access road)



Shannon Town & Environs Flood Relief Scheme

Options Considered for Fluvial (River) Flood Risk

Option 1 - Summary

Option	Location	Option elements
Option 1	Urlan Beg	<ul style="list-style-type: none">• Flood walls and embankments• Manhole Sealing
	Clonloghan	<ul style="list-style-type: none">• Flood walls and embankments
	Culvert 1	<ul style="list-style-type: none">• Diversion Culvert to Culvert 2
	Culvert 2	<ul style="list-style-type: none">• Storage Tank• Culvert upgrade
	Culleen	<ul style="list-style-type: none">• Flood walls• Culvert Upgrade
	Mogullaan	<ul style="list-style-type: none">• Flood embankments



Shannon Town & Environs Flood Relief Scheme

Options Considered for Fluvial Flood Risk

Option 2 - Summary

Option	Location	Option elements
Option 2	Urlan Beg	<ul style="list-style-type: none">• Flood walls• Diversion Culvert to the Airport Drainage Canal• Culvert Maintenance
	Clonloghan	<ul style="list-style-type: none">• Flood walls and embankments
	Embankment Back Drain	<ul style="list-style-type: none">• Culvert Maintenance (Outfall)
	Culvert 1	<ul style="list-style-type: none">• Diversion Culvert to Culvert 2
	Culvert 2	<ul style="list-style-type: none">• Storage Tank• Culvert upgrade
	Culleen	<ul style="list-style-type: none">• Flood walls• Culvert Upgrade
	Mogullaan	<ul style="list-style-type: none">• Flood embankments



Shannon Town & Environs Flood Relief Scheme

Options Considered for Fluvial Flood Risk

Option 3 - Summary

Option	Location	Option elements
Option 3	Urlan Beg	<ul style="list-style-type: none">• Flood walls• Diversion Culvert to the Airport Drain Canal• Culvert Maintenance
	Clonloghan	<ul style="list-style-type: none">• Flood walls and embankments• Pumping Station Upgrade
	Embankment Back Drain	<ul style="list-style-type: none">• Culvert Maintenance (Outfall)
	Culvert 1	<ul style="list-style-type: none">• Diversion Culvert to Culvert 2
	Culvert 2	<ul style="list-style-type: none">• Storage Tank• Culvert upgrade
	Culleen	<ul style="list-style-type: none">• Flood walls• Culvert Upgrade
	Mogullaan	<ul style="list-style-type: none">• Flood embankments

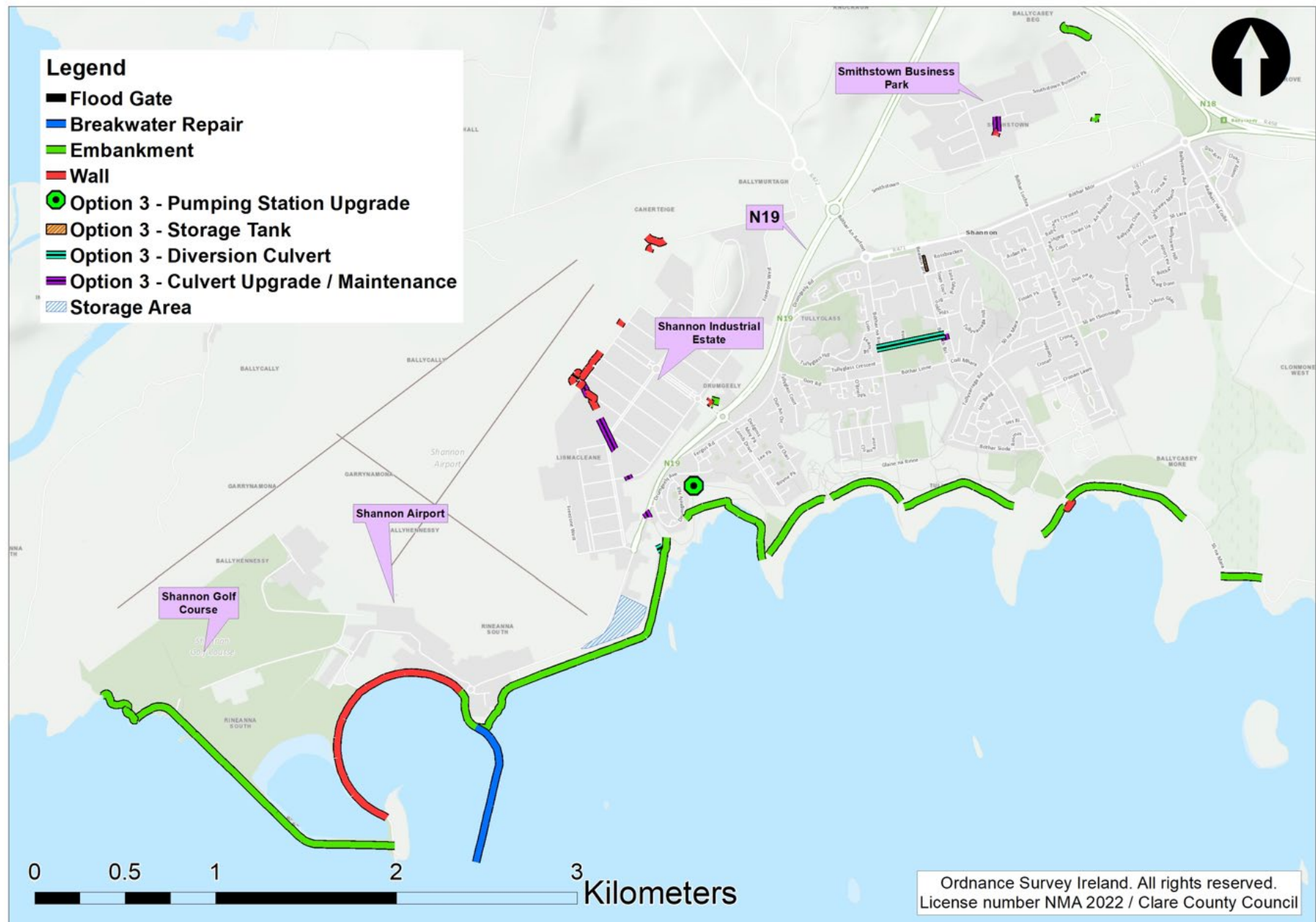


Emerging Preferred Option

Overall Scheme

Note: Scheme is subject to change based on;

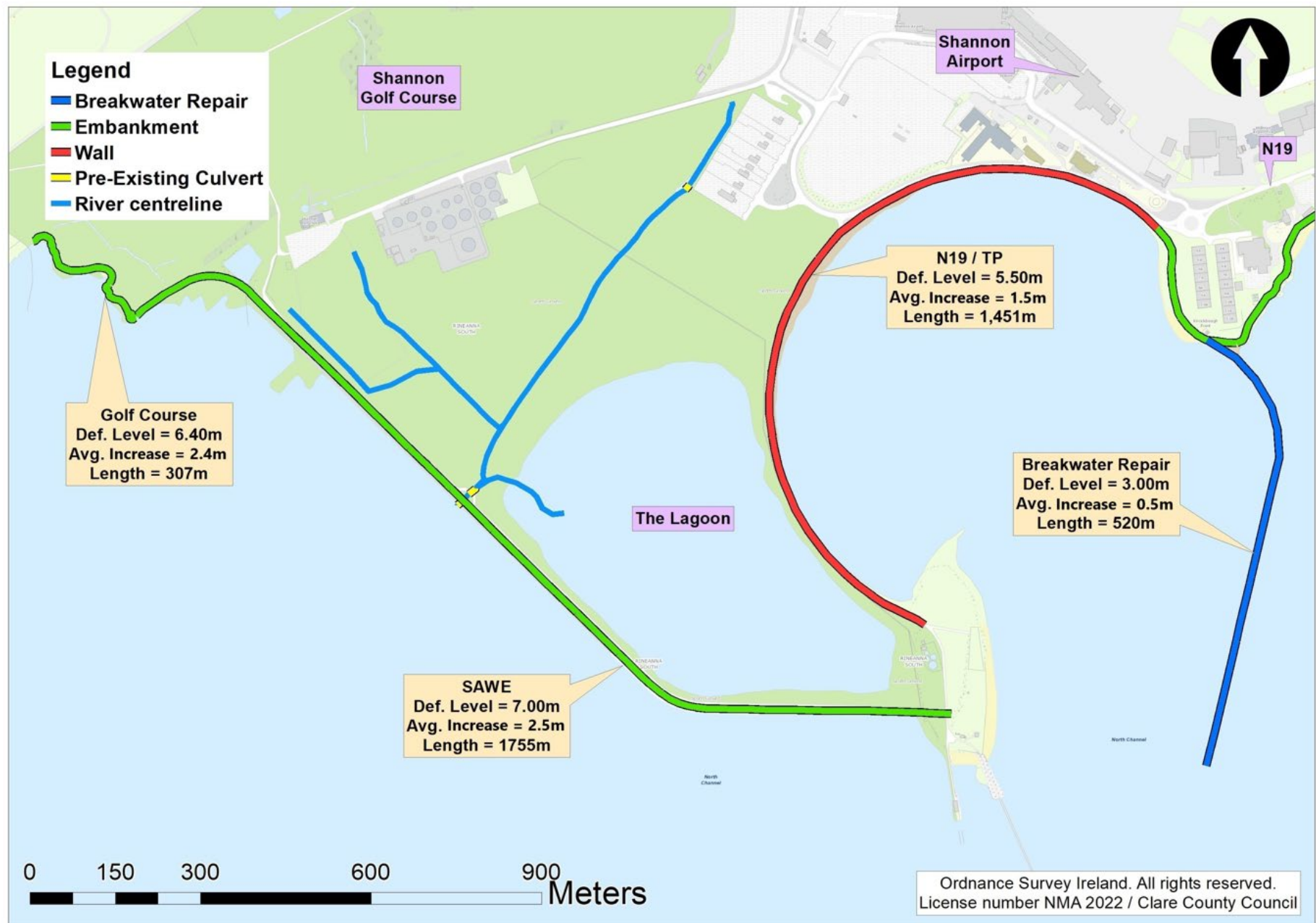
- Environmental Assessments
- Stakeholder Input
- Public Consultation



Emerging Preferred Option

Coastal Defences Upgrades

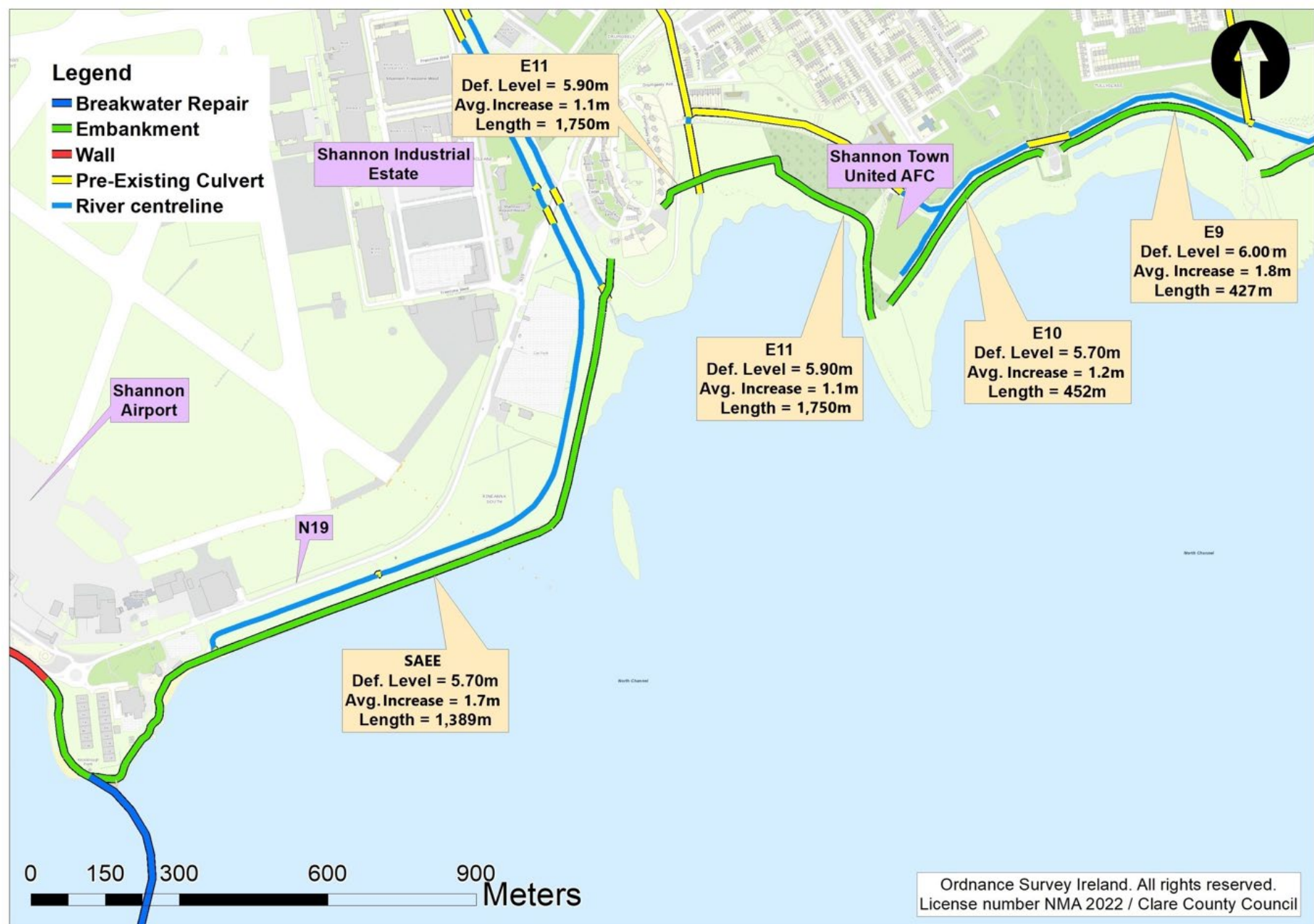
– Western Section



Emerging Preferred Option

Coastal Defences Upgrades

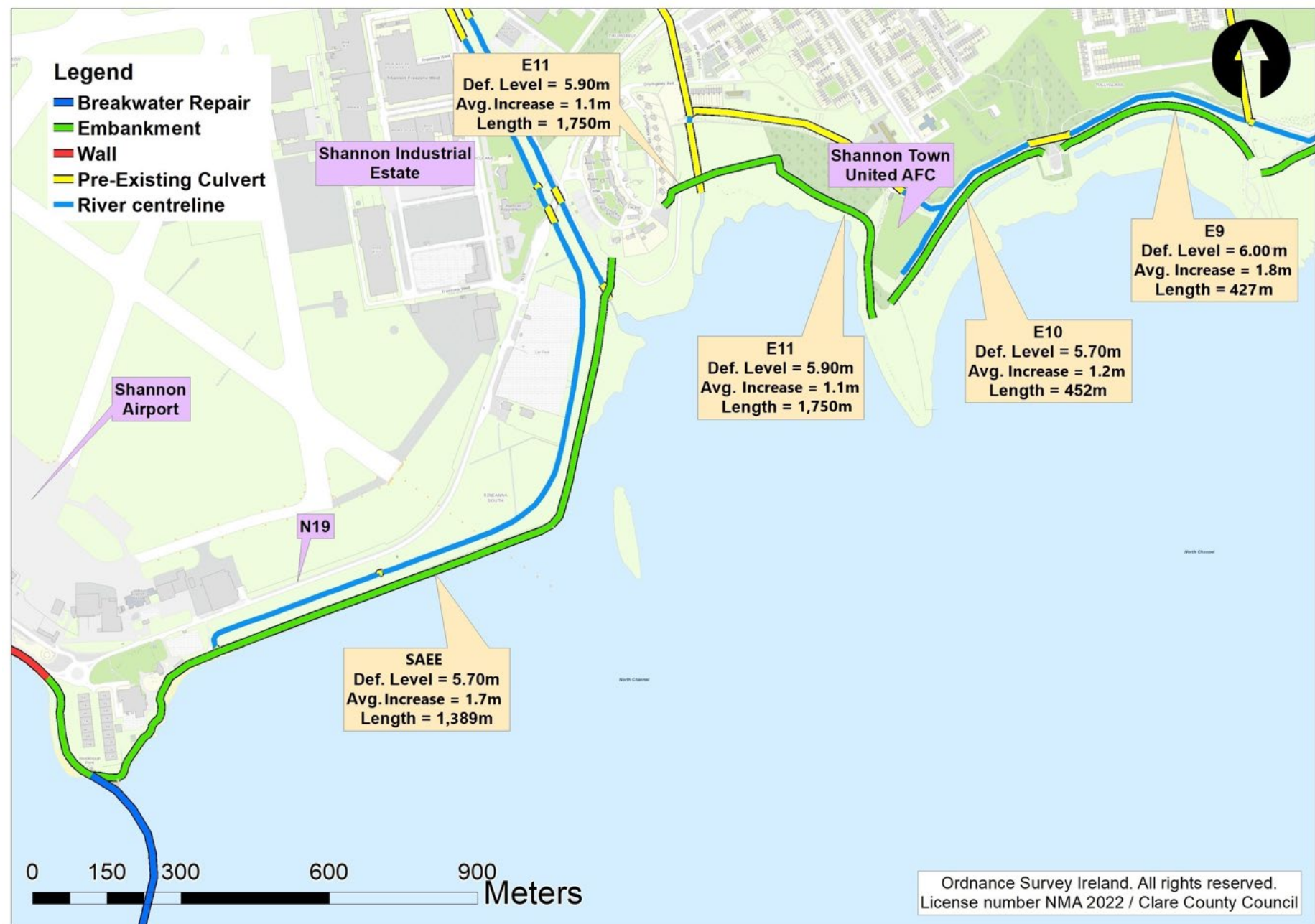
- Central Section



Emerging Preferred Option

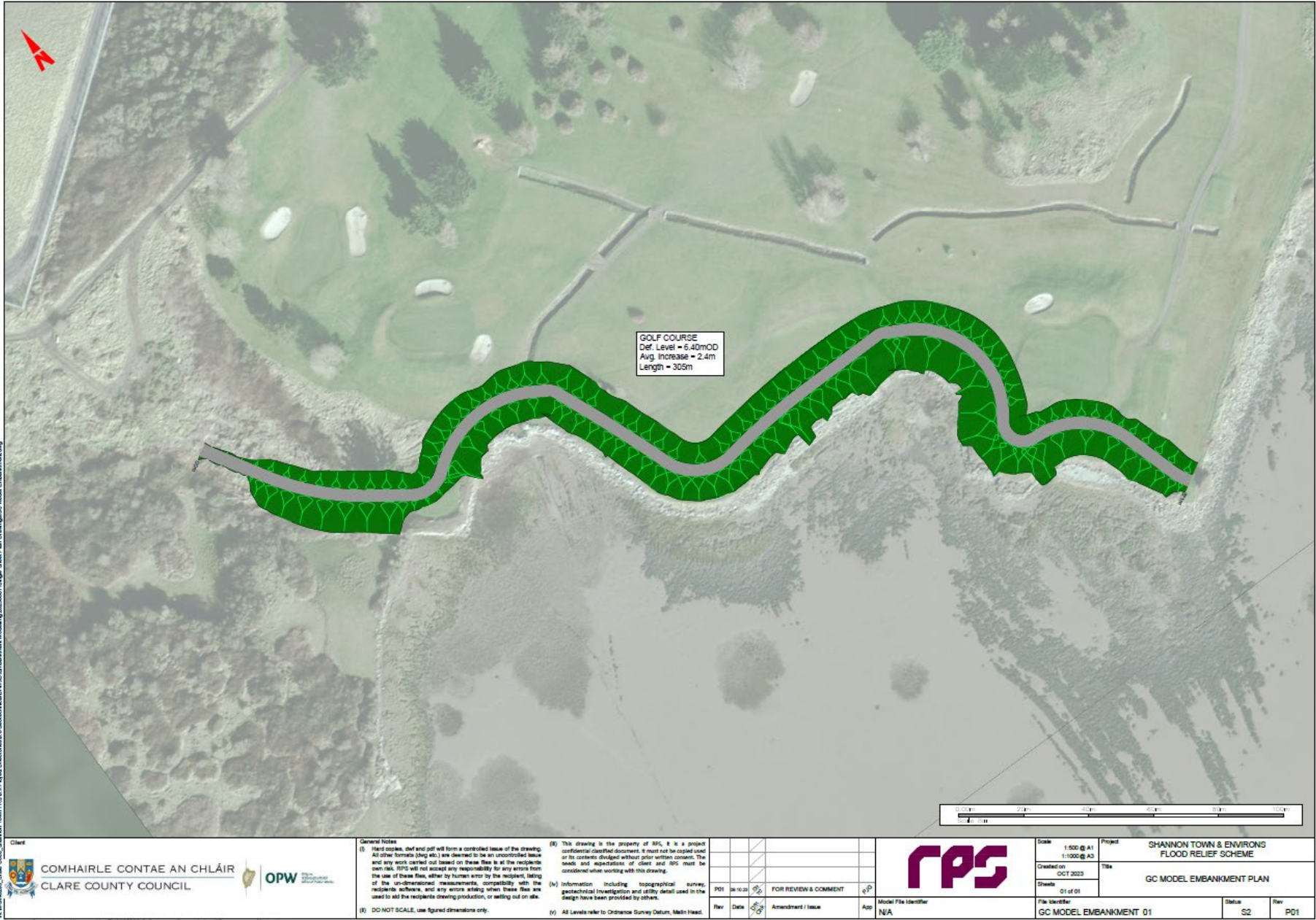
Coastal Defences Upgrades

- Eastern Section



Emerging Preferred Option

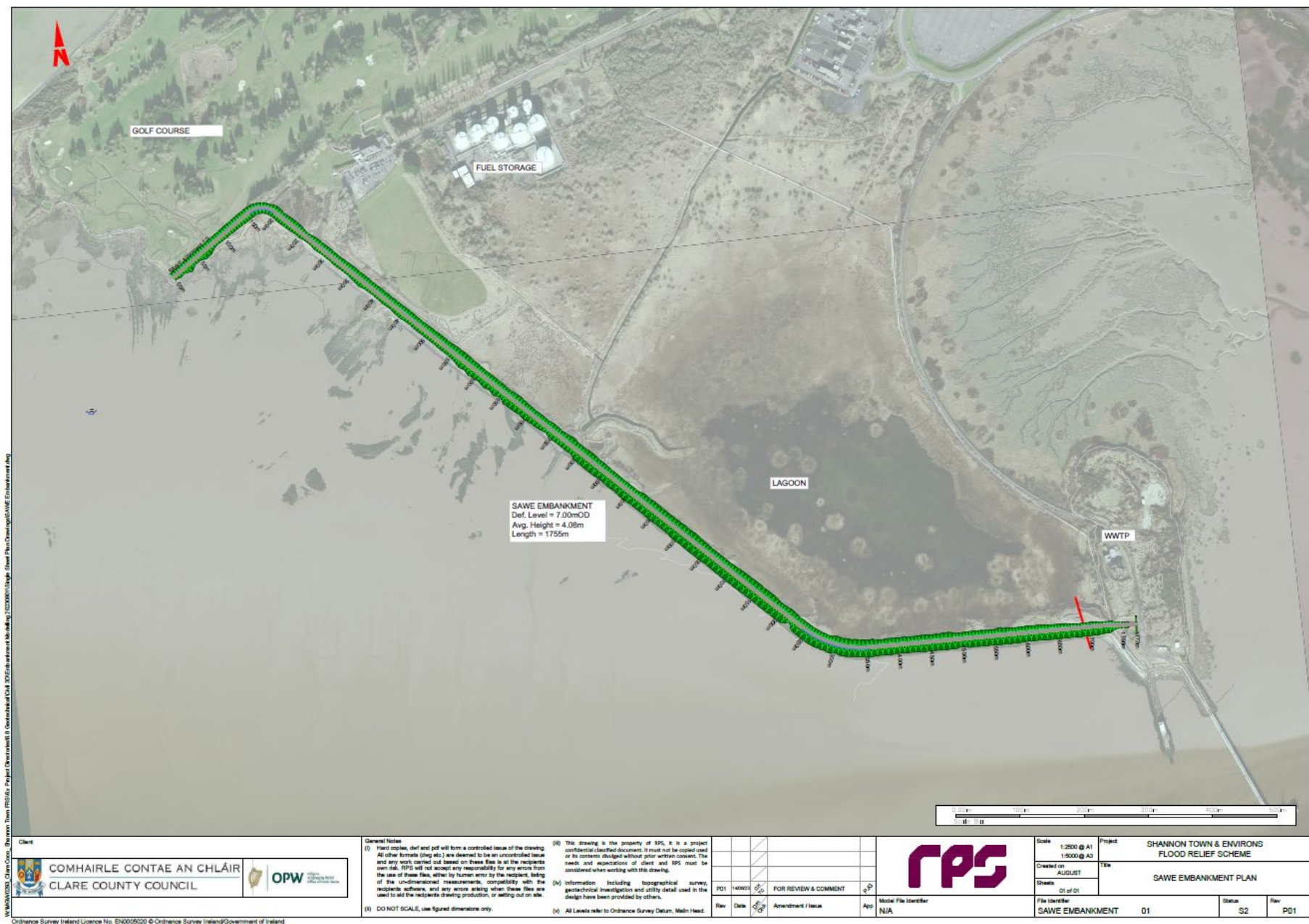
Proposed Embankment Footprint
Golf Course



Emerging Preferred Option

Proposed Embankment Footprint

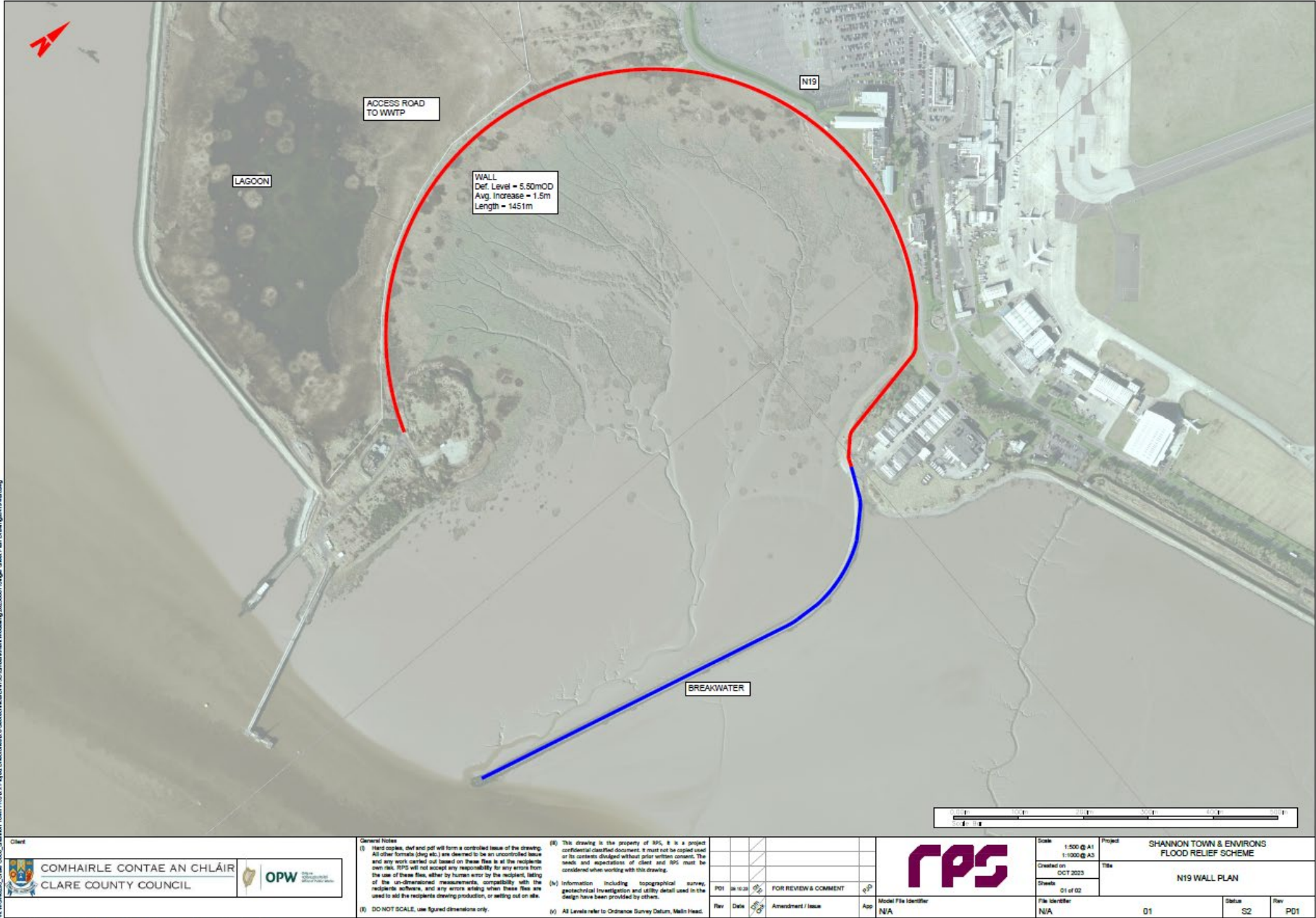
Western Embankment



Emerging Preferred Option

Proposed Flood Defences

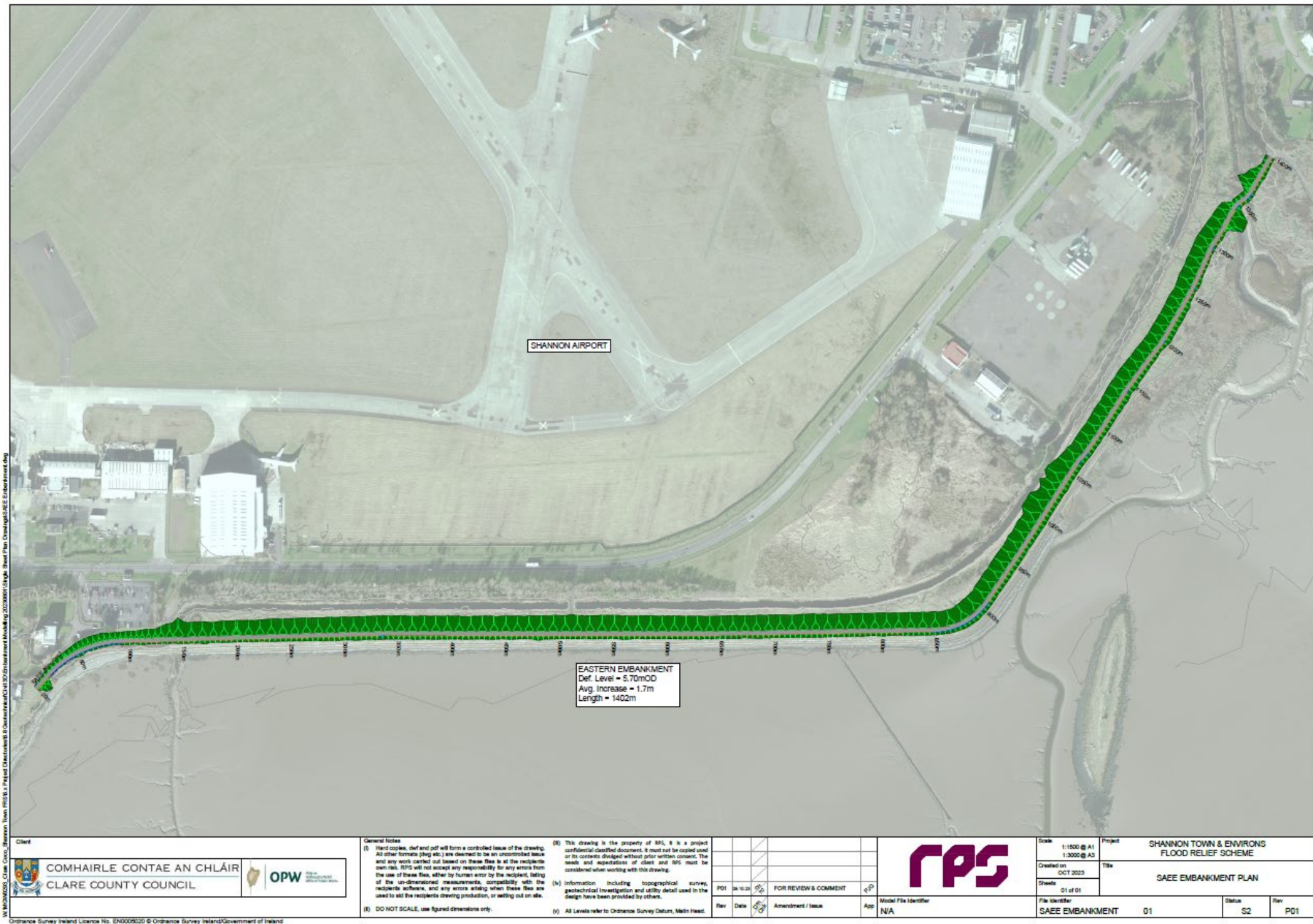
N19 and WWTP Access Road



Emerging Preferred Option

Proposed Embankment Footprint

Eastern Embankment

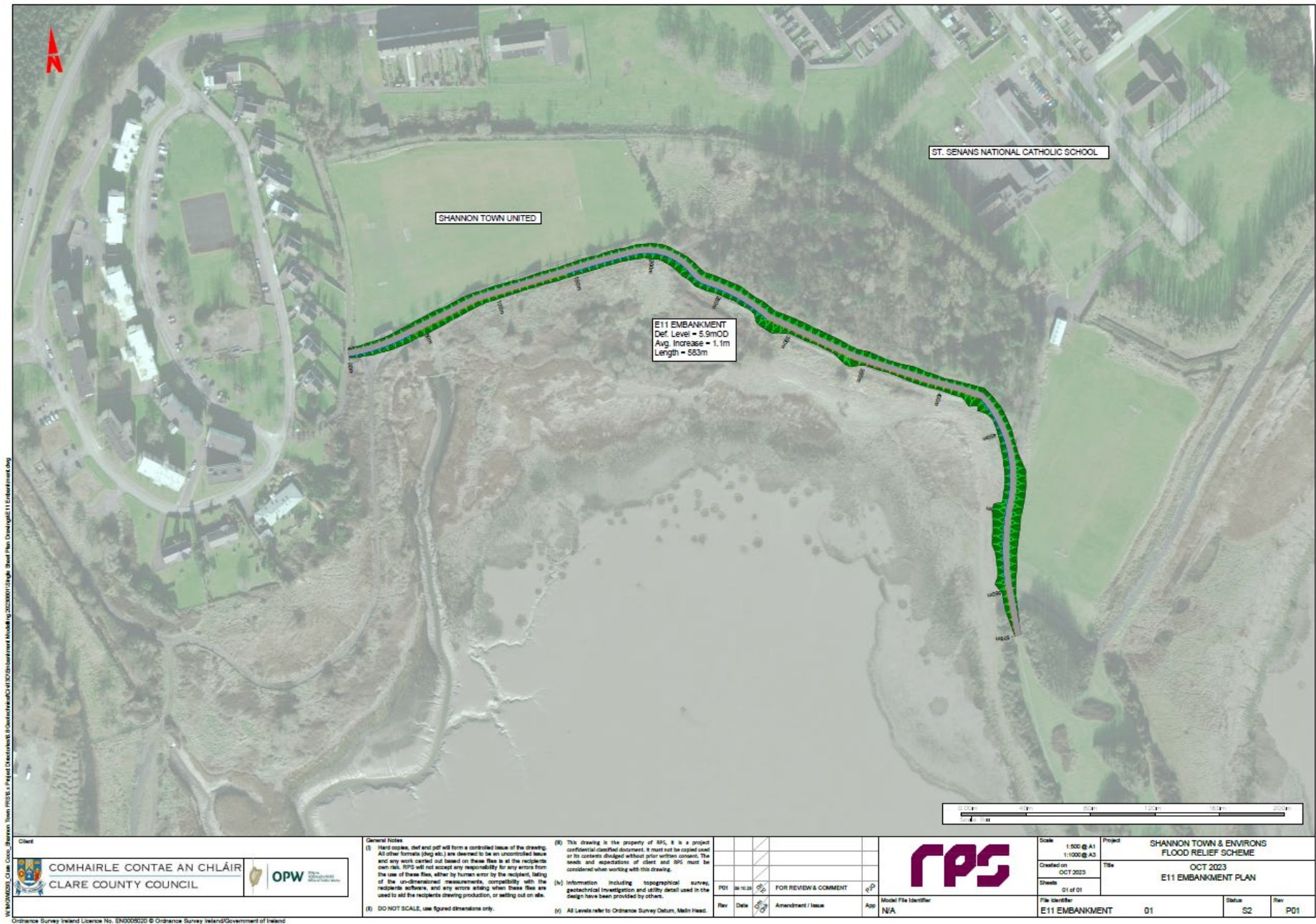


Emerging Preferred Option

Proposed Embankment Footprint

Embankment 11

St. Senans National School

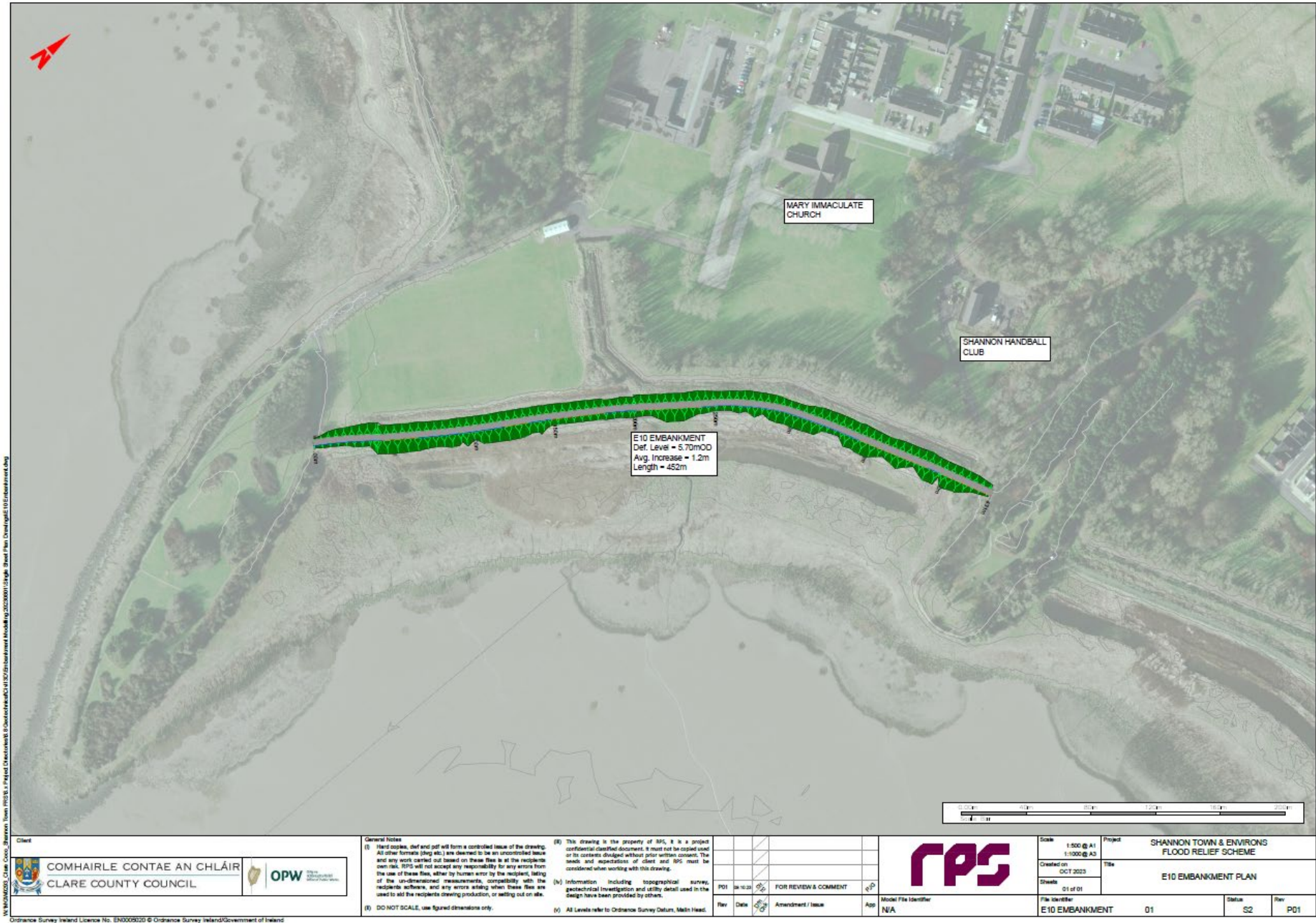


Emerging Preferred Option

Proposed Embankment Footprint

Embankment 10

Mary Immaculate Church



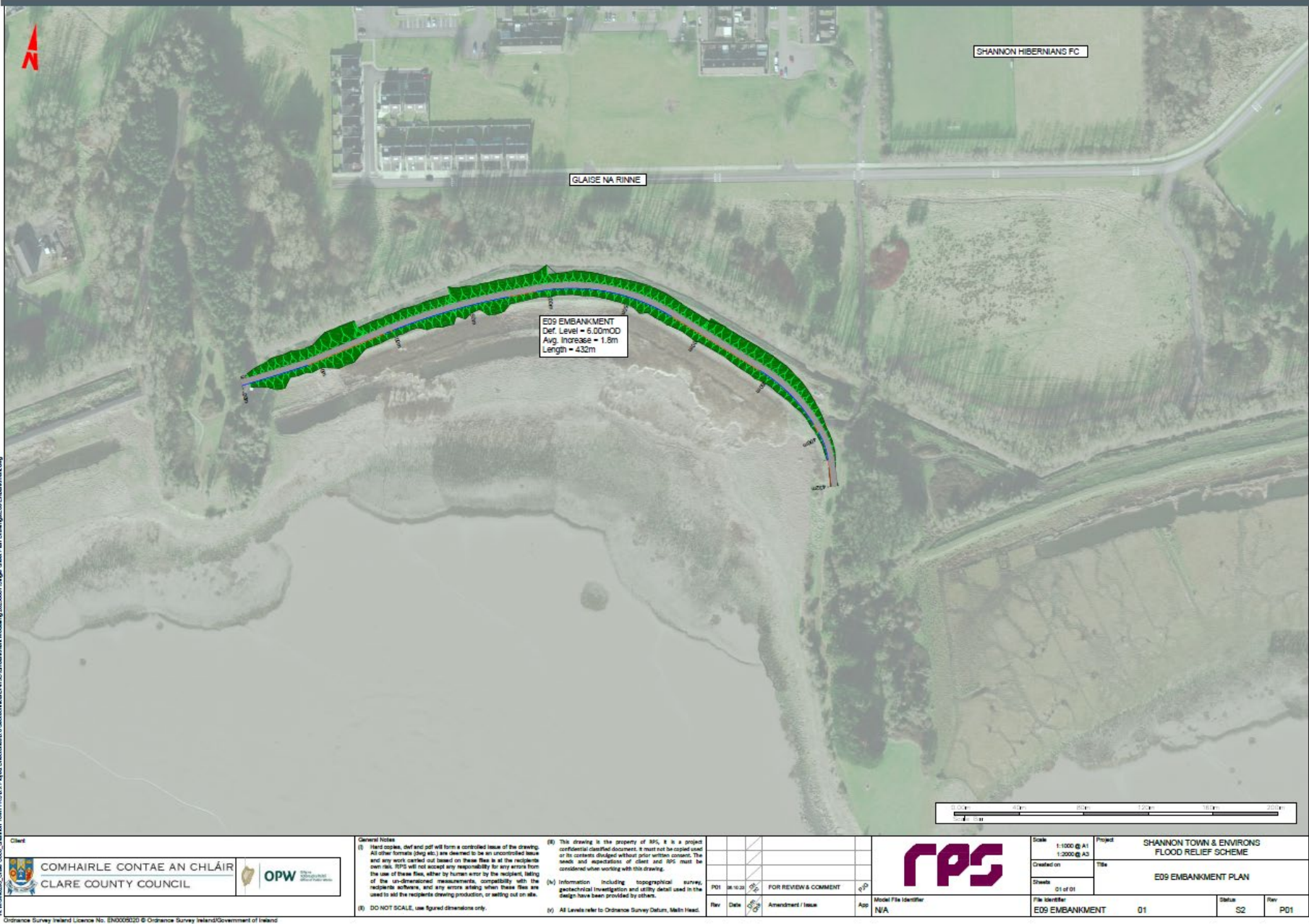
Emerging Preferred Option

Proposed Embankment Footprint

Embankment 9

Glaise na Rinne

Shannon Hibernians FC

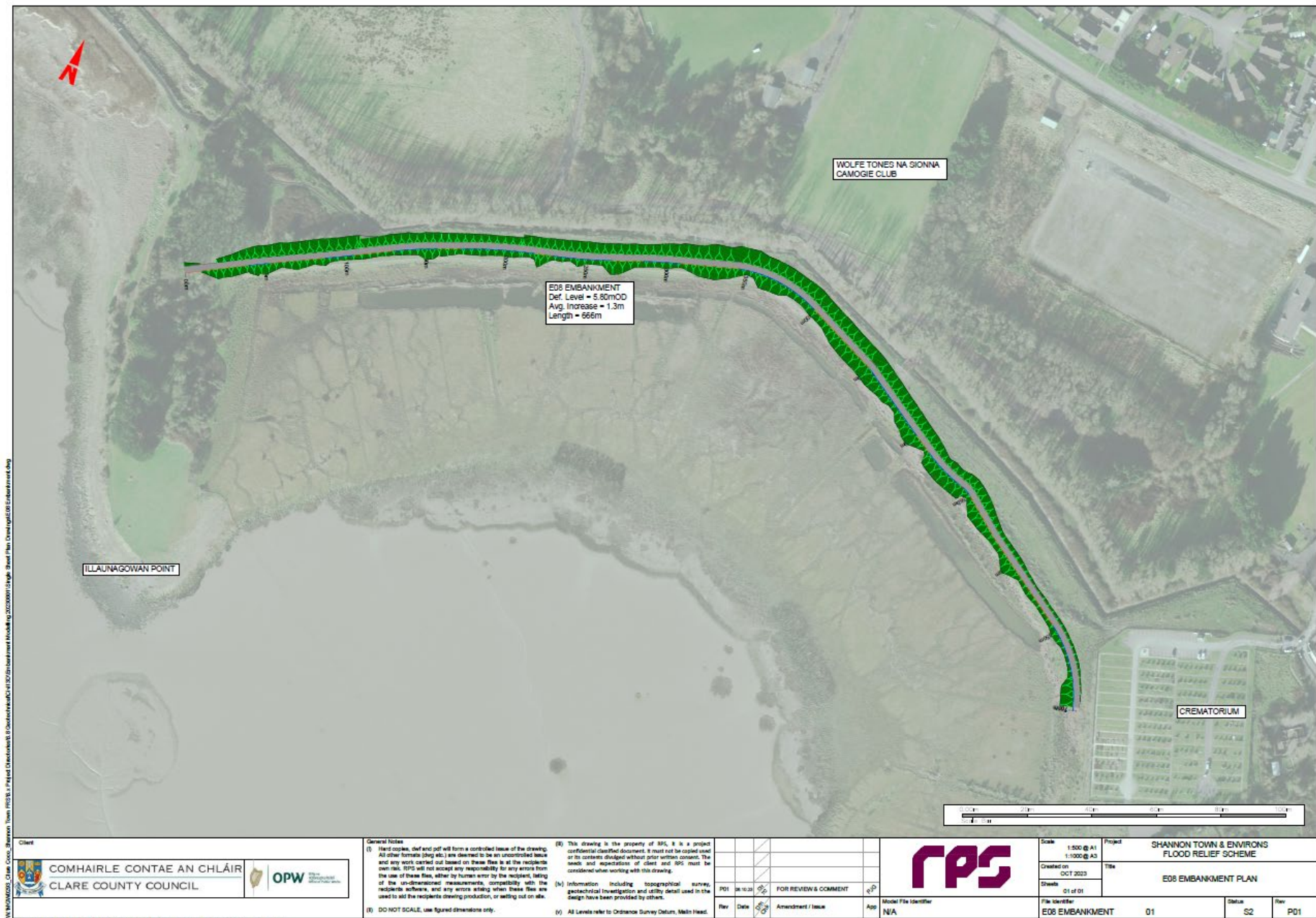


Emerging Preferred Option

Proposed Embankment Footprint

Embankment 8

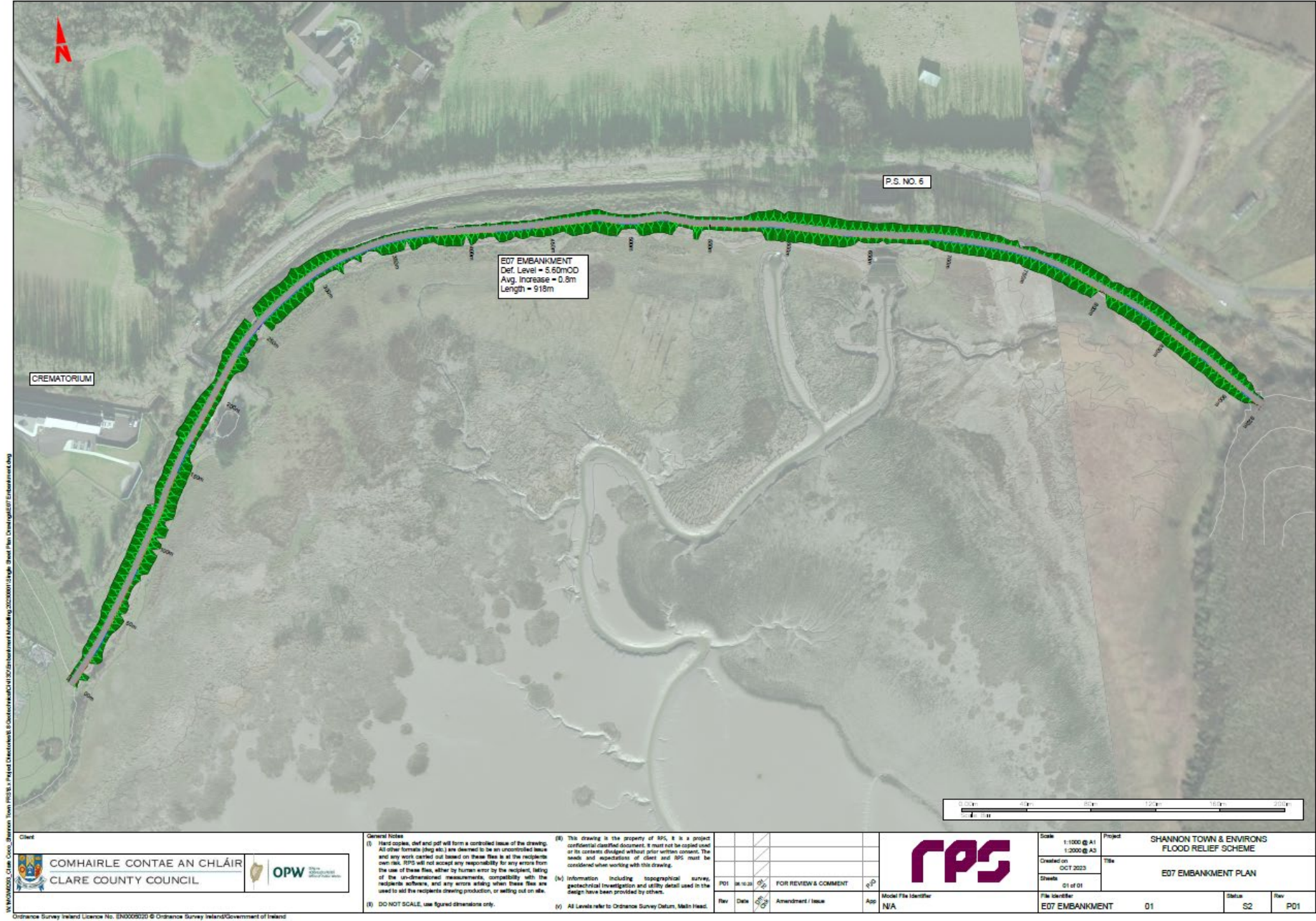
West of Crematorium



Emerging Preferred Option

Proposed Embankment Footprint

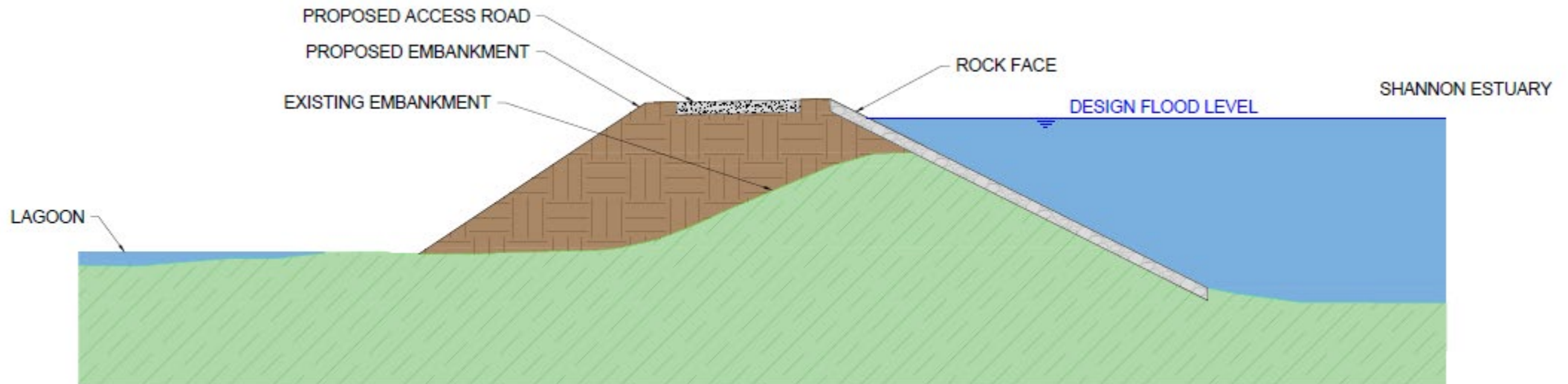
Embankment 7
East of Crematorium



Emerging Preferred Option

Proposed Embankments

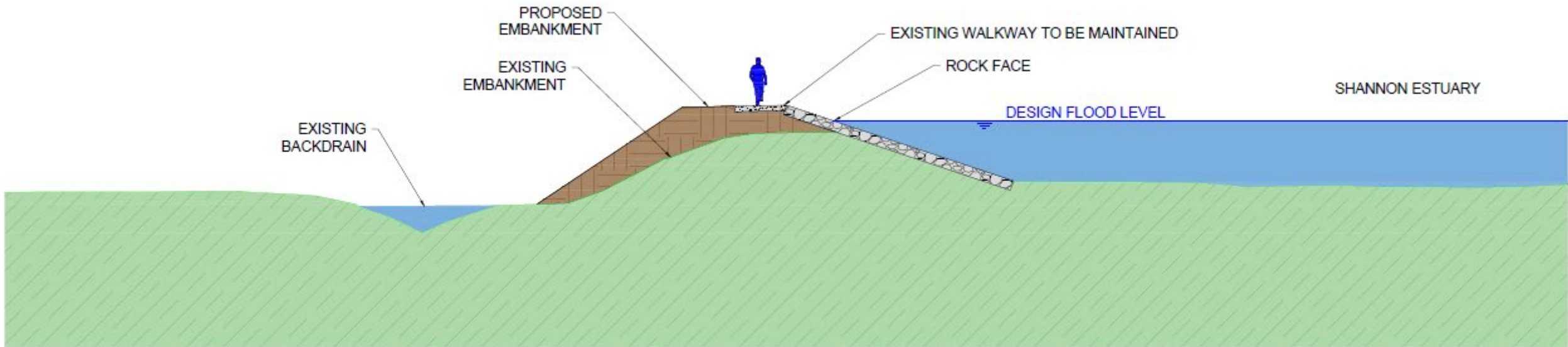
Typical Section – Western
Embankment



Emerging Preferred Option

Proposed Embankments

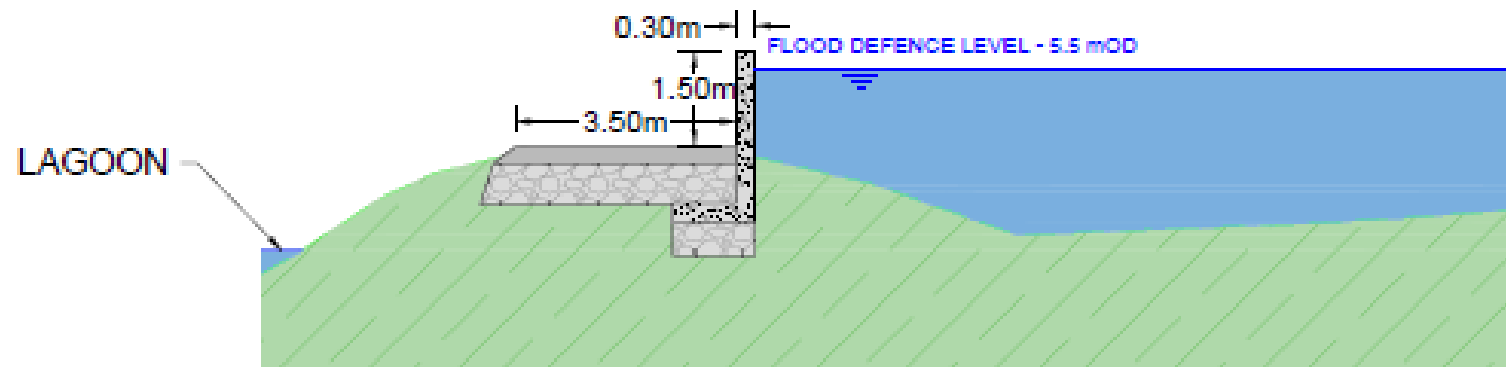
Typical Section – Near Mary Immaculate Church



Emerging Preferred Option

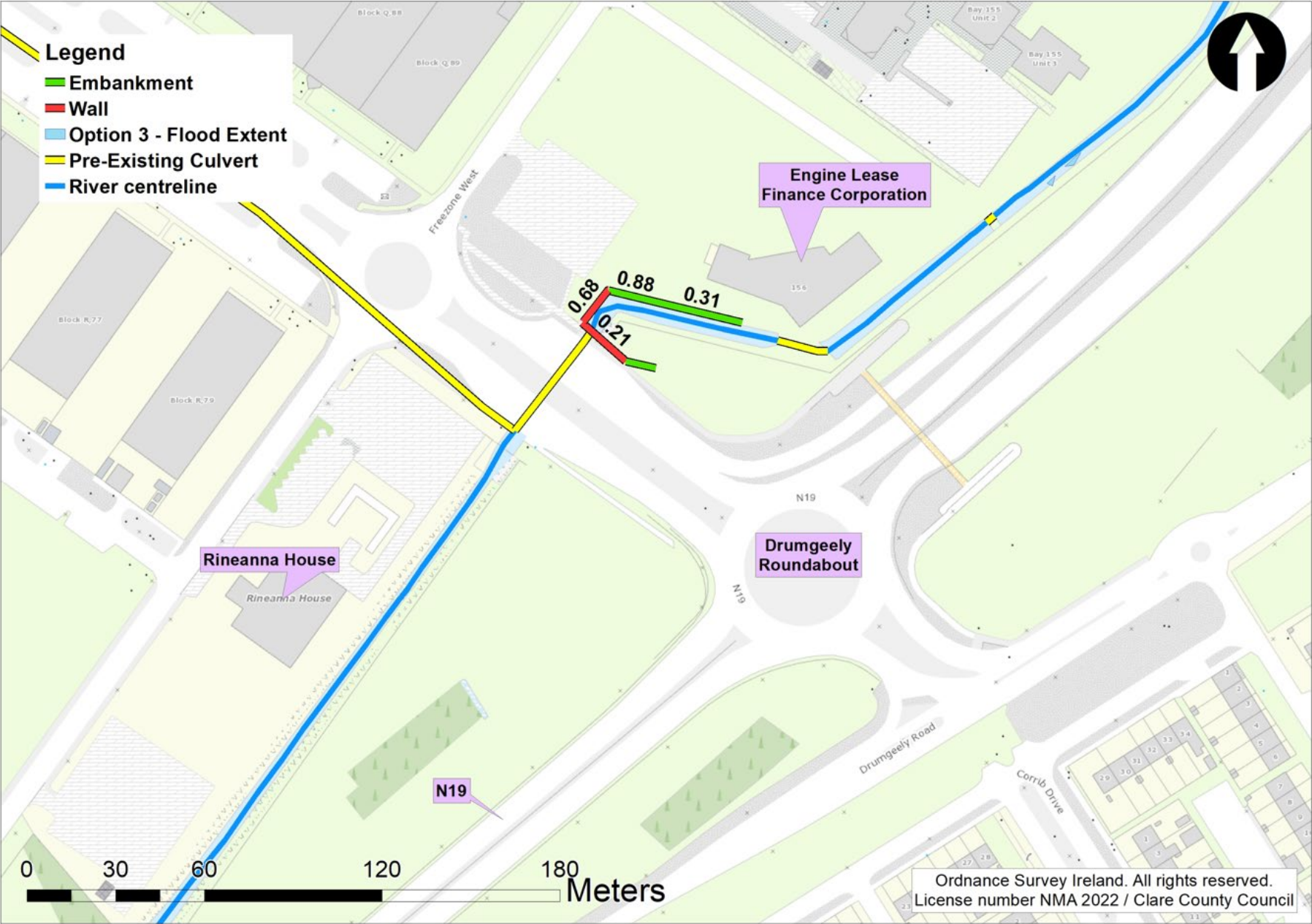
Proposed Coastal Defences

Typical Section – WWTP Access
Road



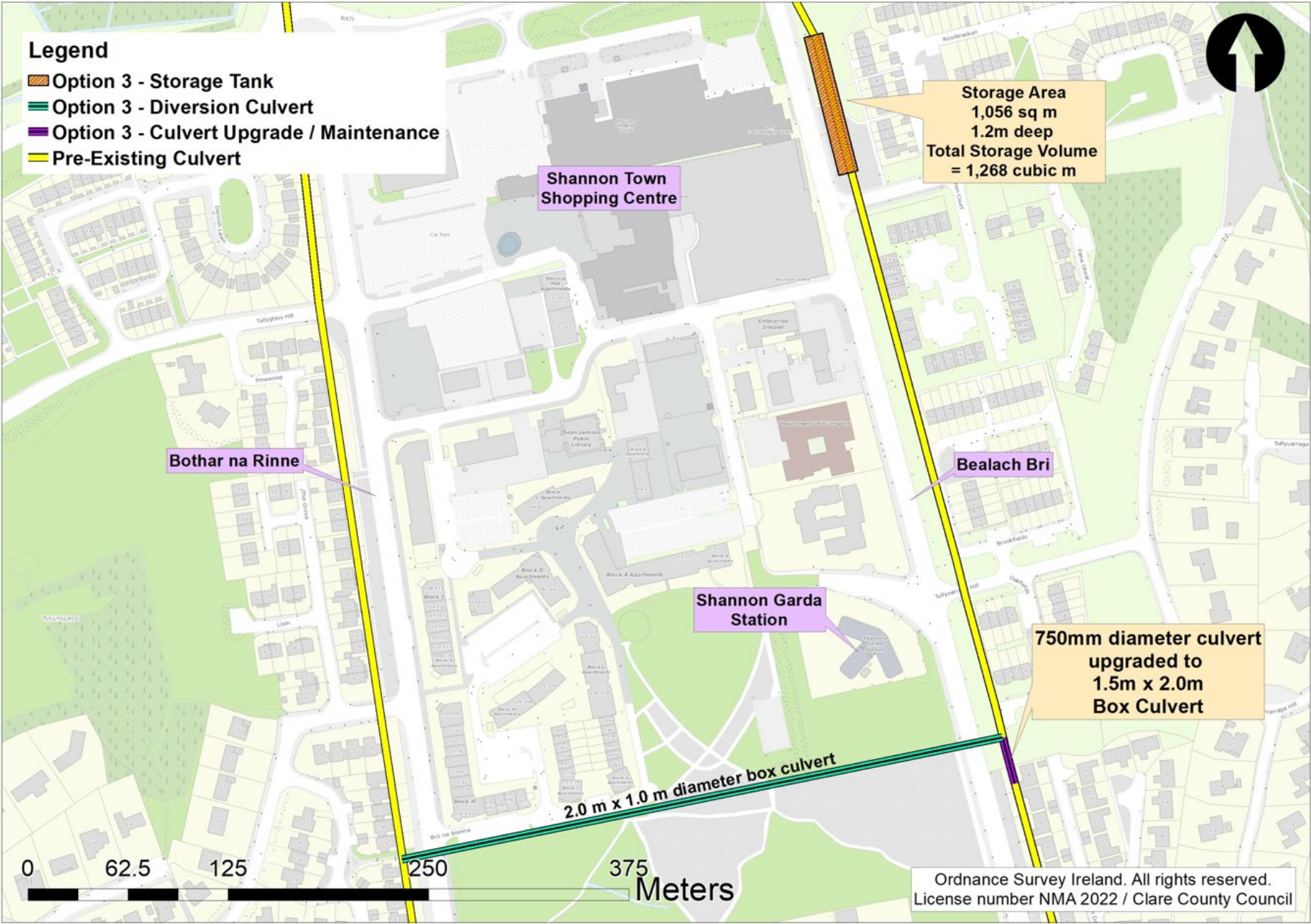
Emerging Preferred Option

Flood Walls and
Embankments at
Clonloghan River



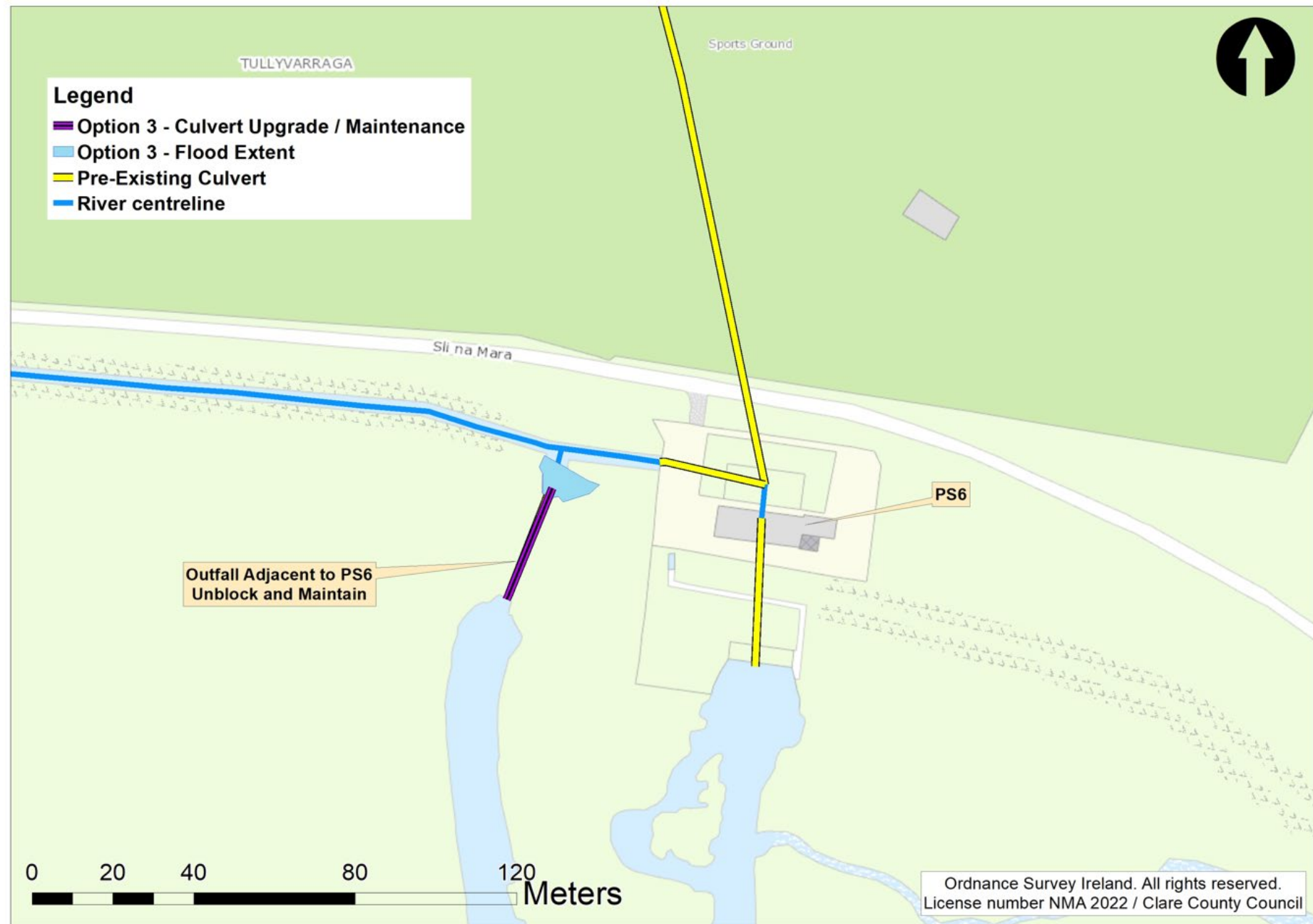
Emerging Preferred Option

Diversion between existing Storm Water Culverts



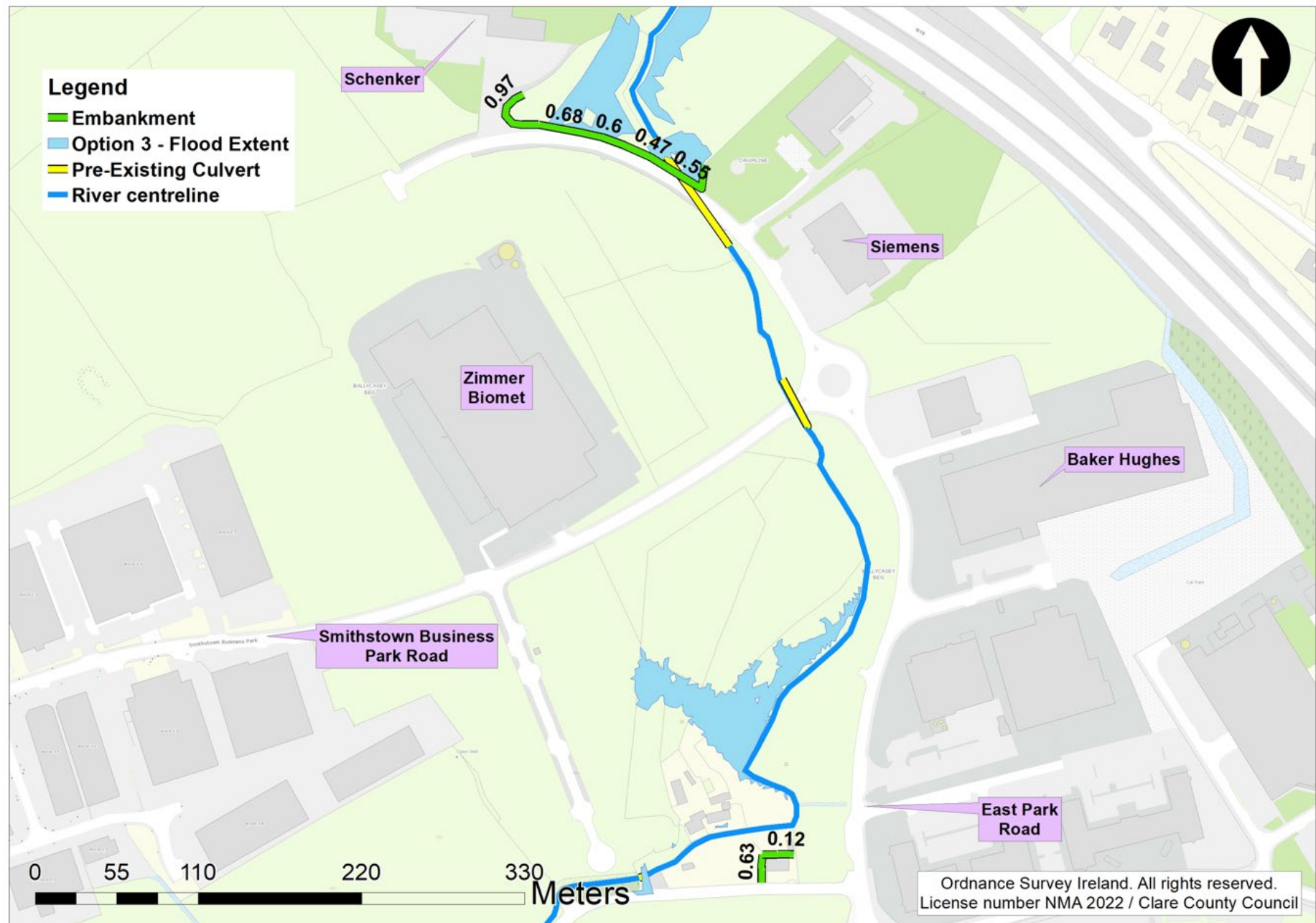
Emerging Preferred Option

Upgrade to Existing Gravity Outfall At Pumping Station 6



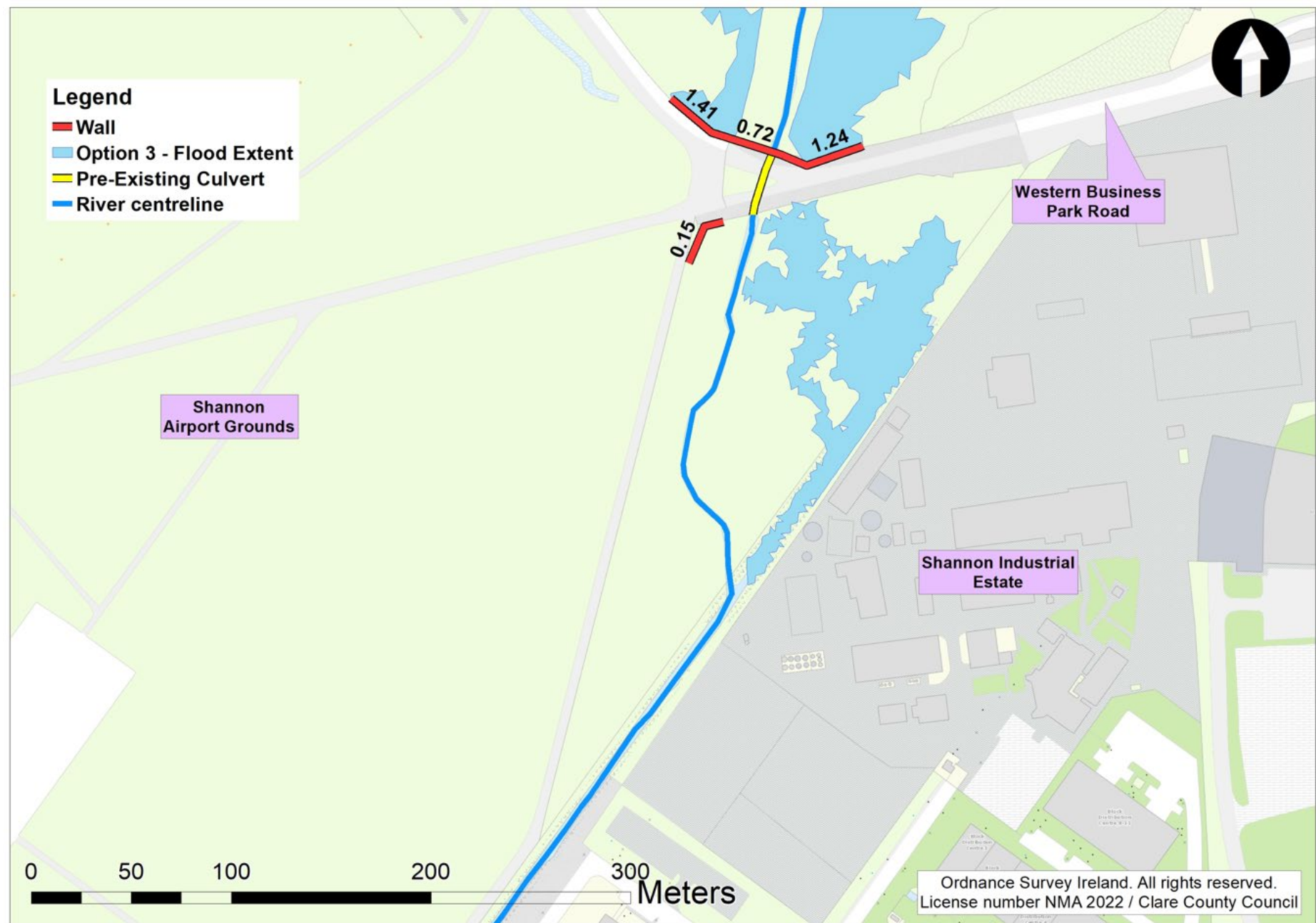
Emerging Preferred Option

Embankments at Mogullaan



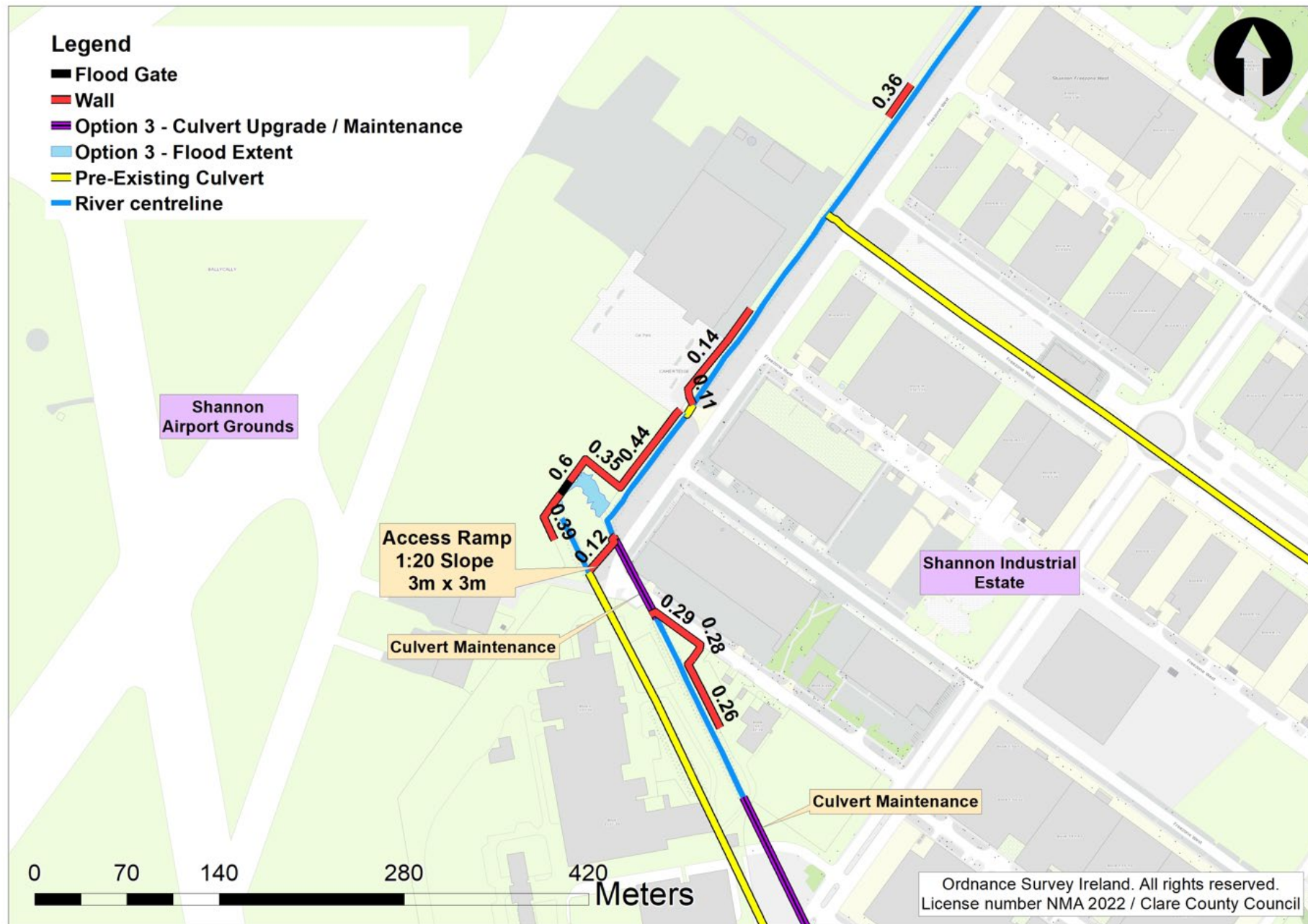
Emerging Preferred Option

Upstream hard defences on the Urlan Beg River



Emerging Preferred Option

Hard defences & culvert maintenance on the Urlan Beg River



Emerging Preferred Option

Culvert maintenance and diversion culvert on the Urlan Beg River - downstream



Shannon Town & Environs Flood Relief Scheme

Next Steps

Stage I: Options Assessment, Scheme Development & Design

- Finalisation of Options Selection Process
- Identification of Preferred Option
- Completion of Environmental Assessments
- Environmental Impact Assessment and Reporting (EIAR)



Shannon Town & Environs Flood Relief Scheme

Next Steps

Stage II: Planning / Development Consent Process

- Public & Stakeholder Engagement
- Planning Permission
 - Planning Development Act
- CPO (if required)
- Other Statutory Processes

Stage III: Detailed Construction Design and Tender

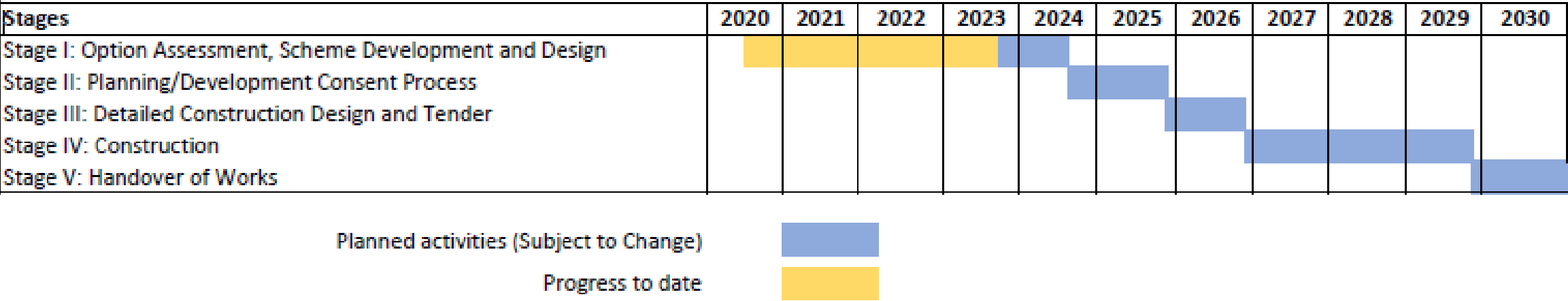
Stage IV: Construction

Stage V: Handover of Works



Shannon Town & Environs Flood Relief Scheme

High Level Programme



Appendix B

Consultations with Statutory and Non-Statutory Bodies

PUBLIC CONSULTATION EVENT NO.2 REPORT

C1 - Public



Our ref: MGW0293LT011

Lyrr 2, IDA Business &
Technology Park, Mervue
Galway, H91 H9CK
T +353 91 400 200

Date: 25 October 2023

Department of Agriculture, Food, and the Marine
Agriculture House,
Kildare St.
Dublin 2
D02 WK12

Re: Shannon Town and Environs Flood Relief Scheme: Emerging Preferred Option

To Whom it May Concern,

Clare County Council in conjunction with the OPW and Shannon Airport Authority are progressing the implementation of the Shannon Town and Environs Flood Relief Scheme (FRS). The scheme is required to address the coastal and fluvial flood risk in the area and the reliance on the existing older coastal embankments which do not provide the standard level of protection (i.e., 0.1% coastal and 1% fluvial Annual Exceedance Probability). The proposed scheme is likely to include works along the Shannon Estuary as well as tributaries within Shannon town and the industrial estates, namely the Urfan Beg, Clonloghan, Culleen and Mogullaan as well as the two culverts that run through the centre of town. Maintenance of the coastal embankment back drain is also under consideration.

We are currently in Stage I of the pre-planning and design process which includes an option assessment of possible flood relief defences. As part of this process various options have been assessed and an emerging preferred option has now been identified. The details of the options are attached to this letter for your review. If you would like to comment on the options assessed as well as the proposed emerging preferred option, please forward your correspondence to the undersigned no later than 25th November 2023.

Project information and updates will be published on the scheme website which can be found at the following address - www.shannontownandenvironsfrs.com.

Please contact the undersigned directly at karen.dineen@rpsgroup.com if you have any queries in relation to the proposed scheme.

Yours faithfully,
for RPS Group Limited

Karen Dineen
EIA Co-ordinator
Karen.dineen@rpsgroup.com
+353 21 466 5900

Attached: Details Regarding Considered Options and the Shannon Town and Environs Emerging Preferred Option

Dublin | Cork | Galway | Sligo
rpsgroup.com

RPS Group Limited, registered in Ireland No. 91911
RPS Consulting Engineers Limited, registered in Ireland No. 161581
RPS Planning & Environment Limited, registered in Ireland No. 160191
RPS Engineering Services Limited, registered in Ireland No. 99795
The Registered office of each of the above companies is West Pier
Business Campus, Dun Laoghaire, Co. Dublin, A96 N6T7

**Appendix Figure 1: Sample Consultation Letter**

PUBLIC CONSULTATION EVENT NO.2 REPORT

C1 - Public



Our ref: MGW0293LT011

Shannon Town and Environs Flood Relief Scheme: Emerging Preferred Option

The area considered for the Shannon Town and Environs Flood Relief Scheme (FRS) is shown in **Figure 1**.

The three options considered for the management of flood risk along the Shannon Estuary as well as the fluvial risk area are summarised **Table 1**.

Options 1, 2, and 3 are depicted in **Figures 2, 3 and 4**.

Note that the proposed coastal defences are consistent for all options and are detailed in **Figures 5, 6 and 7**.

Option 3 is the Emerging Preferred Option. The detail of the fluvial defences for the Emerging Preferred Option, is given in **Figures 8 to 15**.

Figure 1: Summary of Options considered for Shannon Town and Environs FRS

Risk Area	Option 1	Option 2	Option 3 (Preferred)
Coastal Defences	<ul style="list-style-type: none"> Flood Walls and Embankments Restore breakwater 	<ul style="list-style-type: none"> Flood walls and embankments Restore Breakwater 	<ul style="list-style-type: none"> Flood walls and embankments Restore Breakwater
Urlan Beg	<ul style="list-style-type: none"> Flood Walls and Embankments Manhole Sealing 	<ul style="list-style-type: none"> Flood Walls Diversion Culvert to the Airport Drainage Canal Culvert Maintenance 	<ul style="list-style-type: none"> Flood walls Diversion Culvert to the Airport Drainage Canal Culvert Maintenance
Clonloghan	<ul style="list-style-type: none"> Flood Walls and Embankments 	<ul style="list-style-type: none"> Flood walls and embankments 	<ul style="list-style-type: none"> Flood walls and embankments Pumping Station Upgrade
Culleen	<ul style="list-style-type: none"> Flood Walls Culvert Upgrade 	<ul style="list-style-type: none"> Flood Walls Culvert Upgrade 	<ul style="list-style-type: none"> Flood walls Culvert Upgrade
Mogullaan	<ul style="list-style-type: none"> Flood embankments 	<ul style="list-style-type: none"> Flood embankments 	<ul style="list-style-type: none"> Flood embankments
Culvert 1	<ul style="list-style-type: none"> Diversion Culvert to Culvert 2 	<ul style="list-style-type: none"> Diversion Culvert to Culvert 2 	<ul style="list-style-type: none"> Diversion Culvert to Culvert 2
Culvert 2	<ul style="list-style-type: none"> Storage Tank Culvert upgrade 	<ul style="list-style-type: none"> Storage Tank Culvert upgrade 	<ul style="list-style-type: none"> Storage Tank Culvert Upgrade
Embankment Back Drain	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Culvert Maintenance (Outfall) 	<ul style="list-style-type: none"> Culvert Maintenance (Outfall)

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Appendix Table 1: Consultation Responses

Stakeholder	Date Received	Summary of Response Received
Most relevant Government Departments		
Department of Agriculture, Food, and the Marine		No response at this time
Department of Environment, Climate and Communications		No response at this time
Department of Housing, Local Government and Heritage – Development Applications Unit	31.10.23	<p>Project Archaeologist</p> <p>It is advised that the Office of Public Works Project Archaeologist (PA) team is engaged with by the design team to advise on all aspects of this scheme from design, through EIAR compilation to construction.</p> <p>Scope of Archaeological Heritage in EIAR</p> <ul style="list-style-type: none"> Hydrological assessment should also form part of the consideration for all schemes regarding potential impacts on both terrestrial and underwater cultural heritage. In consultation with landscape specialists, as required, impacts on the setting of archaeological monuments and on views of and from monuments arising from new or upgraded FRS infrastructure also need to be assessed and mitigated, where necessary. Any interactions between impacts on archaeological heritage and other environmental factors should also be documented for each asset and captured in a matrix of interactions. It is essential that the description of effects is precise and concise and focuses on effects that are probable or likely to occur, including the reasonably foreseeable worst-case scenario. Discussion of negligible effects should be avoided. <p>Archaeological Heritage and Flood Relief Schemes</p> <p>The River Shannon and its tributaries are repositories of dense concentrations of a diverse range of archaeological heritage in a variety of settings, including terrestrial, underwater, reclaimed ground, floodplains, industrial, vernacular, estuarine and maritime. Typically, the vast bulk of this heritage does not enjoy formal protection/designation in the Record of Monuments and Places (RMP) and Record of Protected Structures (RPS). It is, therefore, essential that archaeologists look beyond standard sources such as the SMR/RMP/NIAH when constructing baseline inventories (and their attendant mapping) of the archaeological, built and cultural heritage within a given study area. Field surveys, including those conducted underwater and by canoe/boat, and historical (including research on primary sources) and historic cartographic sources can be of particular importance for mapping topographical, built heritage, industrial and vernacular cultural heritage receptors, both extant and in their former locations, within urban riverine environments. Local knowledge is another key source that should be included in all assessments.</p>

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Stakeholder	Date Received	Summary of Response Received
		<p>Wrecks</p> <p>All recorded (located and unlocated) losses from the study area and its environs are comprehensively assessed by reviewing the Wreck Inventory of Ireland Database (WIID) and other sources so as to capture items not recorded in the WIID.</p> <p>Submerged prehistoric sites and palaeolandscapes</p> <p>Submerged landscapes have been previously recorded from the broader Shannon estuary area and should be considered in the EIAR.</p> <p>Estuarine built heritage</p> <p>The Shannon estuary has been a focus for maritime and riverine trade traffic since the earliest times. Prior research has documented numerous examples of these features within the environs of the FRS project area.</p> <p>EIAR Methodology</p> <p>Desk-based Assessment</p> <p>Given the broad variety of environments that an FRS project typically encompasses the Desk-Based Assessment (DBA) may require inputs from a range of suitably qualified and experienced archaeologists, historians, underwater archaeologists, and other specialists. It is essential that the DBA capture as comprehensively as possible the archaeological, built and cultural heritage landscape of the proposed FRS project area and it should include the outcome – utilising primary and secondary sources – of ample historical and archaeological research in order to identify sites and locations of potential. These should be accurately mapped (using a sequential numbering system) and inventoried. Where substantive archaeological heritage issues are identified, they should be flagged with the National Monuments Service of the Department at the earliest opportunity. When the DBA has been completed and its recommendations considered and agreed, further archaeological assessment by way of field survey and impact assessment will be required. The nature and extent of these investigations will be defined by the DBA.</p> <p>Archaeological Investigations</p> <ul style="list-style-type: none"> • Archaeological investigations (including topographical and geophysical surveys and test excavations) and site inspections (both terrestrial and underwater) should be carried out at the earliest opportunity and undertaken by suitably qualified and experienced archaeologists. • The investigations should ascertain the existence, location, character, condition and extent of any recorded and previously unrecorded archaeological features/deposits, sites/monuments or objects, built heritage or cultural heritage within a study area and likely to be affected by the proposed works.

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Stakeholder	Date Received	Summary of Response Received
		<ul style="list-style-type: none"> • The field survey should also facilitate accurate mapping and inventorying (including photography) of any recorded and previously unrecorded archaeological features/deposits, sites/monuments, or objects, built heritage or cultural heritage. • Findings should be presented in map and inventory form with associated geospatial data, and it is essential that, where possible, the full (known) extent of the archaeology identified be mapped and described. • A report that combines the results of the DBA and field surveys should be collated and submitted to the National Monuments Service of the Department for comment. This report should identify the likely effects on archaeological, built, and cultural heritage sites, and it should recommend appropriate measures (such as archaeological exclusion zones) for the avoidance of these remains or, where this cannot be achieved, measures to mitigate the impact of the works. The report should also include proposals for further investigations, as required, as part of the assessment process. <p>Underwater Archaeological Impact Assessment</p> <p>It is essential that an Underwater Archaeology Impact Assessment (UAIA) be carried out – as early in the EIA process as possible – for the Shannon Town and Environs FRS. This will ensure that a full assessment of the archaeological potential of the project area be produced at the earliest stage possible. It will also enable the appropriate mitigation strategies to be put in place (avoidance, preservation in situ or excavation). Such assessments need to be carried out by suitably qualified and experienced archaeologists, under the appropriate licences, to ensure compliance with the National Monuments Acts.</p> <p>Nature Conservation</p> <p>The coastal lagoon at Shannon Airport is of particular conservation importance, and further consideration needs to be given to the design and location of the lagoon embankment and sluices to ensure that the objective of restoring the lagoon habitat can be achieved. Also, the breakwater and central airport embankment (SAEE) are directly adjacent to intertidal mudflat and sandflat habitat, and to estuary habitat, and it is important that the repair and upgrade to these structures does not result in damage to the adjacent habitats. The Appropriate Assessment process is underpinned by certainty of outcome. A thorough understanding of the sedimentation and erosion processes present within the study area must be established including the rate at which they occur, and the potential influences on the hydro-geomorphological regime. This should include potential changes to coastal dynamics (e.g. saltmarsh morphodynamics) and consequential impact on related habitats. The effect of changes in flow rate and volume of water should also be quantified and modelled with regard to their effect on the conservation objectives for the European sites.</p> <p>The River Shannon and River Fergus Estuaries Special Protection Area (SPA) has site specific conservation objectives for each of the SPA's special conservation interests. These objectives are supported in part by data from low tide surveys and high tide roost surveys available on the National Parks and Wildlife Service website.</p> <p>There is a more recent report on bird usage in the SPA, waterfowl numbers, usage and distribution on the River Shannon and the River Fergus Estuaries 2017-2018, by MKO.</p>

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Stakeholder	Date Received	Summary of Response Received
		<p>There are records of two legally protected (Flora Protection Order) plant species in areas that may be impacted directly or indirectly by the proposed works. These are Opposite Leaved Pond Weed (<i>Groenlandia densa</i>) and Triangular Club-rush (<i>Scirpus triqueter</i>).</p> <p>Complete project details including Construction Management Plans (CMPs) need to be provided in order to allow an adequate EIAR and AA to be undertaken. Any mitigation needs to be included in detail and if being relied upon to reach conclusions must be proved to be achievable and likely to be effective in any given scenario it is needed. Proof of effectiveness will be required with examples of where similar techniques have been employed previously.</p> <p>The applicant should not use any proposed post construction monitoring as mitigation to supplement inadequate information in the assessment.</p>
Department of Public Expenditure and Reform		No response at this time
Department of the Housing, Local Government and Heritage		No response at this time
Department of Transport		No response at this time
Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media		No response at this time
Department of Defence		No response at this time
Department of Enterprise, Trade and Employment		No response at this time
Primary Stakeholders		
Environment Department		No response at this time
Water Services Department		No response at this time
Planning Department		No response at this time
Roads and Transportation Department		No response at this time
Economic Development Dept		No response at this time
Housing Department		No response at this time
Tourism Department		No response at this time
Shannon Municipal District		No response at this time
Shannon Airport Authority (SAA)		No response at this time

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Stakeholder	Date Received	Summary of Response Received
Shannon Commercial Properties		No response at this time
Irish Aviation Authority	26.10.23	As Shannon Airport Authority have primary responsibility for safeguarding in this instance, the Irish Aviation Authority (IAA) would recommend that you engage with them on the Shannon Town and Environs Flood Relief Scheme for their review and comment. Please contact Shannon Airport Authority, Mr. Paul Hennessy – Safety, Compliance and Environment Manager - email: paul.hennessy@snnairportgroup.ie
Mid West National Road Design Office		No response at this time
Atlantic Seaboard South Climate Action Regional Office (CARO)		No response at this time
Office of Public Works Head Office		No response at this time
Shannon Foynes Port Authority	08.11.23	No issues with the proposed works on the clear understanding that Shannon Foynes Port Authority retain clear vehicular access rights to our jetty and facilities at all times on a 24/7 basis.
Shannon Aviation Fuels (SAF) / Tedcastles		No response at this time
(Organisations located directly beside flood defences)		
ARCH - Access Rescue Consulting at Height		No response at this time
Illeunmanagh Cemetery Shannon		No response at this time
Shannon Athletics Club		No response at this time
Shannon Crematorium		No response at this time
Shannon Golf Club		No response at this time
Shannon Olympic Football Club		No response at this time
Shannon Town United AFC		No response at this time
Shannon Trailer Servicing & Spares		No response at this time
St Senan's National Catholic School		No response at this time
St Senan's Rugby Football Club		No response at this time
St. John's National School		No response at this time

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Stakeholder	Date Received	Summary of Response Received
Wolfe Tones Na Sionna GAA Club		No response at this time
Secondary Stakeholders		
An Taisce		No response at this time
Birdwatch Ireland		No response at this time
Bishop of Killaloe - Killaloe Diocesan Trust		No response at this time
Bord Gais		No response at this time
Bord naMona		No response at this time
BT Ireland		No response at this time
Bus Eireann		No response at this time
Coillte		No response at this time
Eir		No response at this time
Enet		No response at this time
ESB		No response at this time
Fáilte Ireland		No response at this time
Gas Networks Ireland		No response at this time
Geological Survey of Ireland	27.11.23	A generic response detailing resources to consult.
Inland Fisheries Ireland		No response at this time
Irish Creamery Milk Suppliers Association (ICMSA)		No response at this time
Irish Environmental Network		No response at this time
Irish Farmers Association (IFA) Clare and Tipperary		No response at this time
Irish Rail		No response at this time
Irish Water		No response at this time

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Stakeholder	Date Received	Summary of Response Received
Landscape Alliance Ireland		No response at this time
Local Authority Waters and Communities Office		No response at this time
Marine Institute		No response at this time
Met Eireann		No response at this time
National Museum of Ireland		No response at this time
Public Lighting		No response at this time
Road Safety Authority		No response at this time
Royal Irish Academy; Committee for Historical Studies		No response at this time
Shannon Chamber of Commerce	24.11.23	<p>A common theme across all submissions is that development, assessment, design and delivery of these essential activities must recognise and build on the opportunity to connect and reinforce Shannon's three key components (airport, industrial zones, living town) and its linkage with and influence on the wider region and corridor.</p> <p>We welcome the fact that the terms of reference cover the area stretching from the golf club through the airport, industrial zone, town and amenity areas. This, by definition, links the three key components. It is essential that there is constant sharing of information, insights and solutions between the teams involved in each and every planning and development project currently underway.</p> <p>The devastating impact of storm surges and heavy rainfall has been directly experienced in recent weeks by communities and businesses in the coastal stretch from Kinvara to Galway and in the town of Midleton in Cork.</p> <p>Shannon Chamber welcomes the fact that work on the Shannon Flood Relief scheme is underway but urges acceleration in timescale from design to implementation.</p> <p>Flood maps in the consultation documents clearly illustrate that the airport, industrial, and living areas of Shannon will be inundated following a breach. This is an area with a living population of 10,000 which rises to almost 20,000 on a daily basis as people come to work in the airport and businesses located in Shannon's industrial and business parks. Shannon Free Zone has the highest concentration of foreign direct investment in any one location in Ireland. 120 companies, employing 8,000 people, with exports of €4bn (at 2023), operate in diverse sectors on the Zone.</p> <p>Furthermore, Shannon-facilitated tourism and imports/exports contribute greatly to Irish GDP. The impact of a breach on Shannon would have a catastrophic impact, not just on Shannon and its hinterland, but on the wider Atlantic Economic Corridor and national economies.</p>

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Stakeholder	Date Received	Summary of Response Received
		<p>Shannon Chamber supports the preferred Option 3.</p> <p>We support the plans to ensure that the toe of the embankments will not encroach further into the estuary due to the sensitivity of the habitat.</p> <p>Question and Observation:</p> <p>Why is there a gap in the line of the embankments at the southern end of Drumgeely Hill? This area is at a similar level to the embankments east and west of this point. The existing, and recently renewed hard core pathway, is subject to significant water pooling during the winter.</p> <p>Observation:</p> <p>Strengthening of embankments adjacent to Shannon Golf Club is a welcome proposal. Images of the proposed improvements to embankments east and west of Illaunagowan point suggest that there will be a gap at this point.</p> <p>Local knowledge suggests that there is little difference between the height of the point itself and the existing embankments at either side. Extra care will be required at this location due to the proximity of the housing development at Glass na Rinne. The recently raised pathway between the point and the road at Glass na Rinne is in an area subject to extensive pooling of water during the winter.</p> <p>Observation:</p> <p>Access roads at the top of a number of embankments are afforded a significant width. In contrast, other diagrams show a much narrower width for existing walkways. As highlighted in numerous submissions and engagements with the Council by Shannon Chamber and other key stakeholders, there is potential for a high-quality greenway from Shannon Airport, via the existing embankments, to Bunratty and onwards to Sixmilebridge and Limerick. The design solution must incorporate walking, running, cycling and other uses along the top of the full stretch of embankments.</p> <p>Observation:</p> <p>Option 3 includes a range of proposals for upgrading of culverts, diversions and new sections. There are also references to upgraded pumping stations. These proposals are welcome. However, it is essential that the design solutions extend beyond capital works:</p> <ul style="list-style-type: none"> • There must be a service element as well to ensure that there is a regular programme of clearing and maintenance of culverts. • Operation of the network of pumphouses requires specialist knowledge of the impact of changes in one node on other parts of the network particularly during storms and tidal flows.

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Stakeholder	Date Received	Summary of Response Received
		<p>Overflows, blockages and breaks occur from time to time. There may be potential to have an early warning system based on voluntary incident reports from those who regularly use the embankments – walkers, runners, dog walkers, parkrun goers and cyclists.</p> <p>Question:</p> <p>What is the function of the storage area between Shannon Town Centre and Rossbracken? Is this an upgrade of an existing tank? What are the risks associated with location in this area? Have other areas been considered?</p> <p>Observation:</p> <p>The new Shannon Town Park included a wetland area in the form of a mini stream and pond. There have been some difficulties in day-to-day operation which may be useful in finalising designs for the proposed new box culvert in this area.</p> <p>Observation:</p> <p>Engineers from the 1960s who are still alive today could be important sources of knowledge and information. Local knowledge indicates, for example, that telegraph poles were driven into the mudflats on the river side of the embankments to prevent erosion adjacent to culvert outfalls. We recommend that the designers actively engage with these and other such resources during the design phase.</p>
Shannon Community Group		No response at this time
Siro		No response at this time
Southern Regional Assembly		No response at this time
Sustainable Water Network Ireland (SWAN)		No response at this time
Teagasc		No response at this time
The Arts Council		No response at this time
The Heritage Council		No response at this time
The National Water Forum (An Forám Uisce)		No response at this time
Three		No response at this time

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Stakeholder	Date Received	Summary of Response Received
Transport Infrastructure Ireland (TII)	06.11.23	<ul style="list-style-type: none"> The issuing of this correspondence is provided as best practice guidance only. Consultations should be had with the relevant Local Authority/National Roads Design Office with regard to the locations of existing and future national road schemes in the area, e.g., N19 Shannon Airport Access Road Improvement Scheme. TII would be specifically concerned as to potential significant impacts the development would have on the national road network (and junctions with national roads) in the proximity of the proposed development, e.g., N/M18, N19. The developer should assess visual impacts from existing national roads. The developer should have regard to any Environmental Impact Assessment Report/Statement and all conditions and/or modifications imposed by An Bord Pleanála regarding road schemes in the area. The developer should, in particular, have regard to any potential cumulative impacts. The developer, in conducting Environmental Impact Assessment, should have regard to TII Publications (formerly The Design Manual for Roads and Bridges (DMRB) and the Manual of Contract Documents for Road Works). The developer, in conducting Environmental Impact Assessment, should have regard to TII's Environmental Assessment and Construction Guidelines, including the 'Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes' (NRA), 2006). The EIAR should consider the 'Environmental Noise Regulations 2006 (SI 140 of 2006)' and, in particular, how the development will affect future action plans by the relevant competent authority. The developer may need to consider the incorporation of noise barriers to reduce noise impacts (see 'Guidelines for the Treatment of Noise and Vibration in National Road Schemes' (1st Rev., NRA, 2004)). Where new structures may be proposed on national roads, the developer is reminded of the requirements of TII Standard: 'Technical Acceptance of Road Structures on Motorways and Other National Roads'. This Standard specifies the procedures to be followed in order to obtain Technical Acceptance for structures on motorway and other national road schemes and for the submission of as built records. The procedures cover the design of all road structures, including bridges, tunnels, subways, culverts, buried corrugated steel structures, retaining walls, reinforced earth structures, gantries, environmental noise barriers and temporary structures under or over motorways or other roads carrying public traffic. The developer should also be aware that there are Technical Acceptance requirements relating to the assessment, alteration, modification, strengthening and repair of all existing road structures (national roads) and same shall be agreed with the Bridge Management Section of TII. A hydraulic analysis should be undertaken to identify the impact of proposed flood alleviation works on the hydraulic capacity of any TII Structures impacted and the potential for scour at the structure. An assessment of scour and other hydraulic actions on national road structures in accordance with UK BD 97/12 should be undertaken where necessary. Scour prevention measures will be required if the assessment illustrates the potential for scour beneath the foundations.

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Stakeholder	Date Received	Summary of Response Received
		<ul style="list-style-type: none"> It would be important that, where appropriate, subject to meeting the appropriate thresholds and criteria and having regard to best practice, a Traffic and Transport Assessment (TTA) be carried out in accordance with relevant guidelines, noting traffic volumes attending the site and traffic routes to/from the site, with reference to impacts on the national road network and junctions of lower category roads with national roads. TII's 'Traffic and Transport Assessment Guidelines' (2014) should be referred to in relation to proposed development with potential impacts on the national road network. The scheme promoter is also advised to have regard to Section 2.2 of TII's TTA Guidelines, which addresses requirements for sub-threshold TTA. The designers are asked to consult TII Publications to determine whether a Road Safety Audit is required. In the interests of maintaining the safety and standard of the national road network, the EIAR should identify the methods/techniques proposed for any works traversing/in proximity to the national road network. In relation to haul route identification, the applicant/developer should clearly identify haul routes proposed and fully assess the network to be traversed. Where abnormal loads are a feature of the proposed development, separate structure approvals/permits and other licences may be required in connection with the proposed haul route and all structures on the haul route should be checked by the applicant/developer to confirm their capacity to accommodate any abnormal load.
Virgin Media		No response at this time
Vodafone		No response at this time
Water Policy Advisory Committee		No response at this time