



Design Progress Update @ 80%

Progress in Detailed Design

The AECOM logo consists of the word "AECOM" in a bold, black, sans-serif font, centered within a white rectangular box.

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Activities Since 50% level design have included :

- Refinement of Detailed Design
- Langstone Stakeholder Workshop @50% Design (Summer 2022)
- Key Stakeholder Liaison
- Landowner Engagement
- Alternative Designs for F1B
- Development of NEW photorealistic montages of 80% design to support the communication of the design.
 - ✓ 5 viewpoints completed for presentation today
(15 more viewpoints at 100% design)

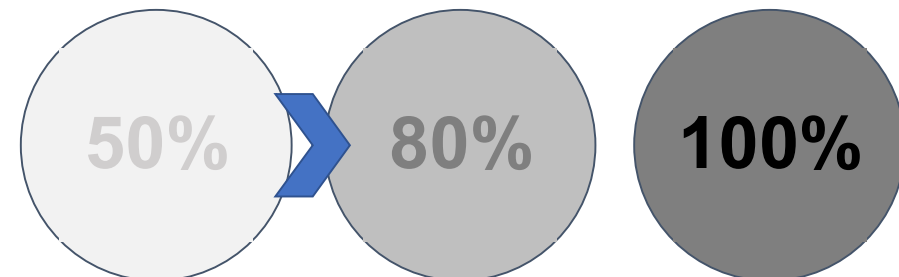
Detailed Design Progress

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Detailed design 50-80%

- Builds progressively on previous 50% design incorporating feedback.
- Refinement of key characteristics – alignment, geometry, footprint and tie in principles.
- Refinement of key design details - e.g. pile size and length, wall components, drainage, materials
- Geotechnical analysis for seepage, settlement and stability.
- Overtopping assessment.
- Structural analyses.
- Liaison with contractor and other specialists to confirm buildability.



Detailed Design Progress

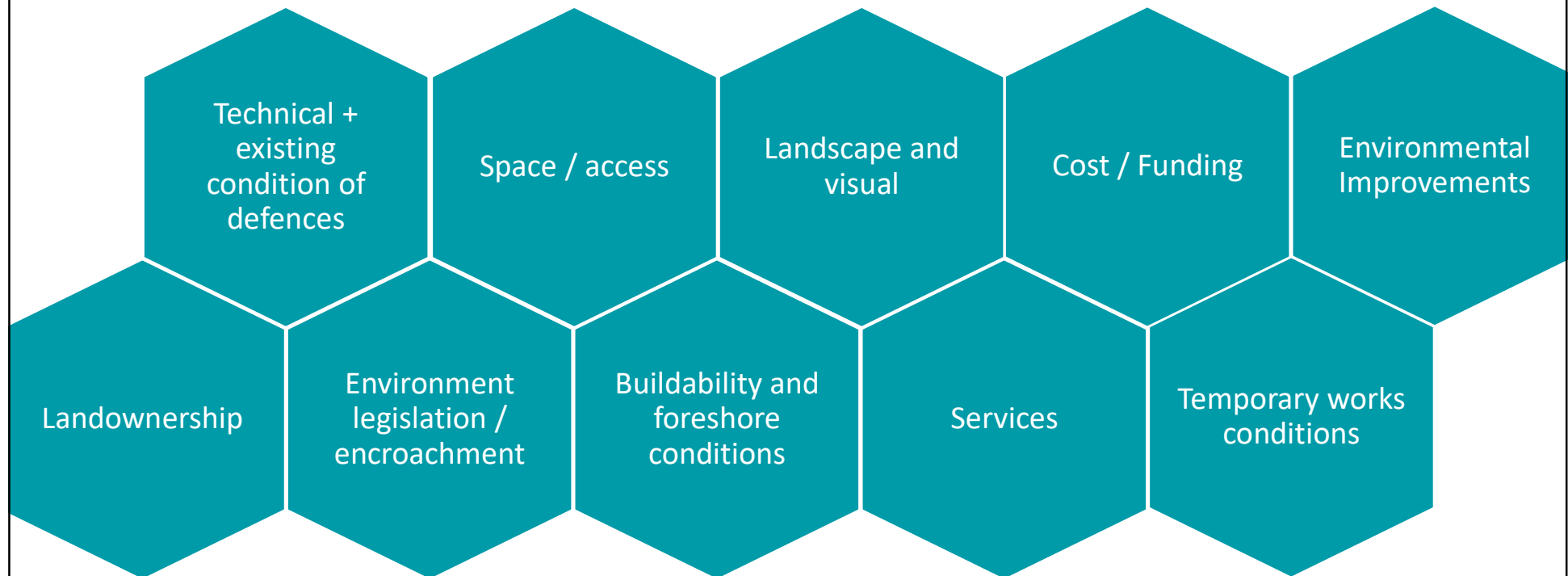
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Detailed design 50-80%

- Liaison with utility providers regarding assets.
- Further liaison with key stakeholders, including 'frontline' properties.
- Liaison with potential suppliers for finishes of cladding, flood glass and flood gates.
- Production of draft Landscaping Plans for each frontage
- Tree impacts identified to inform mitigation
- Environmental enhancement and opportunities incorporated
- 3D Model, updated General Arrangements, Sections, Photographic Visualisations

Opportunities, Constraints and Risks



Progress in Detailed Design



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Further Influence from Stakeholders on the Design (50%-80%)

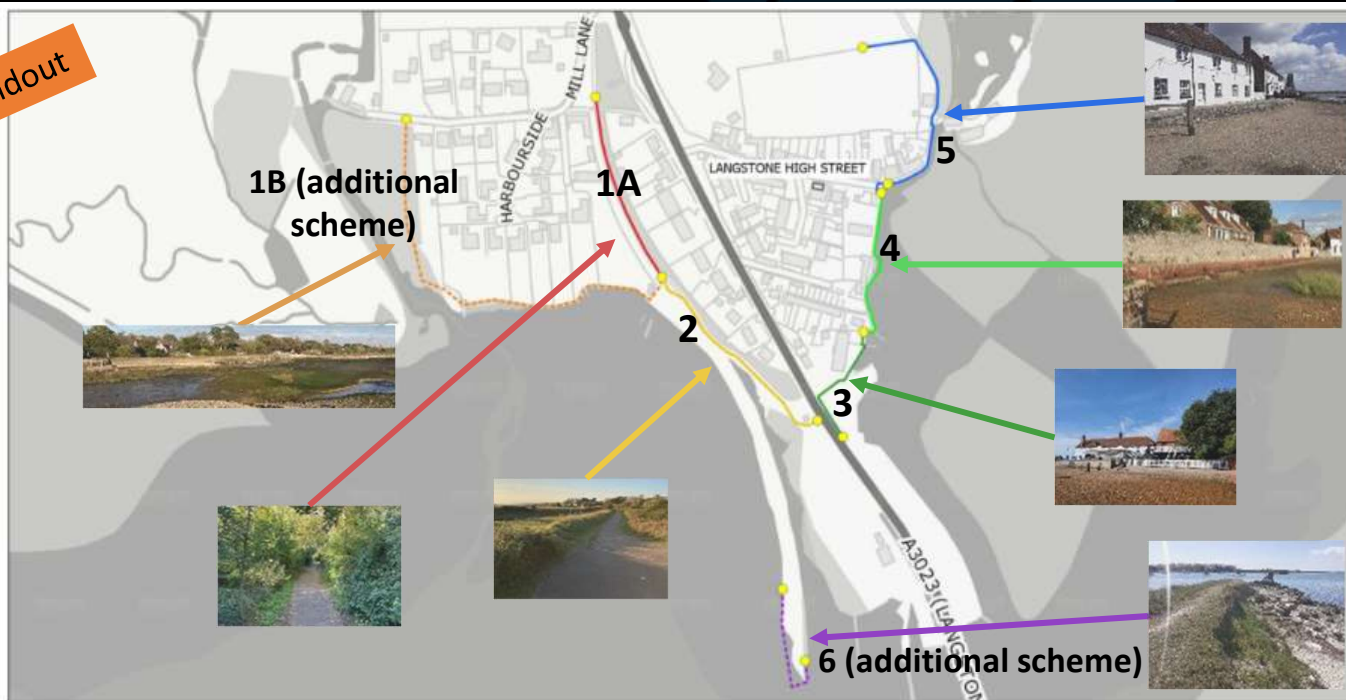
Frontage/Area	Item	Stakeholder Design Influence
Frontage 1A/2	Cycle path surfacing	Preference from Hampshire Highways on surface treatments (allows for future maintenance).
Frontage 3	Views from the Ship Inn	Option for Flood glass top barrier incorporated into defence where seating outside the Ship Inn is.
Frontage 5	Views from the Royal Oak and neighbours	Option for Flood glass top barrier incorporated into defence where full height wall interrupts views from property.
Frontage 3	Car park at Ship Inn surfacing	Preference from Hampshire Highways on surface treatments (allows for future maintenance).
Frontage 1B	Embankment	Tie in Embankment to Hayling Billy Line (Frontage 2) included in Core Scope of Works
All	Proposed Surface and Cladding finishes	Preferences from LSWG @50% and Conservation Officers on materials has informed 80% design proposals
Frontage 1B	Scheme design	Affordability of leading option has led to an additional alternative scope of works looking at prioritised works schedule. (Covered in Separate focused engagement with the community at Mill Lane)

Frontages



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See Handout



	Legend				DRAWN BY: BR	CHECKED BY: JS
	● Frontage End Points — Frontage 1A - - - Frontage 1B — Frontage 2	— Frontage 3 — Frontage 4 — Frontage 5 - - - Frontage 6			DATE: 20/11/2020	
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Your Feedback Invited



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Outstanding Opportunities to provide further feedback

[Breakout session](#)
[Frontages Feedback Form](#)
[Raise a Question](#)

Frontage/Area	Item	Design Feedback Encouraged
Frontage 2	Alternative solution	Breakout session will explore the complexities of the design for this frontage and proposals for an alternative approach
All Frontages	Wall Appearance	Finishes for each of the quay and flood walls.
All Frontages	Flood Gate Appearance	Finishes for each of the flood gates.
All Frontages	Landscaping	Wider landscaping opportunities or ecological improvements to the shorefront, e.g. coastal planting.
Engagement Plan		Your feedback on engagement that you'd like to see moving forward

80% Design Run-through

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For each of the frontages, the following will be presented:

- An image which is representative of the frontage (Present Day)
- A map showing the alignment of the proposed design
- An overview of any design considerations and key constraints
- Cross sections of the proposed design and overview of solution proposed
- Highlight of changes since last Stakeholder Working Group Meeting
- Proposed landscape finishes for each section.
- A photographic visualisation or artistic impression of the proposed design

See Handout

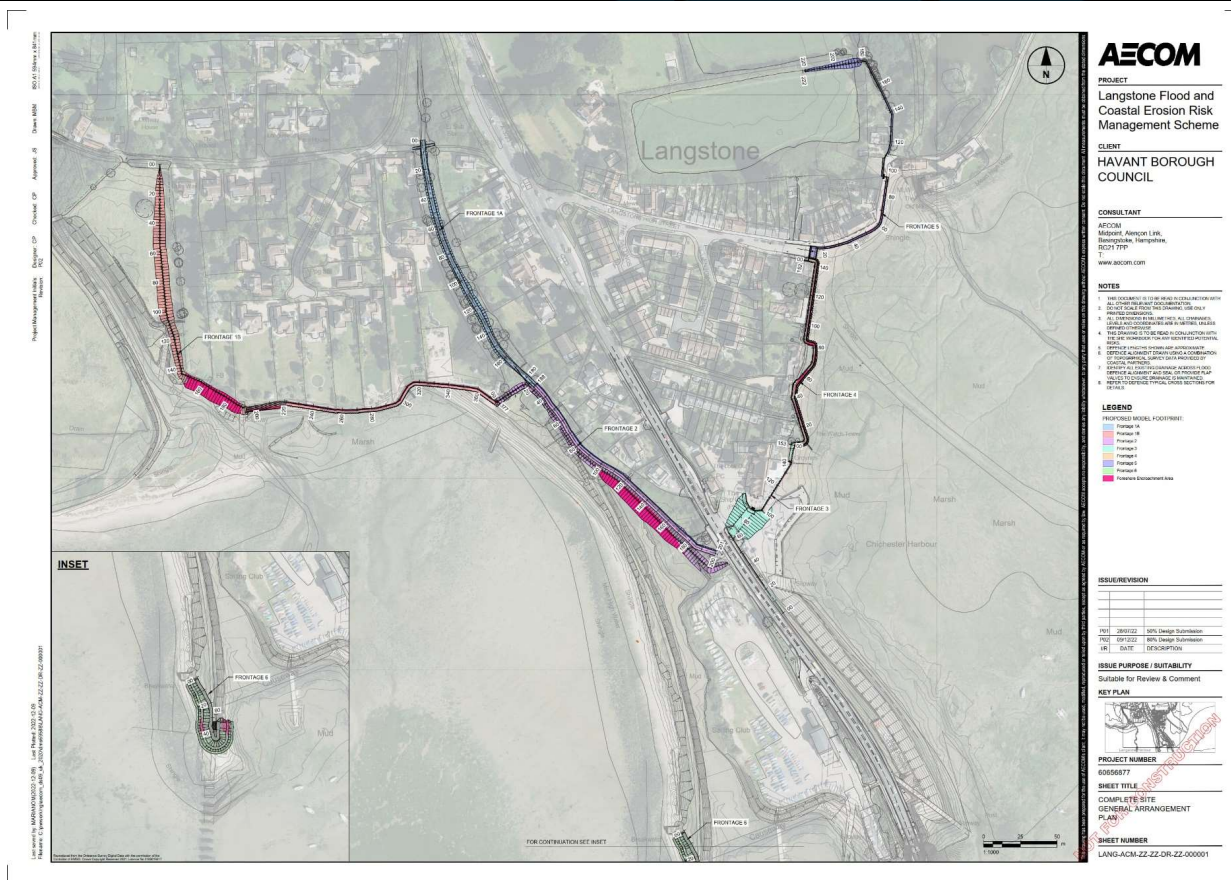
FRONTAGES HANDOUT – We’d like your feedback on each frontage

Any Questions? Note them down on the ‘Frontages Handout’

80% Design



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Design by Frontage



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Core Scheme



Frontage 1A



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Billy Line North – Raised Embankment



Frontage 1A



Billy Line North:

- **Raised Embankment**
- **Top Level – 3.65mODN**
- **Length 188m**
- **Cycle path width increased to 3m.**
- **Height of raising 0mm – 490mm**

LEGEND

PROPOSED MODEL FOOTPRINT:

- Frontage 1A
- Frontage 2



Frontage 1A



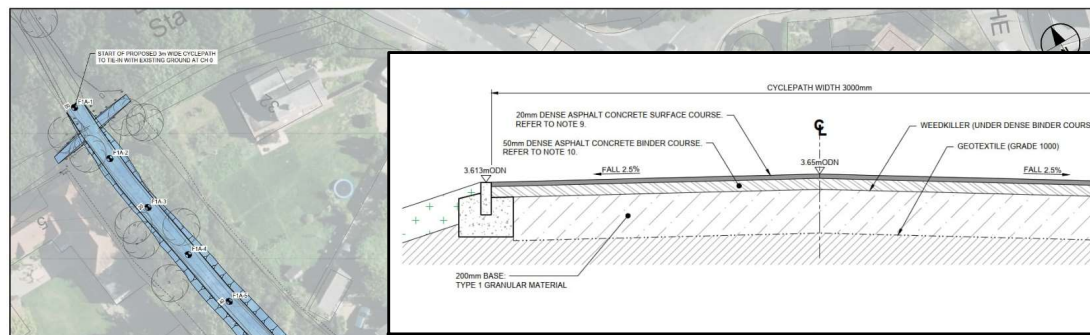
Coastal Partners

Billy Line North:

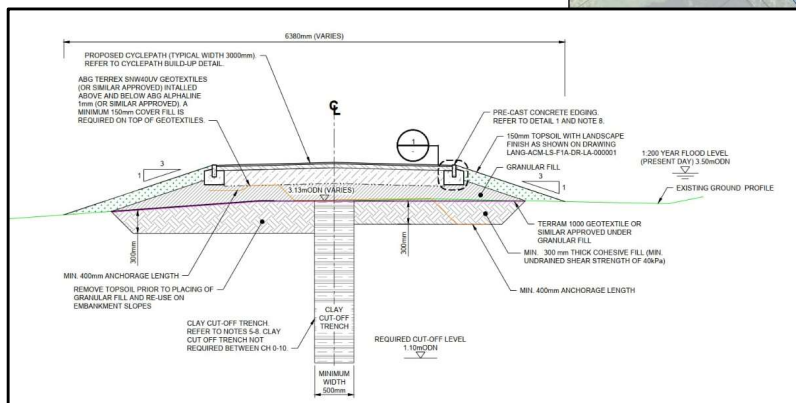
LEGEND

PROPOSED MODEL FOOTPRINT:

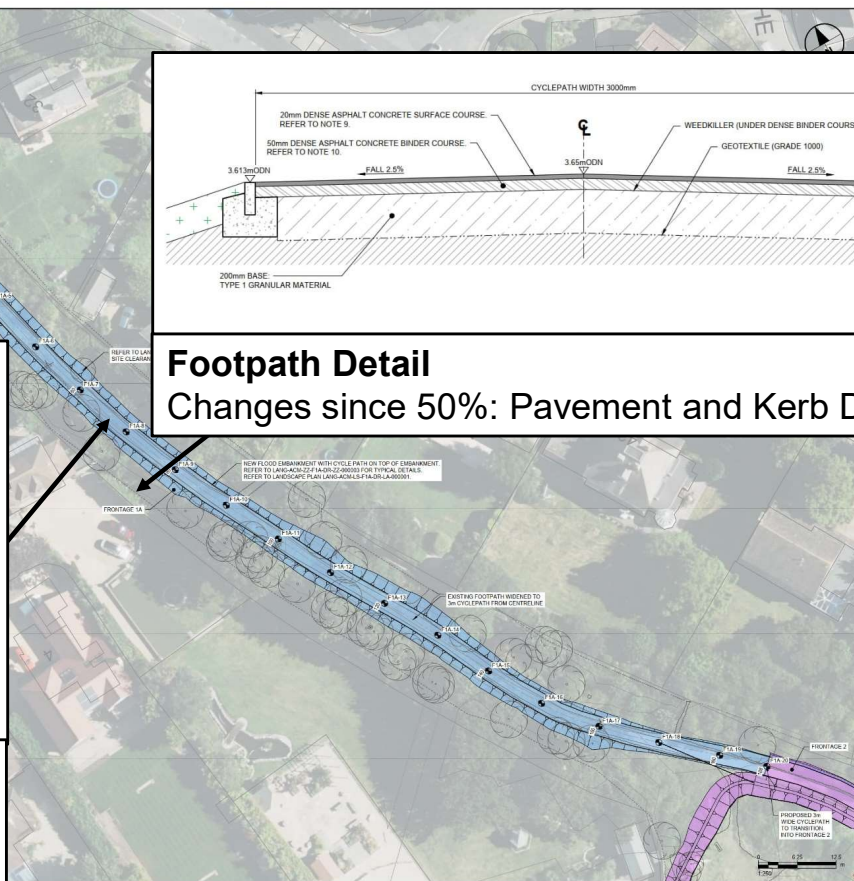
- Frontage 1A
- Frontage 2



Footpath Detail
Changes since 50%: Pavement and Kerb Details



Cross Section
Changes since 50%: Requirement for seepage cut off (clay trench).



Frontage 1A



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Landscaping



Bee Posts



Wildflower Seed Mix



Asphalt Surface

Frontage 1A



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Billy Line North – Raised Embankment Existing



Frontage 1A



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Billy Line North – Raised Embankment Photo visualisation



Frontage 2



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Billy Line South

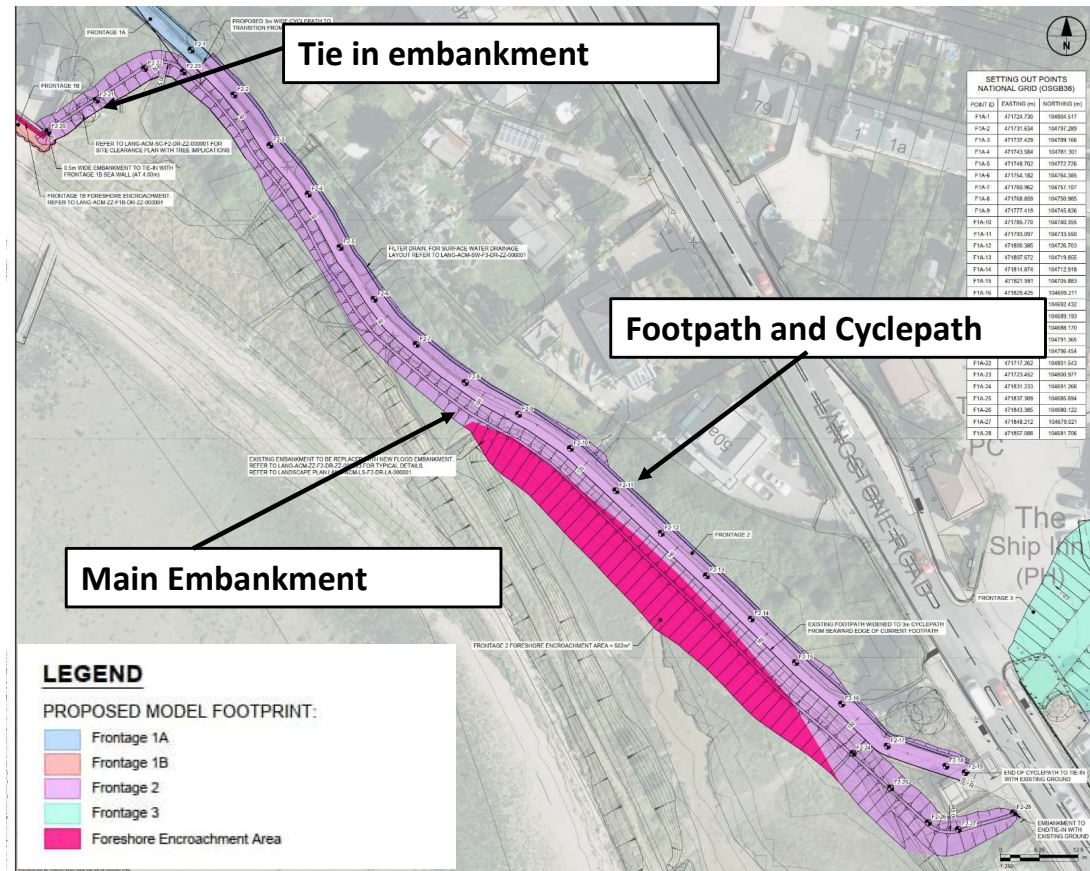


Frontage 2



Billy Line South:

- Embankment seaward of cycle path
- Top Level – 4.05mODN (Reduces to 4.0m for tie in embankments)
- Length – 188m main embankment, 25m tie in embankment
- Cycle path width increased to 3m.
- Height above footpath:
 - 440mm to 1100mm for main section
 - 440mm to 490mm tie in embankment

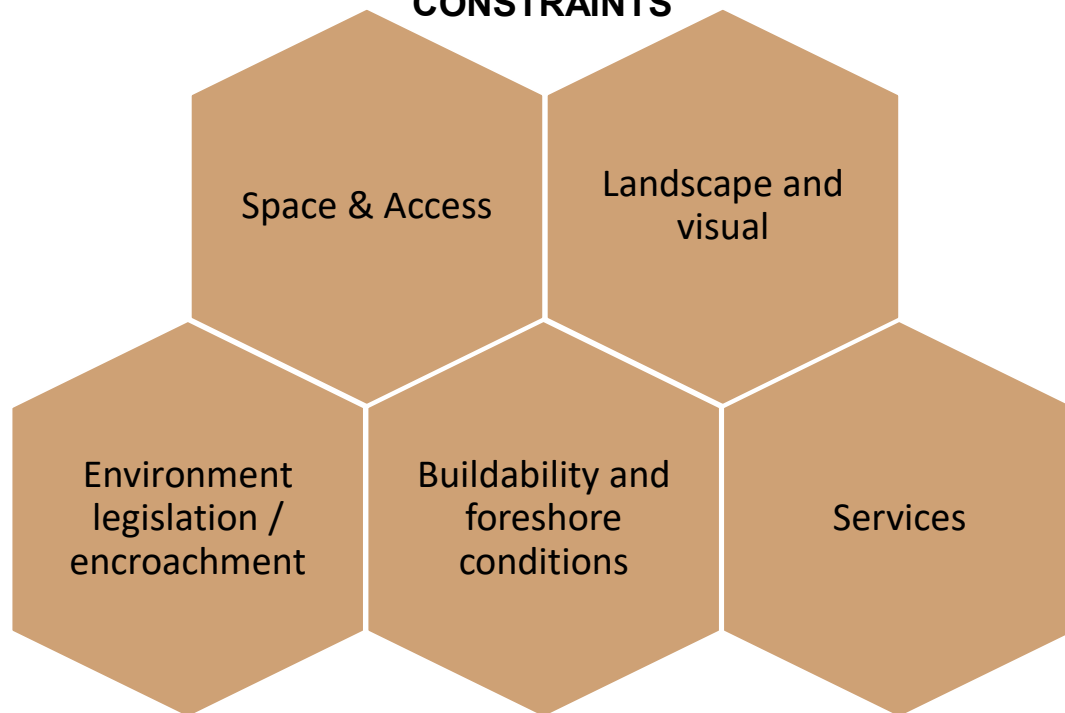


Frontage 2



Coastal Partners

CONSTRAINTS



Opportunities



Frontage 2

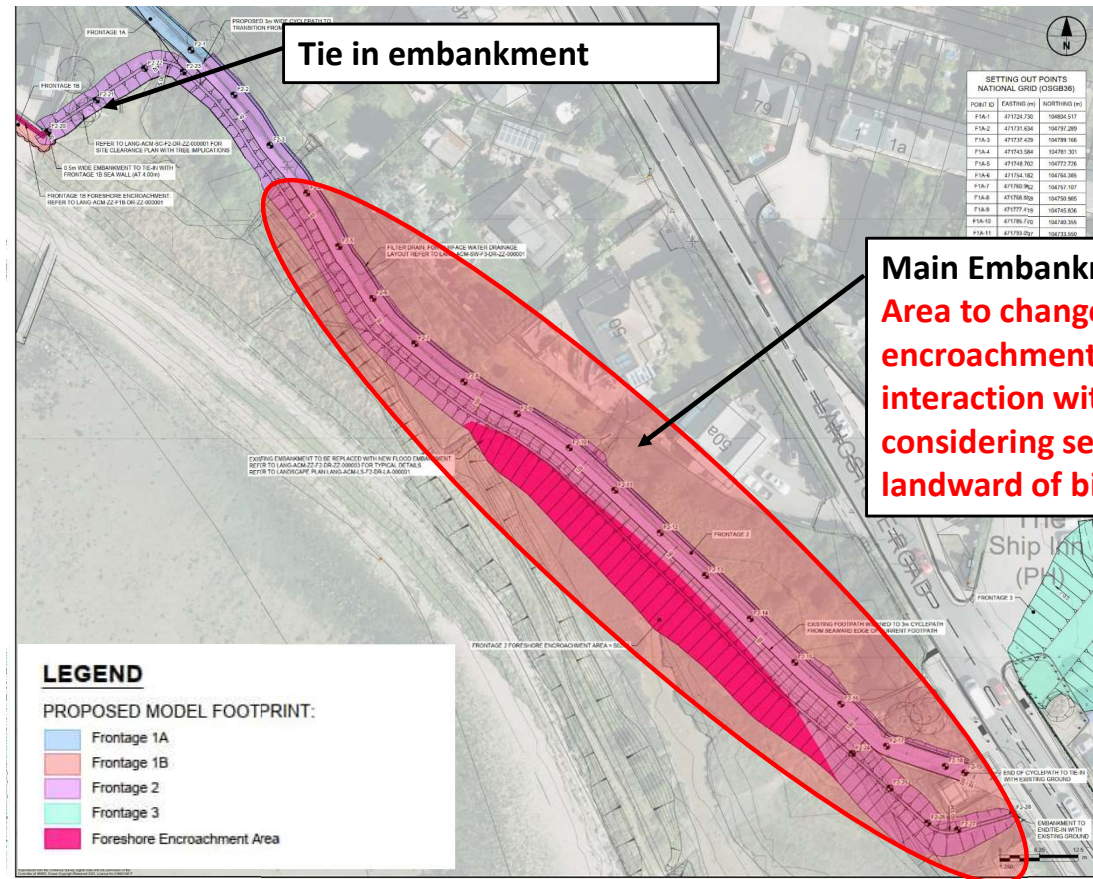


Design Rework:

- Maintain Cycle/ Footpath Access
- Minimise intertidal encroachment
- Liaison with Utility Stakeholders

Proposal:

Prepare alternative designs for a wall instead of embankment



Frontage 2



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Billy Line South: Alternative design artistic impression



Frontage 3



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Ship Inn – Existing



Frontage 3

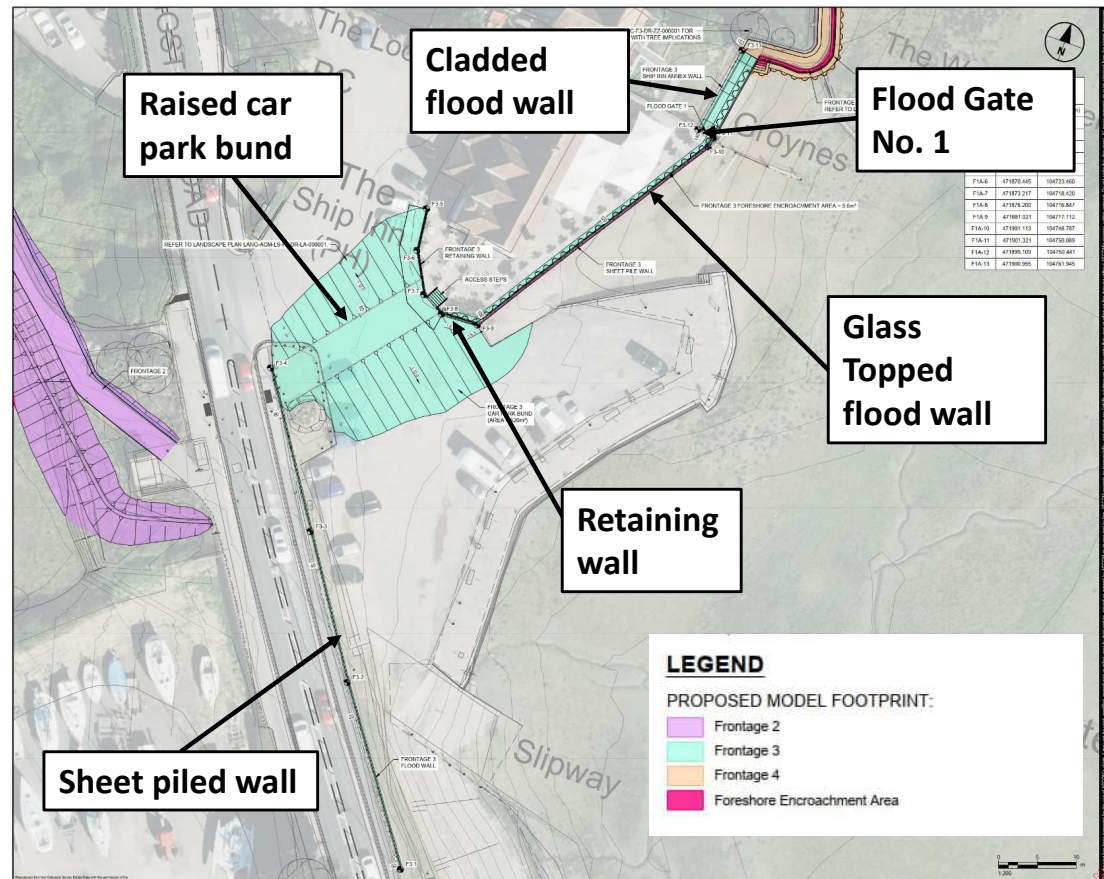
AECOM



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Ship Inn:

- **Sheet Piled Wall Along A3023**
Top level – 3.8mODN
Length – 66m
- **Raised Car Park Bund**
Top Level – 3.70mODN
Total Surface Area 460m²
- **Retaining Wall (Ship Inn Pub)**
Top Level – 3.95mODN (+ handrails)
Length – 14m
- **Glass topped flood wall (Ship Inn Pub)**
Top level – 3.80mODN
Length - 44m
- **Cladded flood wall (Annex)**
Top level – 3.80mODN (+coping)
Length – 12m



Frontage 3



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Ship Inn Car Park – Raised Car Park Bund Photo visualisation



Frontage 3

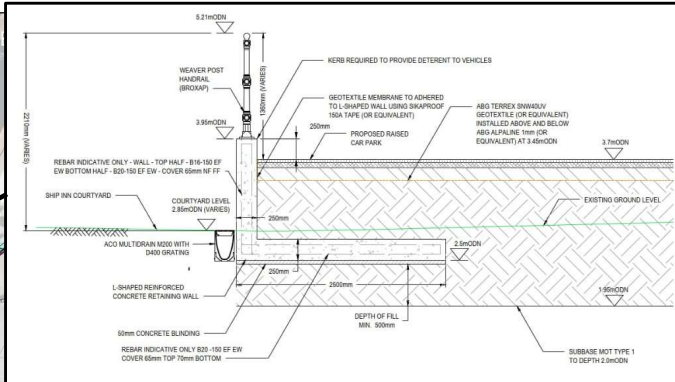
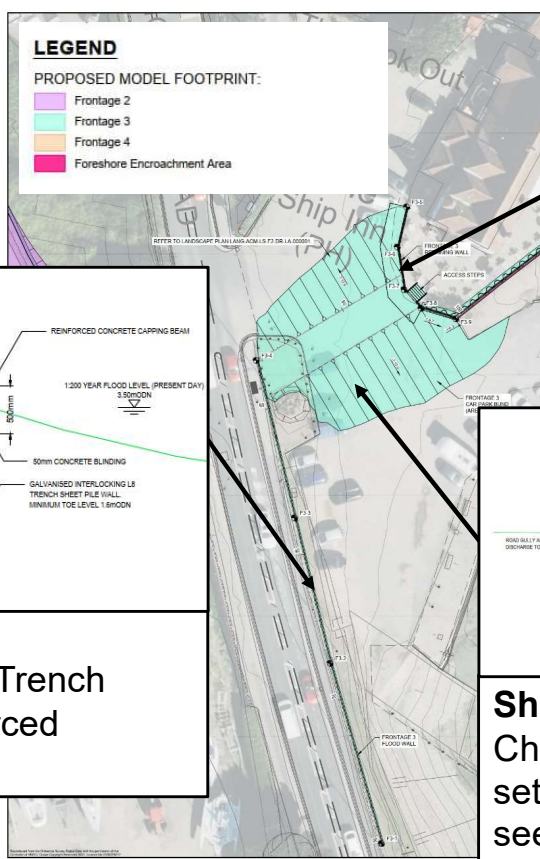


Ship Inn Car Park:

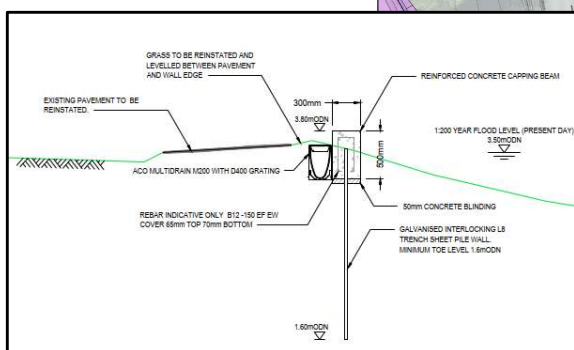
LEGEND

PROPOSED MODEL FOOTPRINT:

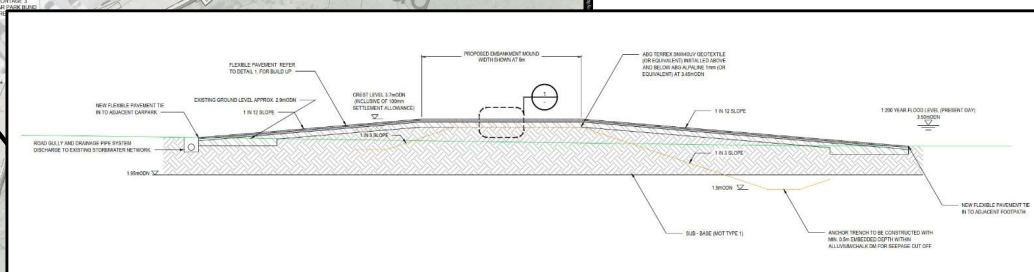
- Frontage 2
- Frontage 3
- Frontage 4
- Foreshore Encroachment Area



Retaining Wall Changes since 50%:
 Change in base dimensions, Increase in Wall top level (car safety)



A3023 Wall:
 Changes since 50%: Trench sheet wall with reinforced concrete cap.



Ship Inn Raised Car Park:
 Changes since 50%: Increase in level to account for settlement over design life, surface details, Cut off detail for seepage.

Frontage 3



Coastal Partners

Ship Inn

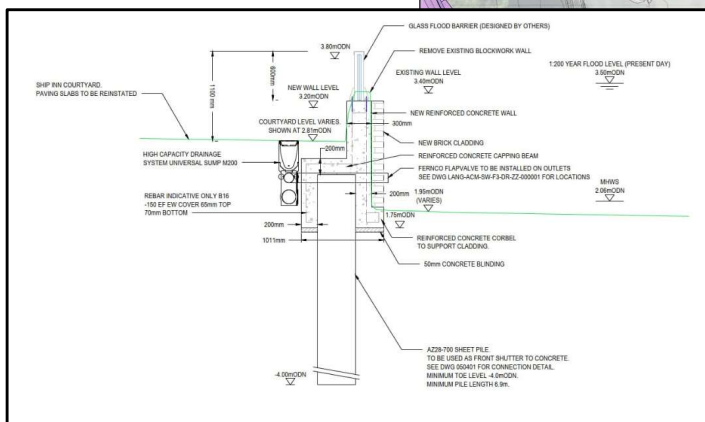
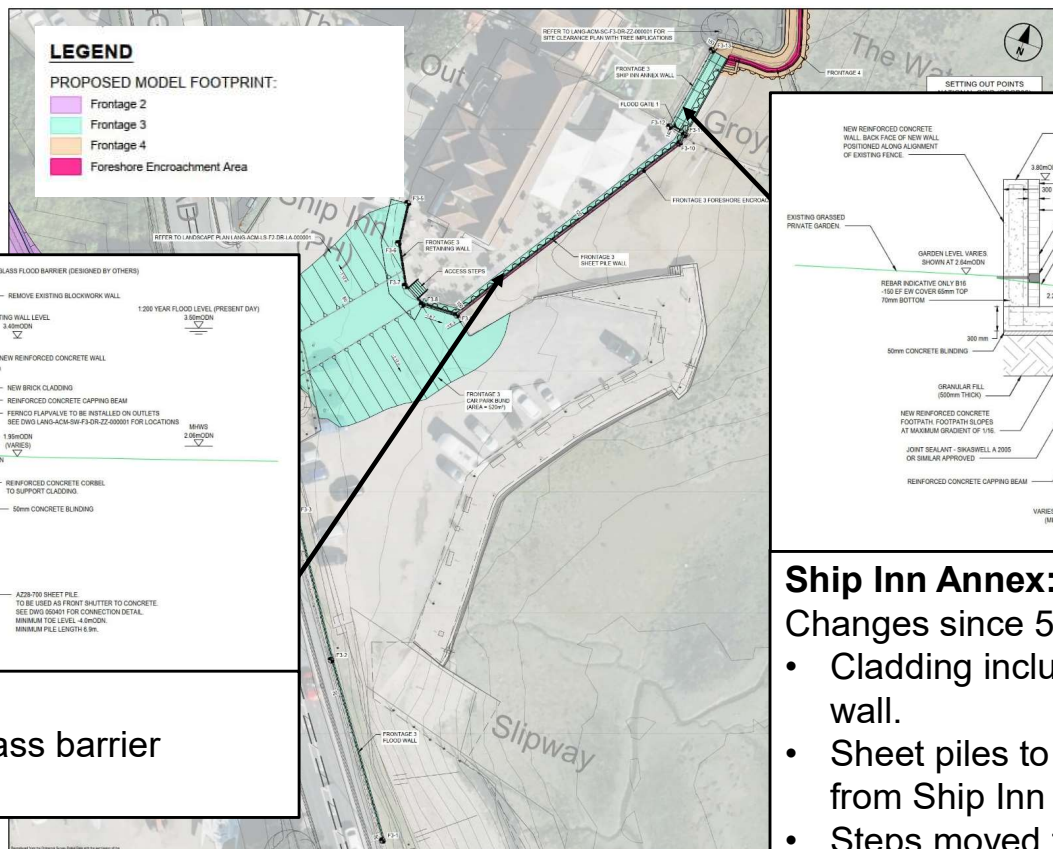


Frontage 3

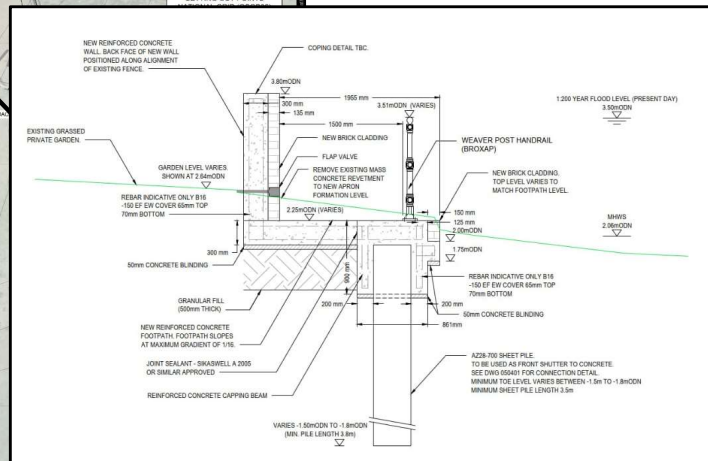


Ship Inn:

LEGEND
 PROPOSED MODEL FOOTPRINT:
 Frontage 2
 Frontage 3
 Frontage 4
 Foreshore Encroachment Area



Ship Inn Flood Wall:
 Changes since 50%: Glass barrier included.



Ship Inn Annex:
 Changes since 50%:

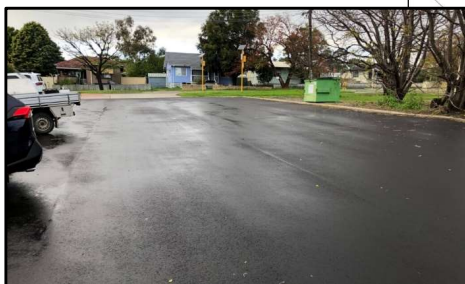
- Cladding included on flood and quay wall.
- Sheet piles to continue in alignment from Ship Inn (improves buildability)
- Steps moved to north of section.

Frontage 3 – Materials

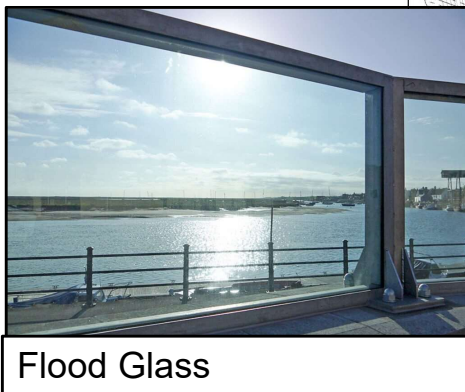


Coastal Partners

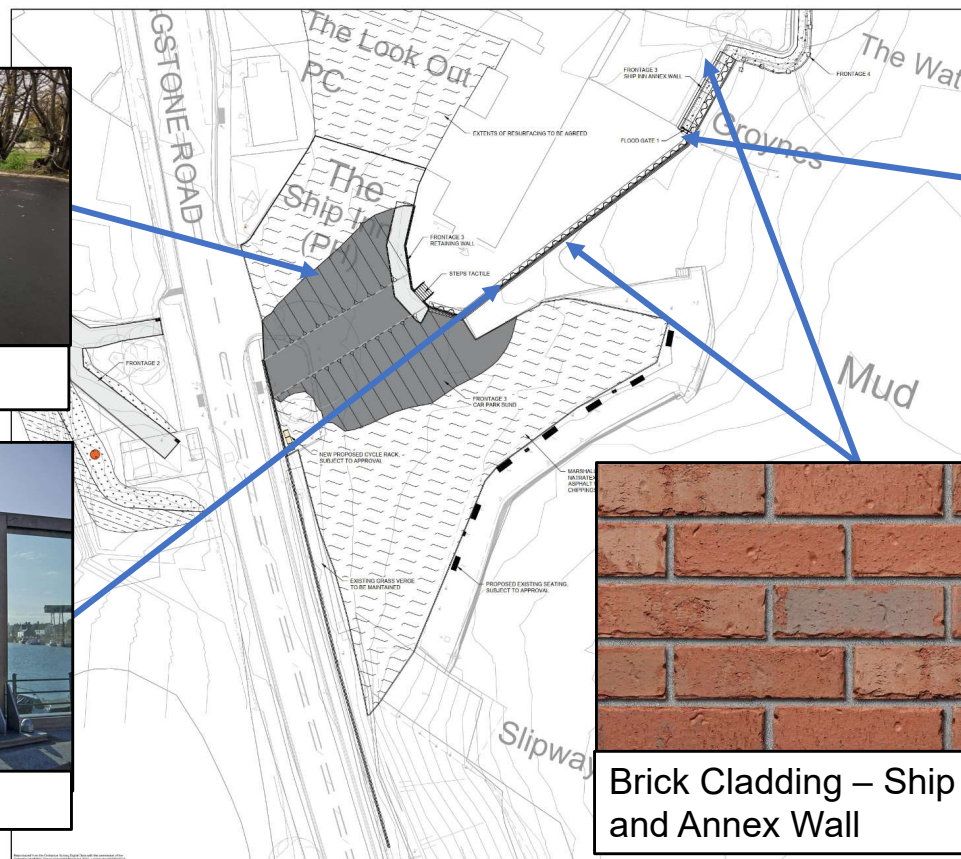
Landscaping



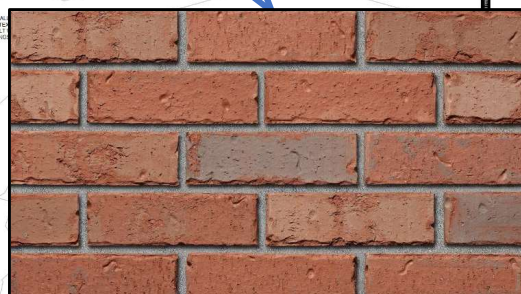
Asphalt Surface



Flood Glass



Timber Cladded Flood Gate



Brick Cladding – Ship Inn Wall and Annex Wall

Coping Stones
TBC

Frontage 3



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Ship Inn – Existing



Frontage 3



Coastal Partners

Ship Inn – Photo visualisation



Frontage 4



Coastal Partners

Ship Inn to High Street - Existing

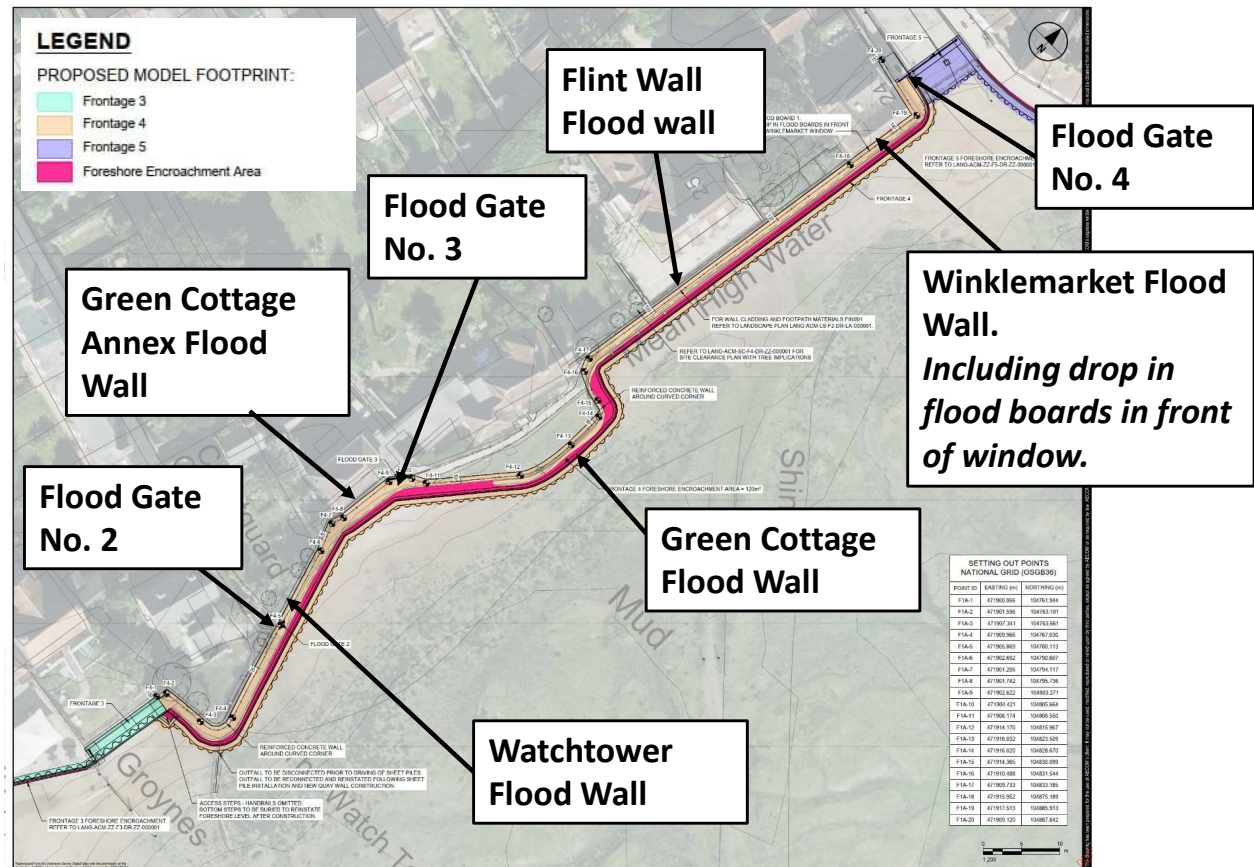


Frontage 4



Watchtower to Winklemarket:

- Watchtower**
 - Top level – Match garden wall
 - Length – 42m
- Green Cottage Annex**
 - Top Level – Match garden Wall
 - Length – 7m
- Green Cottage Front Garden**
 - Top Level – 3.80mODN (+ coping)
 - Length – 36m
- Flint Wall**
 - Top level – Match garden wall
 - Length - 43m
- Winklemarket Wall**
 - Top level – 3.80mODN (+coping)
 - Length – 19m



Frontage 4



Coastal Partners

Watchtower and Green Cottage – Existing

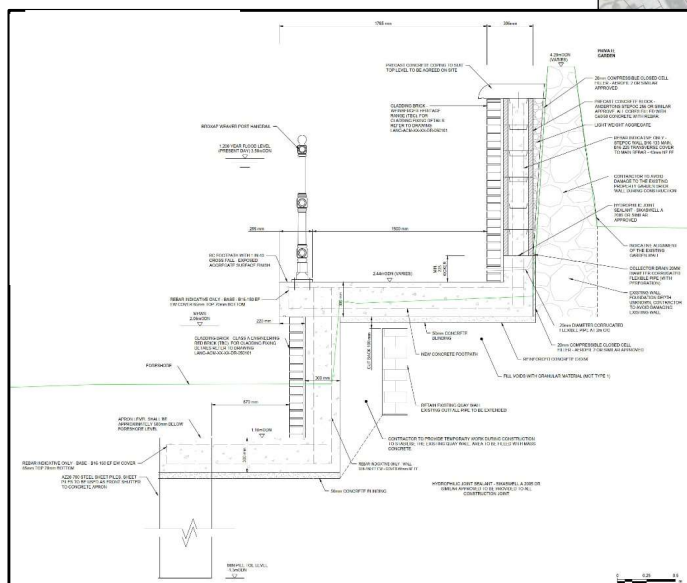


Frontage 4



Coastal Partners

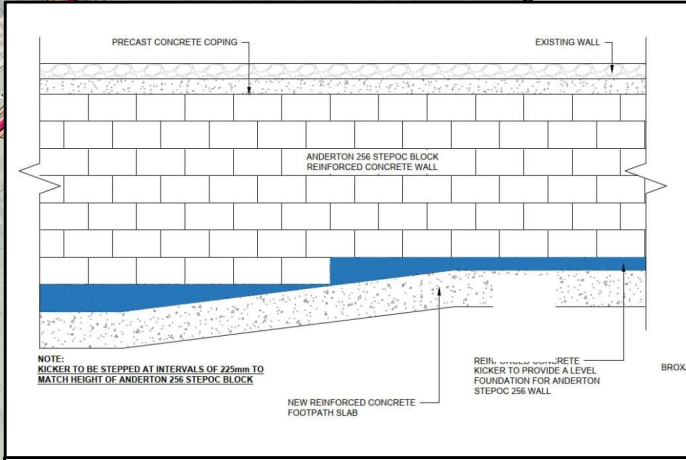
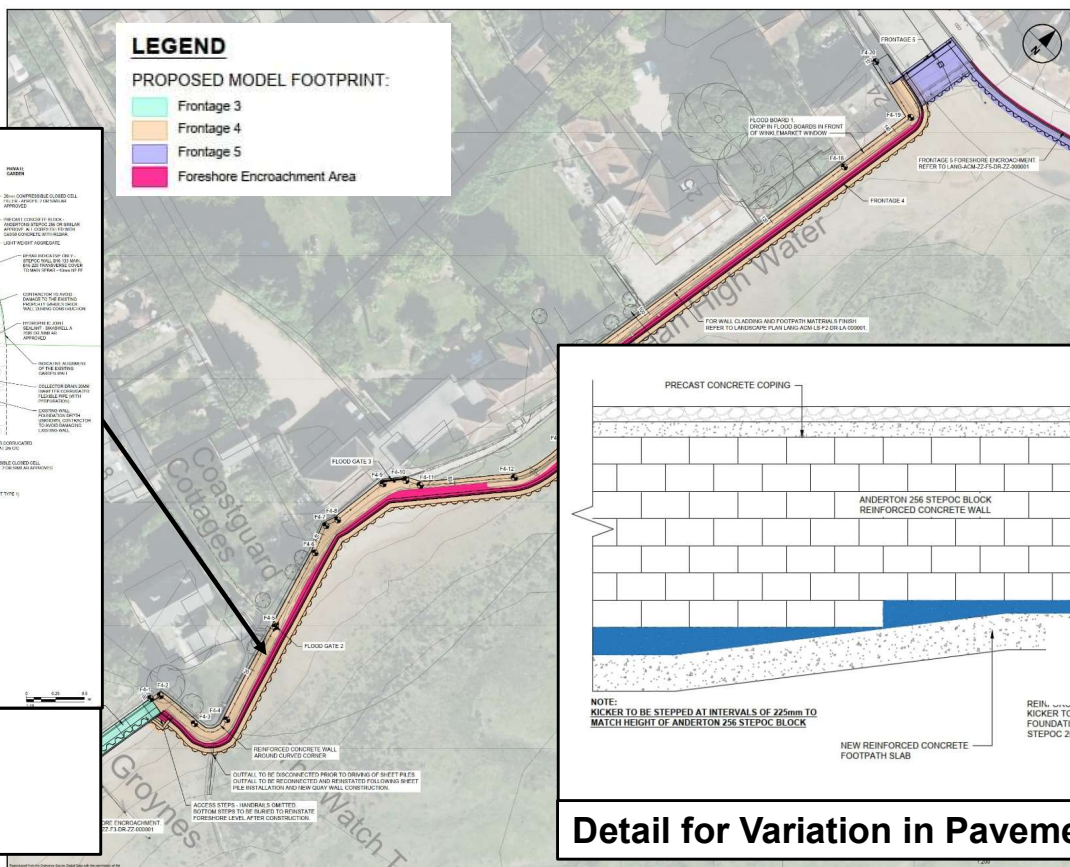
Watchtower:



Watchtower Flood Wall
Changes since 50%: Garden wall constructed of Steproc blocks

LEGEND
PROPOSED MODEL FOOTPRINT:

- Frontage 3
- Frontage 4
- Frontage 5
- Foreshore Encroachment Area



Detail for Variation in Pavement Slope

Frontage 4

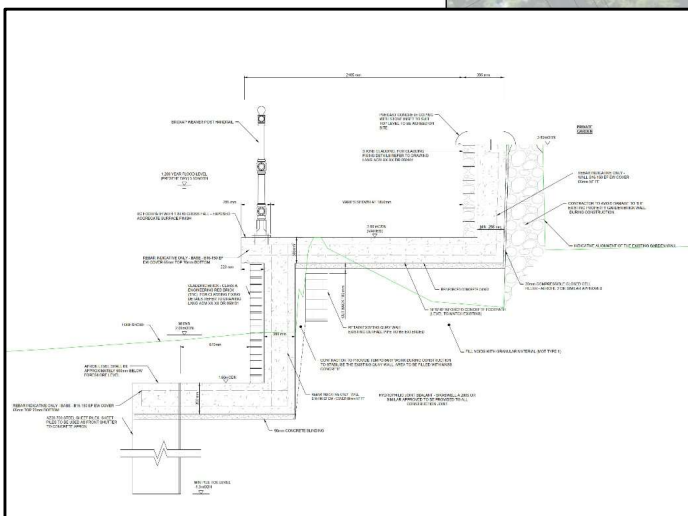


Green Cottage:

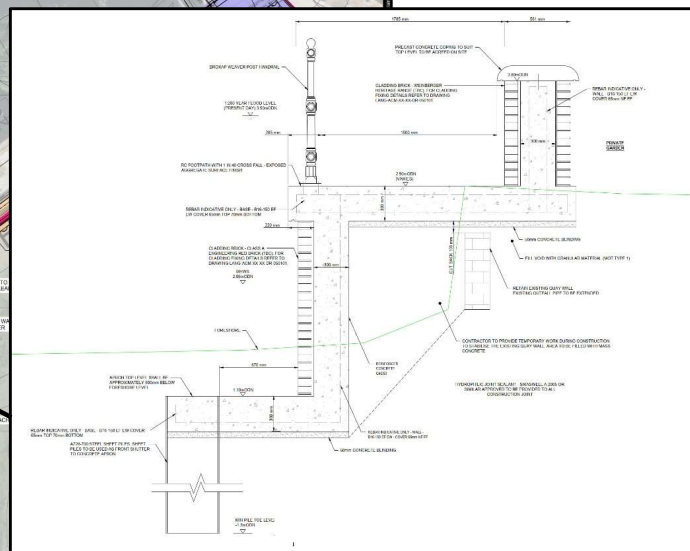
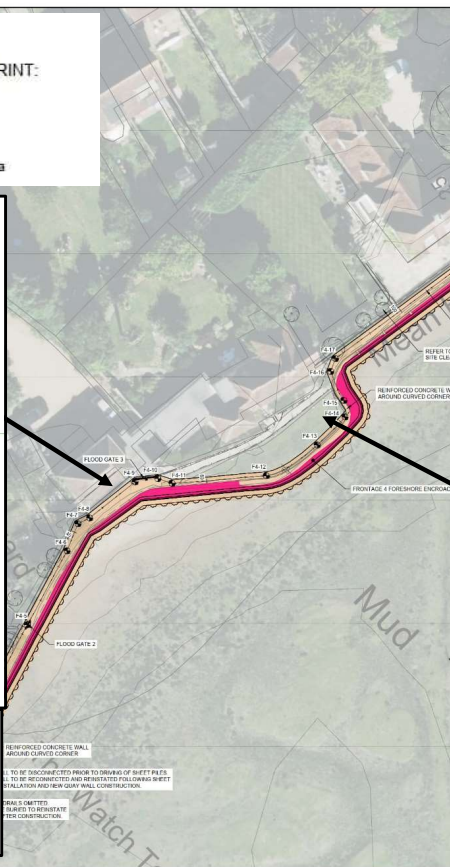
LEGEND

PROPOSED MODEL FOOTPRINT:

- Frontage 3
- Frontage 4
- Frontage 5
- Foreshore Encroachment Area



Green Cottage Annex Flood Wall
Changes since 50%: Garden wall constructed of Stepoc blocks



Green Cottage Flood Wall
Changes since 50%: Garden wall constructed of Stepoc blocks

F14-17	4/1905/23	150633.183
F14-18	4/1915.562	150675.189
F14-19	4/1917.843	150683.313
F14-20	4/1905.123	150687.842

Frontage 4



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Flint Wall and Winklemarket – Existing



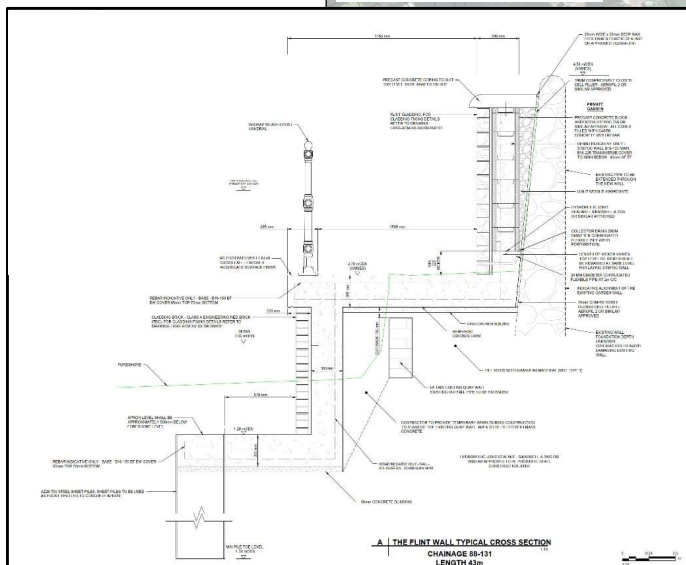
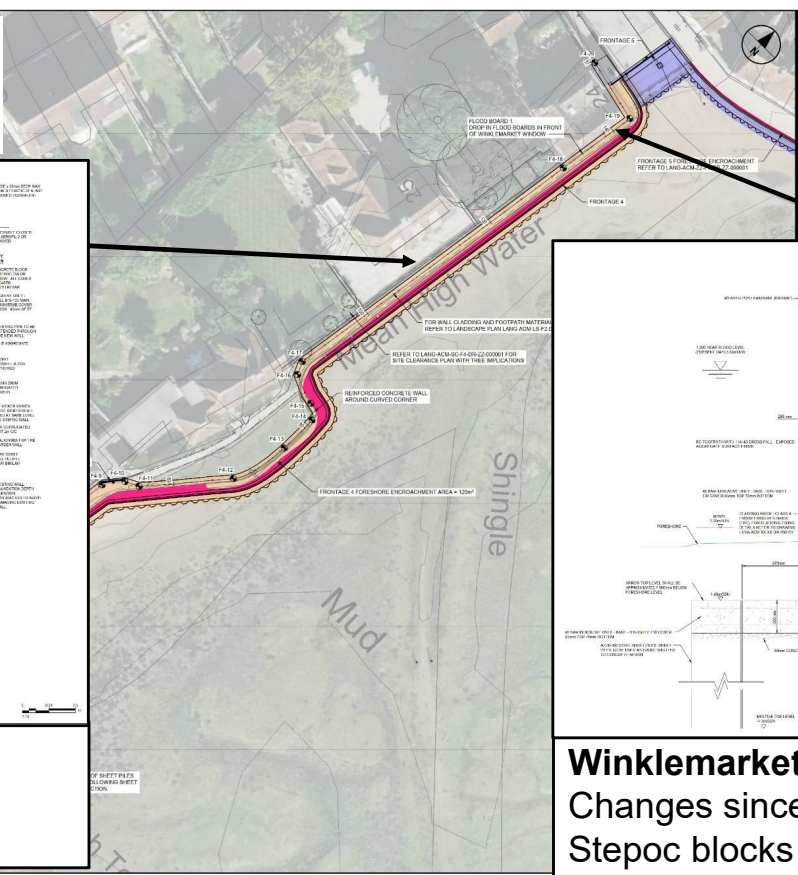
Frontage 4



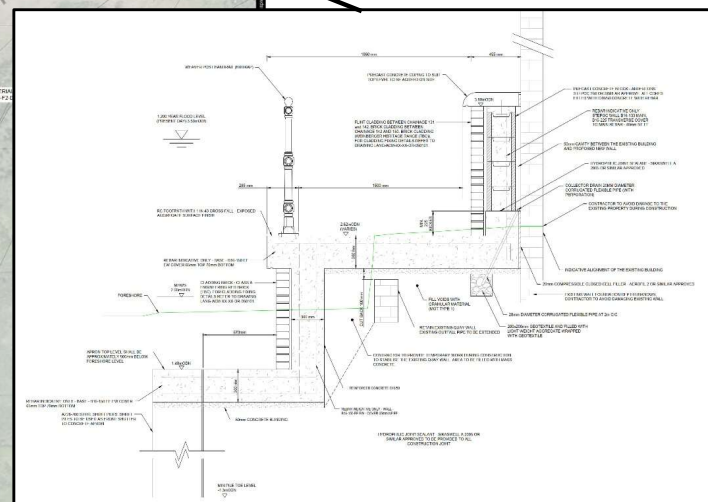
Coastal Partners

Flint Wall and Winklemarket:

LEGEND
 PROPOSED MODEL FOOTPRINT:
 Frontage 3
 Frontage 4
 Frontage 5
 Foreshore Encroachment Area



Flint Wall Flood Wall:
 Changes since 50%: Garden wall constructed of Stepoc blocks,



Winklemarket Flood Wall:
 Changes since 50%: Wall constructed of Stepoc blocks

Frontage 4

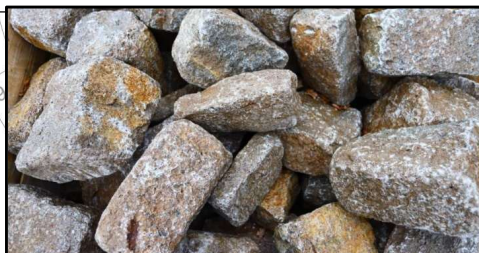


Coastal Partners

Landscaping



Exposed Aggregate Footpath (Whole Length)



Stone Cladding – Green Cottage Annex and Base of Watchtower



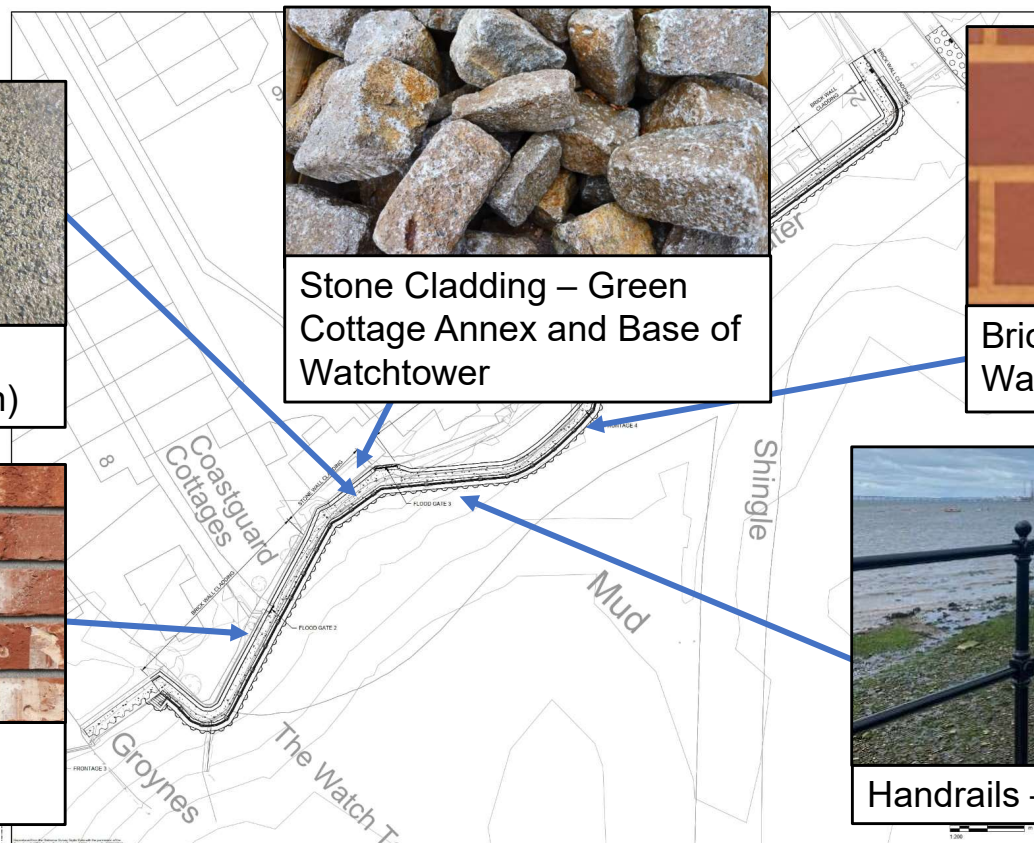
Brick Cladding – Quay Wall (Whole Length)



Brick – Cladding Watchtower



Handrails – (Whole Length)

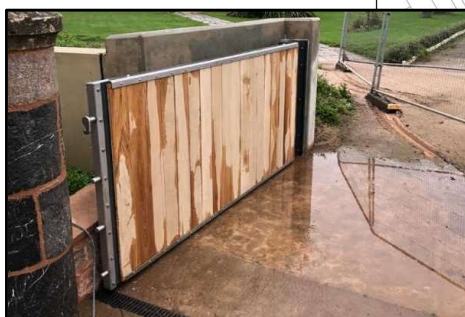


Frontage 4



Coastal Partners

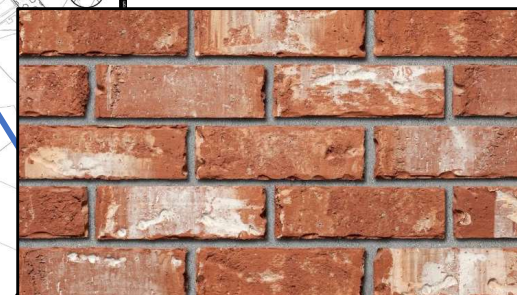
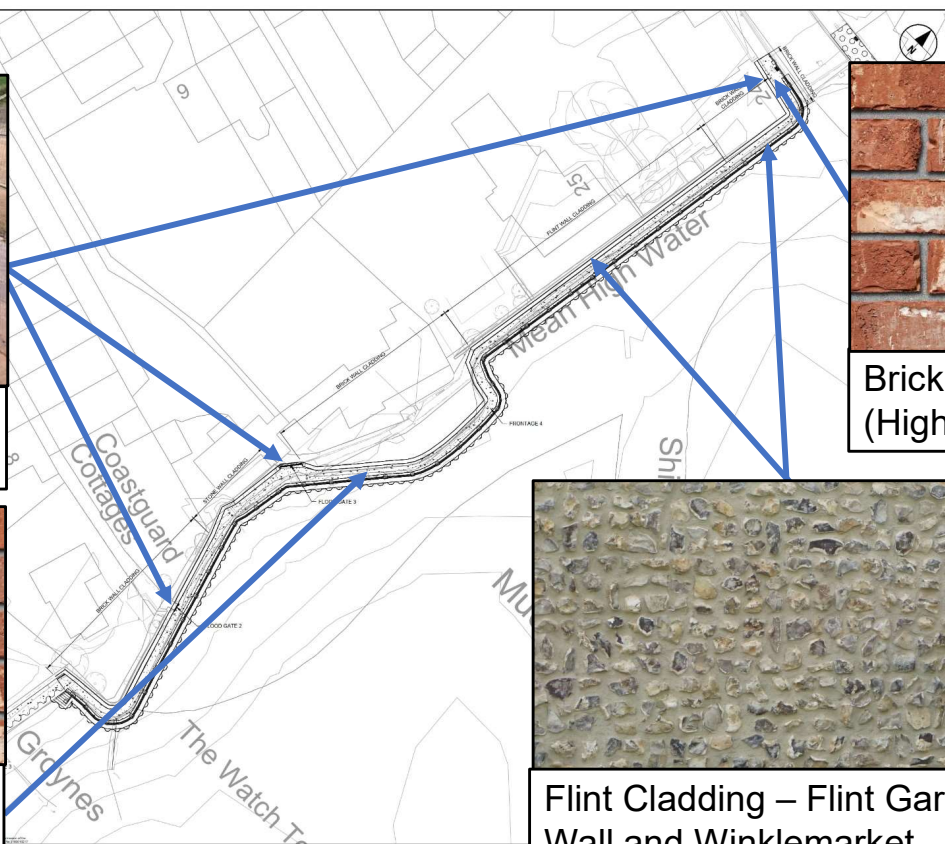
Landscaping



Timber Cladded Flood Gates



Brick Cladding- Green Cottage



Brick Cladding -Winklemarket (High Street Side)



Flint Cladding - Flint Garden Wall and Winklemarket

Coping Stones
TBC

Frontage 4



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Existing



Frontage 4



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Proposed Scheme - Photo visualisation



Frontage 5



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High Street and Royal Oak - Existing



Frontage 5

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High Street to Embankment

- High Street**

Top level – 3.8mODN
Length – 8m

- Royal Oak Flood Wall**

Top Level – 3.80mODN
Length – 84m
Length of Glass – 48m

- Allotment**

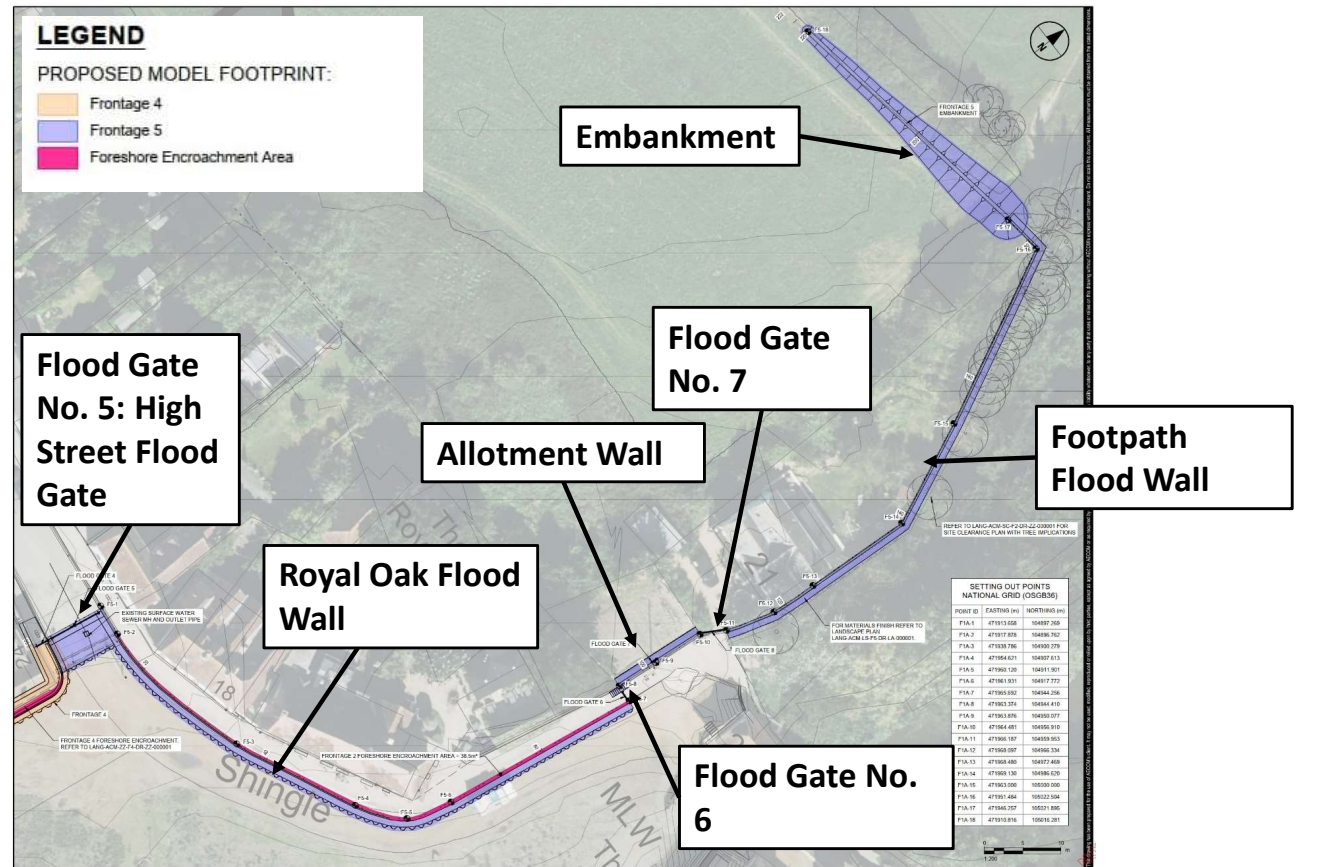
Top Level – 3.80mODN
Length – 15m

- Footpath**

Top level – 3.60mODN
Length – 73m

- Embankment**

Top level – 3.80mODN
Height of Raising - 0mm – 900mm
Length – 36m

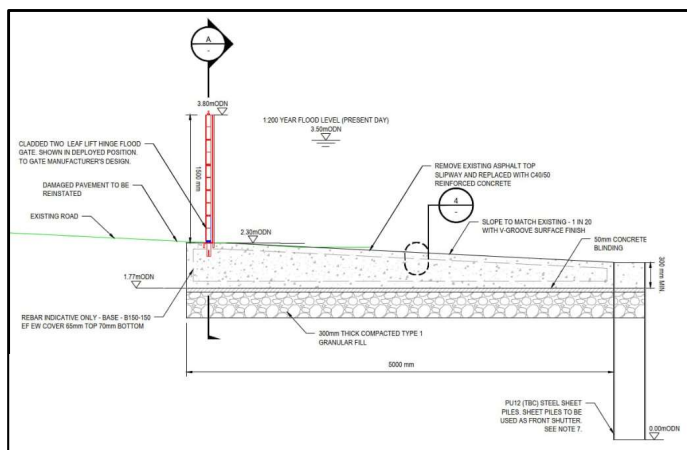


Frontage 5



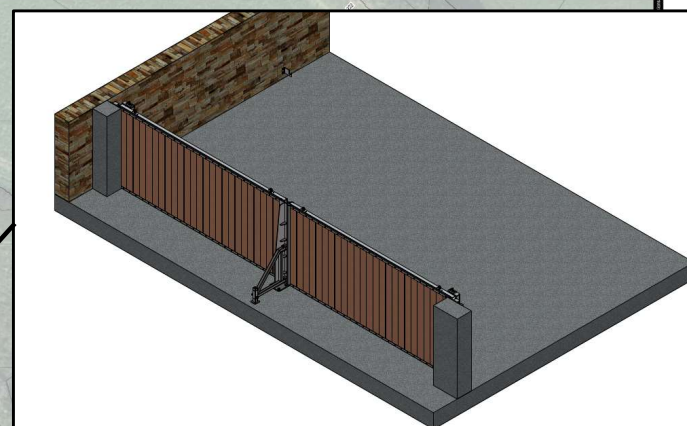
RH0

High Street:

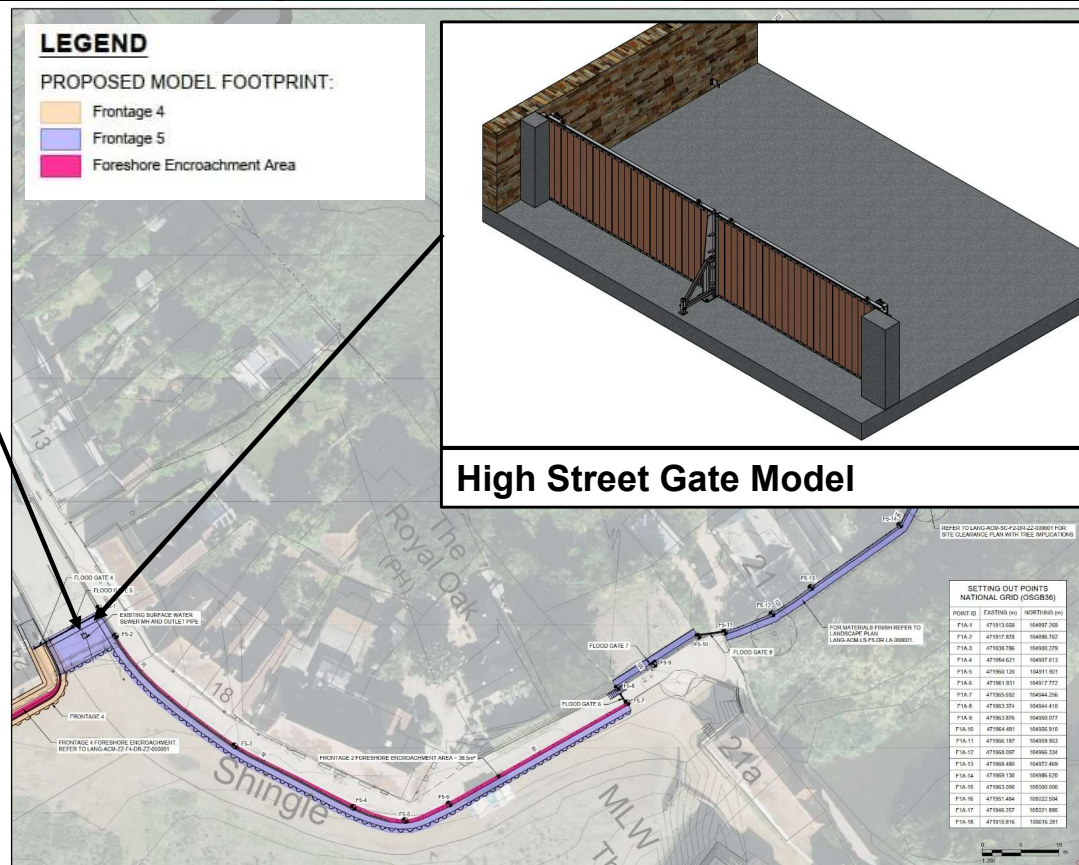


High Street Flood Gate:
Changes since 50%: Sheet pile alignment moved seawards to avoid services. Design of gate, gate supports and foundation.

- LEGEND**
- PROPOSED MODEL FOOTPRINT:
- Frontage 4
 - Frontage 5
 - Foreshore Encroachment Area



High Street Gate Model



Slide 45

RHO

Key point from LSWG was whether glass topped flood gate is possible. Clear narrative on this likely needed.

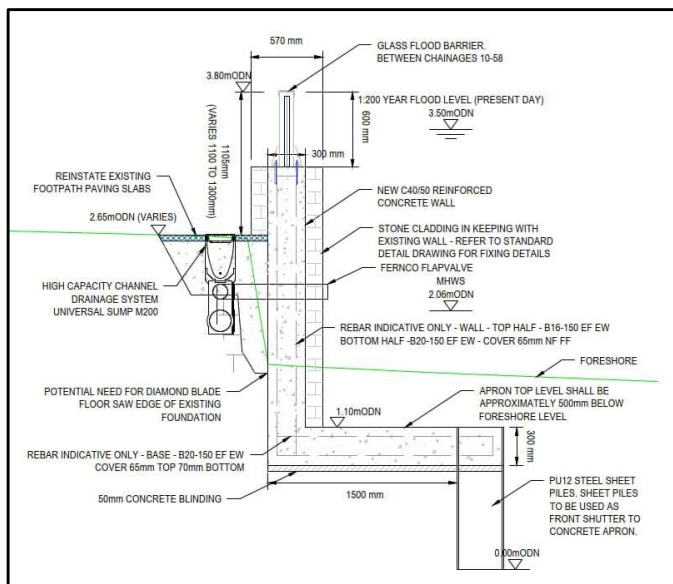
Ridler, Harriet, 2023-02-20T10:05:08.002

Frontage 5



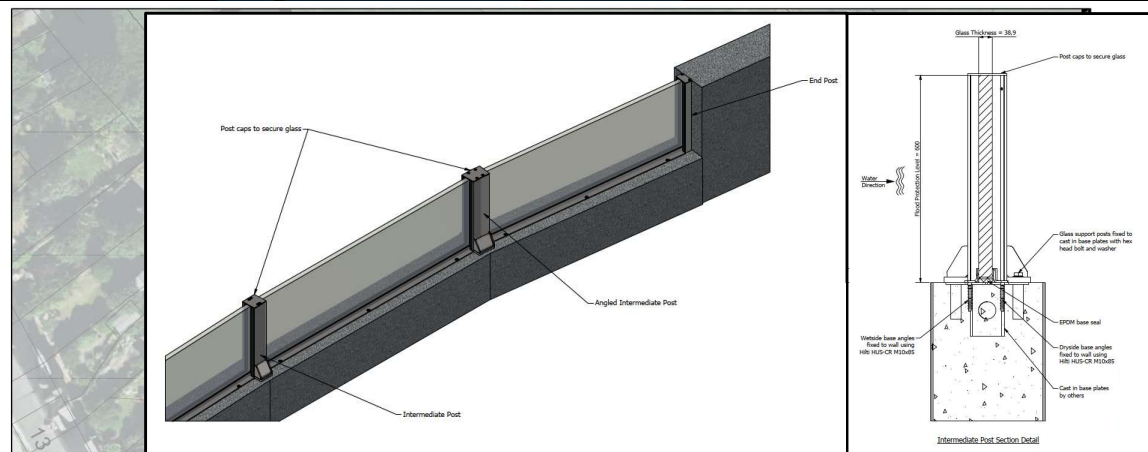
Coastal Partners

Royal Oak:

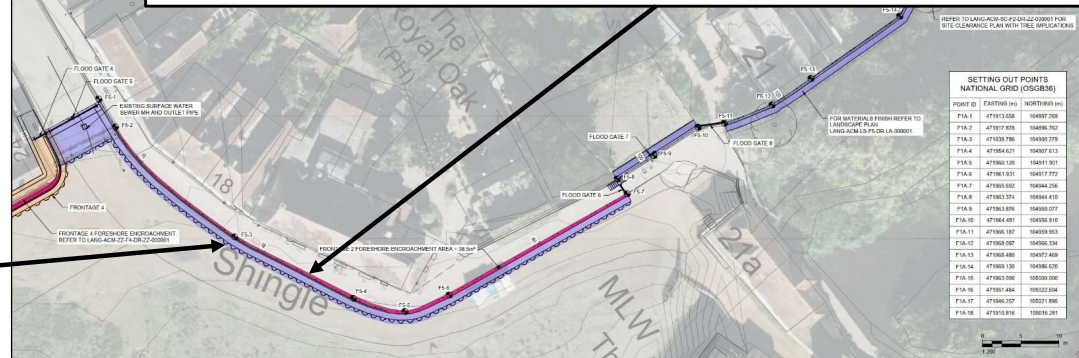


Royal Oak Flood Wall:

Changes since 50%: Stone cladding detail, design of drainage behind wall, structural analysis and design of wall.



Flood Barrier Model



Frontage 5



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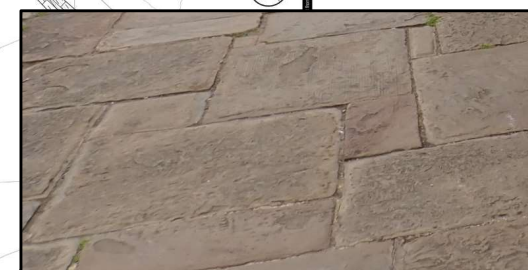
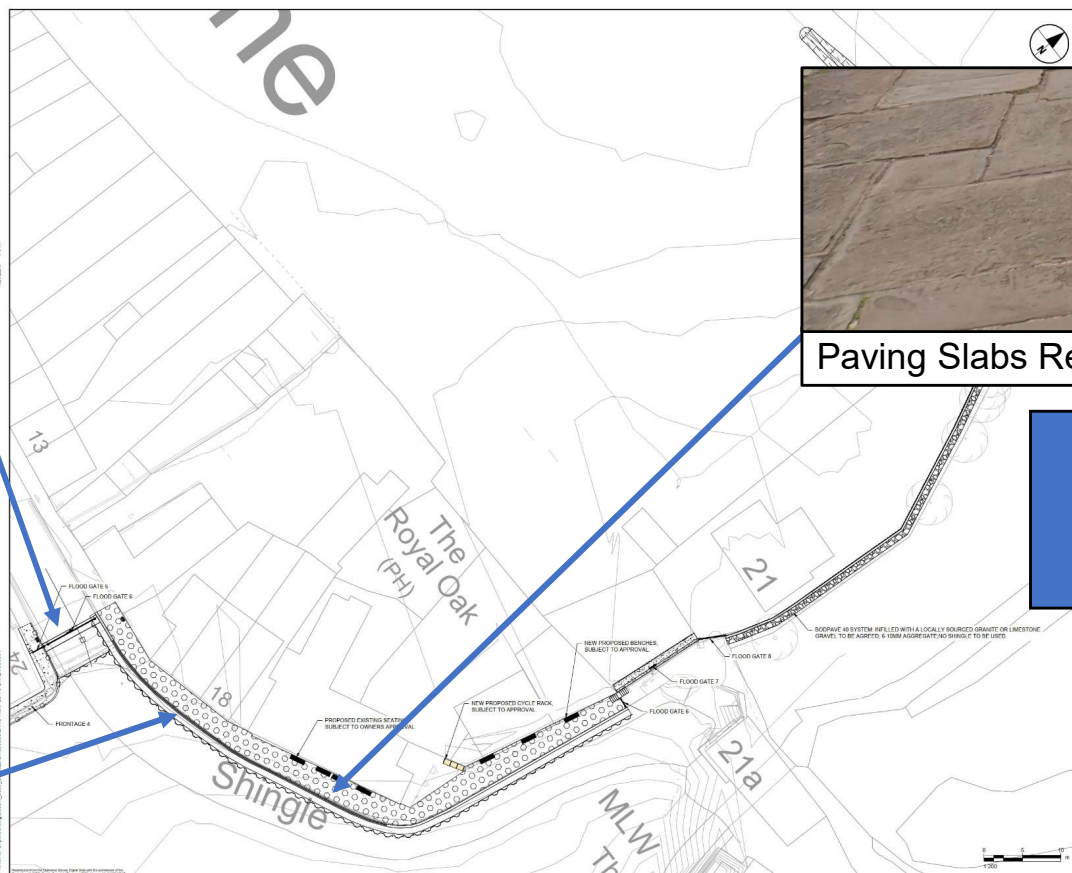
Landscaping



Timber Cladded Vehicle Flood Gates



Flood Glass



Paving Slabs Reinstated

Coping Stones
TBC

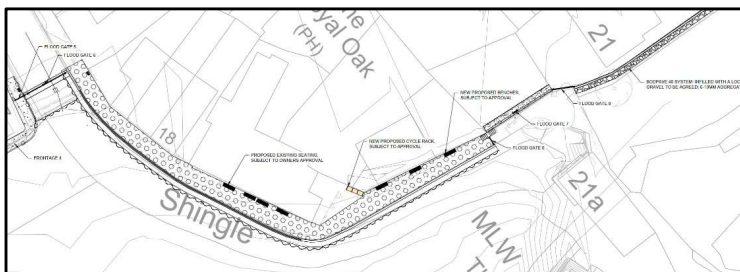
Frontage 5



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Landscaping – Royal Oak Wall

Cladding Mix of Minimum 80% of 3 Stones



Leitrim Sandstone



Cream Limestone



Blue Sandstone

Frontage 5



Coastal Partners

High Street - Existing



Frontage 5



Coastal Partners

High Street – Photo visualisation including Flood Glass Option



Frontage 5



Coastal Partners

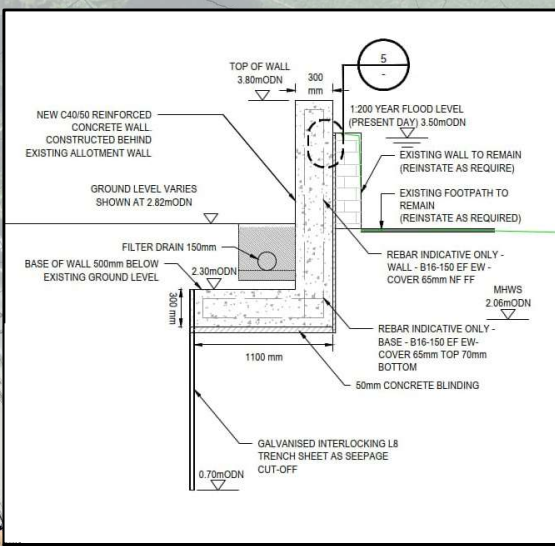
Allotment and Footpath - Existing



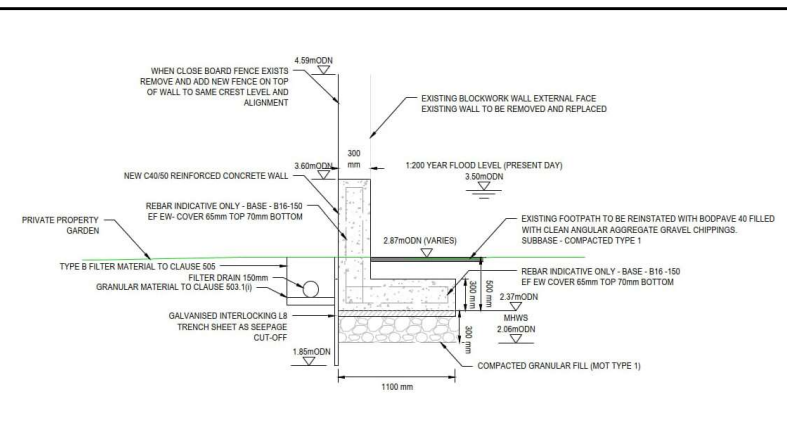
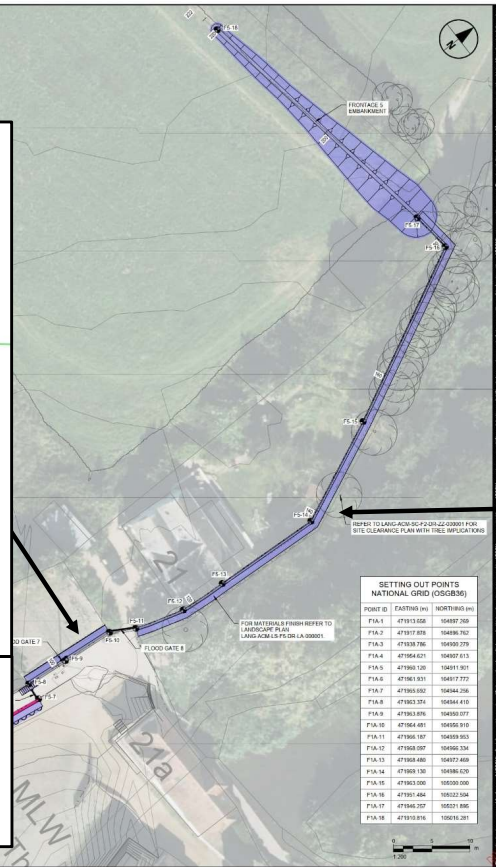
Frontage 5



Allotment and Footpath:



Allotment Wall:
Changes since 50%: Trench Sheeting (cut off from seepage), drainage behind wall.

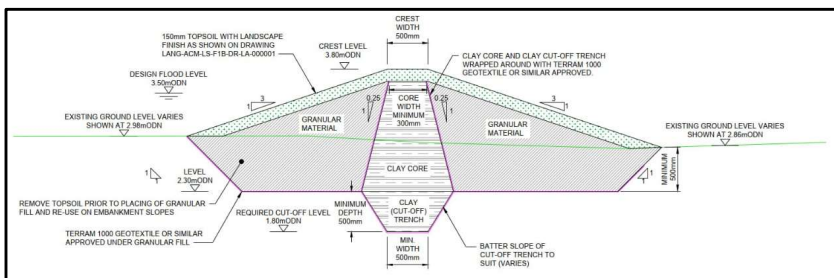


Footpath Wall:
Changes since 50%: Trench Sheeting (cut off from seepage), drainage behind wall.

Frontage 5

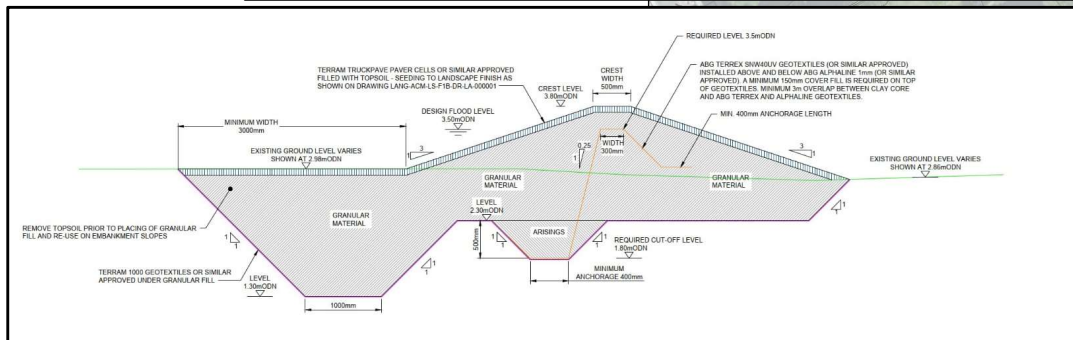


Embankment:



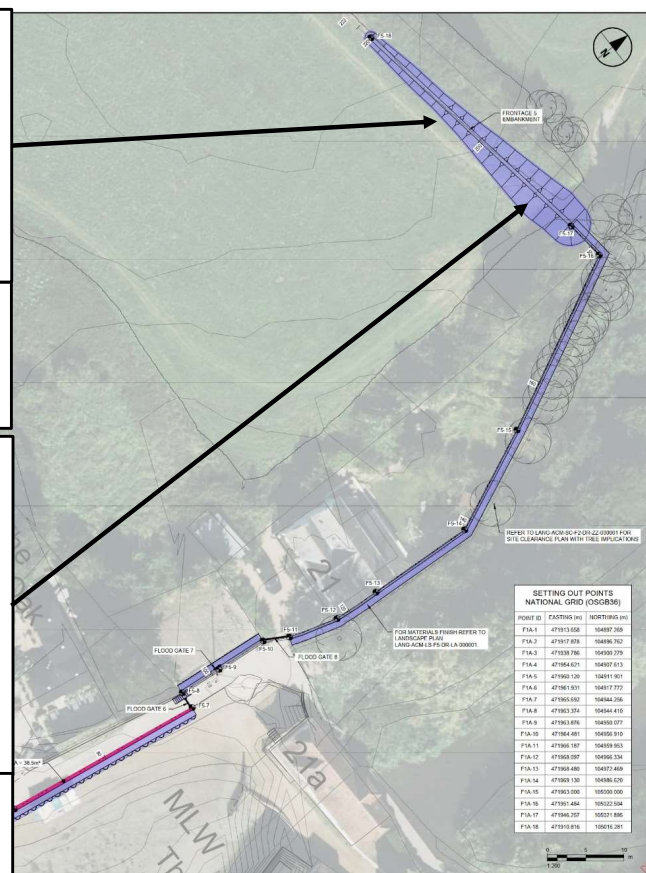
Embankment:

Changes since 50%: Fill material for stability
Requirement for seepage cut off (clay core).



Embankment: Detail for Tractor Access to Field

Changes since 50%: Fill Material, truckpave paver cells.



Frontage 5



Coastal Partners

Landscaping



Timber Cladded Flood Gates



Bodpave Pavement filled with granite or limestone gravel



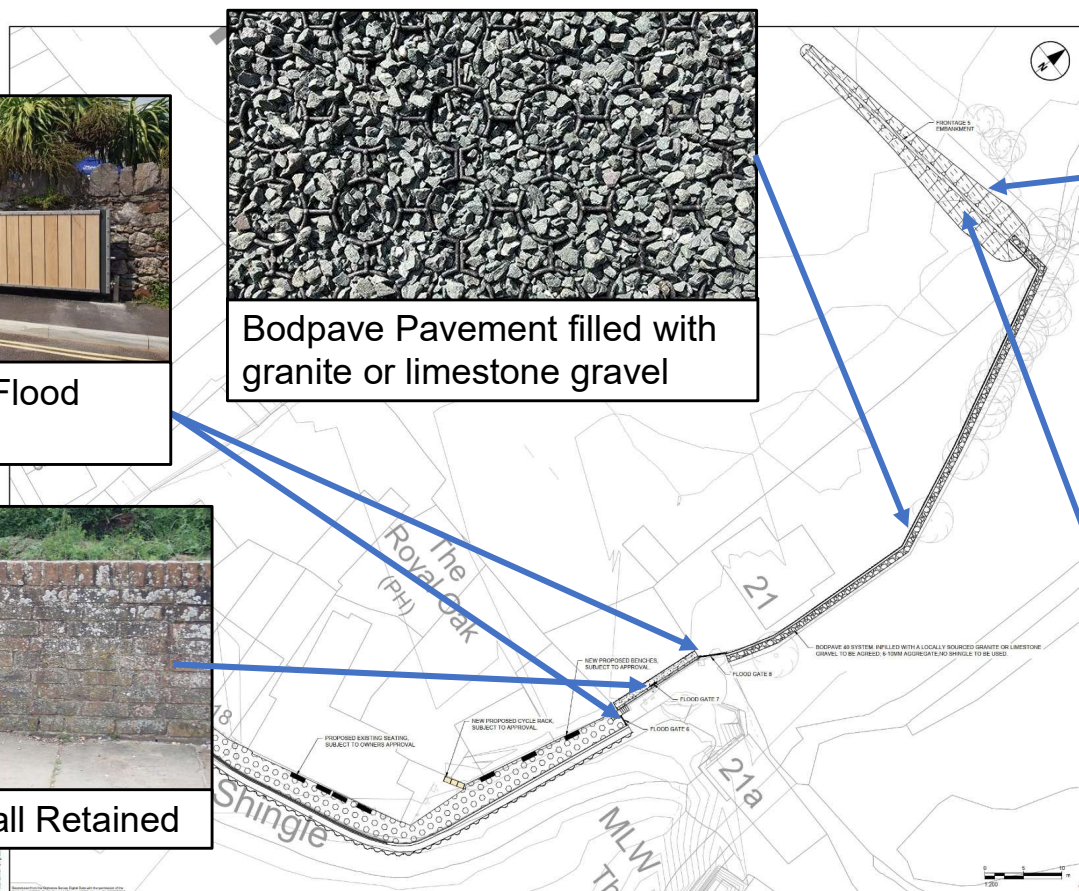
Truckpave: Cellular paving



Existing Brick Wall Retained



Tussock Grass Mix



Frontage 5



Coastal Partners

Allotment and Footpath – Existing



Frontage 5



Coastal Partners

Allotment and Footpath - Photo visualisation



Design by Frontage



Coastal Partners

Additional Scheme



Frontage 1B



Coastal Partners

Mill Lane and Harbourside – Existing



Frontage 1B



Mill Lane and Harbourside

- Sea Wall**

Top level – matches existing sea wall.
(approx. 3.95m)
Length – 155m

- Revetment**

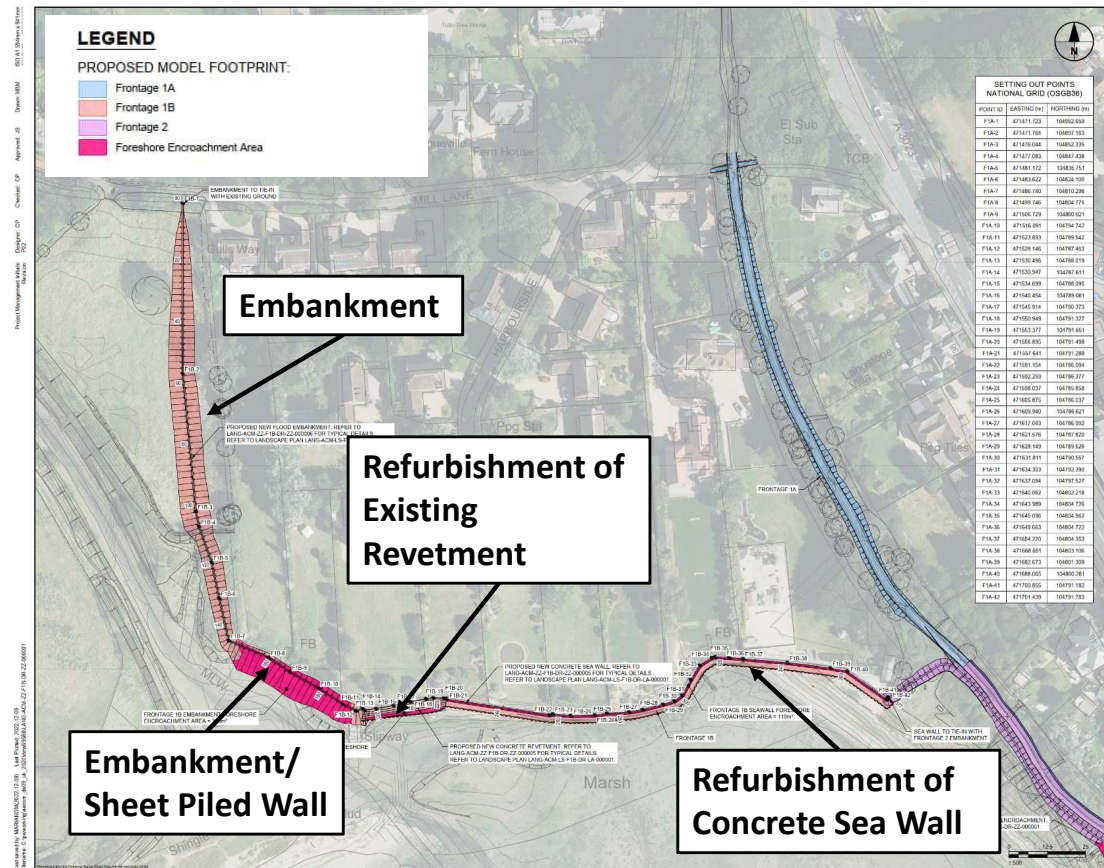
Top Level – matches existing.
Length – 28m

- Embankment**

Top Level – 3.85m ODN
Height of Raising: 0mm – 1435mm
Length – 150m

- Sheet Piled Wall**

Section in development due to levels
of foreshore encroachment
Length – 45m

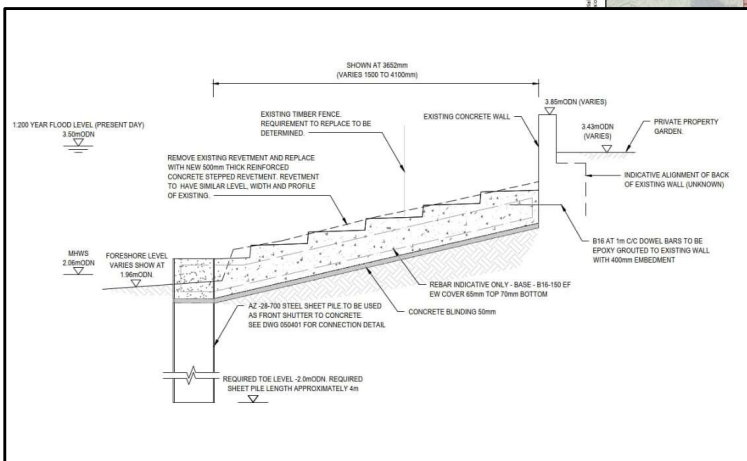


Frontage 1B

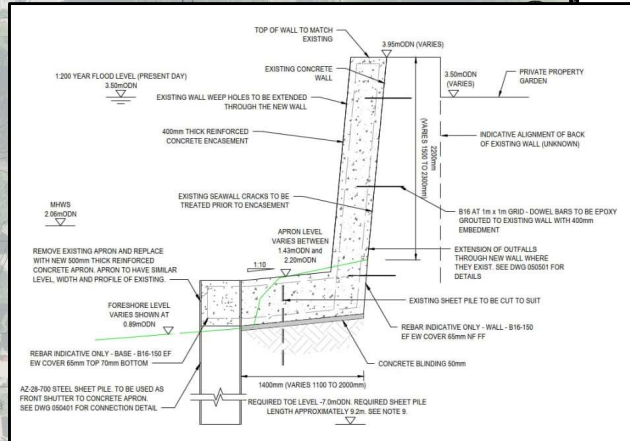


Mill Lane and Harbourside

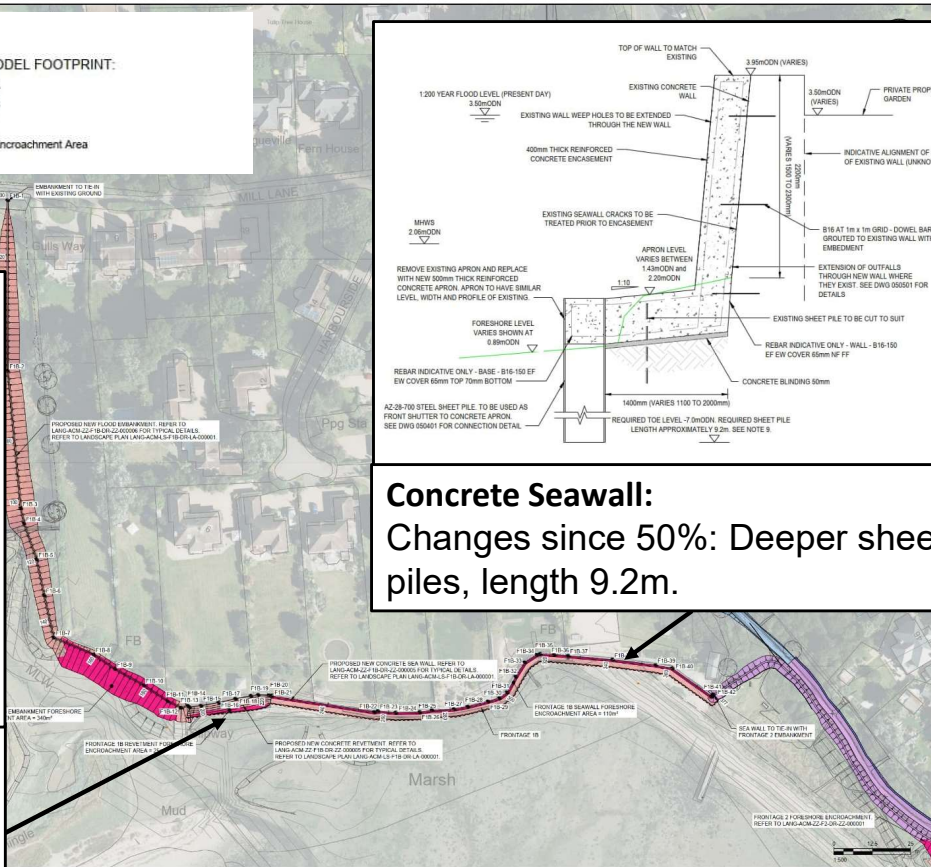
LEGEND
 PROPOSED MODEL FOOTPRINT:
 Frontage 1A
 Frontage 1B
 Frontage 2
 Foreshore Encroachment Area



Concrete Revetment:
 Changes since 50%: Shorter sheet piles, length 4m.



Concrete Seawall:
 Changes since 50%: Deeper sheet piles, length 9.2m.

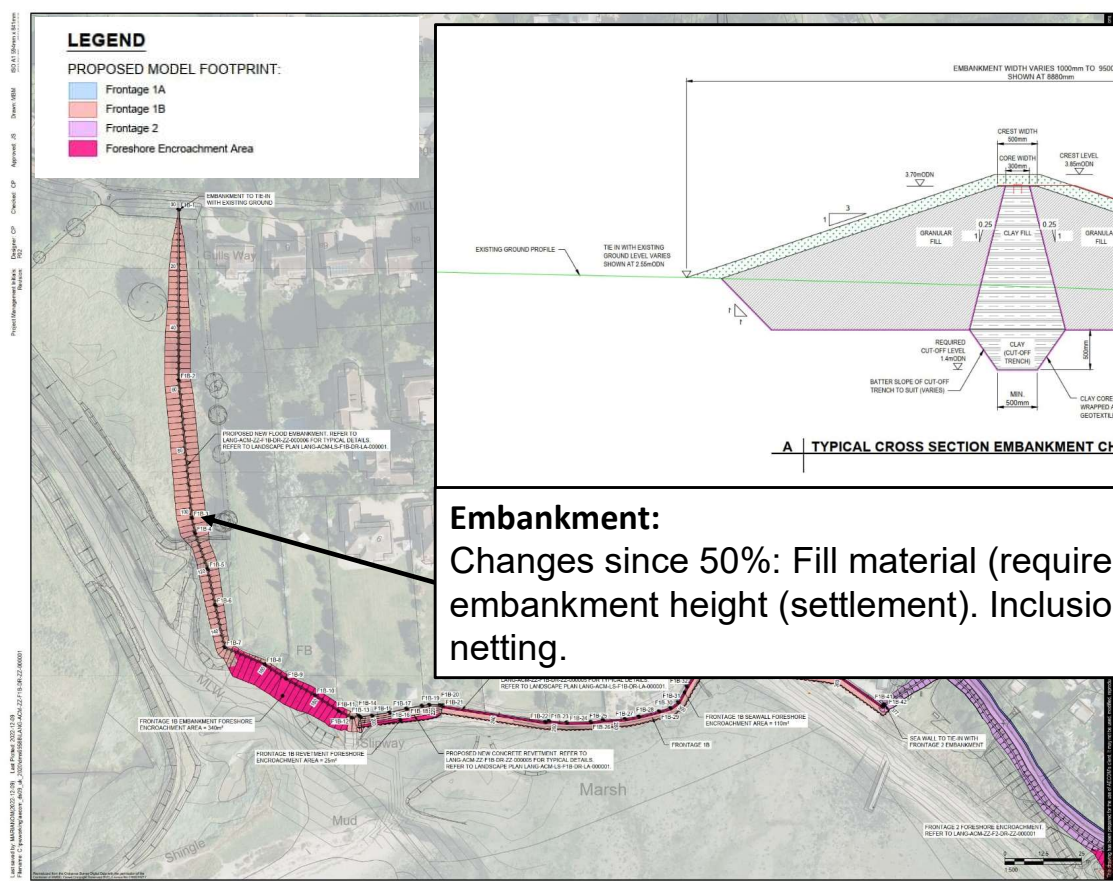


Frontage 1B



Coastal Partners

Mill Lane and Harbourside



Embankment:
 Changes since 50%: Fill material (requirement for cut off). Raised embankment height (settlement). Inclusion of erosion control netting.

Frontage 1B



Coastal Partners

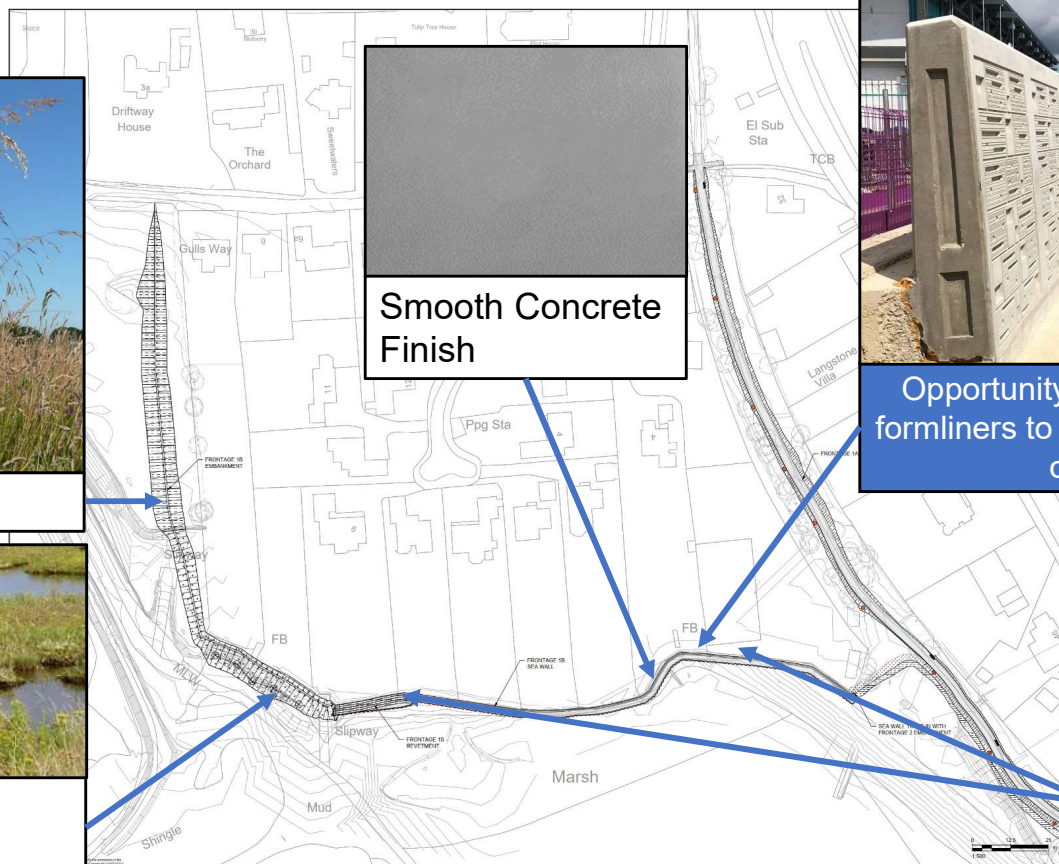
Landscaping



Tussock Grass Mix



Natural recolonisation of saltmarsh species.



Opportunity to include ecological form liners to create textured surface on sea wall.



Opportunity to include artificial rock-pools to create habitat.

Frontage 1B



Coastal Partners

Mill Lane and Harbourside



Frontage 1B



Coastal Partners

Mill Lane and Harbourside – Artistic Impression



Frontage 6



Coastal Partners

Langstone Spit



Frontage 6

Langstone Spit

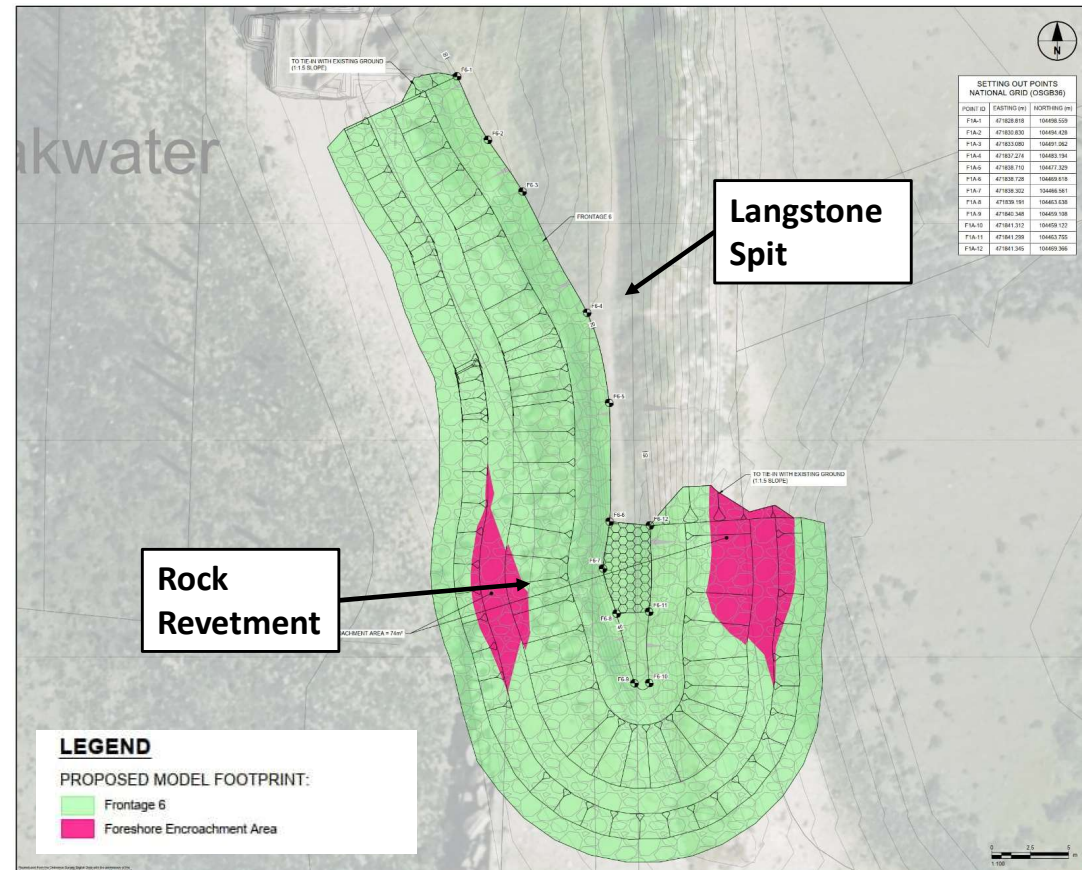
- **Rock Revetment**

Top level – matches existing revetment.

Buried Toe

Slope – 1:1.5

Top Layer Rock Size: 300-1000kg



Frontage 6



Coastal Partners

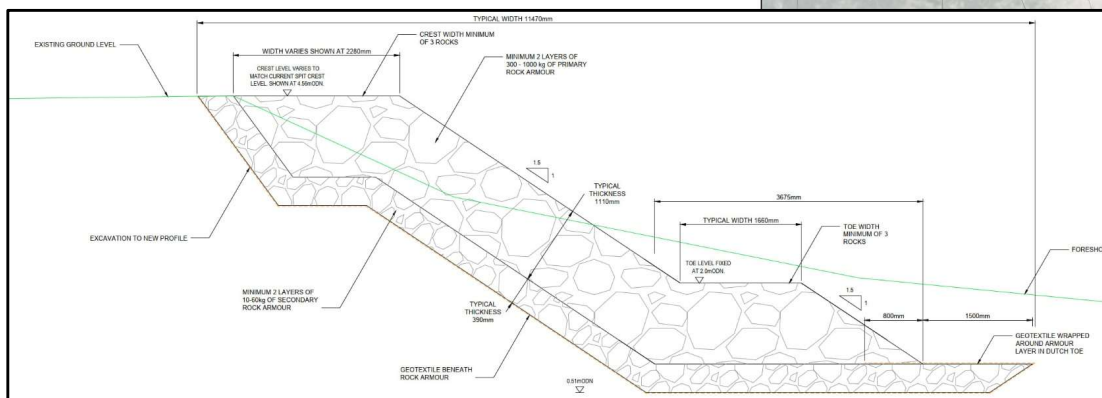
Langstone Spit



LEGEND
 PROPOSED MODEL FOOTPRINT:
■ Frontage 6
■ Foreshore Encroachment Area

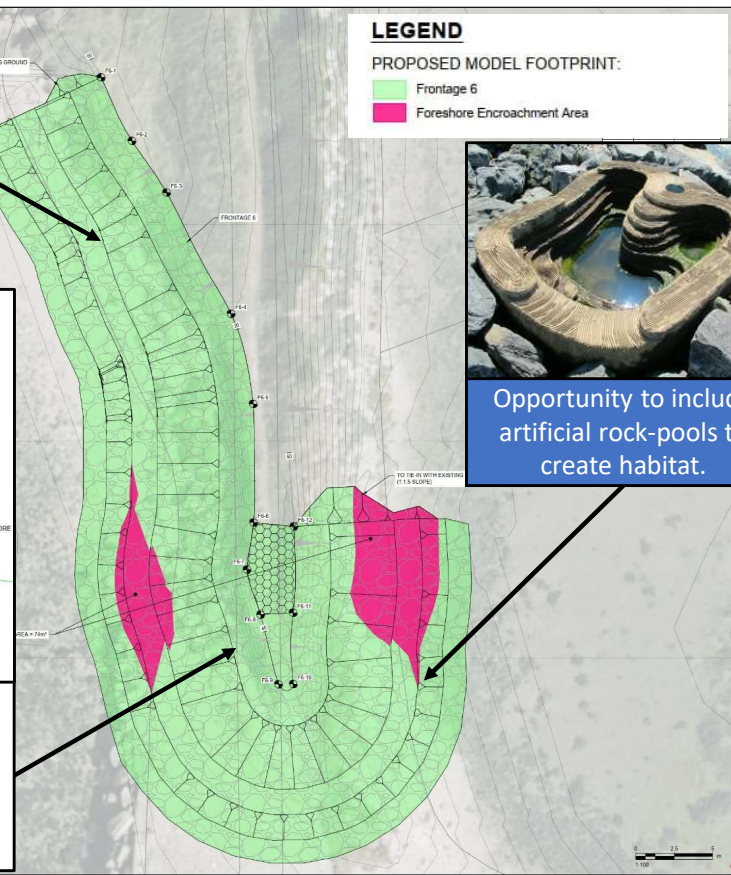


Opportunity to include artificial rock-pools to create habitat.



Rock Revetment:

Changes since 50%: Gabbro rock, smaller rock size, Continuation of rock around spit end. Cellular filled grid between front and back (erosion protection).



Frontage 6



Coastal Partners

Langstone Spit - Existing

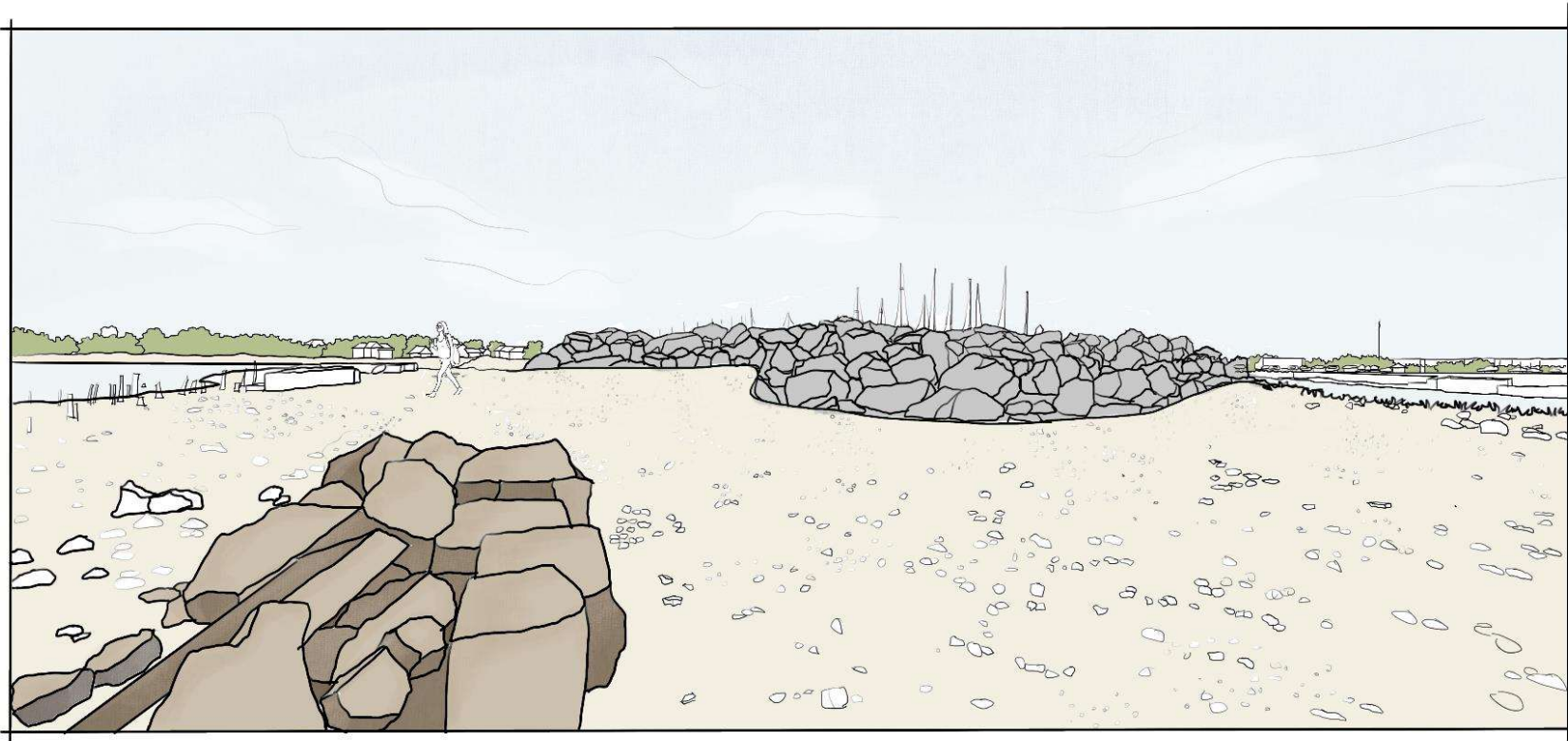


Frontage 6



Coastal Partners

Langstone Spit – Artistic impression



3D Model

AECOM

Coastal Partners

3D Model in development to showcase the scheme.

Images show 3D model overlaid to a 3D laser scan.

Views Shown of Royal Oak and Green Cottage Annex





Tea Break & Breakout Stations