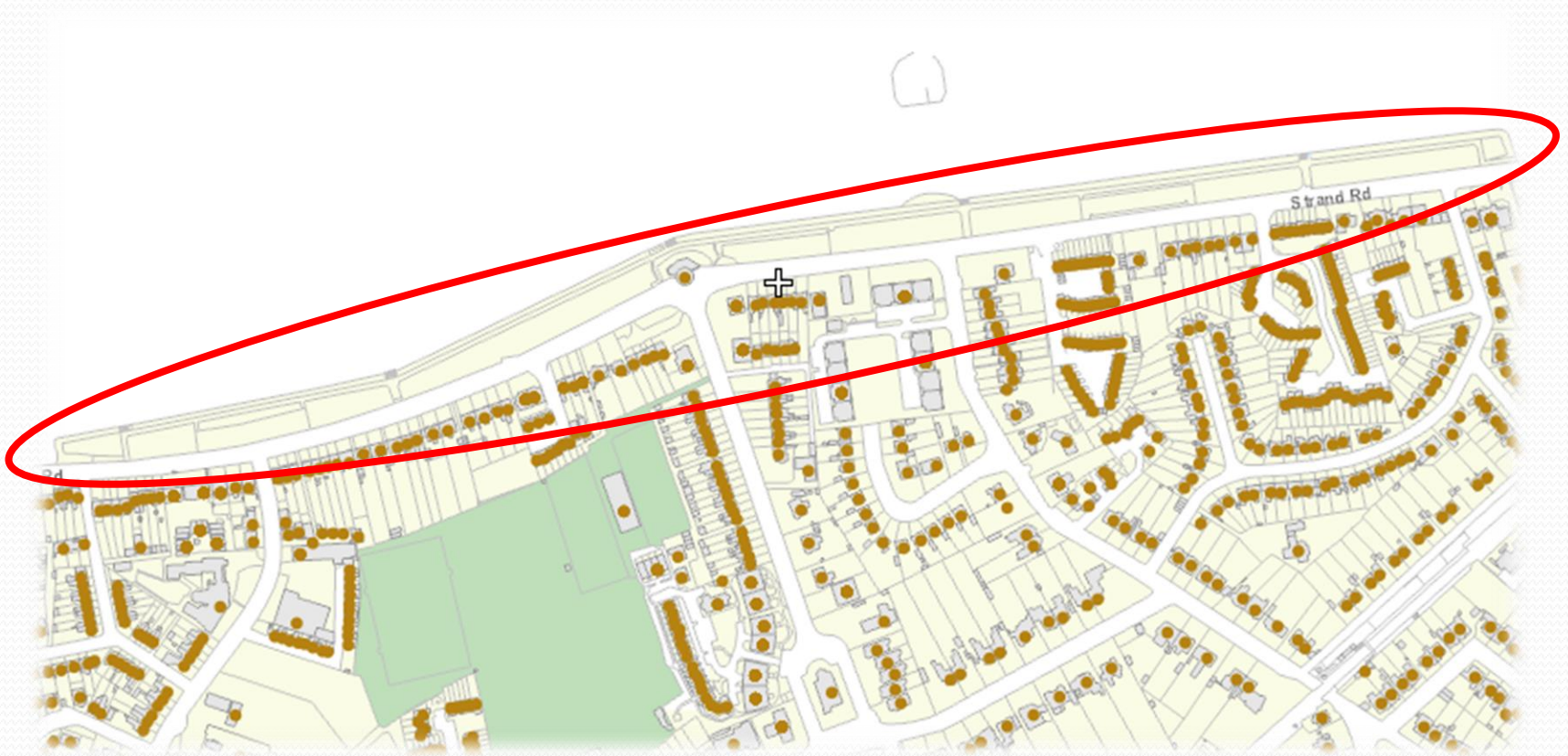


# Sandymount Coastal Flood Defence Scheme–Phase 1&2



*Presented by: Gerard O'Connell  
Senior Engineer, Fellow Chartered Engineer  
To South East Area Committee 13<sup>th</sup> September 2021*

# Location Map Phase 1 - Promenade



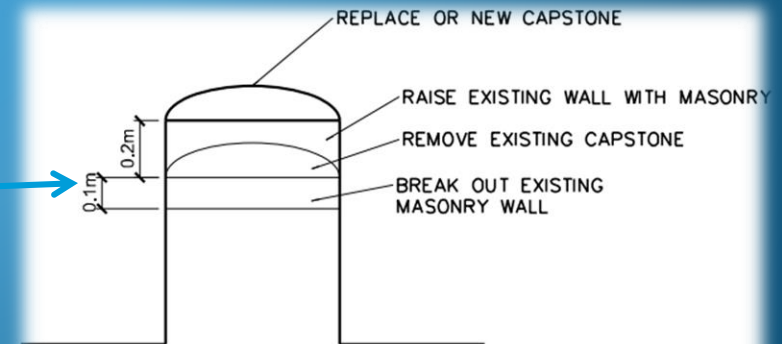
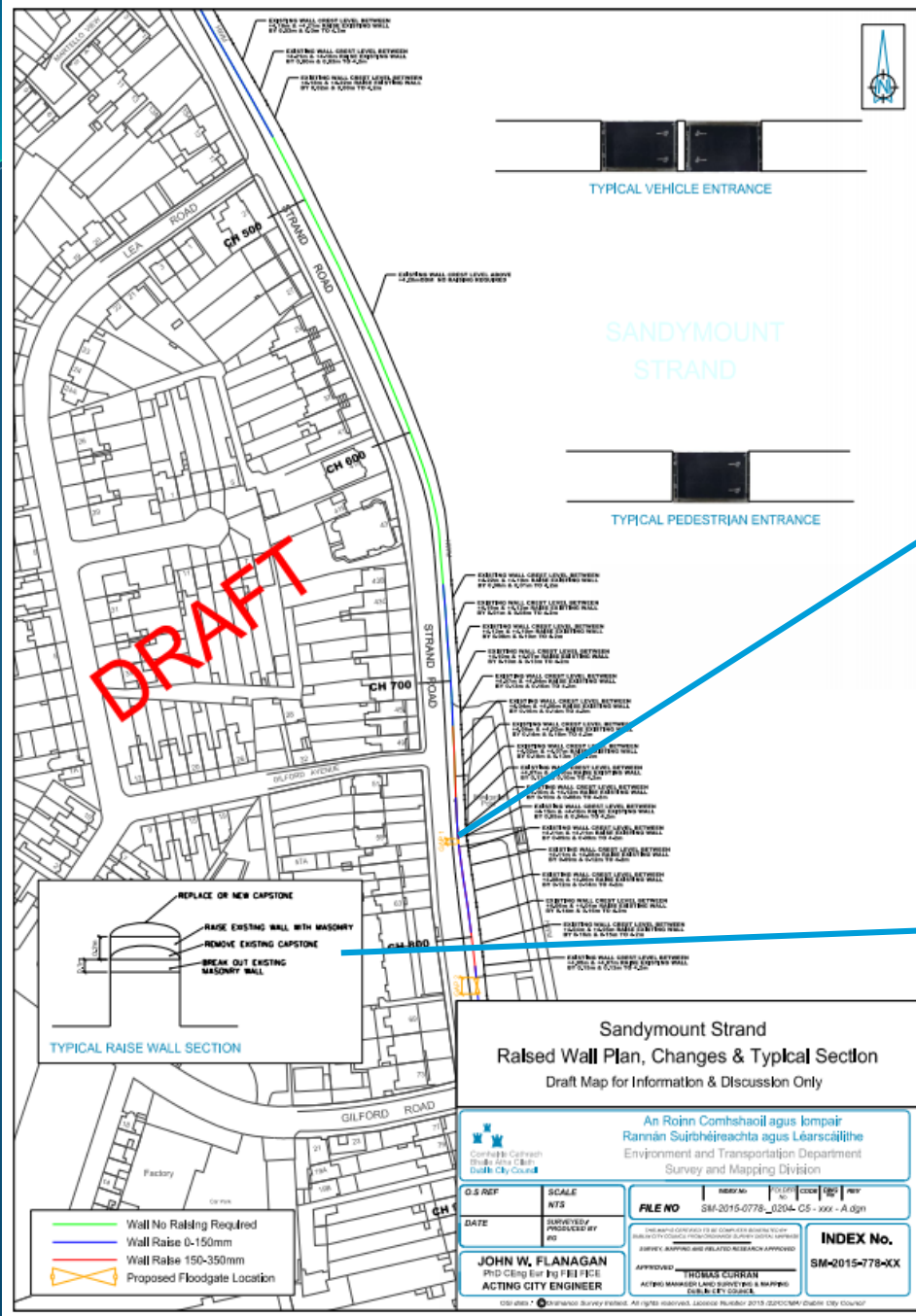
# Introduction

The Sandymount Coastal Flood Defence Scheme currently consists of two phases. Phase 1 relates to the back of footpath wall along the existing promenade from Gilford Ave to St. Alban's Park. Phase 2 relates to the seawall between Gilford Ave and Seafort Ave.

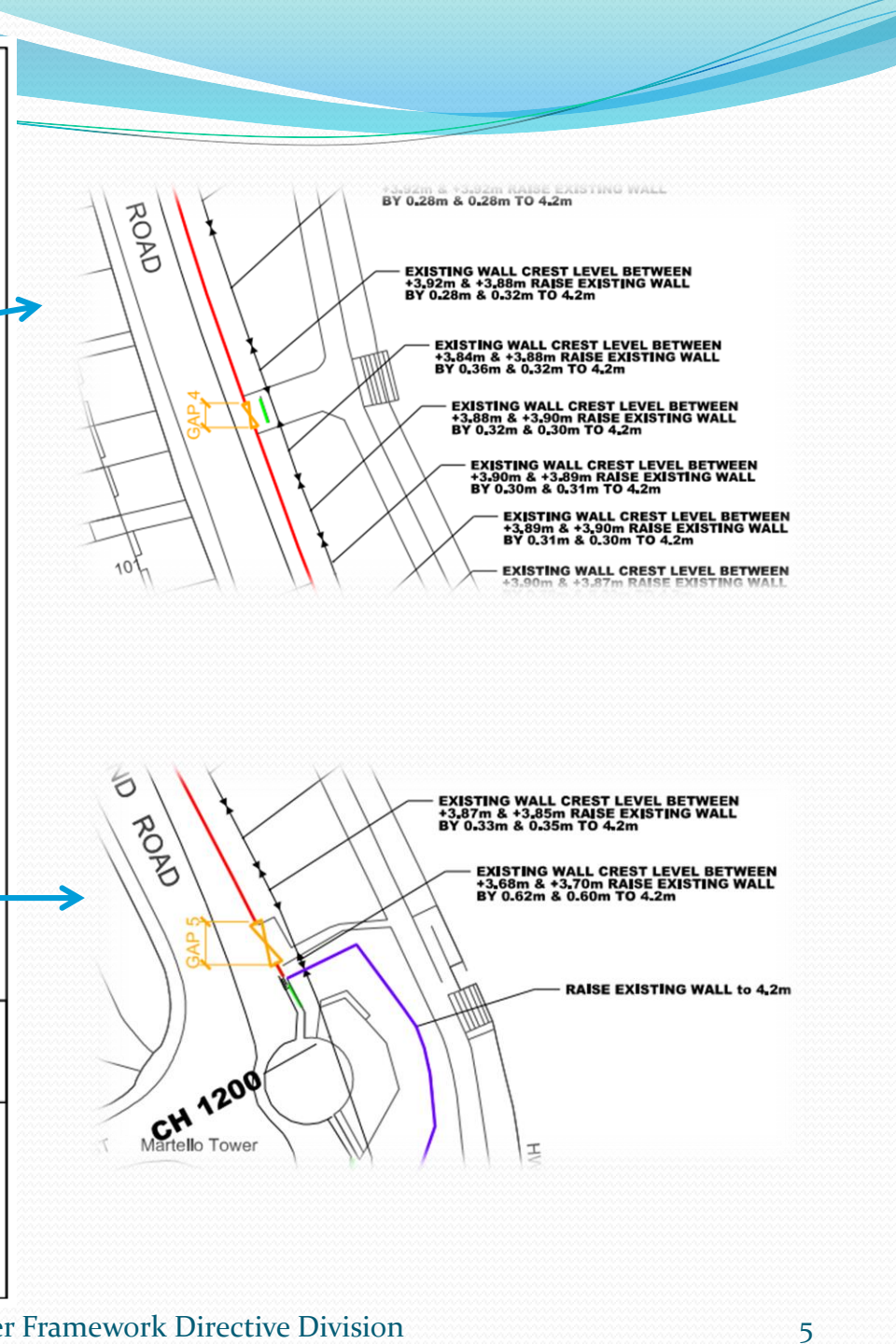
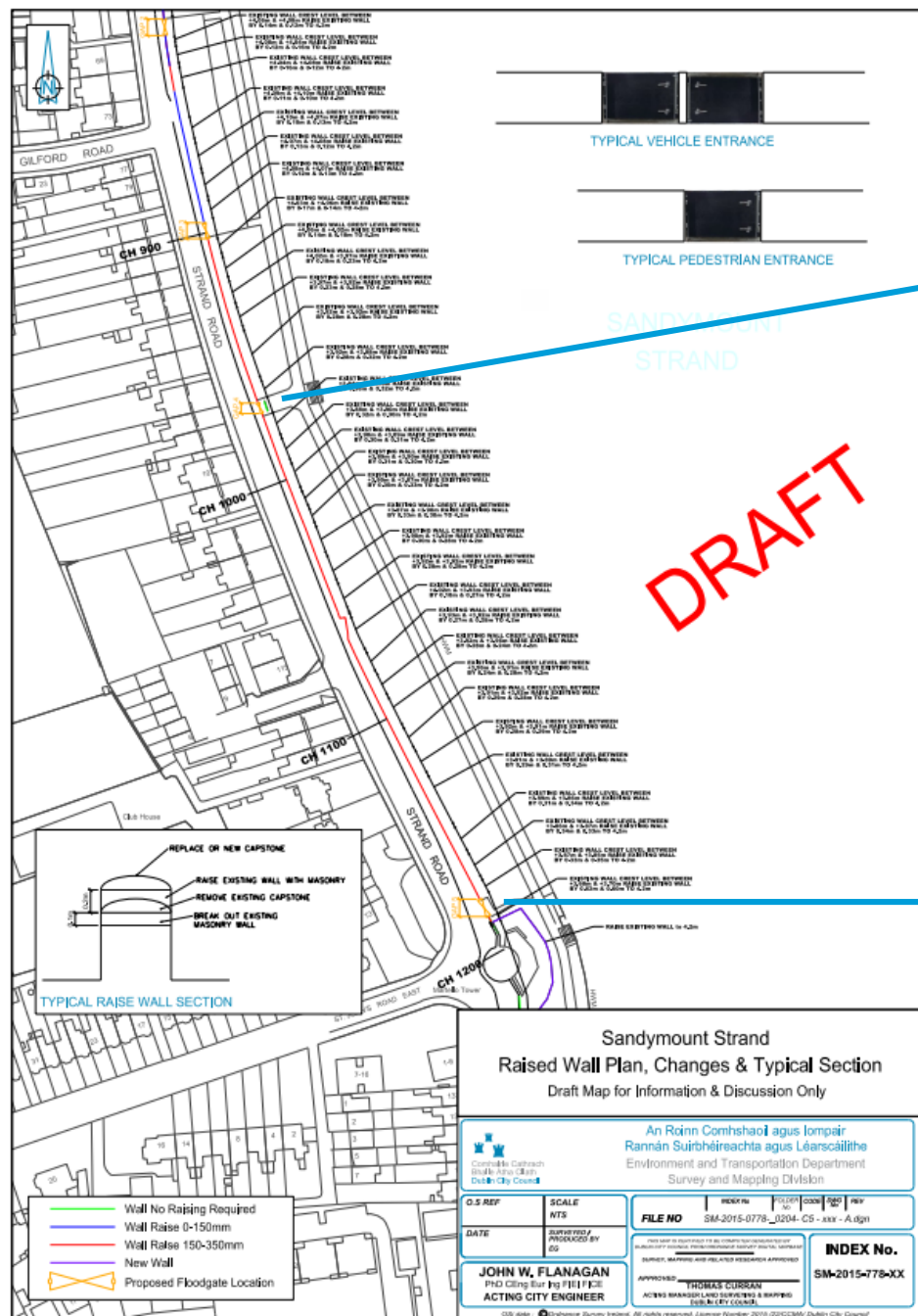
Phase 1 flood defence works will consist of the following:

- The extension (i.e. raising) of existing back of footpath wall (Figure 2.1) by up to approximately 360mm. Similar stone to existing will be used for the raising of the wall.
- Repair and refurbishment of existing back of footpath wall, to current visual standard.
- Provision and installation of flood gates.
- Construction of ~65m of a new stone wall 800mm high around the sea side of the Martello Tower.
- Erection of site compound on promenade.
- Remove existing shrubbery and replace as required by Parks, Biodiversity and Landscape Services.
- Closure of sections of the existing footpath during construction.
- Access to be maintained to the promenade.
- Reconstruction of promenade and footpath (where required) to existing standard.



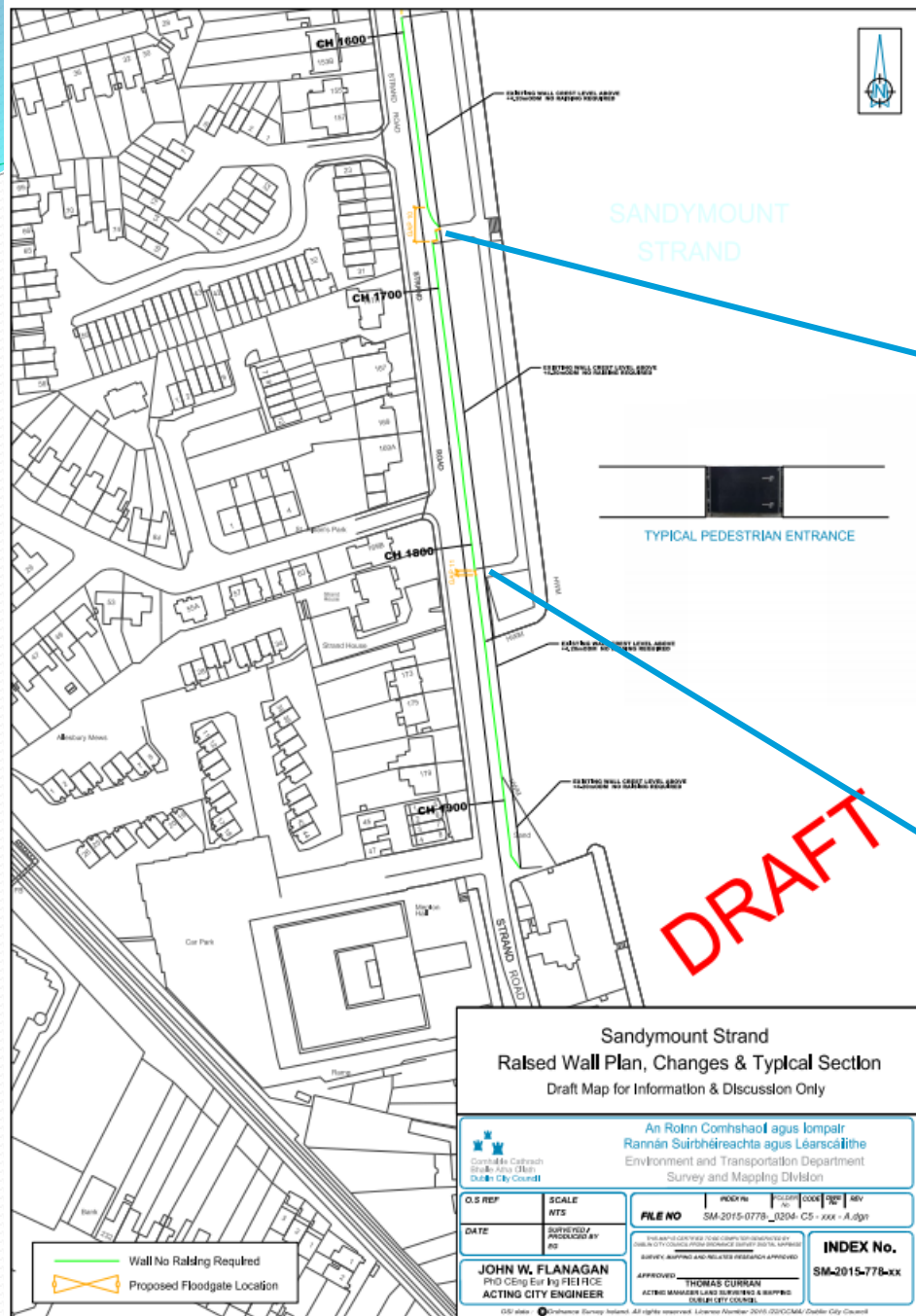


**TYPICAL RAISE WALL SECTION**











TYPICAL VEHICLE ENTRANCE



TYPICAL PEDESTRIAN ENTRANCE

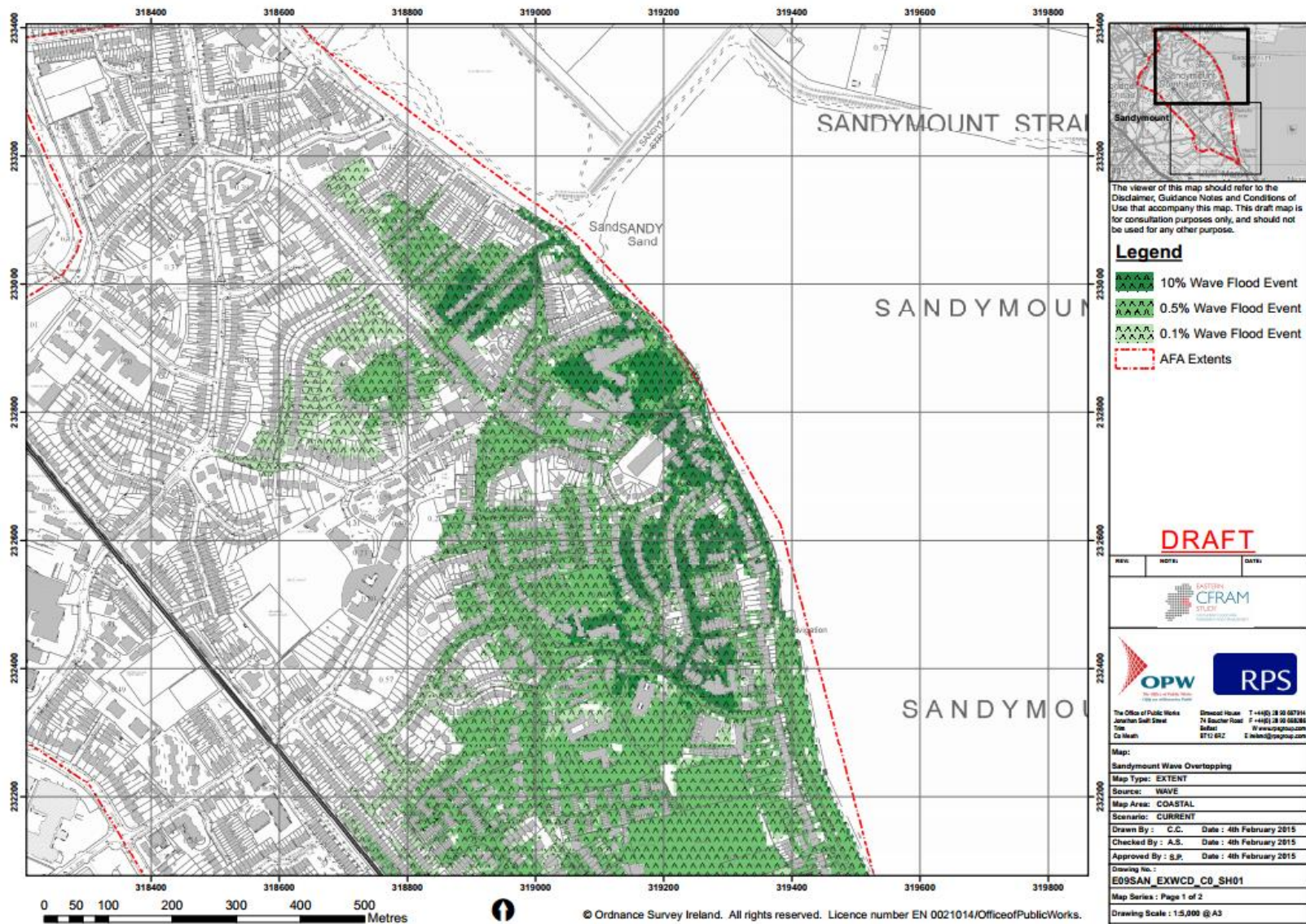


Location	Entrance Type	Existing Width (m)	Proposed Width (m)
Gap 1	Pedestrian	1.85	1.85
Gap 2	Vehicle	6.35	6.35
Gap 3	Vehicle	6.16	6.16
Gap 4	Pedestrian	4.27	2
Gap 5	Pedestrian	7.5	2
Gap 6	Pedestrian	2.7	Access to be closed
Gap 7	Vehicle	7.25	7.25
Gap 8	Vehicle	6.1	6.1
Gap 9	Vehicle	6.1	6.1
Gap 10	Pedestrian	1.4	1.4
	Pedestrian	1.4	1.4
Gap 11	Pedestrian	1.85	1.85

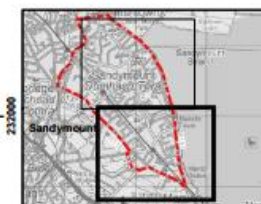
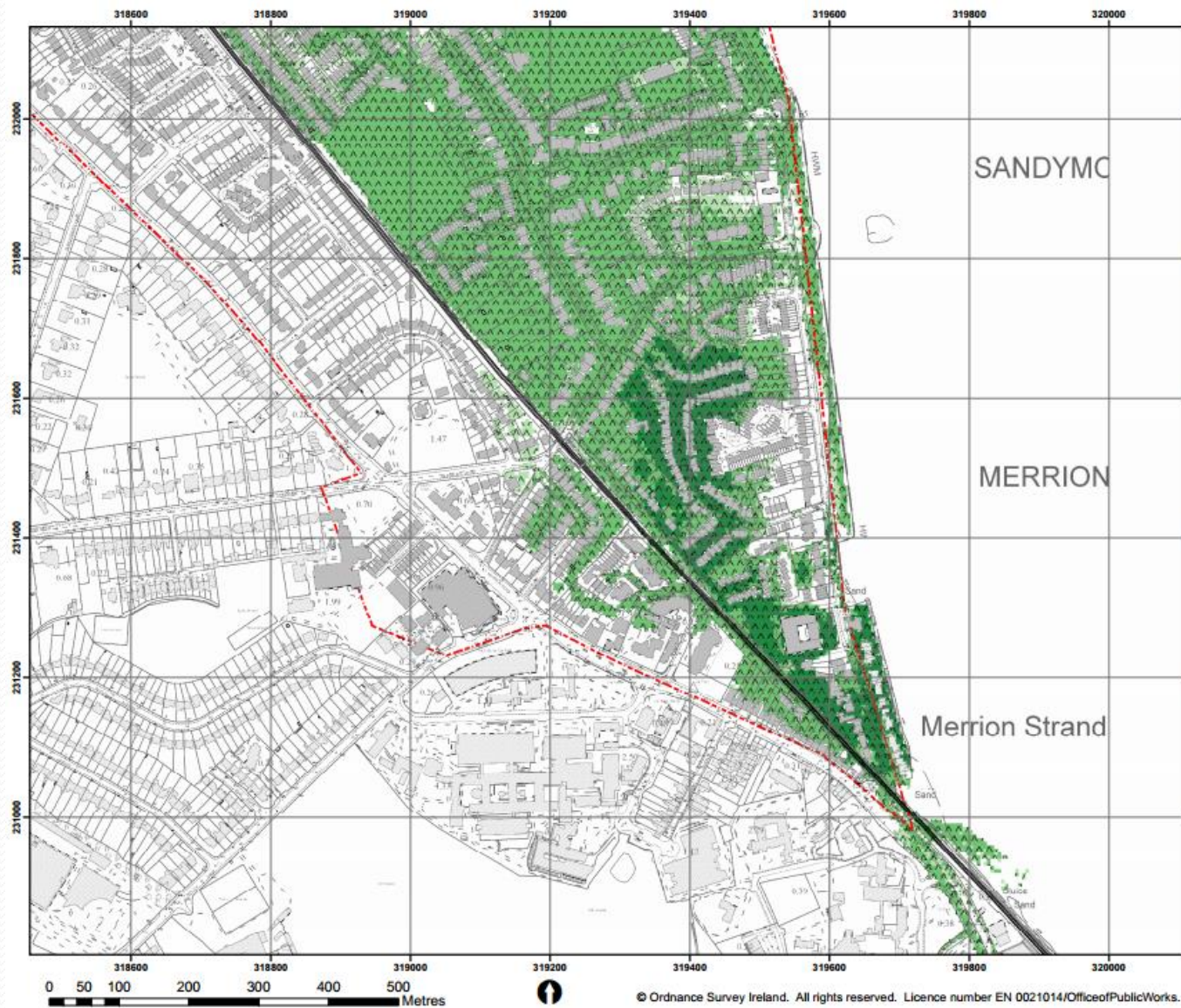


# Flood Defence Level

- The proposed flood defence level is 4.2m Malin Head, that is 4.2m above average sea level.
- This level is from the Dublin Coastal Flood Protection Project and new waves modelling which includes for the breaking up of sea waves by undulations in the long sandy beach and the existing promenade.
- It is roughly made up of 3.25m Malin Head, which is the current estimated 200 year tide still water level, which is the National design recommended defence level for which funding is available.
- 0.25m for the associated wave with 200 year tidal flood event.
- 0.4m for sea level rise due to global warming, 0.13m having occurred already.
- 0.3m free board or safety margin, National recommended level for solid wall.
- $3.25 \text{ Malin Head} + 0.25 + 0.4 + 0.3 = 4.2 \text{m Malin head}$







The viewer of this map should refer to the Disclaimer, Guidance Notes and Conditions of Use that accompany this map. This draft map is for consultation purposes only, and should not be used for any other purpose.

### Legend

- 10% Wave Flood Event
- 0.5% Wave Flood Event
- 0.1% Wave Flood Event
- AFA Extents

**DRAFT**

REV:    MOD:    DATE:



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Map:	
Sandymount Wave Overtopping	
Map Type:	EXTENT
Source:	WAVE
Map Area:	COASTAL
Scenario:	CURRENT
Drawn By:	C.C. Date: 4th February 2015
Checked By:	A.S. Date: 4th February 2015
Approved By:	S.J. Date: 4th February 2015
Drawing No.:	E09SAN_EXWCD_C0_SH02
Map Series:	Page 2 of 2
Drawing Scale:	1:5,000 @ A3



# Proposed Wall Height Variance

- As the level of the roadway above mean sea level varies along Beach road and Strand road the height of a flood wall varies to maintain a constant flood protection height above mean sea level.
- Overall approximately 1,150 properties will be protected from the estimated 200 year tidal flood event plus associated wave action and around 3,000 properties will have reduced flooding risk from the 1,000 year flood event.
- The allowance in sea level rise for global warming has to be continuously reviewed as this has implications for the associated wave height as well. The deeper the sea water the larger the waves with the same wind driving them.

Opposite Hse No. 95



Opposite Hse No. 129



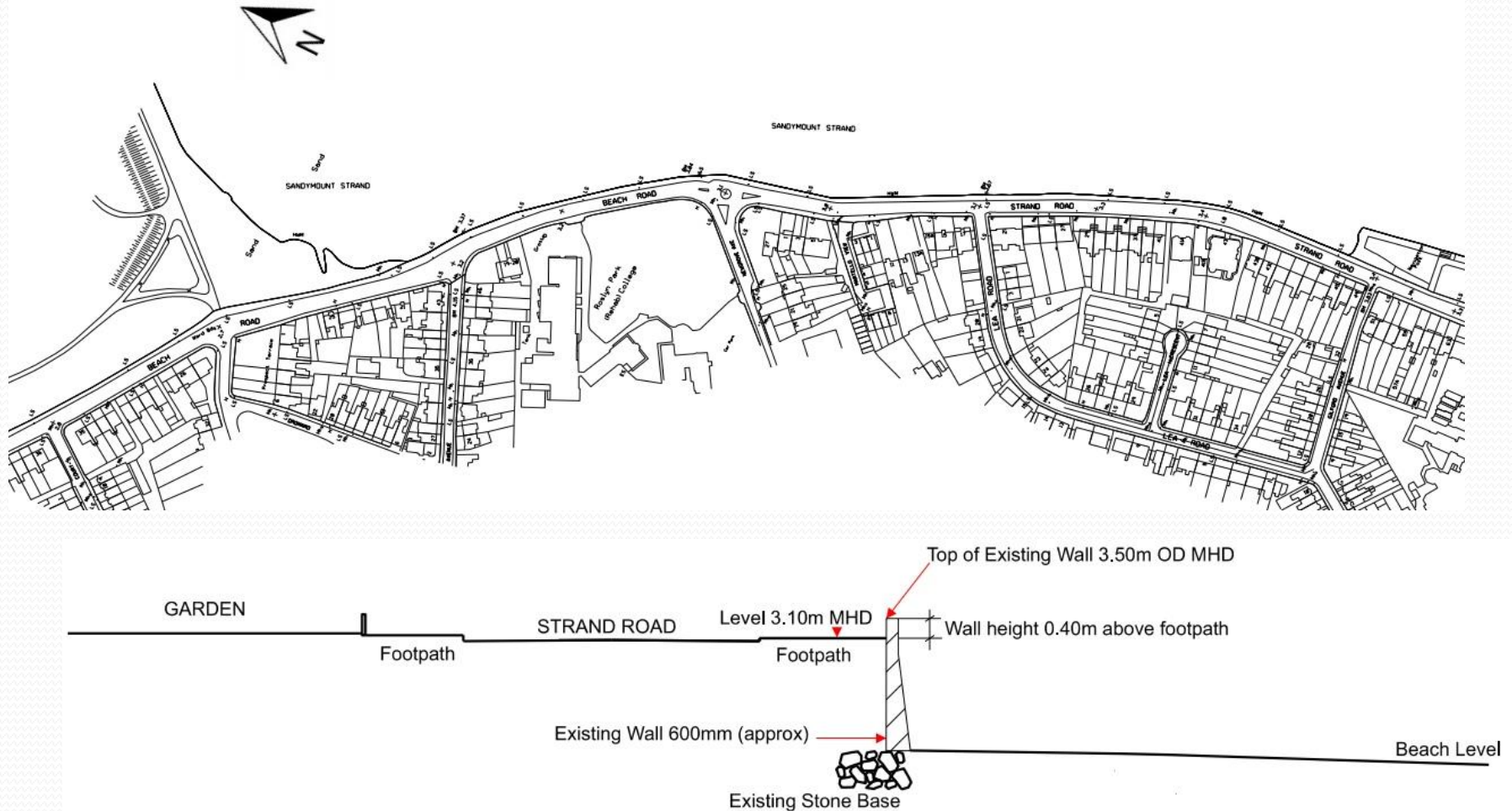
## Sandymount Flood Alleviation Scheme Phase 2

- This proposed section is approximately 800m long from the north of the promenade to the southern end of Sean Moore Park.
- Previous studies indicated four main very preliminary options.
- Option 1 building a new wall up to 1.5m above footpath level with rock armour protection on the sea side.
- Option 2 raising the existing wall to a maximum level of 1.2m above footpath level with an 8m wide promenade with rock armour on the sea side.
- Option 3, same as Option 2 but with a 30m wide promenade.
- Option 4, Build a new higher flood wall on the sea side of the existing sea wall.

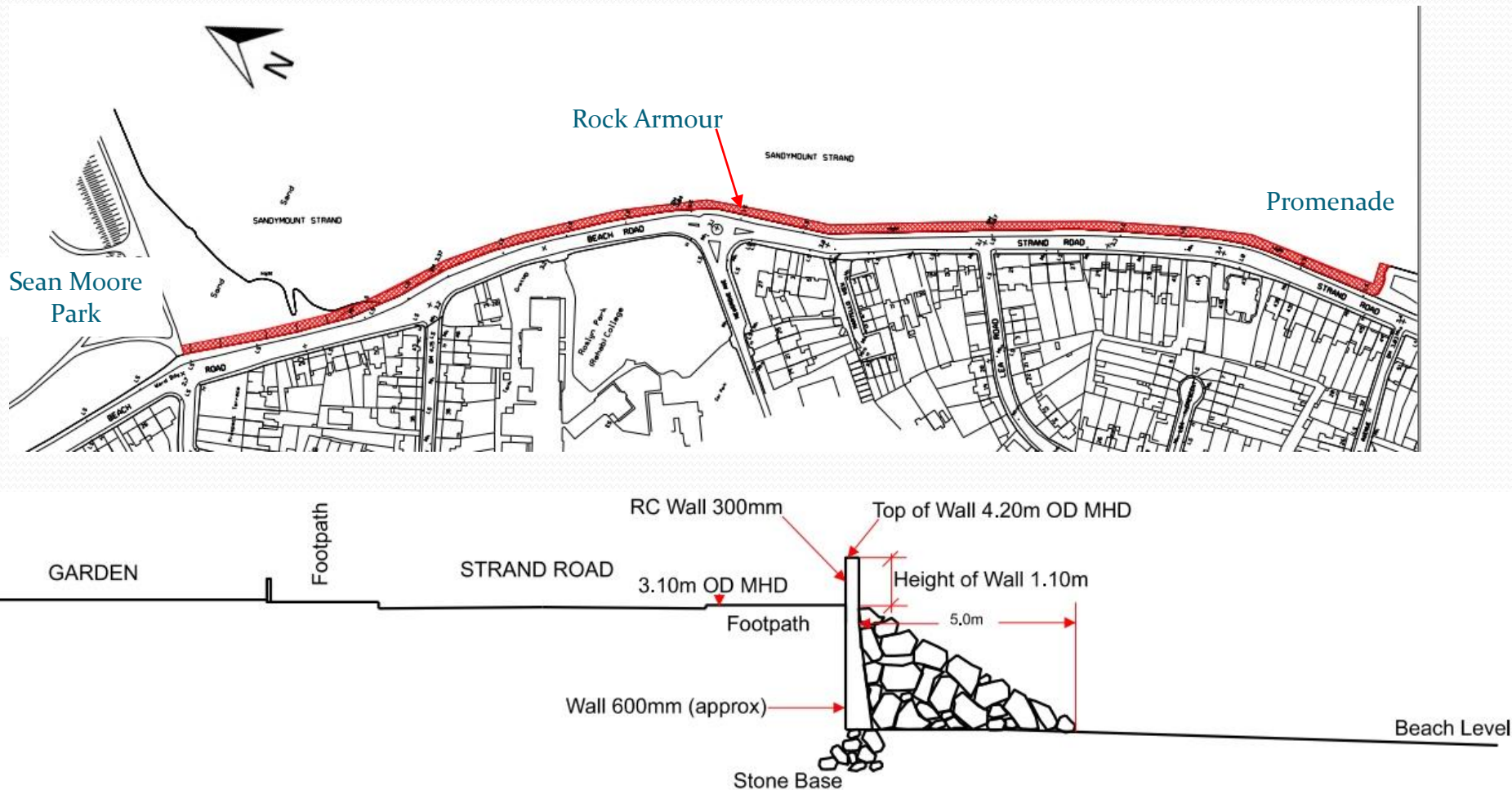


# Phase 2 – Existing Layout

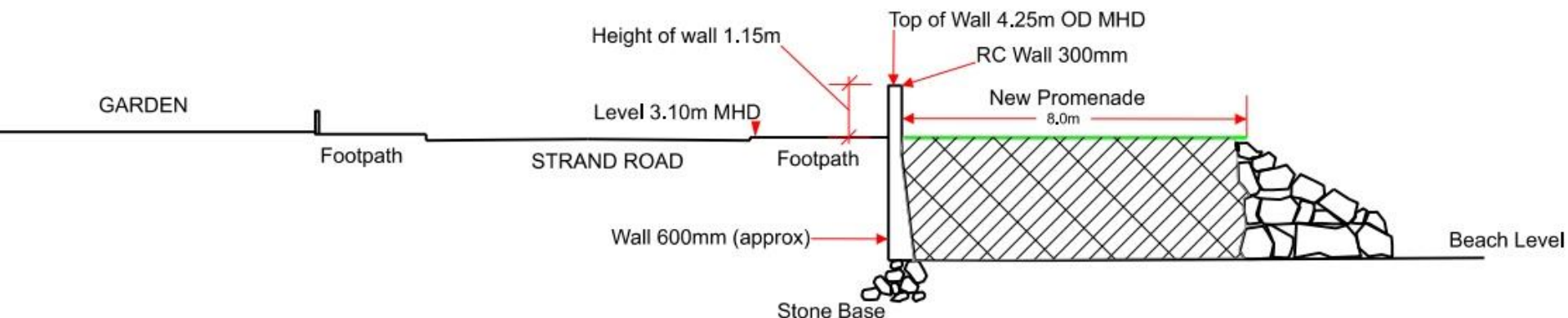
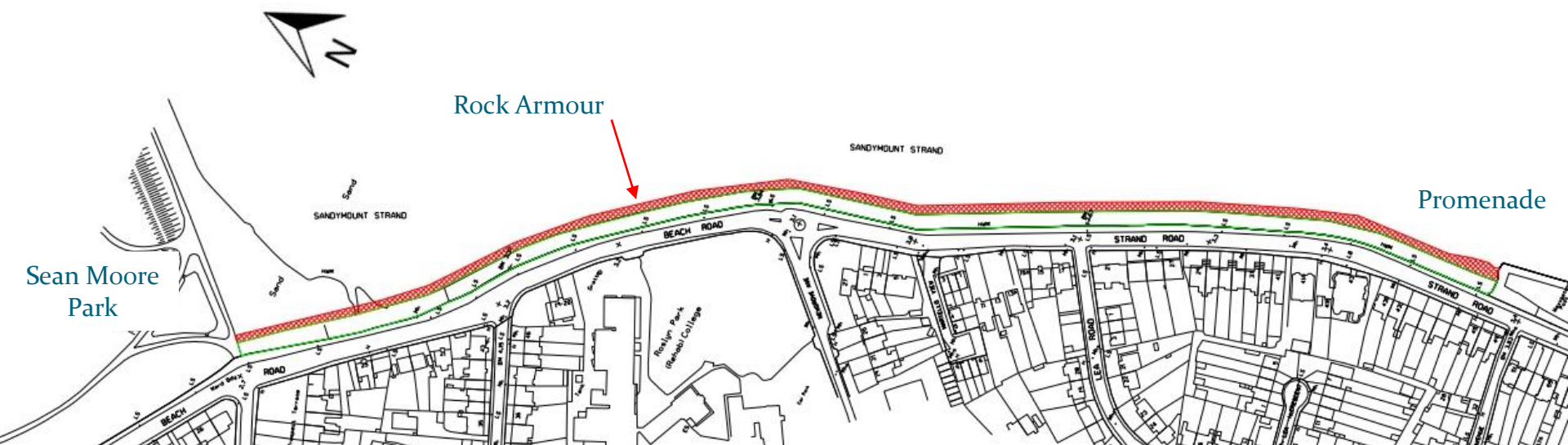
## Promenade to Sean Moore Park



# Sandymount Phase 2 - Option 1

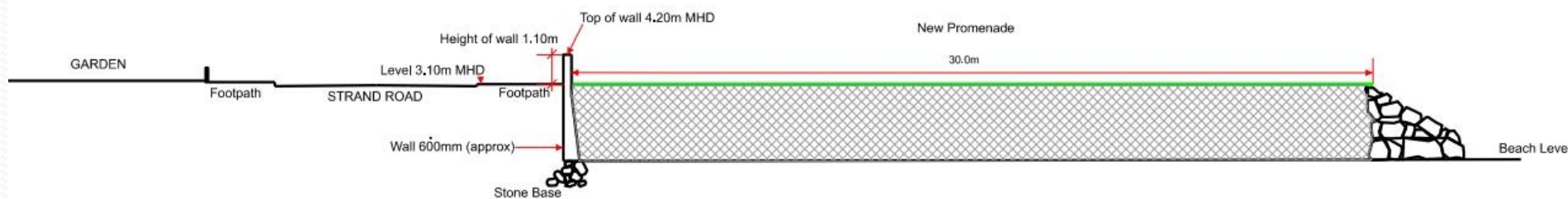
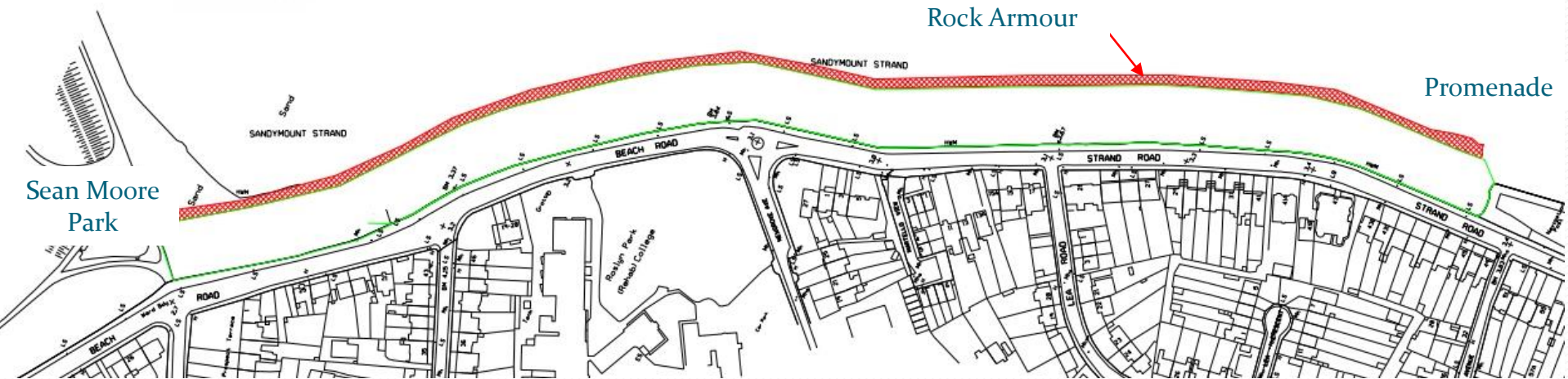


# Option 2 – 8m wide promenade

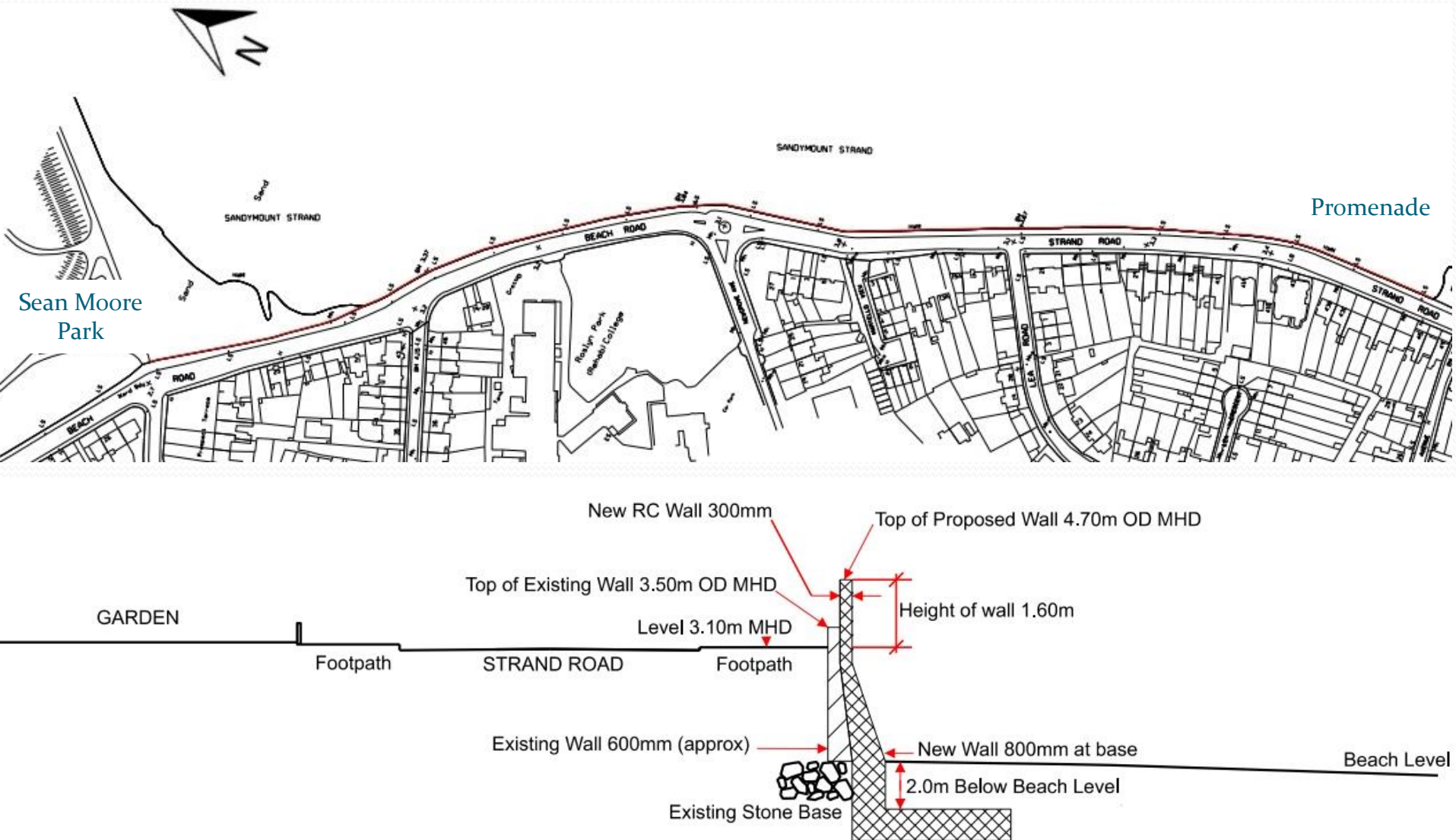




# Option 3 – 30m wide promenade



# Option 4 – New wall on sea side



# Funding requirements Phase 2

- Option 1-Rock armour and wall height increase. Prelim Est. 10m euro. Possible mainly OPW funding. Business case required. Significant environmental constraints. Foreshore licence. DCC Boundary extension required for all options.
- Option 2 - 8m wide promenade. Prelim est 12.3 million euro. Possible mainly OPW funding. Business case required. Large environmental issues. Foreshore licence.
- Option 3, 30m wide promenade. Prelim est 49m euro. Other sources of funding required to OPW. Large environmental mitigations. Foreshore licence.
- Option 4, 21 million euro, new flood wall on sea side. Diversion of 110kV ESB cable. Other funding sources required. Large environmental issues. Foreshore licence.



# Next Steps -

- Construction of flood defences on existing promenade programmed for Q4 2021 to Q4 2022 depending on COVID restrictions, OPW direct labour and funding.
- Appointment of consultant for Phase 2 and increase in rock armour size for Phase 1, programmed for Q4 2021.
- Evaluate all existing and any other options for Phase 2.
- Non statutory public options consultation Q3 2022.
- Planning target Part 10 to ABP Q3 2024.
- Decision Q3 2025.
- Procure contractor Q1 2026.
- Construction Q2 2026 to Q3 2028.
- Handover Q4 2028. 12 month maintenance period 2029.

# Thank You

