

Semaphore Working Group

18 February 2021

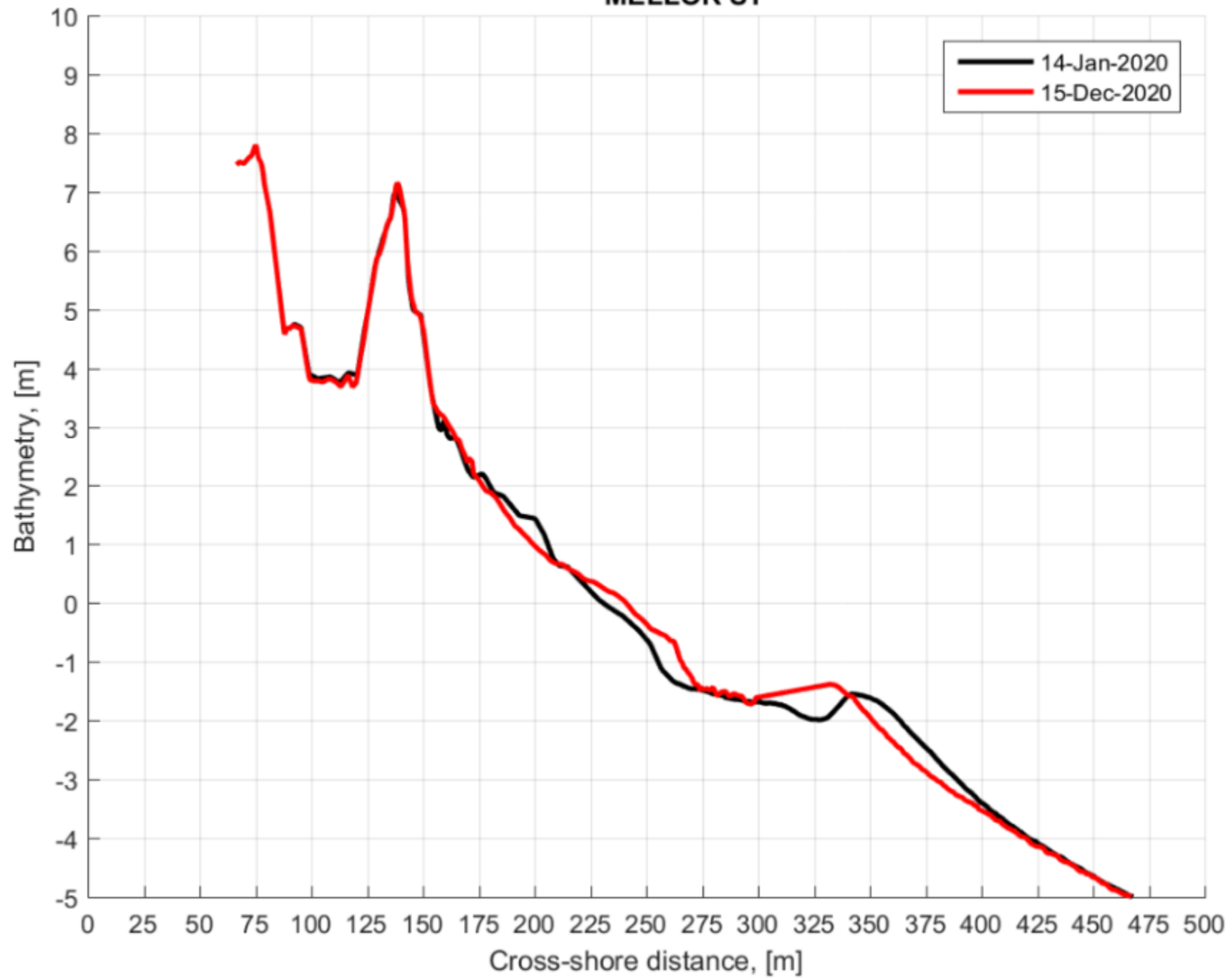


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Figure 3 Overview of profiles located within the West Beach sediment cell.

MELLOR ST



BURBRIDGE RD

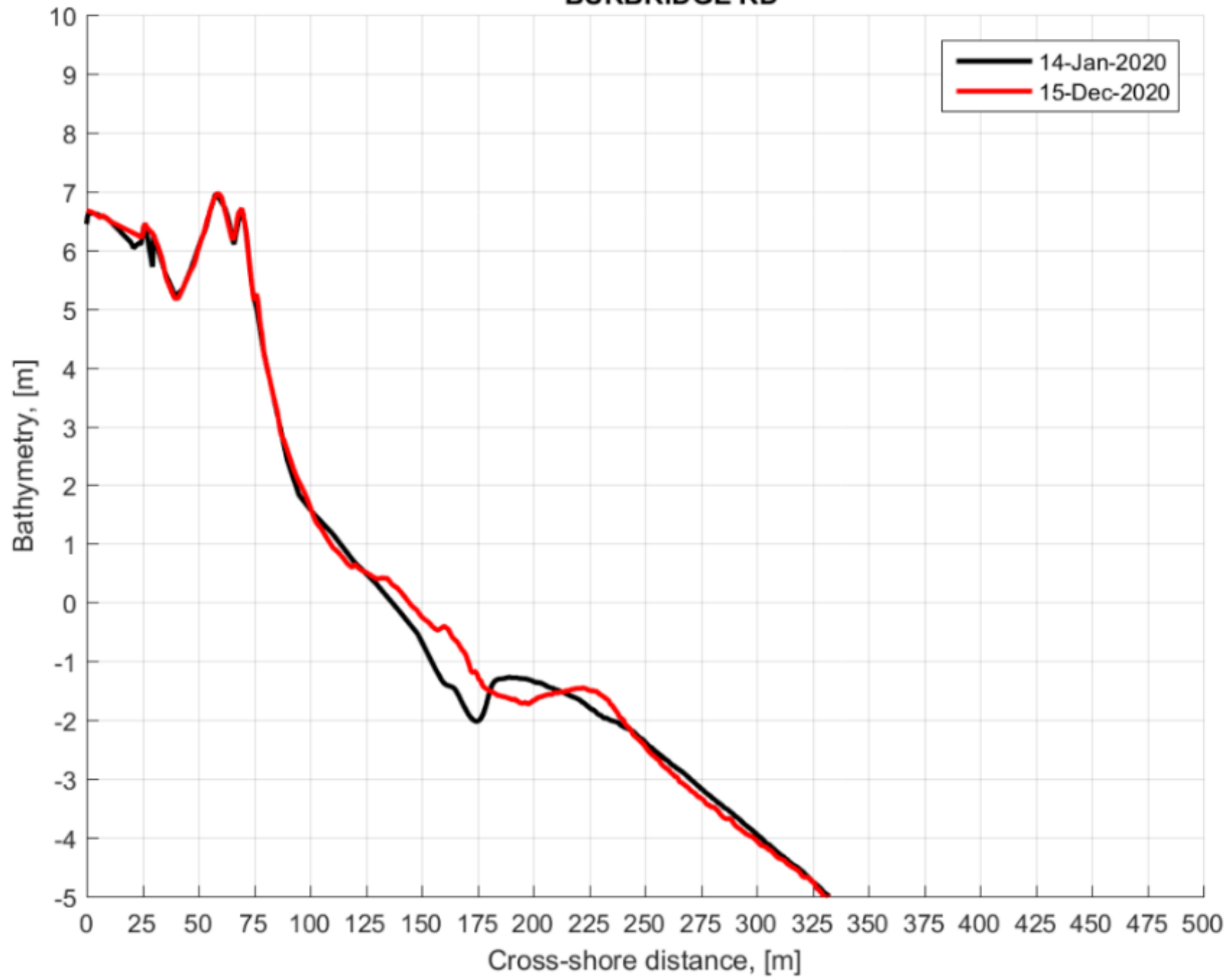
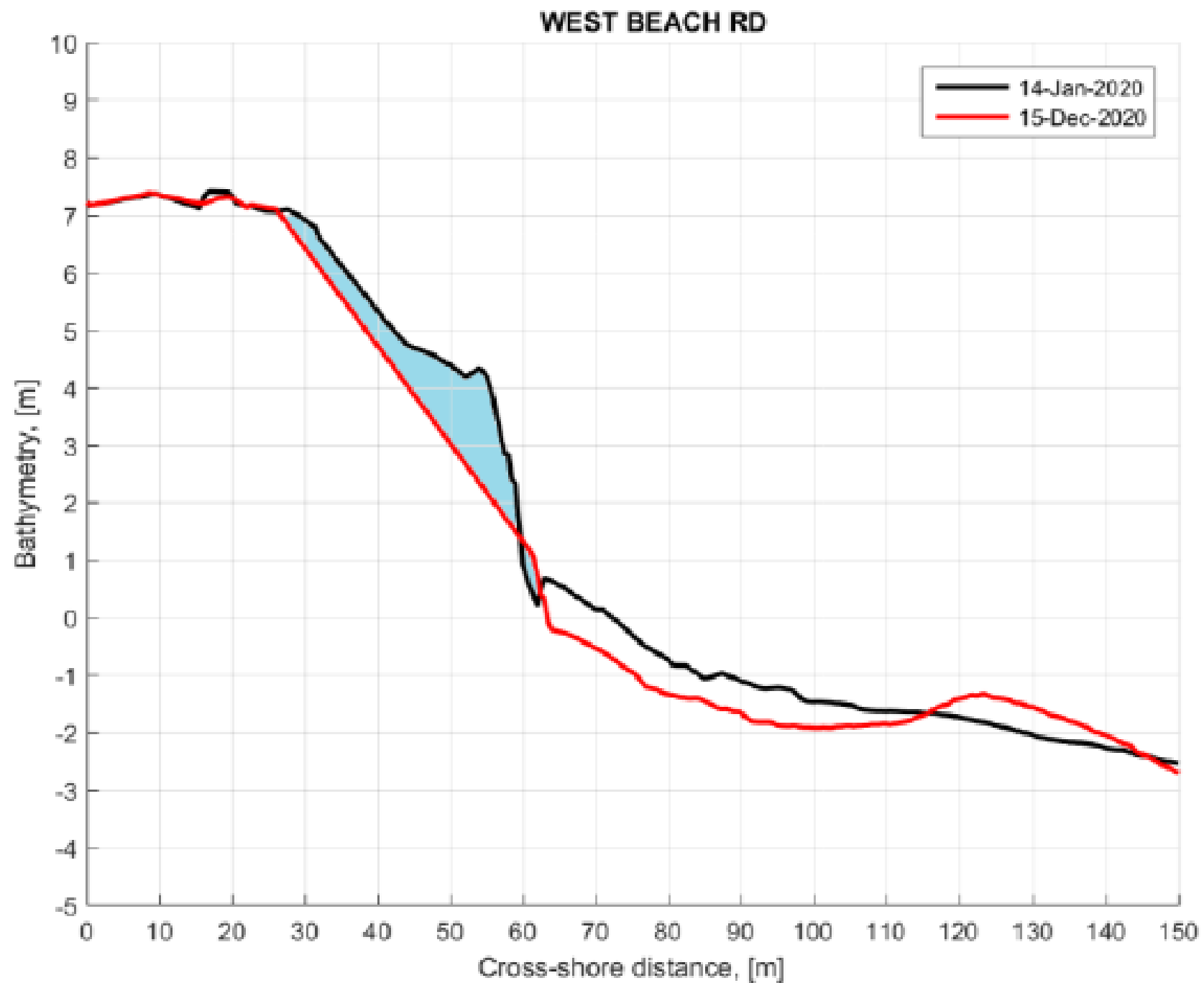
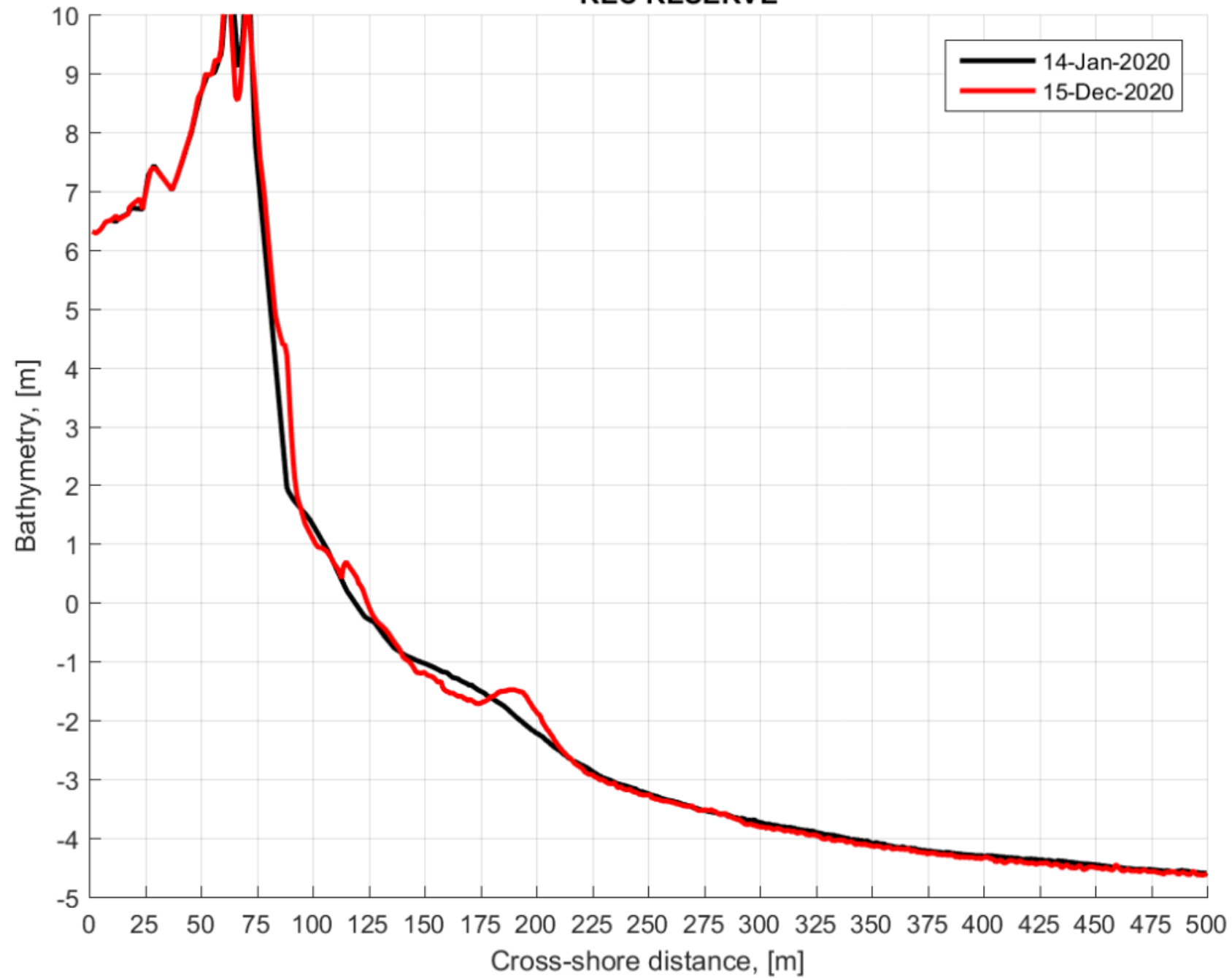


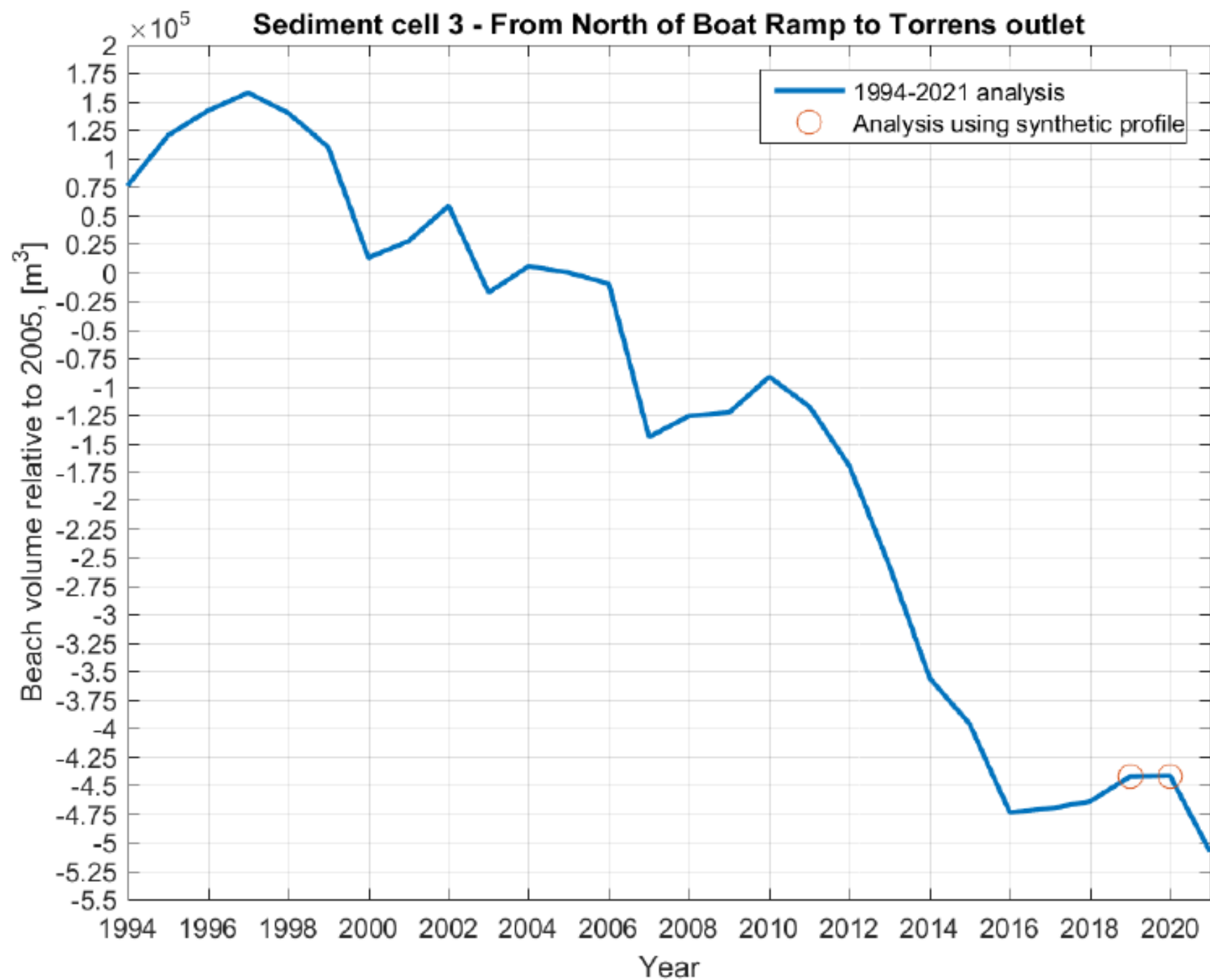


Figure 4 Aerial image from the 22 February 2020 showing the extent of the construction work carried out along West Beach SLSC in 2020 (Source: Google Earth). The location of the surveyed profile is indicated in yellow.



REC RESERVE





Interim Replenishment

- Calculated volume loss for West Beach for 2020 is 65,000m³
- DEW imported 45,000m³ in 2020.
- Therefore approximate volume loss = **111,000m³**
- Have done 20,000m³ to date in 2020-21
- Therefore remaining target for 2020-21 = 90,000m³

Interim Replenishment

- 27 – 28 Jan 2021 Rockingham was Replenished with 3,000m³ of sand from the River Torrens Outlet area.
- To date:

2020

May: 5,000m³

June: 3,000m³

July: 3,000m³

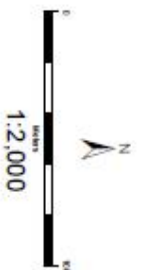
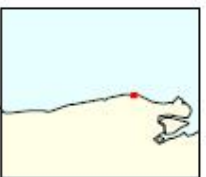
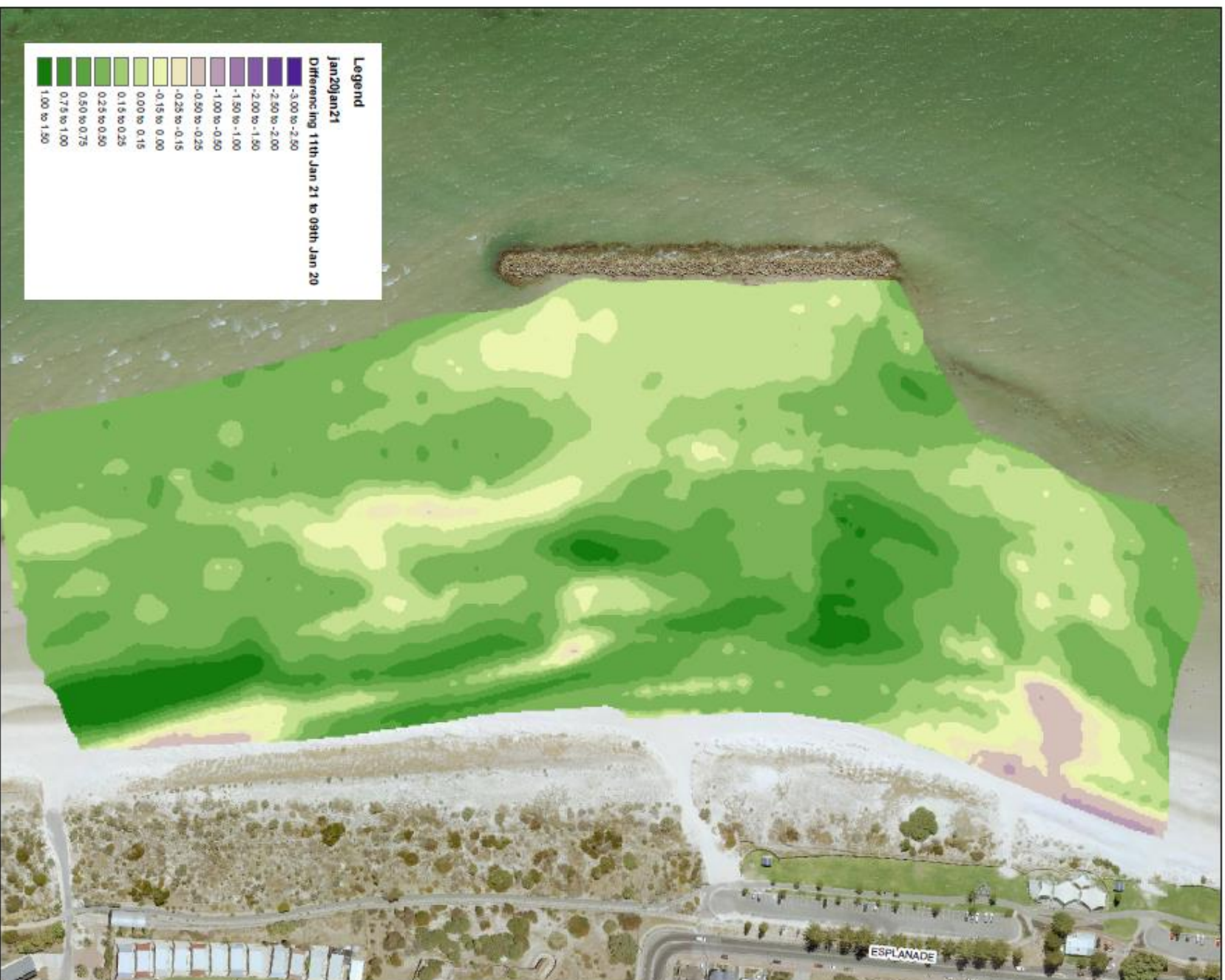
Aug: 2,600m³

2021

Jan: 3,000m³

Semaphore Park Beach Sand Collection

Differencing 11th Jan 21 to 9th Jan 20



Produced by
 Coastal & Marine Branch
 Department for Environment and Water

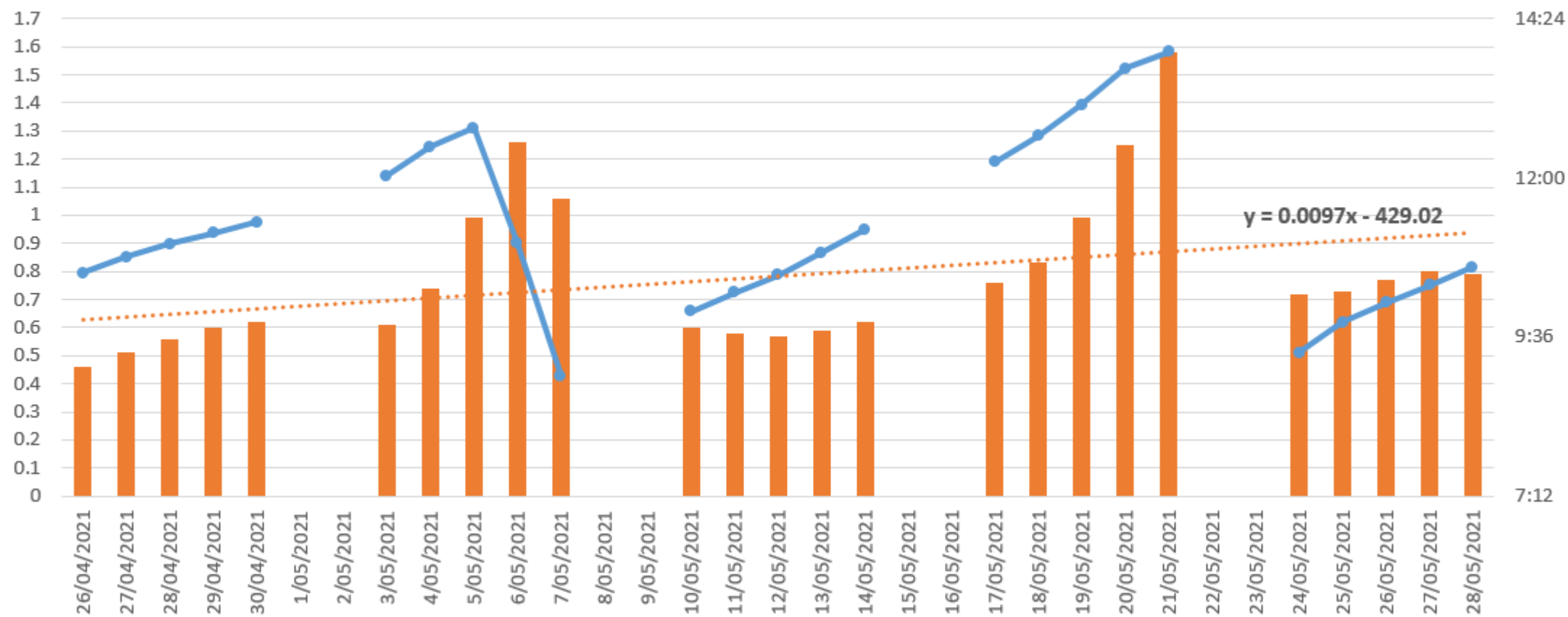
Data Source
 Coastal Survey Team
 Collection
 15 January 2021
 Projection
 Transverse Mercator
 Datum
 Geocentric Datum of Australia, 1984

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Summary of Sand Movement from Semaphore						
Financial Year	Timing	Collection Area				Destination
		Breakwater Salient	Semaphore Jetty	Between Jetties	Nth of Largs Jetty	
2020-21 to date	Oct-20			20,000		West Beach
2019-20	May-20				33,000	Semaphore South
	Mar-20	11,000		15,000		West Beach
	Oct-Dec 19	70,000		5,000		West Beach
	July-Sep 19	20,000				West Beach
	FY TOTALS	101,000	0	20,000	33,000	
2018-19	Apr-Jun 19	18,000				West Beach
	Mar-19	5,000				West Beach
	Mar-19	12,000				Henley Beach South
	Dec-19		4,000			Semaphore South
	Oct-Nov 18	42,000				West Beach
	FY TOTALS	77,000	4,000	0	0	
2017-18		7,000				Semaphore Park
		2,000				Semaphore South
	FY TOTALS	9,000	0	0	0	
2016-17		50,000				West Beach
		7,000				Semaphore South
	FY TOTALS	57,000	0	0	0	

May 2021



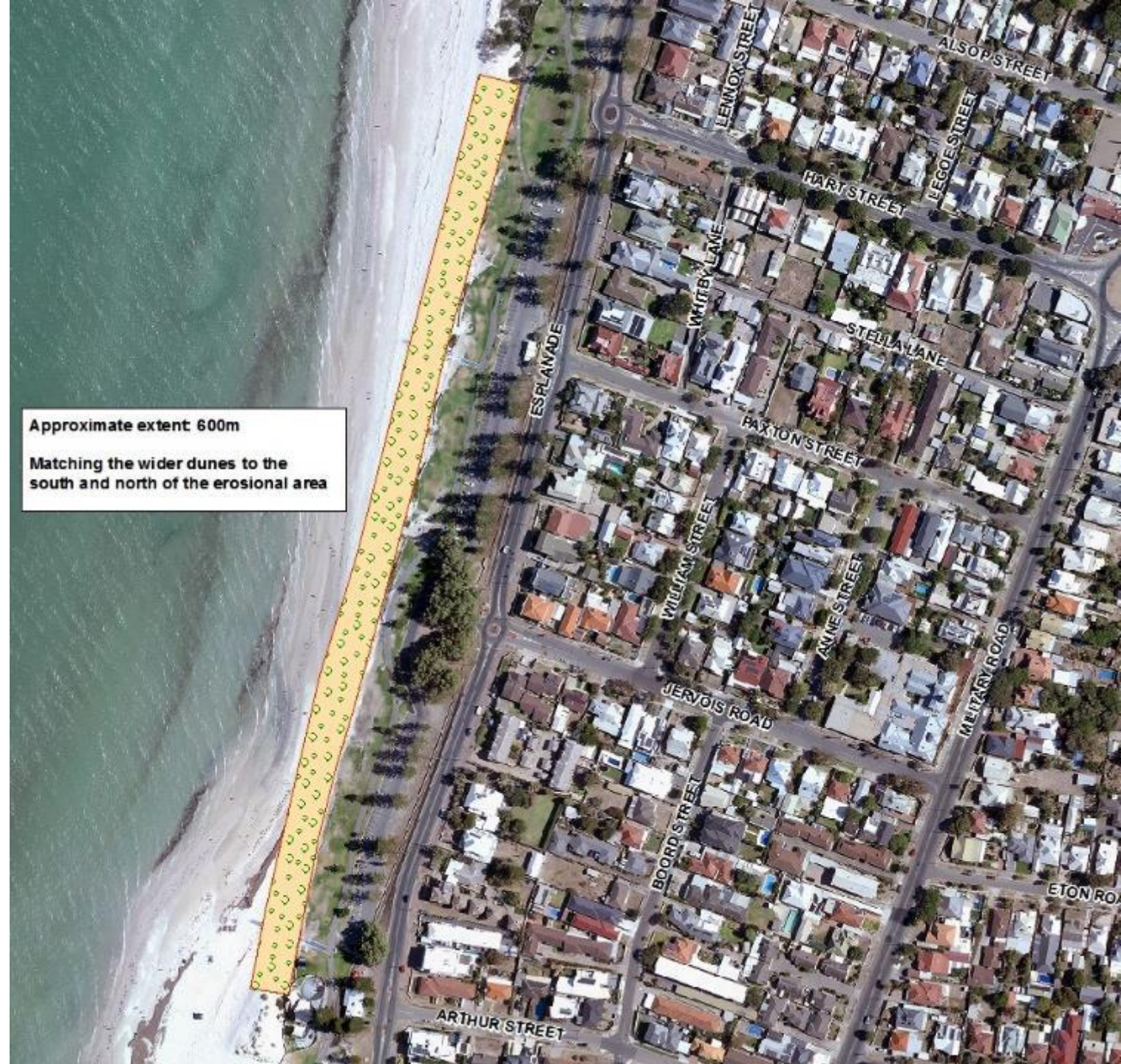
Semaphore South Dune Restoration area

Approximate extent: 600m

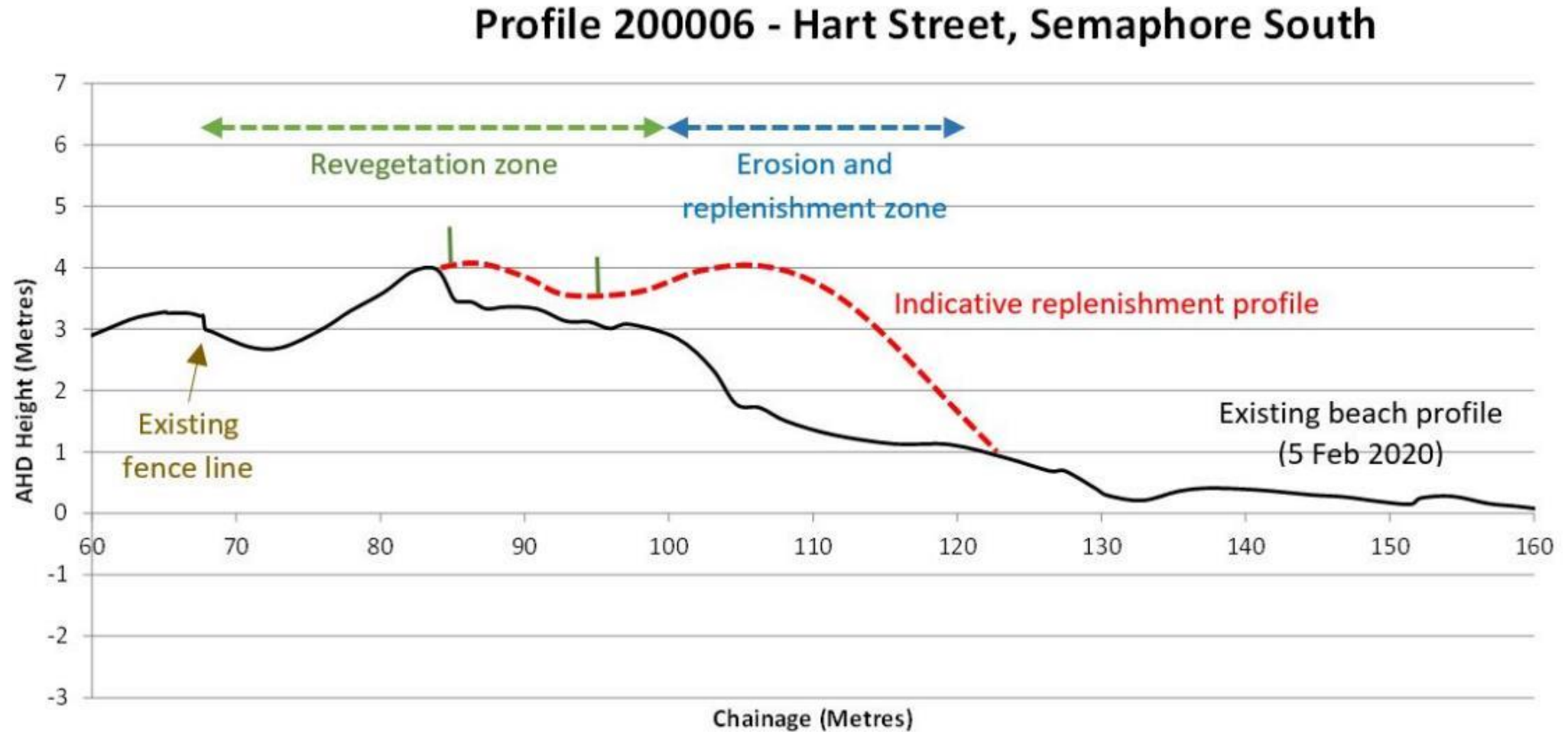
Matching the wider dunes to the
south and north of the erosional area



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Indicative Cross-section – guided replenishment in 2020



Semaphore South dune buffer profiles



— SemPkJetRunlines_Line

Produced by: Coastal Management
Department for Environment and Water
DPWD BOD 1047 Adelaide SA 5001
www.environment.sa.gov.au

Date: 20th April, 2020

Projection: Transverse Mercator

Datum: Geocentric Datum of Australia, 1984

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Approved for release: 20th April, 2020

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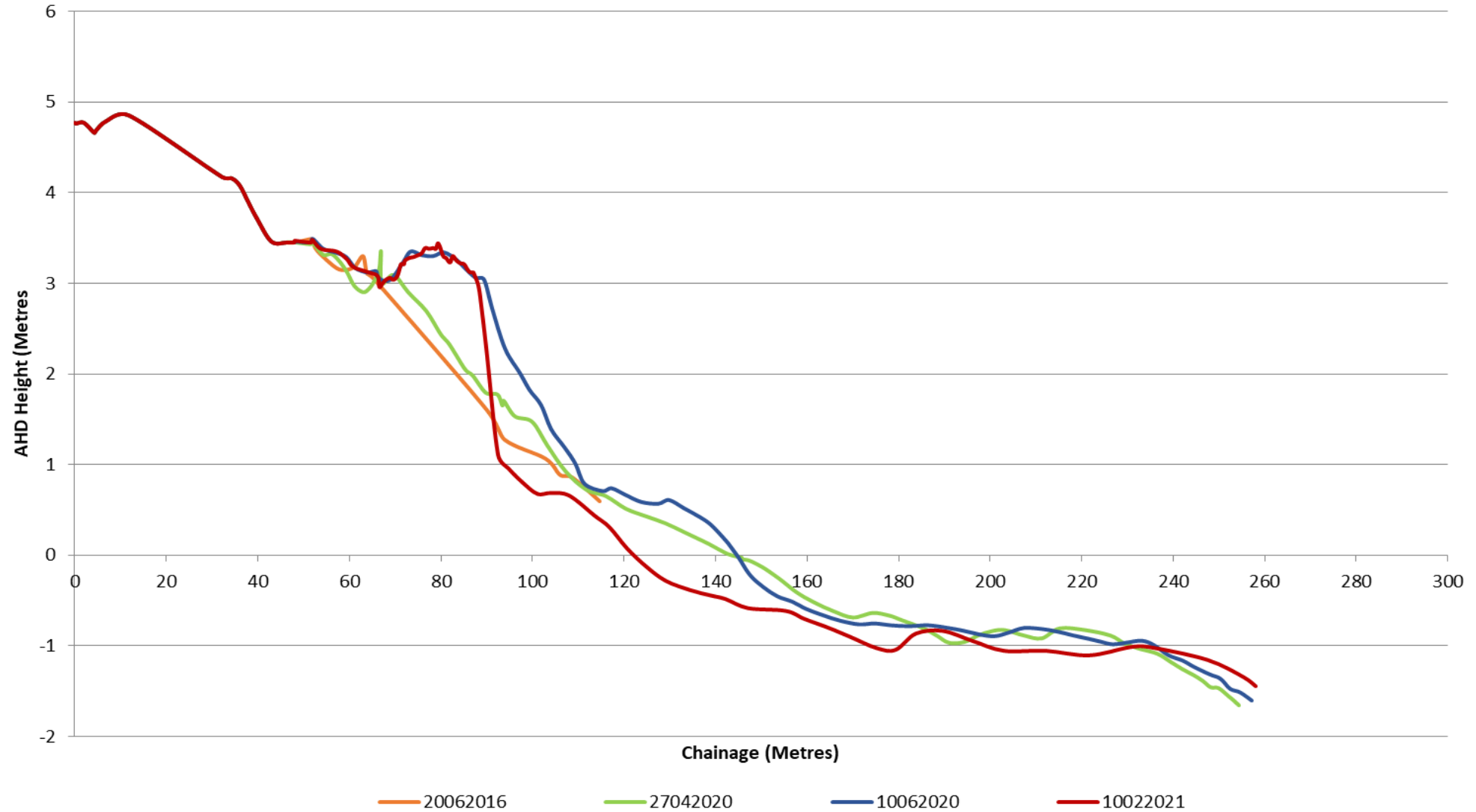
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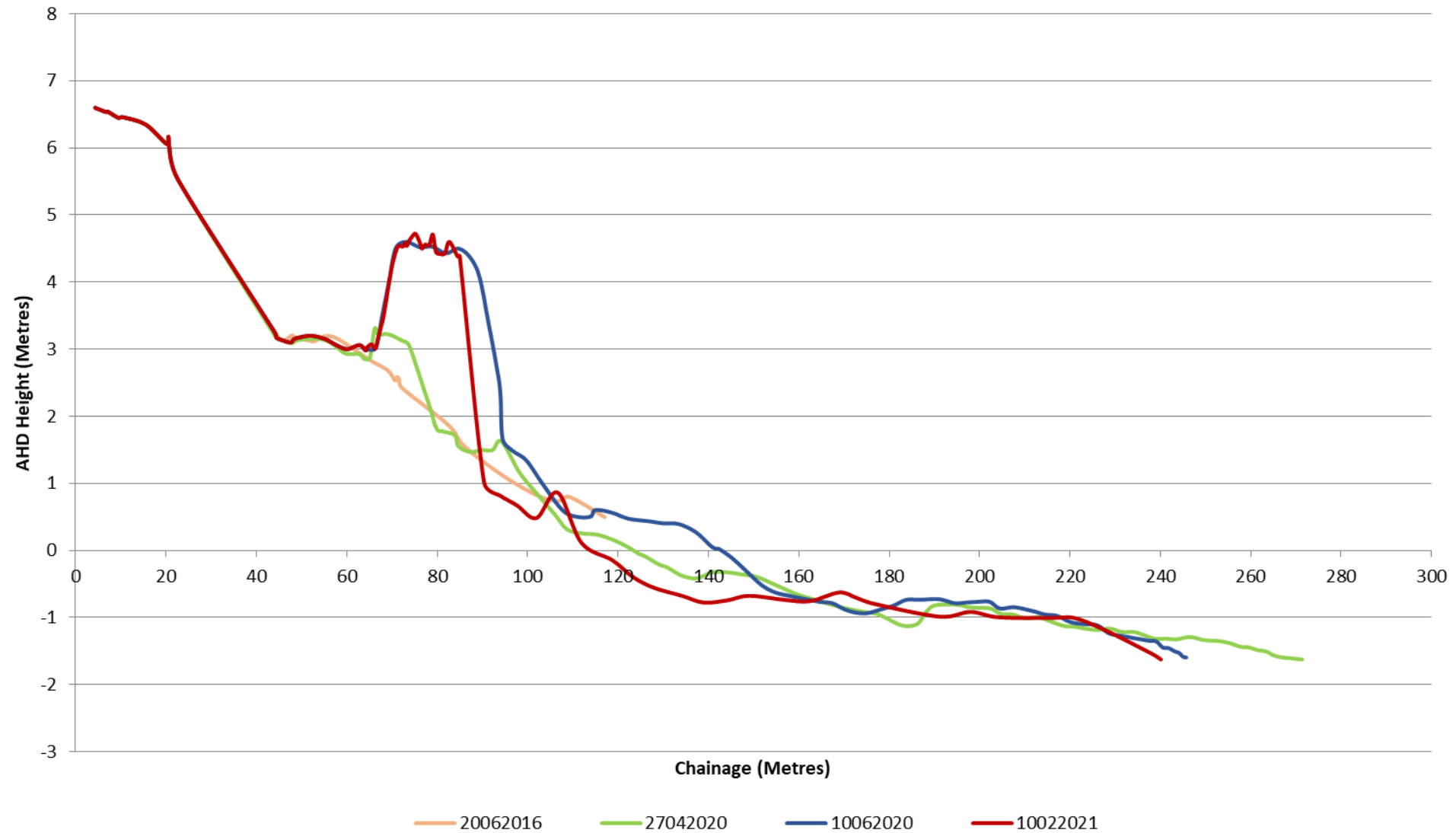
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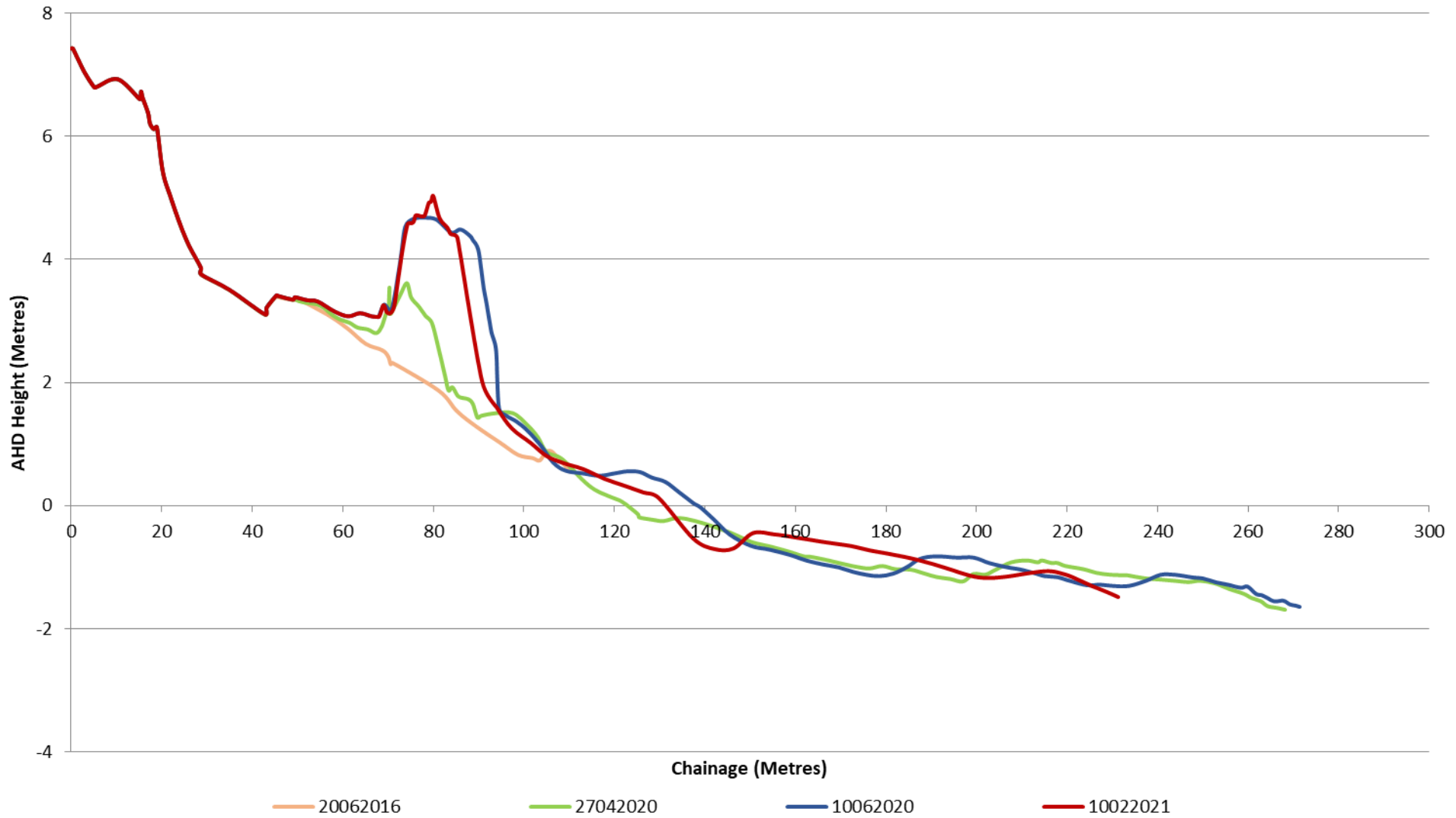
Semaphore Profile 208104 (alongside beach access at Noonies)



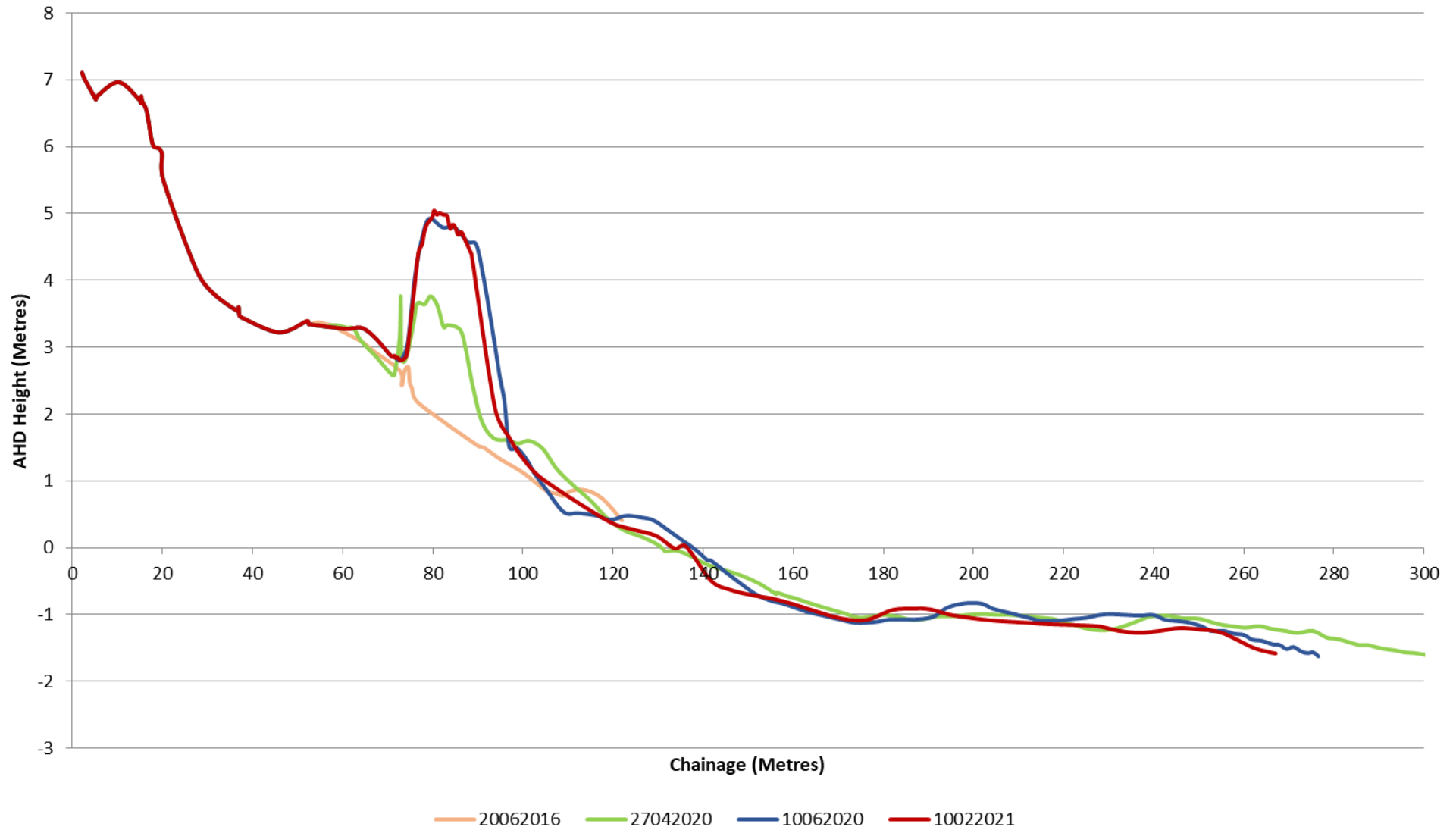
Semaphore Profile 208105 (150m south of Jervois St)



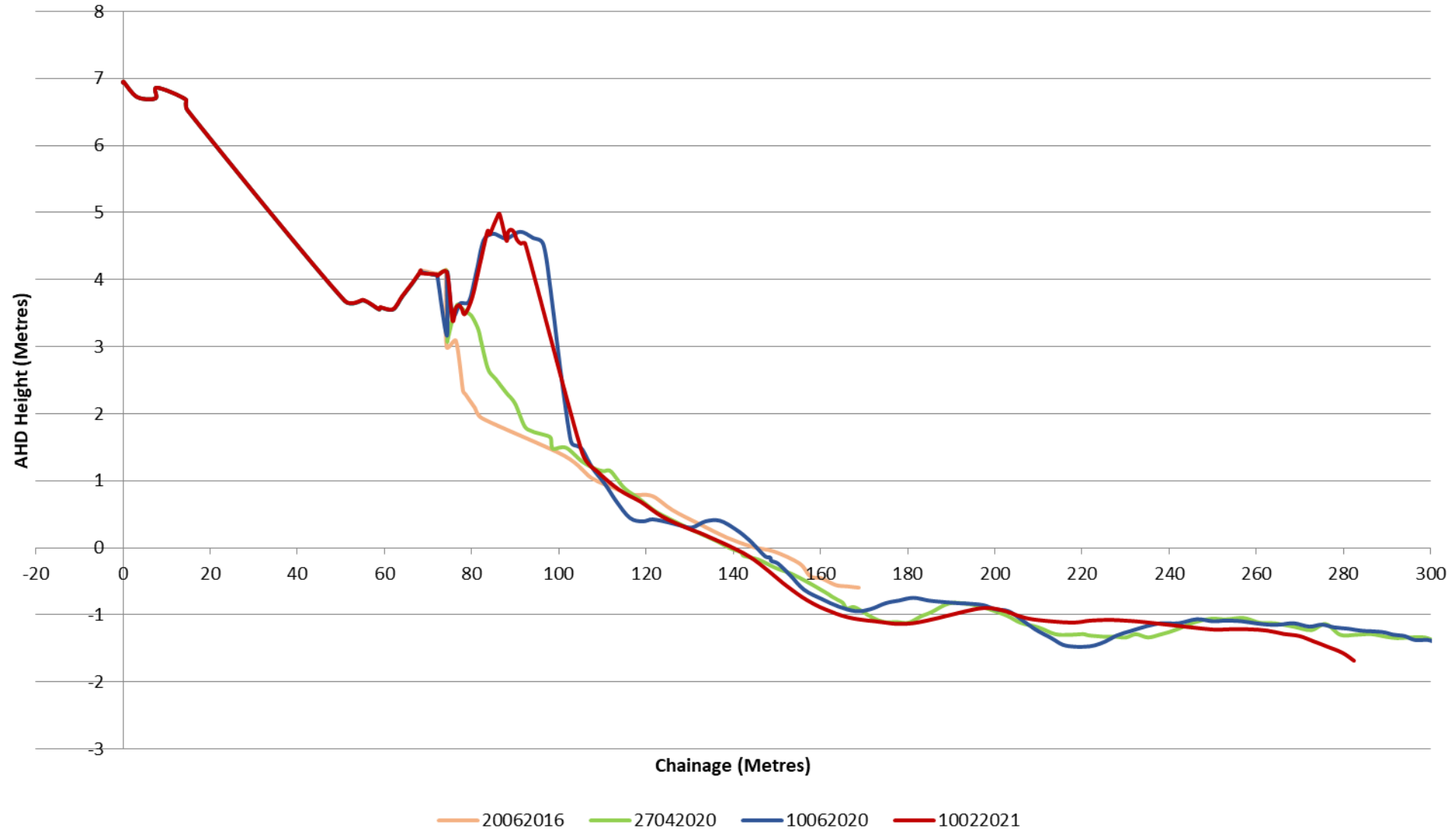
Semaphore Profile 208106 (100m south of Jervois St)



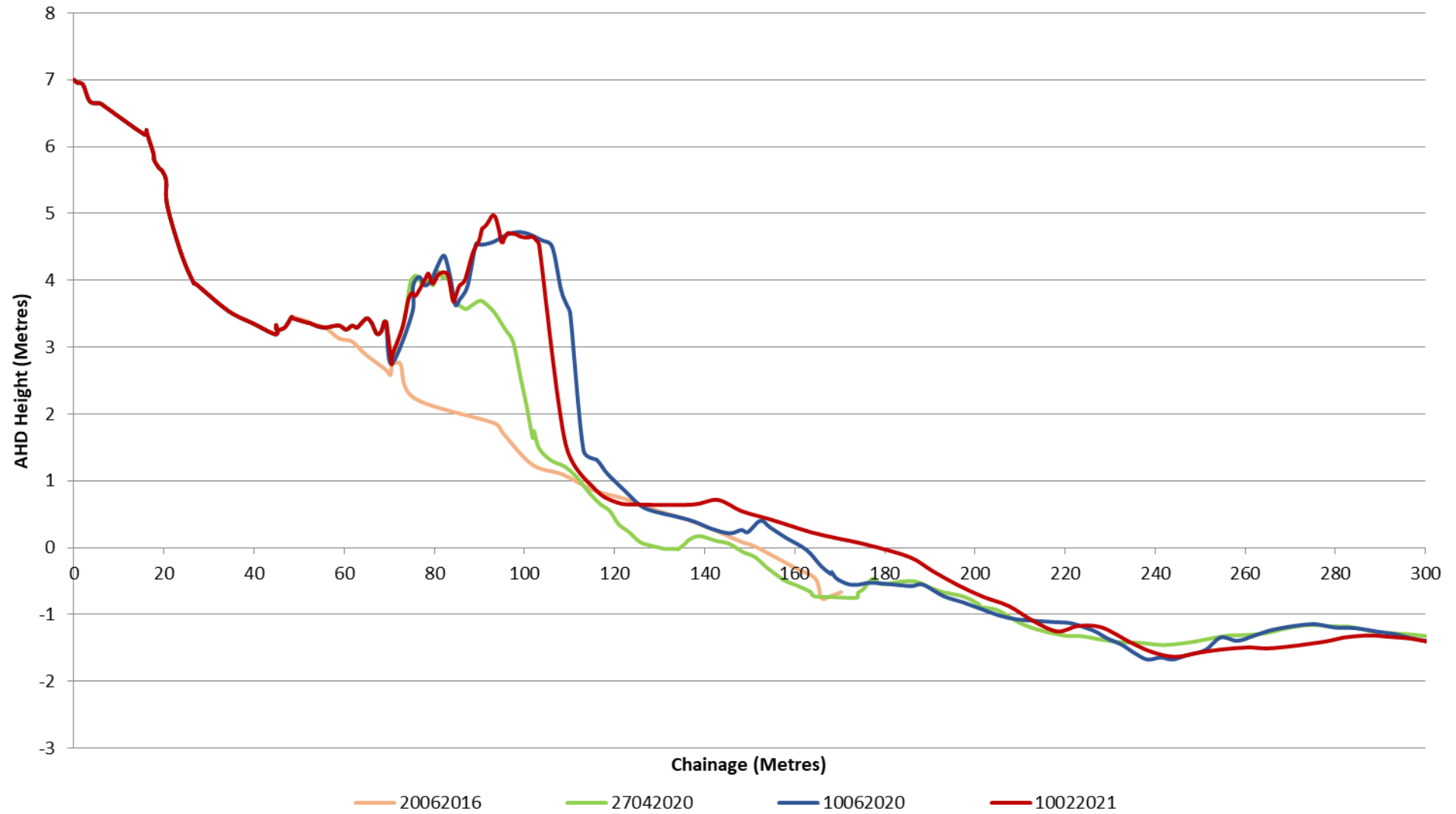
Semaphore Profile 208107 (50m south of Jervois St)



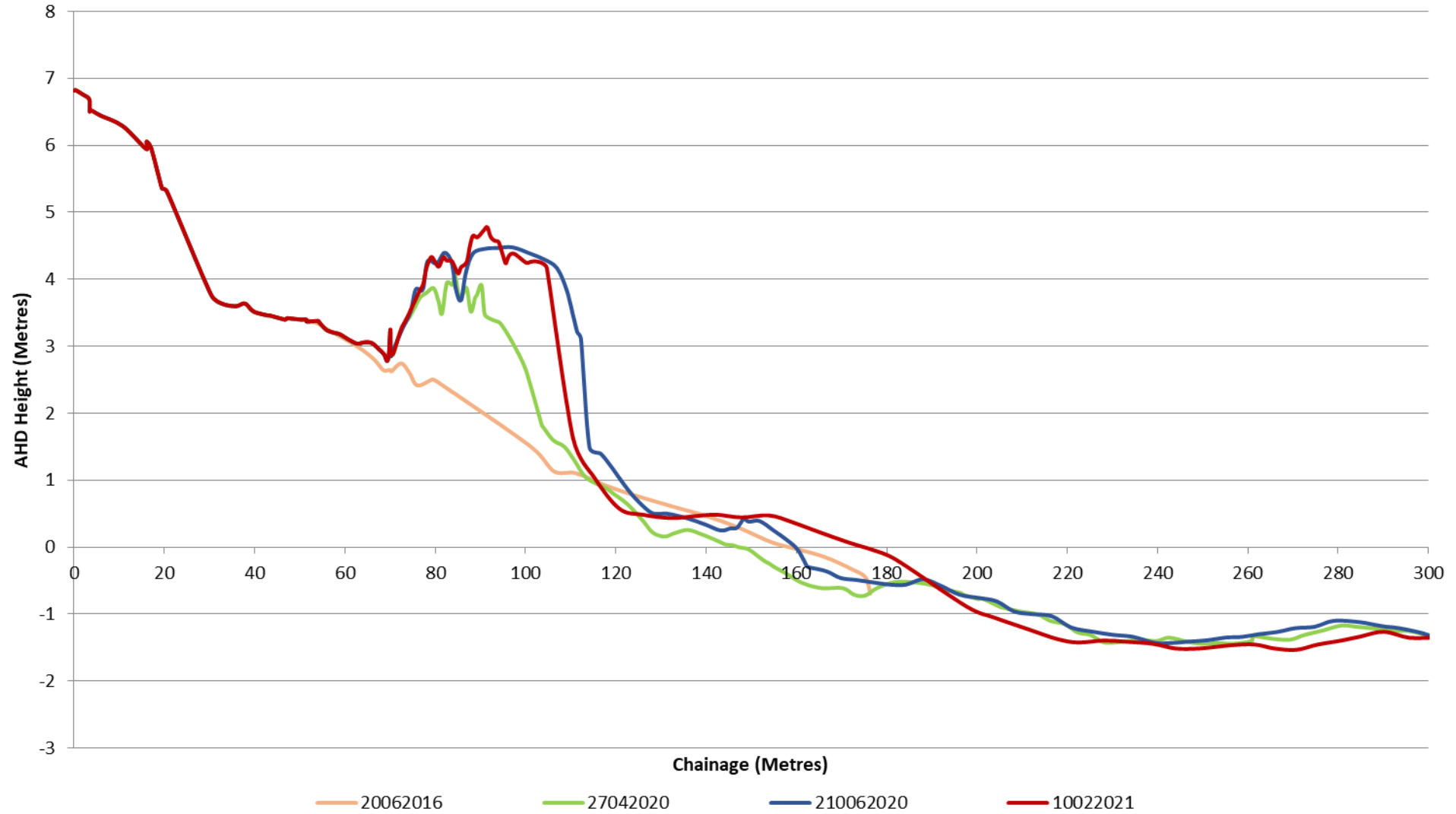
Semaphore Profile 208108 (Jervois St)



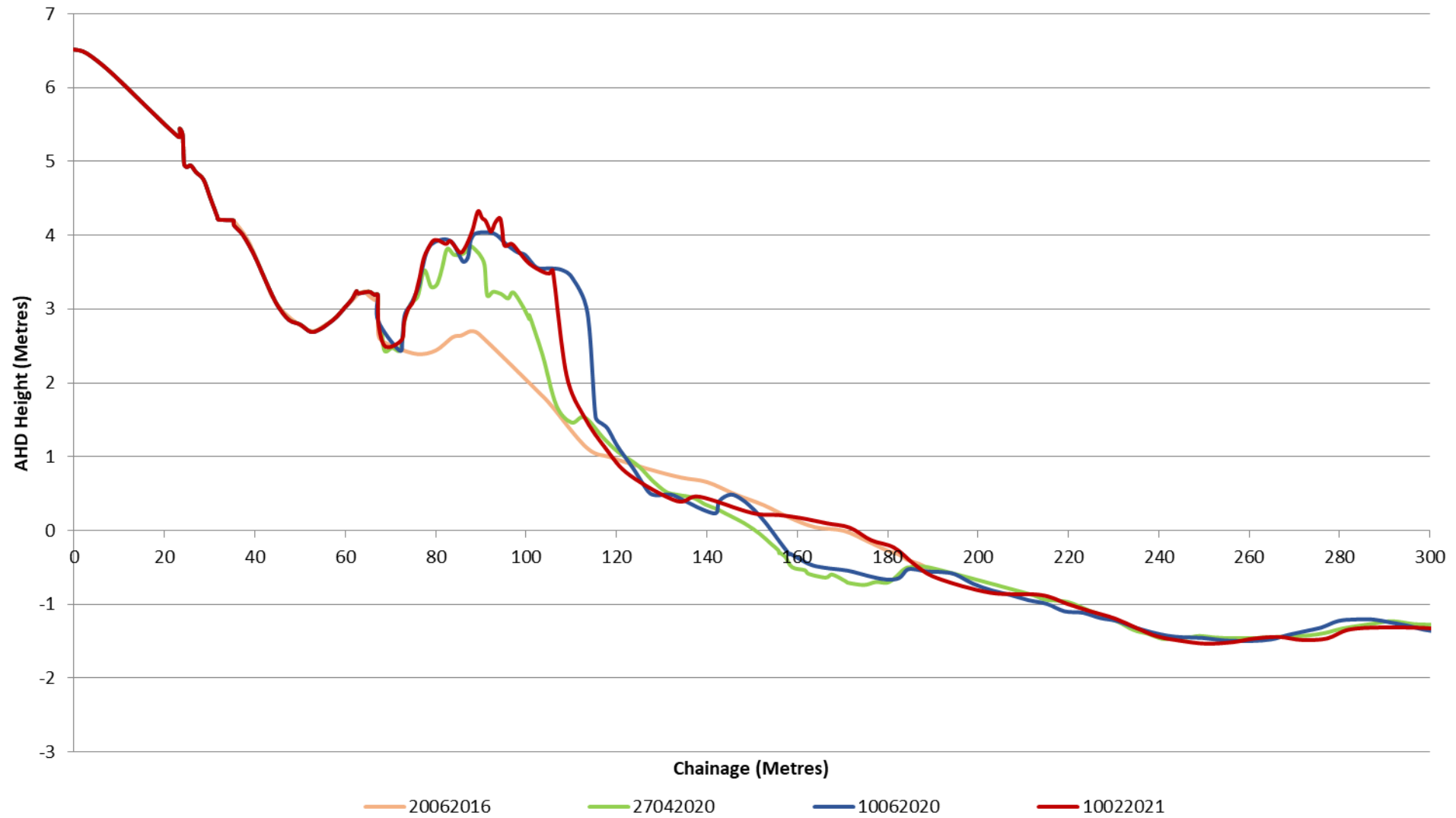
Semaphore Profile 208112 (100m south of Hart St)



Semaphore Profile 208113 (50m south of Hart St)



Semaphore Profile 208114 (Hart St)



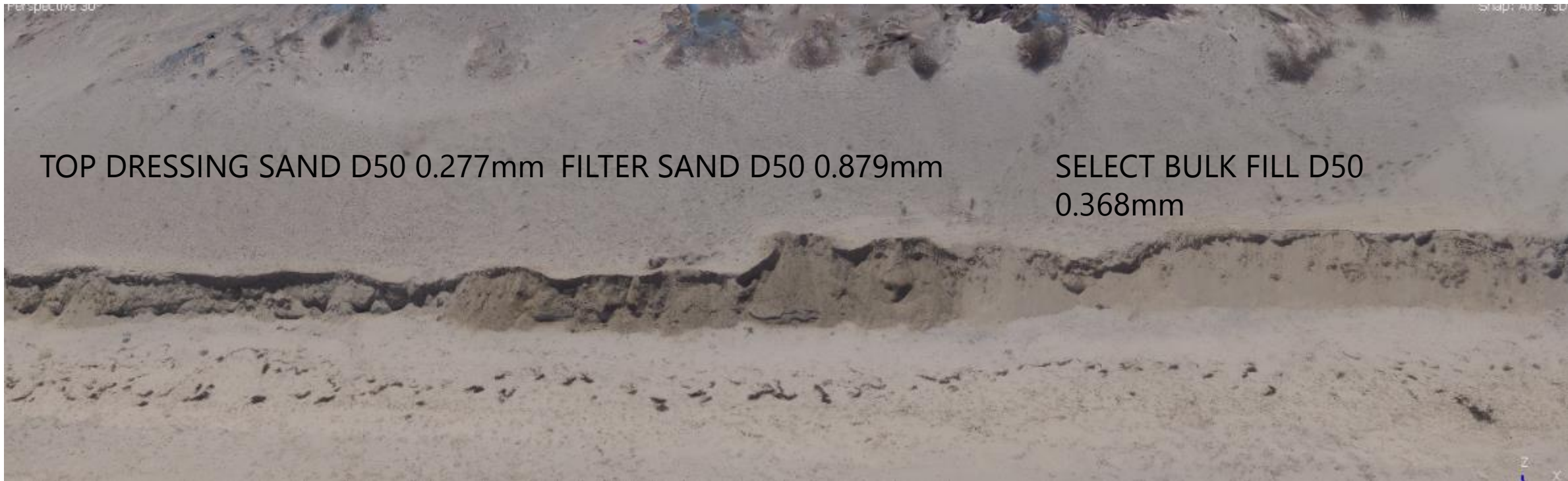
Volume difference between June 2020 & Feb 2021

Location	Profile Number	Sand Re-built Zone Start Chainage (m)	Sand Rebuilt Zone End Chainage (m)	Profile Length Calculated (m)	Profile Volume Difference 10/6/2020 to 10/2/2021 (m ³ per m)	Volume Difference x 50m Distance Between Profile (m ³)
Arthur St (Southern Side)	208103	90	110	20	-12	-600
Arthur St (Northern Side)	208104	65	115	50	-21	-1050
	208105	65	95	30	-17	-850
	208106	70	95	25	-10	-500
	208107	70	100	30	-5	-250
Jervois Rd	208108	75	105	30	-4	-200
	208109	70	102	32	-5	-250
	208110	70	105	35	-6	-300
Paxton St	208111	70	107	37	-5	-250
	208112	70	115	45	-12	-600
	208113	70	115	45	-11	-550
Hart St	208114	70	116	46	-9	-450
	208115	70	110	40	2	100
TOTAL						-5750

WBP Dunes – All trial sands 16/12/2020



Comparison of median grain size (D50) after storm erosion



5GS Glass Grade fading and blending





10/12/2020



27/01/2021



Fading of products over 6 weeks

WEST BEACH PARK DUNES – QUARRY SAND TRIALS							
SGS Glass Grade	N40 Nalpa	Clinton SQSW	Select Bulk Wash	AFS20	FSA Filter Sand	TDS Top Dress	Clinton Conc Sand
11/12/2020	11/12/2020	11/12/2020	11/12/2020	11/12/2020	11/12/2020	11/12/2020	11/12/2020
							
27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
							
D50 – 0.294mm	D50 – 0.377mm	D50 – 0.567mm	D50 – 0.368mm	D50 – 0.731mm	D50 – 0.879mm	D50 – 0.277mm	D50 – 0.407mm