

# THE ALDE & ORE ASSOCIATION

Registered Charity No. 1154583



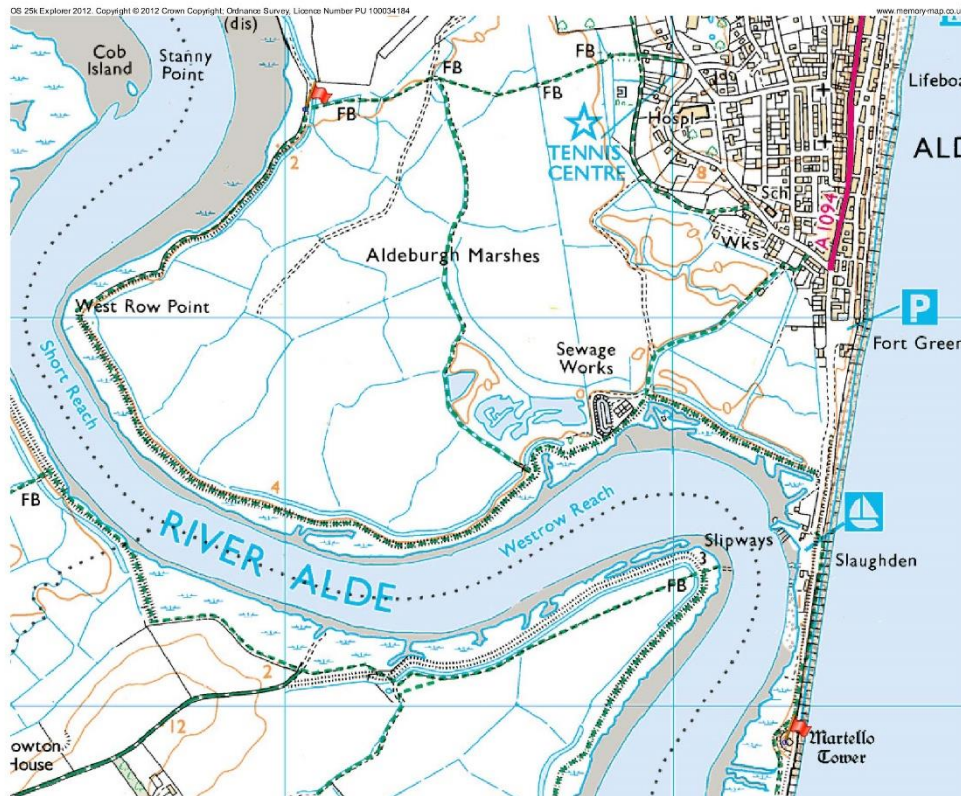
## ALDE AND ORE ESTUARY ASSESSORS REPORT

<b>NAME[S]:</b> A Andrews and J.C. Hodrien + B Bostrom M Hoffman	<b>DATE OF INSPECTION:</b> 24 <sup>th</sup> March 2021 8 <sup>th</sup> April supplementary viewing
<b>FLOOD CELL:</b> FC10	<b>AREA OF ASSESSMENT:</b> Slaughden Quay to Brick Dock

### SUMMARY

River Wall/Armour	Saltings	High Tide Debris Line
<p>Overall 3 'Fair' ( excluding central section refurbished a few years ago except the grass top which is worn)</p> <p>Areas of particular concern were identified and are recorded.</p> <p>For some of these the remedial action required on the river side is modest, affecting short stretches of the wall.</p> <p>Between 450565 and Brick Dock a longer stretch is in poorer condition This is a stepped block arrangement and faults and buckling are evident at regular intervals.</p> <p>Previously identified cave like erosion at 458557 continues and hollowing the wall beneath the footpath.</p> <p>Vegetation (alexanders and heliotrope) harmful to good grass cover particularly at eastern end needs managing.</p>	<p>Some edges in a fragile condition with significant erosion.</p> <p>Whilst the vegetation is mature the varying width affects flood protection offered to the walls</p> <p>It is difficult to visually assess the rate of loss; more accurate measures are required.</p> <p>Pilot sites to stabilise the saltings have met with very limited success. Closer regular inspection needed.</p>	<p>In most parts of the flood cell length the high tide debris (mostly form the surge in November 2020 and the March 2021 spring tide, is mostly some 5 feet below the top of the wall, with 2 foot in limited places, mostly indicating even the surge was not close to overtopping.</p> <p>In most areas debris is not a significant problem with evidence of grass growing through the debris layer.</p> <p>Query-- should there be concern where there is considerable accumulation, such as notably in the stretch 447561 and 45056, where the build-up is sufficient to suppress vegetative growth. (And hides state of block defences below). ?</p>

## Area Surveyed: TM 450568 to 465555



### OVERVIEW & PHOTOS [with grid reference]

This survey was undertaken between 1.30pm and 4.15pm on Wednesday 24<sup>th</sup> March 2021 with a supplementary training survey on 8 April 2021. At no point along the wall is there any evidence of overtopping in the last year.

**Footpath:** The survey commenced at 464555 heading west along Westrow Reach. The first 400m is a footpath well used by the public and in correspondingly poor condition, puddled and largely devoid of grass cover. Due to the muddy conditions, walkers have extended the width of the path, which was once about a yard wide of hoggins, some 4m across the entire width of the top of the wall. The effect of this is both to lower the wall and reduce vegetation to resist overtopping. At the time of the survey following weeks of no rain, the surface had become hard, caked, rutted clay.

**Vegetation harmful to flood defence:** The dominant vegetation in the first stretch from Slaughden road to the steps extending in stretches for some 50 metres in all is Alexanders (Smyrnium olusatrum), 25m along the initial stretch. Whilst local efforts were made to remove seed heads last year, it requires spraying. After some 40m from the Alexanders growth, there is a 40 metre stretch of invasive Winter Heliotrope (*Petasites fragrans*), out-competing and shading out the original vegetation going some way down the bank.

**Adverse impact of walkers: Throughout** the surveyed area the impact of walkers, particularly from walking in wet winter conditions, is significant widening and treading down of the wall top as the footpath has extended to the top edges of the river wall along the whole length. This prevents grass growth and promotes surface erosion. In particular the most heavily used stretch, at 464555 and leading to the steps at 459558, is badly worn and the wall less than 1.75m high in places, at its lowest now only 1.5 metres above the salting level. See photo|



**Wear beside gates:** In three places at least walkers have chosen not to open the gate but step to the side of the gate and have considerably worn down the bank. Can remedial action to stop side stepping be taken? See photo



**Wall cracking:** On the wall footpath above Short Reach along the recently refurbished all from 455555 to 445560 in **Summer** there is significant surface cracking with fissures up to 10cm in width and indetermined depth, but at least 4cm. Whilst the clay path surface is ‘crazed’ there is no evidence of significant cracking in the winter months.

There was no evidence of tree growth or animal burrowing along the length of the wall.



## RIVER WALL

### A. ARMOUR

In general the wall armour facing the river is in fair condition, however areas requiring early investigation were identified:-

- i. In some instances, these were associated with the end of the protective shielding wall, or with the change in type of brick defence adopted e.g., at 445563 (photo below)



- ii. Between the gate with steps to Dump Road at 458557 and Corporation Sluice the low protective wall ends. At this point two 'caves', identified in previous reports, remain, one now 3' wide v x3'6'' high, visible in photo below, and one 3' x2'high 15 yards to the west barely 2' below the top of the wall and is now undercutting beneath the footpath. Photo below





- iii. At 454555 significant undercutting of the low salting edge waves was found on the outward bend. (I don't have a photo).



In places the high tide debris build up has made close investigation of the wall impossible (see below).

- iv. The worst stretch requiring attention is the most northerly stretch of wall particularly between 450565 and Brick Dock jetty 449569. This is a stepped block arrangement and faults and buckling are evident at regular intervals. Example photo below.





## **B. Possible Water Seepage**

Despite no rain for at least a month, in two places there was the suggestion of water seepage beneath the land side of the wall. At approx. 454555 steps lead to a footpath across the town marshes, here there is evidence of a flush of water at the foot of the wall. There may be some mild slumping of the wall but the visible 'damage' is apparently limited to a 10m sq. patch of muddy ground. The lack of vegetation here also suggests this is not seasonal. See photo below.

In a second instance, at the gate at 445560, opposite Stanny Farm, the land is higher than the adjacent ponds but there is significant puddling at the foot of the wall. This has been highlighted in earlier reports.



There was no evidence of tree growth or animal burrowing along the length of the wall.

## **SALTINGS**

The saltings offer both a significant ecosystem and protection. In width they vary between a few meters and 40m in width. In some places along the whole stretch of the surveyed wall, the saltings edges are being eroded. See photo below.



It is difficult to quantify the annual loss and it is recommended that local efforts are supported to measure the loss more accurately.

The Alde and Ore Estuary Partnership pilot projects sought to reduce the saltings erosion by chestnut stakes holding hazel bunds or plastic mesh fencing to promote the build-up of silt, but the hazel has been washed away (although renewed and still intact at the Ionia site)). In Ionia site the apparent accumulation of silt ( from looking at a distance) suggests that these could play a role albeit they need replacing at regular intervals. Elsewhere, in near 445558 and on the most northerly stretch of the wall the efforts have been unsuccessful and only help measure that since their construction around 2016 the saltings have receded by possibly 30-50cm



**Human wear and tear.** At 449558 a large flat and drying area of saltings, where thrift normally flourishes , the salting grass and vegetation is significantly degraded, thought to be related to picnicking last summer on the attractive, but then very dry, area.



### **C. OTHER**

At Corporation Sluice an outflow pipe has broken and the discharge of water is now causing significant erosion at MLW. It is however noted that a new length of pipe has arrived and it is hopefully the intention to repair.

Erosion feared in 2020 report from outflow of temporary pipe on the saltings in the same place in 2020 has disappeared.

**DEBRIS LINE-** indicating river levels in the recent past but raising the concern that excessive debris deposits may damage saltings by inhibiting salting plant growth.

In November 2020 there was a significant high water surge. At the time of this survey, less than 5% of the length surveyed is affected by the build-up of high-water debris comprising largely seaweed and broken reed material. Inevitably the build-up of debris is worse in the slower reaches and bends of the River. At around 445562 to 448564 there is significant debris that made investigation of the protecting wall lying beneath it impossible. In part this is suppressing vegetative growth.



At the start of Westrow Reach the high tide line there is a significant build-up of debris, largely seaweed.

**10 August 2021**