

REPORT

Boston Alternative Energy Facility

Autumn Surveys of Waterbirds at the Principal
Application Site

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Autumn Bird Survey Results for land along The River Haven, Boston, Lincolnshire.

August 2021 to October 2021



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Winter Bird Survey Results for land along The River Haven, Boston, Lincolnshire.

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Winter Bird Survey Results for land along The River Haven, Boston, Lincolnshire

1 INTRODUCTION

Independent Ecologist and Protected Species Consultant, Andrew Chick MPhil, was commissioned by Christine Adnitt (Royal Haskoning DHV) to undertake Autumn bird surveys on The River Haven, Boston, Lincolnshire. The survey is required in connection with a future planning application related to the development of the Boston Alternative Energy Facility.

This report details the methods used, describes the habitats and species found on the site, discusses the results and makes recommendations for further work. The common English names are used for all species referred to throughout the text. The Latin name is also given following the common name the first time the species is referred to.

1.1 Accurate lifespan of ecological data

The majority of ecological data remains valid for only short periods of time due to the inherently transient nature of the subject. Where the species/group being surveyed for is present within the site, the data is considered to be accurate for two years. However, an update may be needed in order to obtain a European Protected Species licence, if such a licence is required. Where absent, although the data is considered accurate for two years, an update may be required if the habitats surrounding the site are of a quality that are likely to encourage the species to move into the site in the interim.

2 SITE DESCRIPTION

2.1 Site communities and habitats

The survey area is located between National Grid Reference (NGR) TF 33863 42815 and TF 34659 41763. A general site location is given as Figure 1 and shows the approximate survey boundary (marked with a red line).

The survey area was divided into two sections which are shown on Figure 1 as section A and section B, with the approximate survey boundary marked with a red line. Images of area A and B are given in Appendix 1 showing the extent of exposed mud at low tide.

2.2 Site description

The immediate plot of land is currently unmanaged and primarily consists of a flood defence bank of coarse grasses and rank perennial herbs, and a narrow section of intertidal riverbank with a small area of saltmarsh. To the rear of the riverbank there is an unmanaged hedgerow that partially demarks the southwest boundary of the site, along with a palisade security fence.



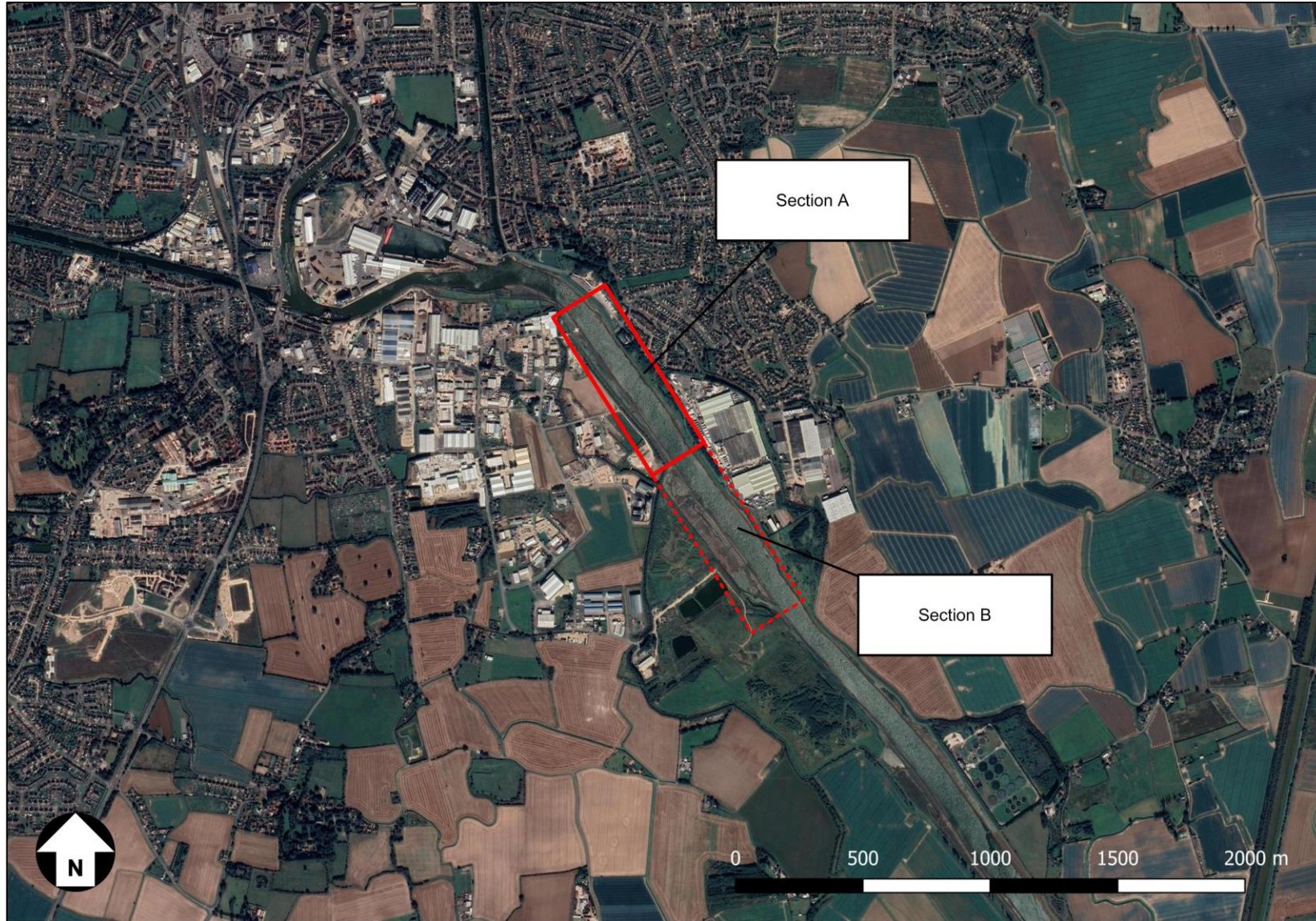


Figure 1. Site map showing the survey areas A and B (base map © Google Earth 2019).

2.3 Site description

2.3.1 Section A - NGR TF 33863 42815 to TF 34245 42312

Section A is located nearest to Boston town centre and is level with Boston Industrial Estate. The section starts at NGR TF 33863 42815 and ends at TF 34245 42312, a distance of approximately 700 metres. Within this section the river is approximately 70-75 metres wide.

The tidal River Haven runs through the middle of this section and during low tide there is exposed mud on both sides of the riverbank (which is covered at high tide). Above the intertidal zone is a narrow strip of saltmarsh with a small number of pools that are dominated by common saltmarsh grass *Puccinellia maritima* and sea couch *Elytrigia atherica*. The bank edge contains frequent sea aster *Aster tripolium* with occasional spear-leaved orache *atriplex prostrata*, common scurvygrass *Cochlearia officinalis* and glasswort *Salicornia sp.* Between the mud and saltmarsh an area of rocks line both banks on the inside at various levels, acting as a sea defence to minimise erosion of the banks.

To the rear of the saltmarsh is a sea wall which contains rough grasses dominated by false oat-grass *Arrhenatherum elatius* and cock's foot *Dactylus glomerate* with occasional perennial herbs. The sea wall is managed and probably mown 2-3 times per year. Along the top of the seawall is a public footpath and to the rear is an unmanaged hawthorn hedgerow. The sea bank is occasionally littered with allied materials, plus discarded items of a domestic nature.

A detailed map is shown in Figures 2 and 3.

2.3.2 Section B - NGR TF 34245 42312 to TF 34659 41763

Section B is located away from Boston town centre and is level with the former landfill site. The section starts at NGR TF 34245 42312 and ends at TF 34659 41763, a distance of approximately 670 metres. Within this section the river is approximately 70-80 metres wide.

The tidal Haven runs through the middle of this section and at low tide there is exposed mud on both sides of the riverbank (which is covered at high tide). The saltmarsh within this section is wider and relatively high, with numerous pools and ditches. The saltmarsh community is similar to that of Section A, with sea aster, spear-leaved orache, common scurvygrass, sea couch, common saltmarsh grass and glasswort all present.

To the rear of the saltmarsh is a sea wall which contains rough grasses dominated by false oat-grass *Arrhenatherum elatius* and cock's foot *Dactylus glomerate*, together with occasional perennial herbs. The sea wall is managed and probably mown 2-3 times per year. Along the top of the seawall is a public footpath and to the rear is an unmanaged hawthorn hedgerow. The sea bank is occasionally littered with allied materials, plus discarded items of a domestic nature.

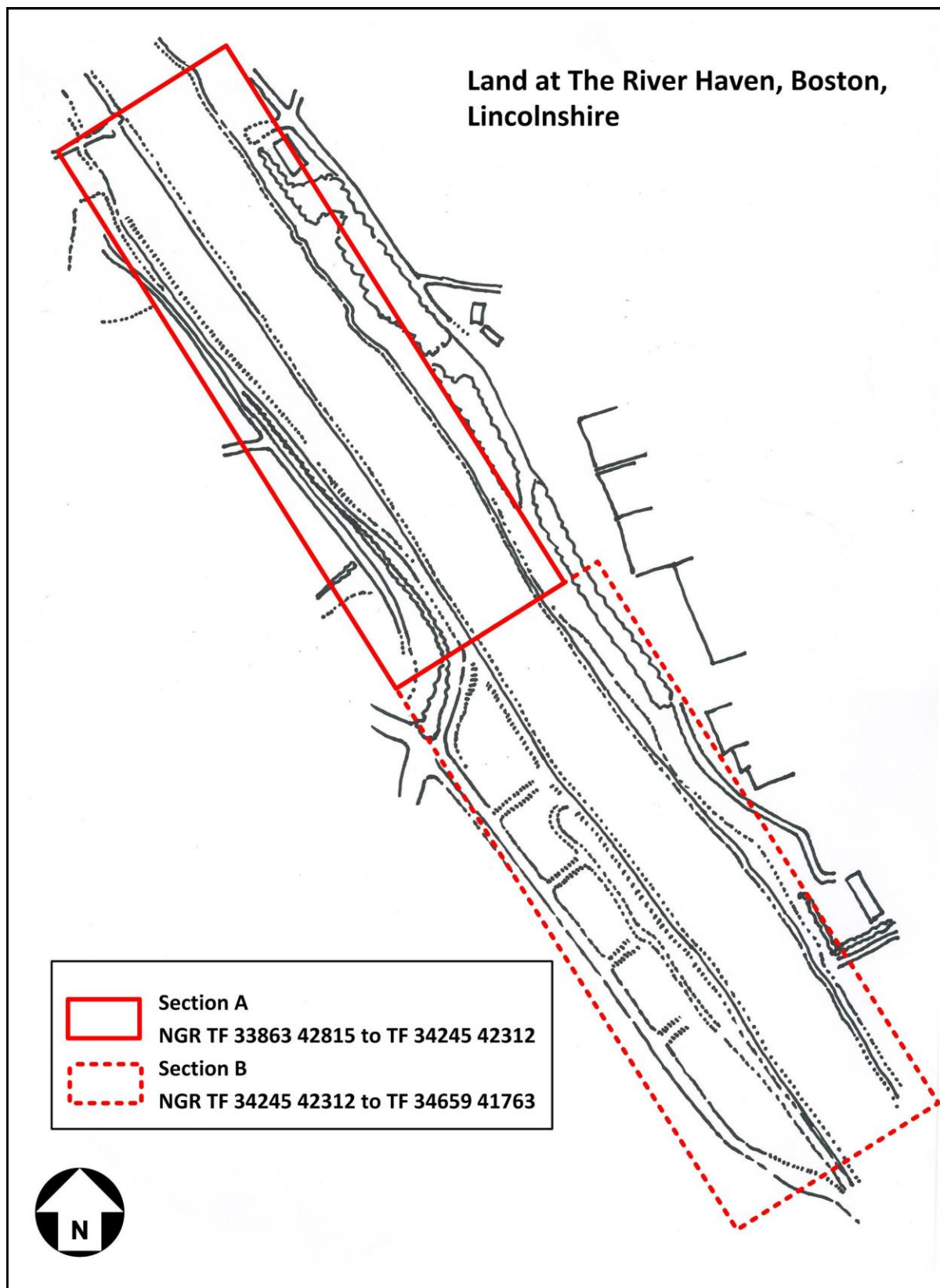


Figure 2. Site map showing the survey areas A and B.



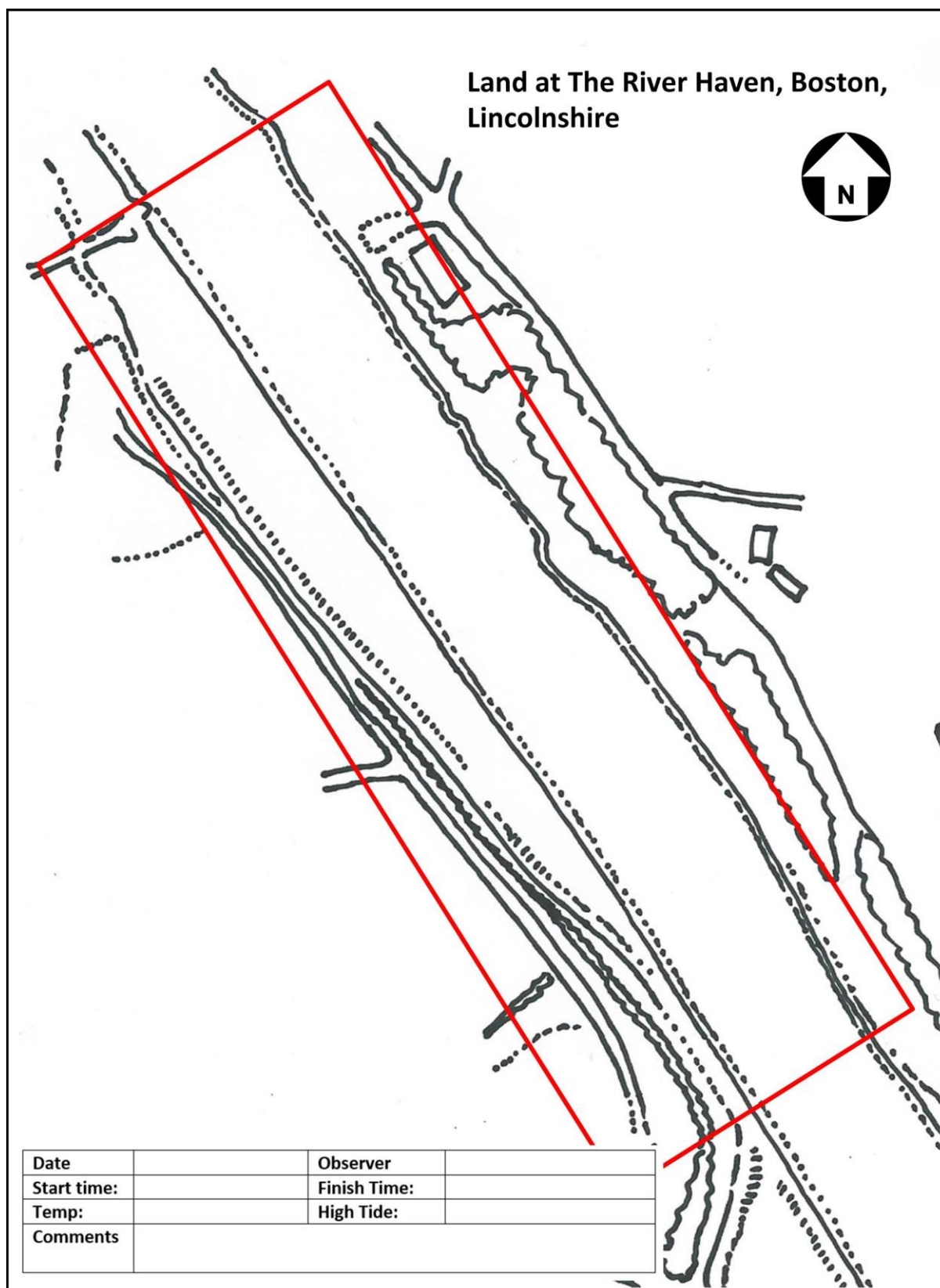


Figure 3. Site map showing the survey area A.



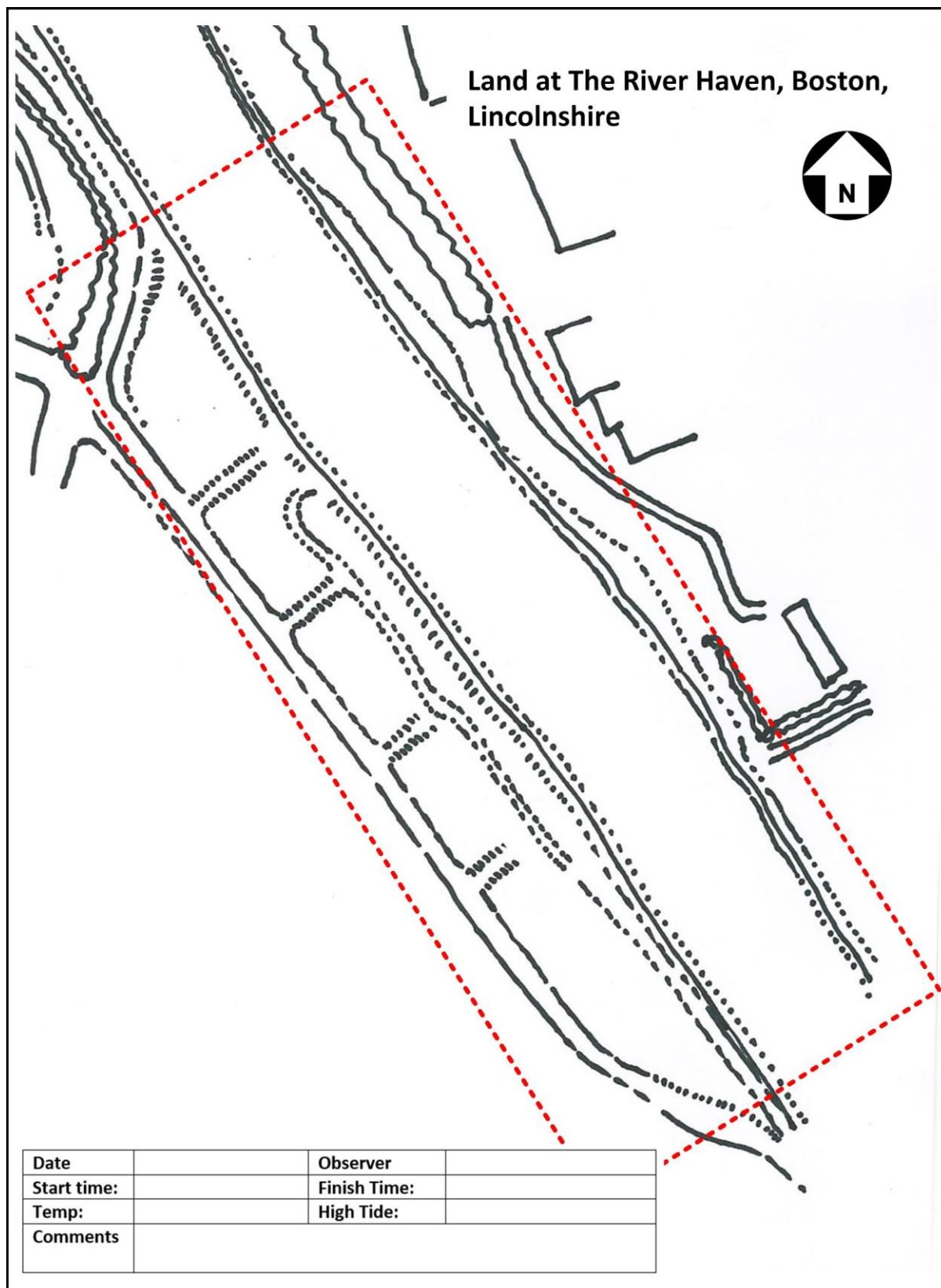


Figure 4. Site map showing the survey area B.

2.4 Survey constraints

There were no constraints to the survey, with full access available to the site.

2.5 Proposed work

The proposed work entails the building of a wharf at section A.

3 METHODS

The site was surveyed once a month at low tide and high tide between August 2021 and October 2021, with all survey work being undertaken by Anthony Bentley.

The bird survey used an abridged version of the Wetland Bird Survey (WeBS), where a sector was set up prior to the first recording visit. The two sectors included the banktops but no further land. Care was taken to avoid duplicate recording, although with some species this was not easy. The sectors were walked at an even speed.

Each survey was undertaken at intervals of at least two weeks. Surveys began 1 hour and 30 minutes before either high or low tide and were finished 1 hour and 30 minutes after high or low tide. Weather has not been taken into consideration in these surveys. All wading birds were recorded doing one of the following: feeding or roosting. During each survey, all species were recorded using the site. Due to the high turnover of gull species using the site during the survey period an estimated maximum count is given.

3.1 Surveys

Twelve surveys were undertaken; the dates and start times are included in the table below:

Date	Start Time	Weather (Temp at start of survey)	High/Low tide
29 th August 2021	09:45	15°C 9mph NNE	High
29 th August 2021	16:00	17°C 13mph NNE	Low
25 th September 2021	08:00	17°C 4mph W	High
25 th September 2021	14:00	21°C 6mph S	Low
25 th October 2021	14:00	14°C 12mph SW	Low
30 th October 2021	13:45	12°C 13mph WSW	High

Table 1. Survey dates, start times, weather conditions and tidal states.

4 RESULTS

4.1 Data search

The National Biodiversity Network (NBN) [REDACTED] was searched for records of protected species within the 10km OS grid square TF34. The River Haven is known to support numerous bird species including nationally significant numbers of Brent Goose.

4.2 Birds

A typical assemblage of common British birds was recorded on the site and in the immediate environs of the site.

A total of 32 species were recorded, with counts for each species included in the following tables.

4.2.1 Section A

Bird species recorded within the vicinity of Section A during the low and high tide surveys between August 2021 – October 2021 are included in the tables below:

	29 th August	25 th September	25 th October
Black-headed Gull	117	71	8
Black-tailed Godwit		2	20
Carrion Crow		1	2
Cormorant	1	1	
Curlew			3
Grey Heron			1
Grey Wagtail			1
Jackdaw		2	
Lesser Black-backed Gull	8		
Mallard			5
Meadow Pipit		1	
Redshank	14	16	27
Ruff		32	
Snipe			1
Sparrowhawk		1	
Whinchat		1	

Table 2. Bird species recorded within the vicinity of Section A during a low tide survey between August 2021 – October 2021.

	29 th August	25 th September	30 th October
Black-headed Gull	80	31	60
Black-tailed Godwit			6
Black Tern	2		
Collard Dove	2	2	
Common Sandpiper	1	1	
Cormorant	3	1	2
Feral Pigeon			3
Great Crested Grebe		1	
Grey Heron		1	
Grey Wagtail		1	

Guillemot			1
Herring Gull	1		
Lesser Black-backed Gull	1	1	
Little Egret	1		
Mallard		6	14
Pied Wagtail (<i>yarrellii</i>)		2	
Redshank	13	5	12
Ringed Plover		2	
Rock Pipit			1
Ruff	1	27	
Wood Pigeon	1	1	

Table 3. Bird species recorded within the vicinity of Section A during a high tide survey between August 2021 – October 2021.

4.2.2 Section B

Bird species recorded within the vicinity of Section B during the low and high tide surveys between August 2021 – October 2021 are included in the table below:

	29 th August	25 th September	25 th October
Black-headed Gull	141	53	8
Cormorant	2		2
Curlew			3
Feral Pigeon	2		
Grey Heron	2	1	
Lapwing			1
Lesser Black-backed Gull	21	3	
Little Egret	3		3
Mallard	8	17	1
Pied Wagtail (<i>yarrellii</i>)		1	
Redshank	26	28	16
Rock Pipit			1
Ruff		10	
Sparrowhawk		1	

Table 4. Bird species recorded within the vicinity of Section B during a low tide survey between August 2021 – October 2021

	29 th August	25 th September	30 th October
Black-headed Gull	105	2	62
Black-tailed Godwit			3
Common Sandpiper	1		
Cormorant	1	2	2
Curlew			3
Feral Pigeon			1
Goldfinch		12	

Green Sandpiper		2	
Grey Heron		1	
Guillemot			1
Lapwing			2
Lesser black-backed Gull	10		
Little Egret	3	4	2
Mallard		13	
Meadow Pipit		8	
Pied Wagtail (<i>yarrellii</i>)		8	
Redshank	15	26	28
Ruff	1	24	5

Table 5. Bird species recorded within the vicinity of Section B during a high tide survey between August 2021 – October 2021.

4.3 Systematic list

The following systematic list discusses the significant species recorded during the survey period.

Key to abbreviations:

JNCC (2016) Seabird Population Trends and Causes of Change: 1986-2015 Report. Joint Nature Conservation Committee. Updated Sep 2016. [REDACTED]

Wintering waterbirds thresholds. Frost, T., Austin, G., Hearn, R. *et al.* (2019). Population estimates of wintering waterbirds in Great Britain. *British Birds* 112: 130-145

WeBS – The Wetland Bird Survey (WeBS) monitors non-breeding waterbirds in the UK. WeBS surveyors monitor the UK's internationally important non-breeding waterbirds. The peak counts for the whole of The Wash are shown in the WeBS table for each species and are based on the 2013 – 2018 data only - [REDACTED] (at the time of writing the 2018/19 had not been released).

For each species the local status, WeBS threshold for international importance and the WeBS threshold for national importance is given. The table shows the five-year trend for The Wash and the 5-year average.

Black-tailed Godwit *Limosa limosa*

L.l. islandica: common passage migrant and winter visitor. *L.l. limosa*: rare migrant that has bred previously, last in 1974. Amber List (*islandica*) and Red List (nominate). WeBS threshold for international importance: 1100. WeBS threshold for national importance: 390.

WeBS - The Wash – Numbers and Trends						
2015/16	2016/17	2017/2018	2018/2019	2019/2020		5-year Average
8,439	9,580	8,841	5,519	10,606		8,597

Black-tailed godwit occurred on five surveys, with a peak count of 20 on 25th October 2021.



Common Sandpiper *Actitis hypoleucos*

Passage migrant and exceptional winter visitor. Amber listed. WeBS threshold for international importance: 12000.

WeBS - The Wash – Numbers and Trends						
2015/16	2016/17	2017/2018	2018/2019	2019/2020		5-year Average
29	31	45	25	35		33

Three records of single birds across the survey period. With a bird in each section A and B at high tide on 29th August 2021.

Common Snipe *Gallinago gallinago*

Very scarce breeder, fairly common/common passage migrant and winter visitor. Amber List (nominate).

WeBS - The Wash – Numbers and Trends						
2015/16	2016/17	2017/2018	2018/2019	2019/2020		5-year Average
38	38	33	52	34		39

Common Snipe was recorded once on 25th October 2021 at low tide on section A

Curlew *Numenius arquata*

Common passage migrant and winter visitor; scarce and local breeder. Red List. WeBS threshold for international importance: 7600. WeBS threshold for national importance: 1200.

WeBS - The Wash – Numbers and Trends						
2015/16	2016/17	2017/2018	2018/2019	2019/2020		5-year Average
6,525	6,500	4,369	6,006	6,903		6,061

Three records of all of three individual birds across the survey period. With three birds in each section A and B at high tide on 30th October 2021.

Green Sandpiper *Tringa ochropus*

A passage migrant and rare winter visitor. Rare on the coast in winter. Red list. WeBS threshold for international importance: 20000. WeBS threshold for national importance: 3.

WeBS - The Wash – Numbers and Trends						
2015/16	2016/17	2017/2018	2018/2019	2019/2020		5-year Average
26	15	14	8	13		15

A single record of two at high tide on 25th September 2021.

Lapwing *Vanellus vanellus*

Declining breeding species, becoming scarce; very common passage migrant and winter visitor. Red List. WeBS threshold for international importance: 20,000. WeBS threshold for national importance: 6200.

WeBS - The Wash – Numbers and Trends						
2015/16	2016/17	2017/2018	2018/2019	2019/2020		5-year Average
6,204	26,323	8,884	9,402	14,067		12,976

Just two records of Lapwing, peaking at two birds on 30th October 2021.

Redshank *Tringa totanus*

Nominate British and continental form a common passage migrant and winter visitor, and fairly common breeding species of coastal marshes. Scarce/very scarce inland. Icelandic form (*robusta*) a common passage migrant and winter visitor. Amber List (both forms). WeBS threshold for international importance 2400. WeBS threshold for national importance: 940.

WeBS - The Wash – Numbers and Trends						
2015/16	2016/17	2017/2018	2018/2019	2019/2020		5-year Average
5,267	4,183	5,834	4,425	5,727		5,087

Redshank numbers and percentages of 5-year average peak wash count broken down into; sections, tide state and month.

	29-Aug	25-Sep	25-Oct
Low tide Section A	14	16	27
% Est Wash Population	0.28%	0.31%	0.53%
	29-Aug	25-Sep	30-Oct
High tide Section A	13	5	12
% Est Wash Population	0.26%	0.10%	0.24%
	29-Aug	25-Sep	25-Oct
Low tide Section B	26	28	16
% Est Wash Population	0.51%	0.55%	0.31%
	29-Aug	25-Sep	30-Oct
High tide Section B	15	26	28
% Est Wash Population	0.29%	0.51%	0.55%

Fewer Redshank occurring during the autumn compared to winter months. A peak count of 28 twice reflects 0.55% of The Wash population.

Ringed Plover *Charadrius hiaticula*

Nominate British and southern Scandinavian form a fairly common passage migrant; mainly coastal. Breeding has spread to inland sites in the last 40 years. Northern Scandinavian and Russian form *tundrae* ('Tundra Ringed Plover') are fairly common passage migrants. Red List (nominate) and Green List (*tundrae*). WeBS threshold for international importance: 540. WeBS threshold for national importance: 420.

WeBS - The Wash – Numbers and Trends						
2015/16	2016/17	2017/2018	2018/2019	2019/2020		5-year Average
1,361	1,063	1,090	1,400	1,659		1,315

Occurring only once with two at section A on 25th September at High Tide.

Ruff *Calidris pugnax*

A fairly common passage migrant and scarce winter visitor. Bred to nineteenth century. Red List. WeBS threshold for international importance: 10000. WeBS threshold for national importance: 9. **RBBP**.



WeBS - The Wash – Numbers and Trends					
2015/16	2016/17	2017/2018	2018/2019	2019/2020	5-year Average
55	102	39	39	133	80

Ruff numbers and percentages of 5-year average peak wash count broken down into; sections, tide state and month.

	29-Aug	25-Sep	25-Oct
Low tide Section A	-	32	-
% Est Wash Population	-	40%	-
	29-Aug	25-Sep	30-Oct
High tide Section A	1	27	-
% Est Wash Population	1.25%	33.75%	-
	29-Aug	25-Sep	25-Oct
Low tide Section A	-	10	-
% Est Wash Population	-	12.5%	-
	29-Aug	25-Sep	30-Oct
High tide Section A	1	24	5
% Est Wash Population	1.25%	30%	6.25%

The second commonest wader based on records with seven records. The peak count was 32 at Section A during a low tide count on 25th September. This equated to 40% of The Wash population. September is peak passage for Ruff in The Wash and Britain with a large influx of juvenile birds.

5 DISCUSSION AND RECOMMENDATIONS

All recommendations provided in this section are based on the current understanding of the site proposals, correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.

5.1.1 Recommendations

Overall, 32 bird species were recorded across both sections between August 2021 – October 2021; of these 9 appear on the amber list and 8 are on the red list. Most birds do not occur in significant numbers.

However, Ruff were shown to occur in locally significant numbers. Ruff were recorded on seven visits, with a peak count of 32 at a single section, 40% of The Wash population, 51 Ruff were recorded across both sections on 25th September this equates to 63.75% of The Wash population based on current available 5-year means. Both counts are significant when the size

of the site is taken in consideration and compared to the size of The Wash. Ruff numbers are increasing in The Wash with increased availability of quality freshwater habitats.

6 REFERENCES

BTO – WeBS Survey Data - [REDACTED]

Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn, R., Lock, L. Musgrove, A., Noble, D., Stroud, D., Richard, G. (2015) Birds of conservation concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds* 108, 708-746.

JNCC 2003 Handbook for Phase 1 Habitat Survey: a technique for environmental audit. JNCC, Peterborough.

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NBN Gateway. Available: [REDACTED]

Wintering waterbirds thresholds. Frost, T., Austin, G., Hearn, R. *et al.* (2019). Population estimates of wintering waterbirds in Great Britain. *British Birds* 112: 130-145



Appendix 1.

Survey Maps

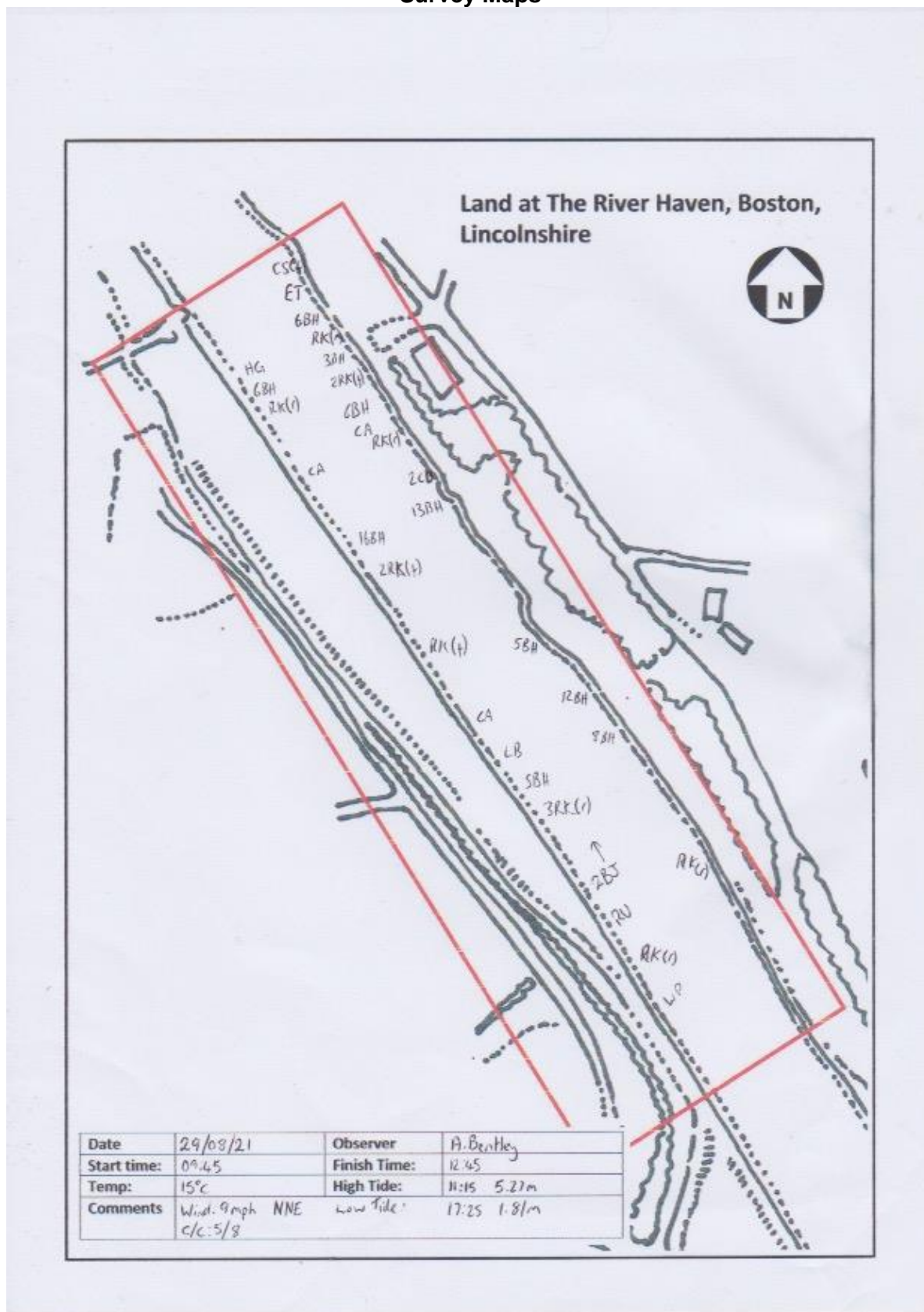


Figure 5. Survey Map 29th August 2021, High Tide, Section A.

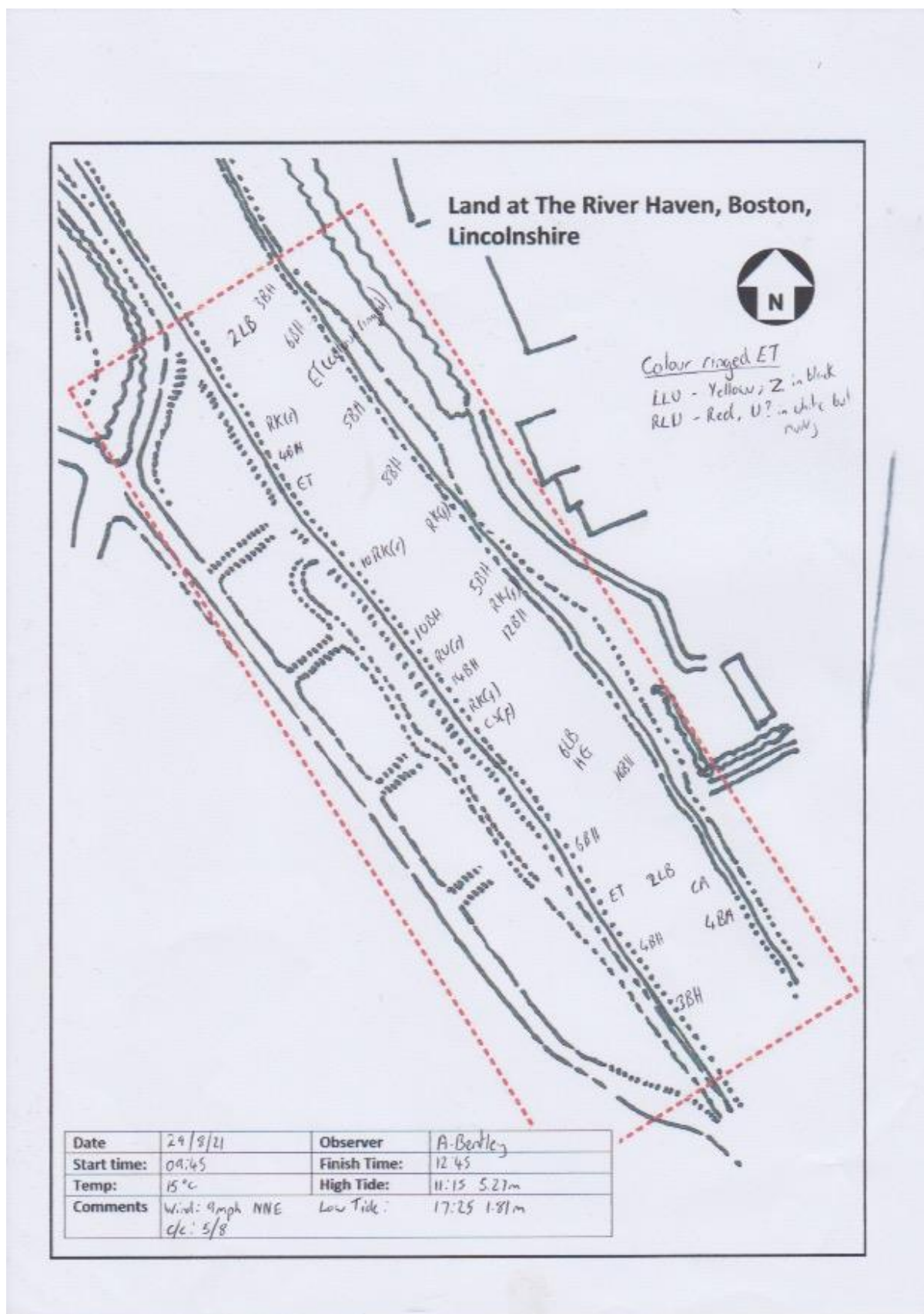


Figure 6. Survey Map 29th August 2021, High Tide, Section B.

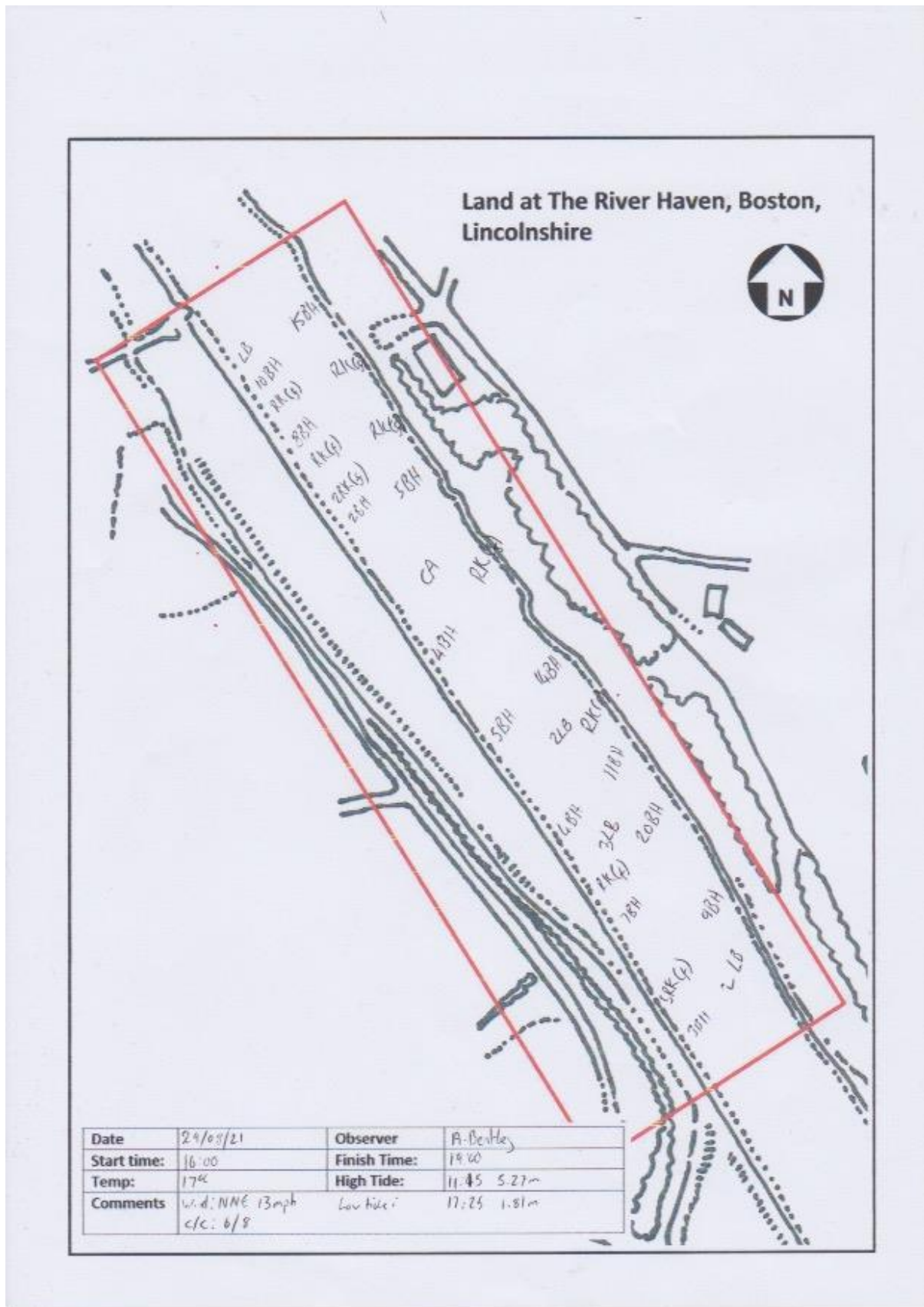


Figure 7. Survey Map 29th August 2021, Low Tide, Section A.

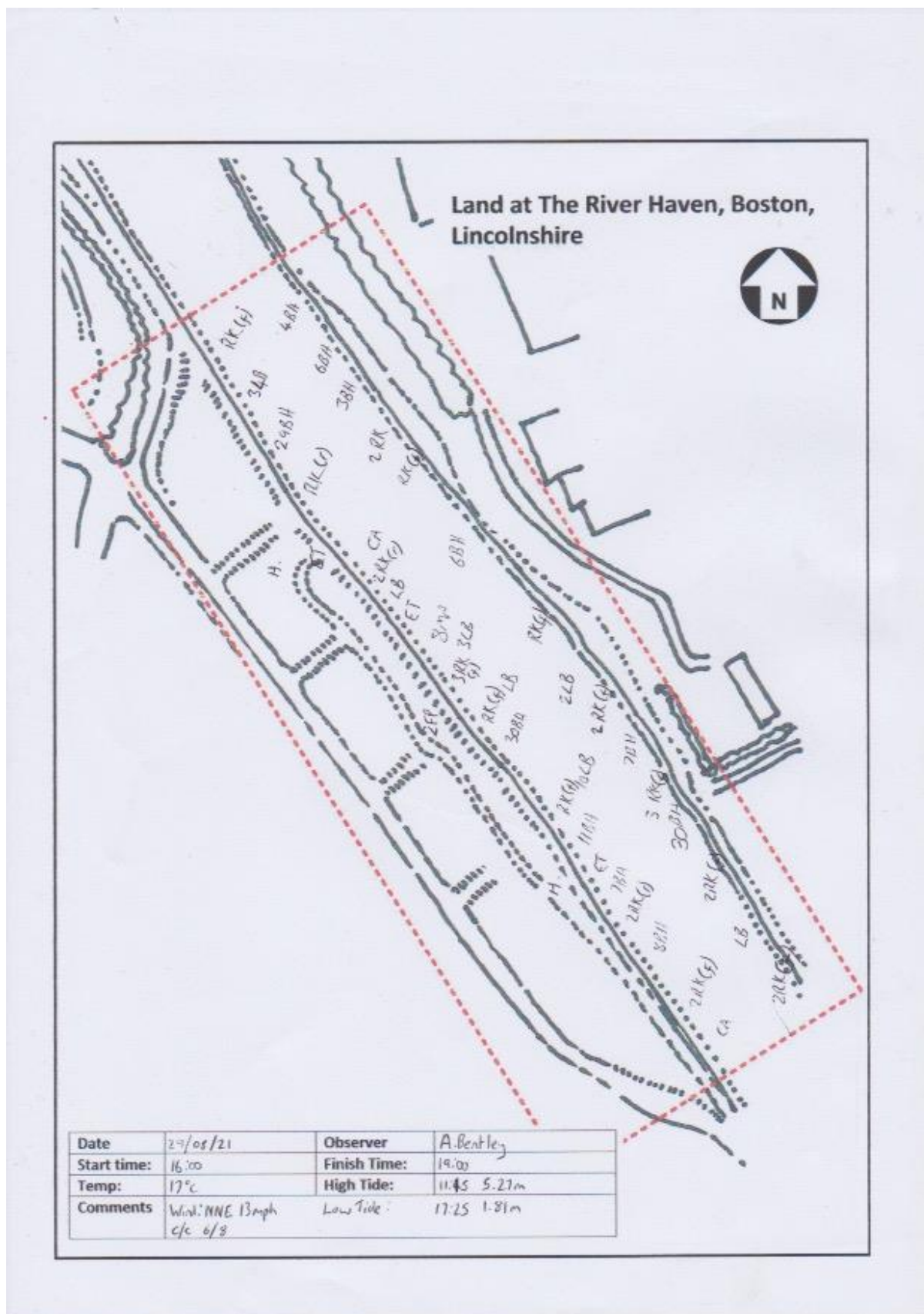


Figure 8. Survey Map 29th August 2021, Low Tide, Section B.

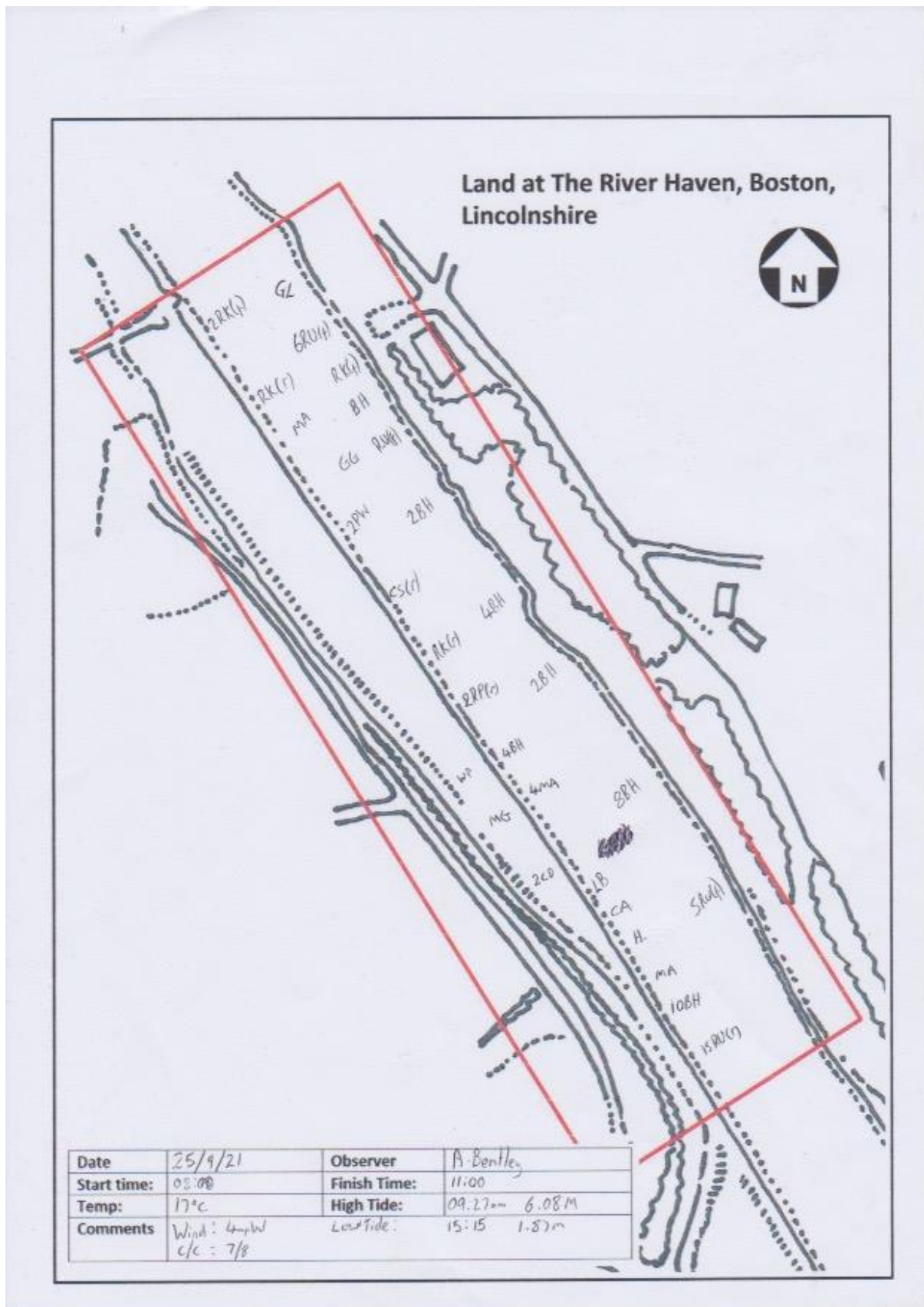


Figure 9. Survey Map 25th September 2021, High Tide, Section A.



Figure 10. Survey Map 25th September 2021, High Tide, Section B.

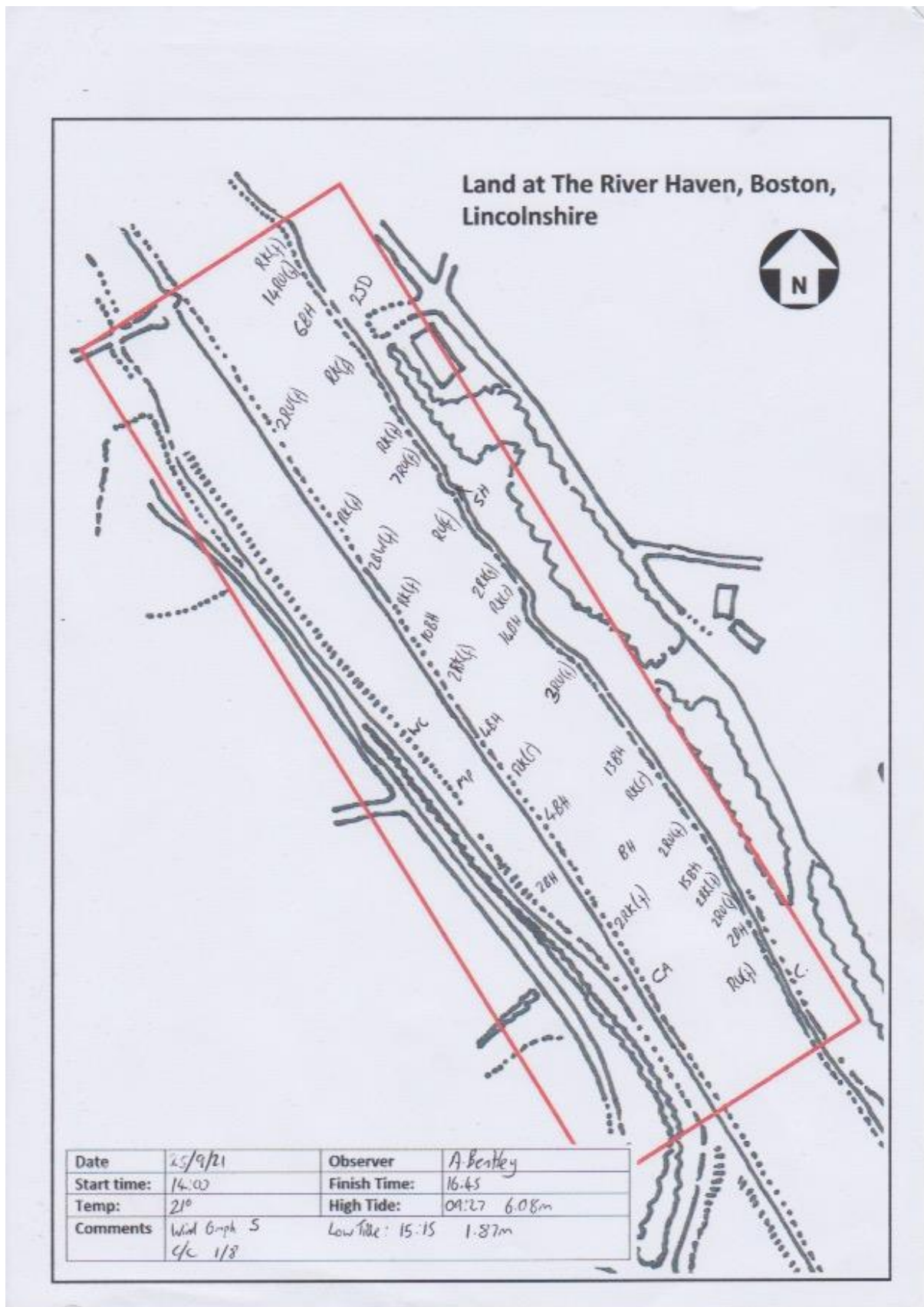


Figure 11. Survey Map 25th September 2021, Low Tide, Section A.

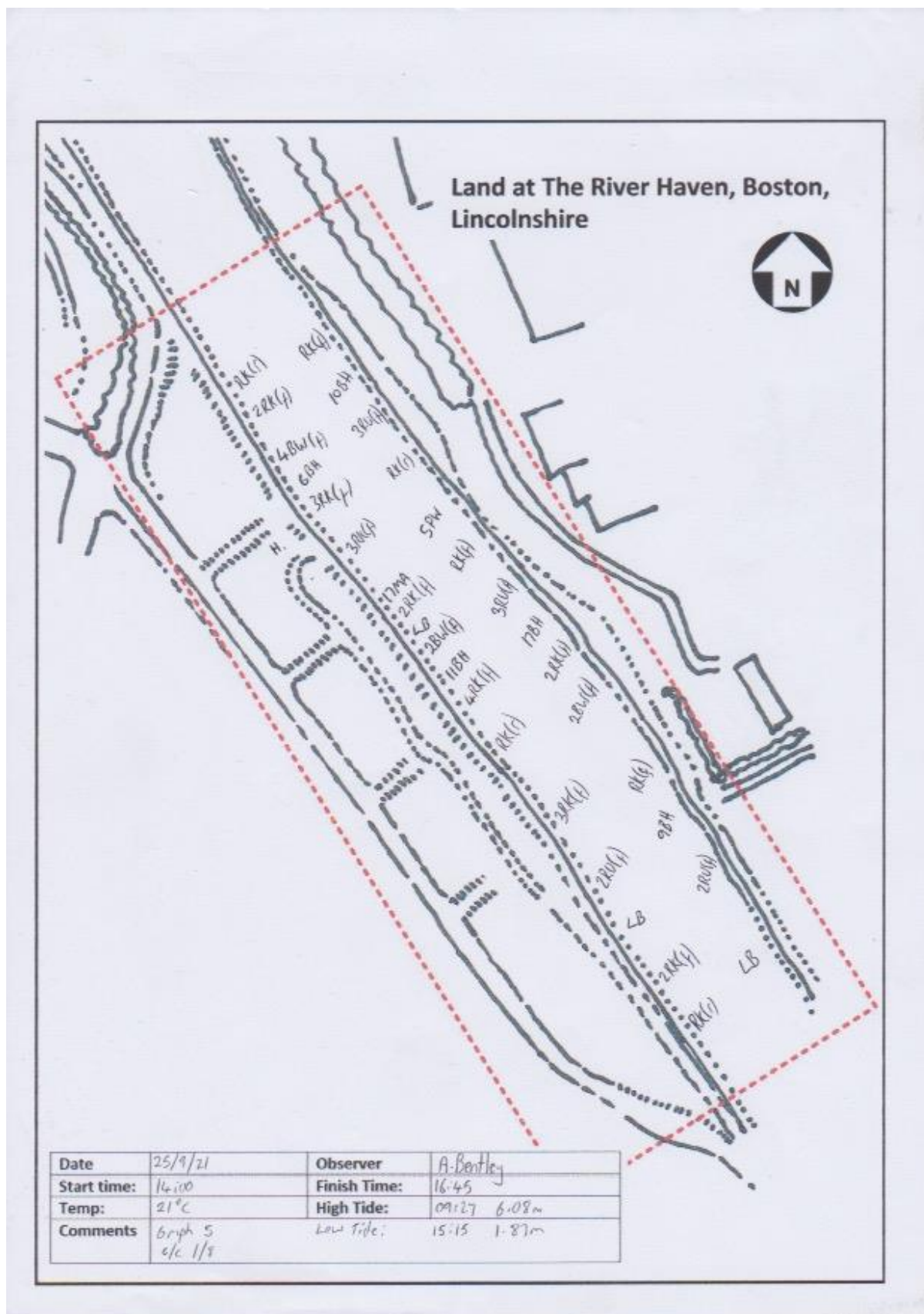


Figure 12. Survey Map 25th September 2021, Low Tide, Section B.

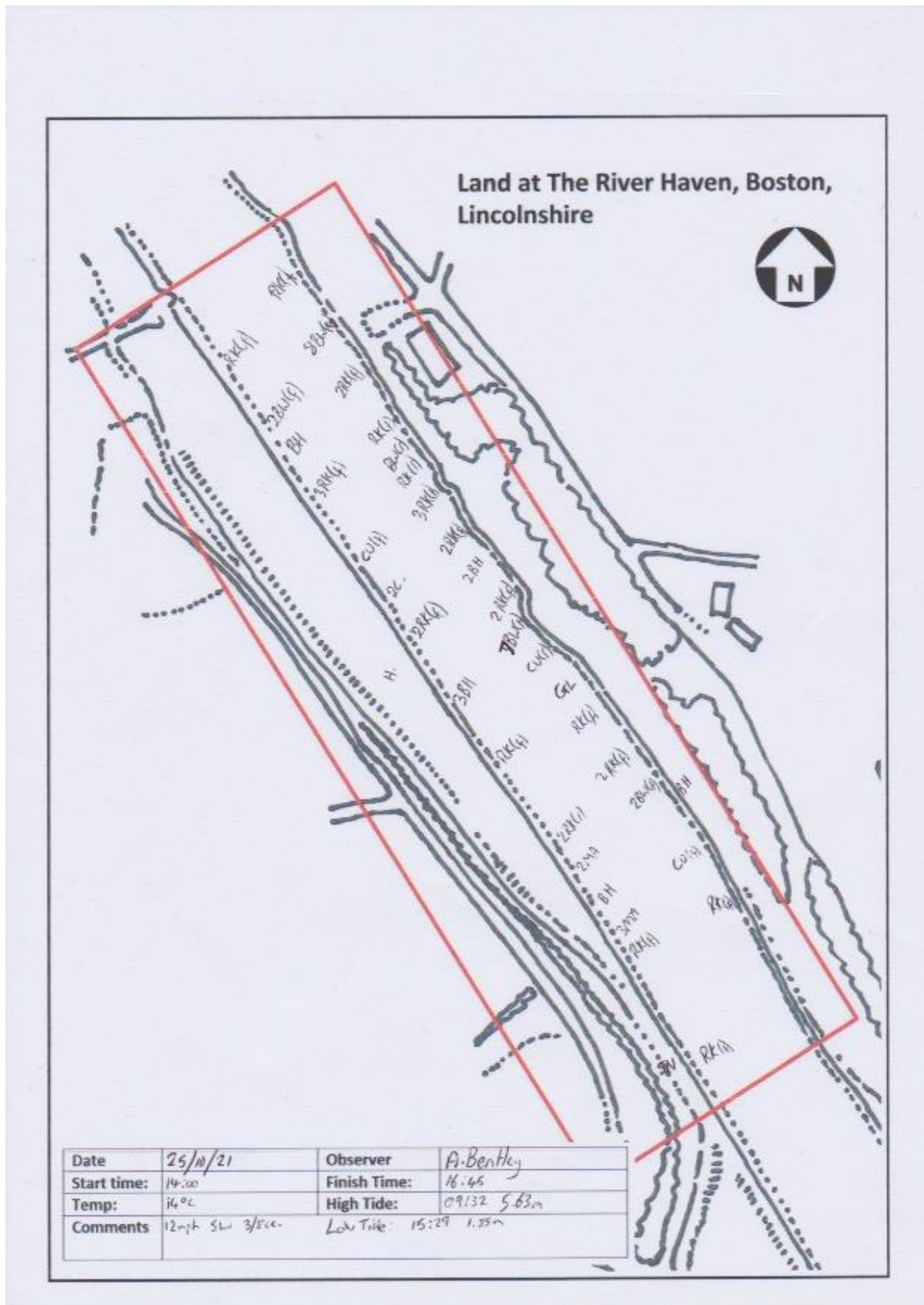


Figure 13. Survey Map 25th October 2021, Low Tide, Section A.

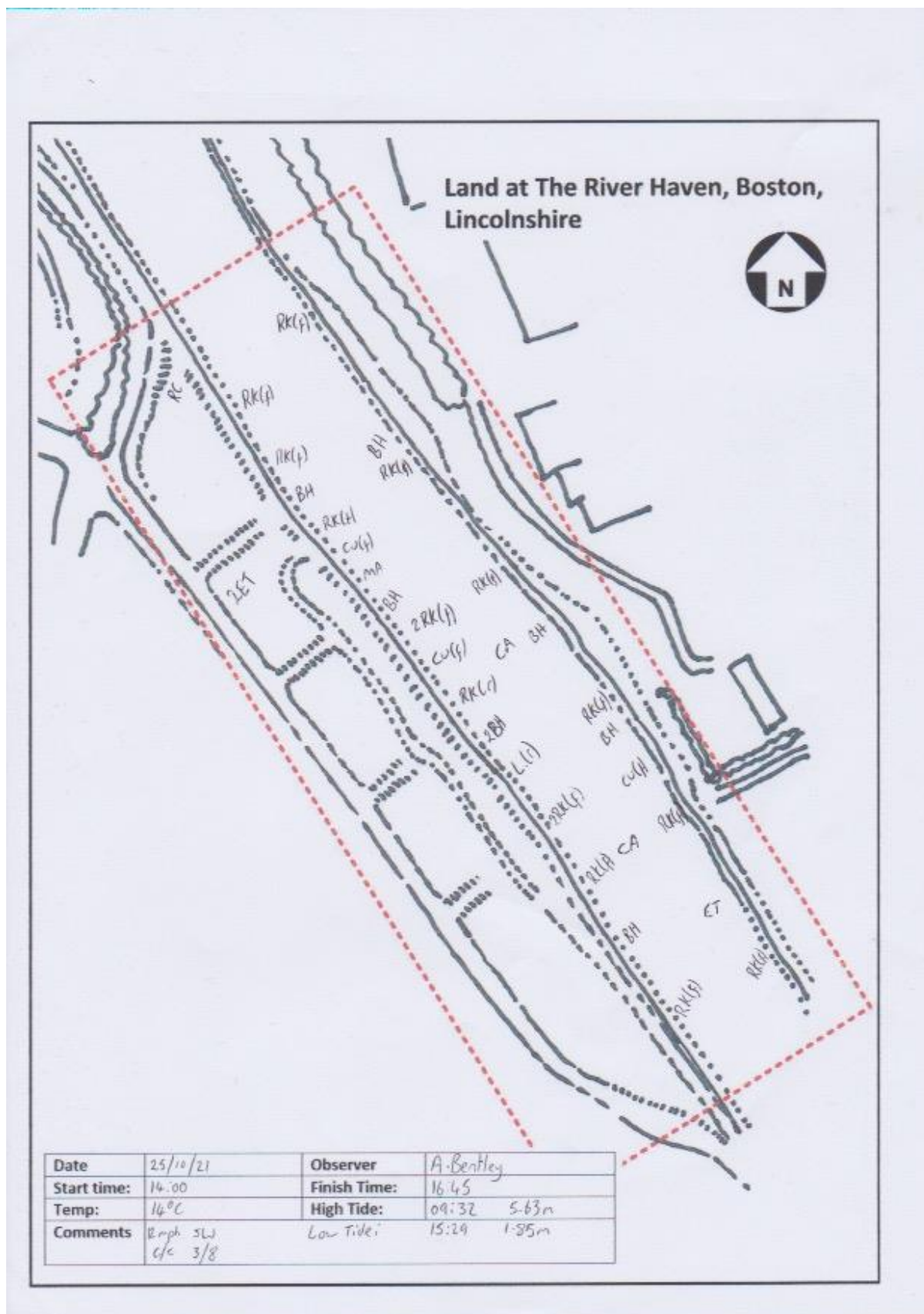


Figure 14. Survey Map 25th October 2021, Low Tide, Section A.

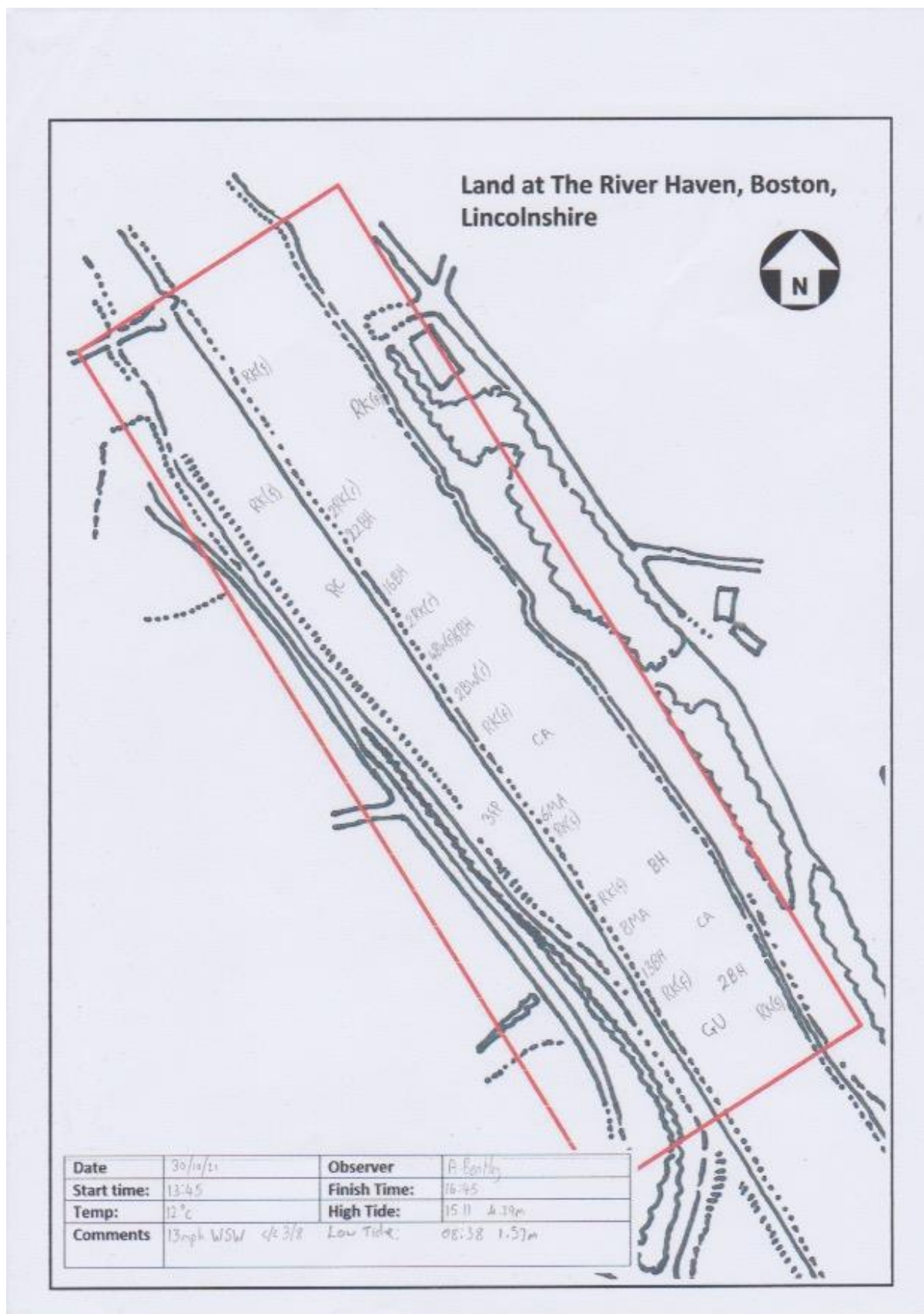


Figure 15. Survey Map 30th October 2021, High Tide, Section A.

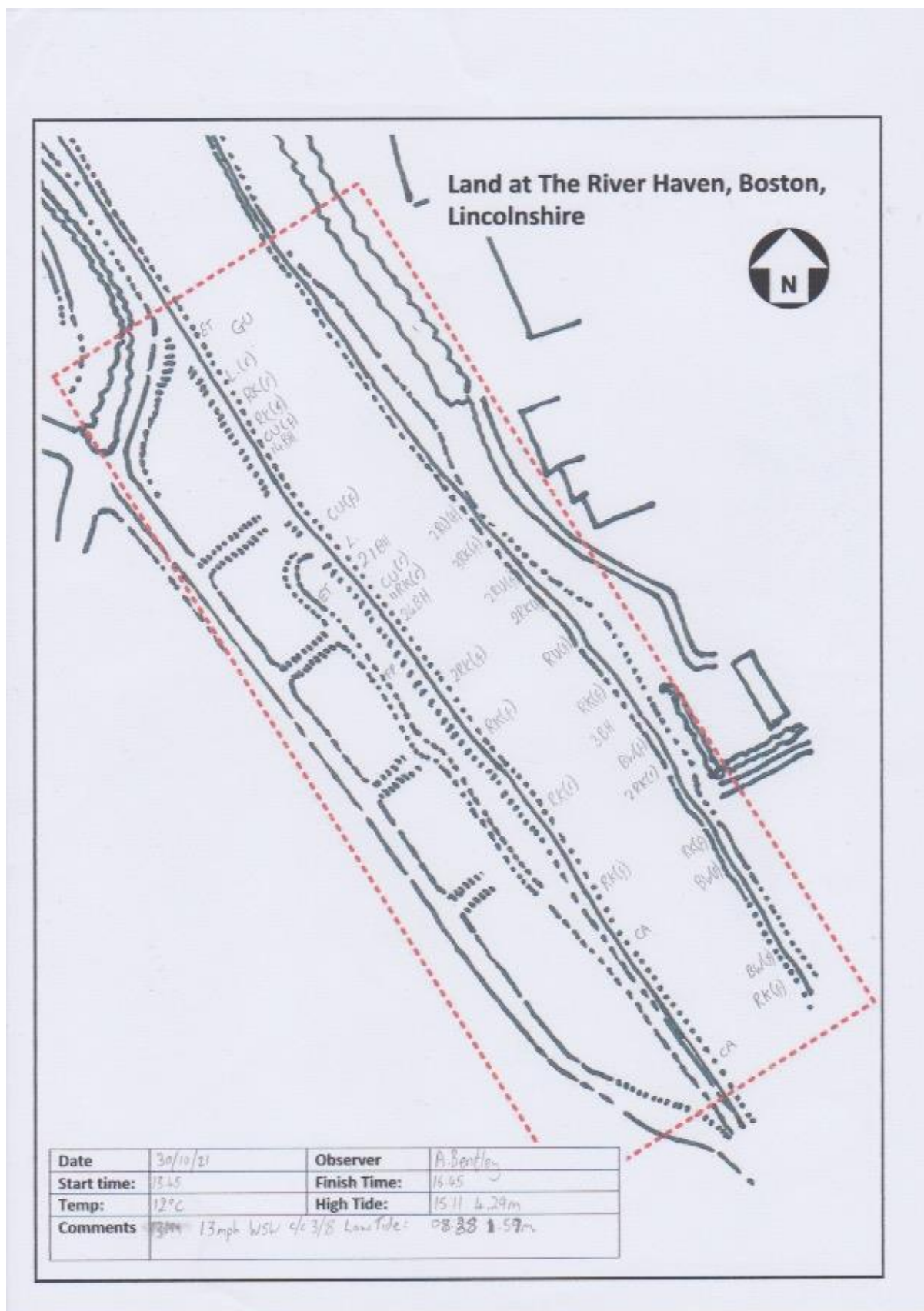


Figure 16. Survey Map 30th October 2021, High Tide, Section B.

