



DOVER HARBOUR BOARD

HERITAGE RECORDING FOR THE PROMENADE

TO THE DOVER WESTERN DOCKS, DOVER, KENT

Desktop Study



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Summary

In 2012, Dover Harbour Board (DHB) gained consent for Terminal 2 (T2), a major proposal for a new second ferry terminal and marina development in the Western Docks, via the Dover Harbour Revision Order 2012 (the HRO). DHB are now carrying forward the construction of certain elements of the HRO. The scheme being progressed lies within the consented development for T2 and is referred to as the Dover Western Docks Revival (DWDR).

A collection of historic building surveys and desktop studies have been completed by the DWDR conservation and research team on behalf of the Port of Dover. These have been undertaken in order to create a record of historical assets which can be found within the Port of Dover and that will be subject to impact from the construction of DWDR. Research for these reports commenced before any of the planned construction work begins on the revival scheme.

This report comprises a desktop study and historic record of The Promenade.



1. Project Background

In 2012, Dover Harbour Board (DHB) gained consent for Terminal 2 (T2), a major proposal for a new second ferry terminal and marina development in the Western Docks, via the Dover Harbour Revision Order 2012 (the HRO). DHB are now carrying forward the construction of certain elements of the HRO. The scheme being progressed lies within the consented development for T2 and is referred to as the Dover Western Docks Revival (DWDR).

There are 11 Listed Buildings and two Scheduled Monuments within the Port of Dover. Neither of the Scheduled Monuments and only two of the Listed Buildings fall within the footprint of the DWDR scheme that will be directly affected by the overall works. Listed Building Consent has been obtained for this work affecting the listed structures.

In addition to the listed buildings, there are a number of non-designated historic structures or areas of the port which will be subject to impact from the DWDR scheme. A Level 1 photographic heritage recording of the entirety of the DWDR foot print was carried out by DHB, between 2nd September 2015 and 9th February 2016. The purpose of this recording was to log the current physical properties of the Western Docks and highlight select structures of historic importance.

Subsequent to this Level 1 photographic recording, desktop studies have been undertaken for the following structures of historic importance:

- Granville Dock, Tidal Basin, Tug Haven and the Wick Channel;
- The Telford Sluices and Associated Sluice Mechanisms;
- The Union Street Swing Bridge and Wellington Dock gates;
- Train Ferry Dock and the Dunkirk Jetty;
- The Prince of Wales Pier and
- The Promenade.

This report presents the results of the desktop study for The Promenade.



2.

3. Methodology

3.1 Aims and Objectives

The aim of the desktop study is to provide a detailed record of The Promenade prior to impact from the construction of DWDR.

The objectives of the desktop study are:

- To clarify the impact from the construction of DWDR;
- To provide a description of the history of the site based on archive material and secondary sources;
- To provide a historic record of the structure through historic plans, maps, charts and photographs;
- To provide a current record of the structure through recent photographs, laser scanning or measured drawings if available; and
- To identify any further recording requirements or mitigation measures that may be required prior to the commencement of works for DWDR.

3.2 Approach

Work for this desktop study was undertaken in accordance with the Written Scheme of Investigation for DWDR prepared by Royal Haskoning DHV (2015). The methodology for the desktop study was carried out with consideration of available standards and guidance, including:

- CIfA, 2014, Standard and Guidance for the archaeological investigation and recording of standing buildings or structures; and
- Historic England, 2016, Understanding Historic Buildings: A guide to good recording practice.

This study comprises an account of the areas origins, development and use, and includes evidence on which this analysis has been made. The research for this desktop study was undertaken using readily available sources to help understand the construction, development and historical context of The Promenade. This study incorporates the findings and interpretations of this research.

3.3 Sources

Key primary sources for this report include historic Ordnance Survey maps in the DHB archive and historic newspapers sourced from the British Newspaper Archive Online (<http://www.britishnewspaperarchive.co.uk/>). Further use has been made of published



secondary sources, including books and online research. To illustrate the development of the structure's appearance and form use has been made of the DHB archive, including photographs, drawings and plans. For this study all photographs have been taken from the DHB Photographic Archive, others do exist but copyrights are not owned by DHB. Although some hard copies of these documents are still accessible, in particular the historic Ordnance Survey maps, the majority of those included are digital copies that can be found in the DHB archive. The historic maps can be found in the archives in Harbour House, Waterloo Crescent.

4. Description of the Site

The section of land which has been researched for this report is compiled of three different names, but is commonly and collectively known as The Promenade. The north end of the road is known as the Marine Parade, the area in front of the Waterloo Mansions can be known as Waterloo Crescent. Finally, the land furthest south and at the base of the Prince of Wales Pier is known as the Esplanade. (National Grid Reference: North End- TR 32546 41435 South End- TR 31932 40789 **Figure 1** in **Appendix 001** is a location plan which shows the section of land being researched, included are labels which show the three different sections of land.

As part of the DWDR scheme, The Promenade is an integral area as it connects the Western and Eastern docks through a section of roads. It is busy with those working within the port and the public using the beaches for leisure. This land is being directly affected by the Navigation Cut, which is planned for just West of Harbour House and involving the Wellington Dock. The details of which can be found in **Figures 2-3** in **Appendix 001**. This Navigation Cut will involve cutting through the beach and the wall of the Wellington Dock, this will create a new entrance and access route into the Wellington Dock once other reclamation works have taken place as part of the DWDR scheme. During these works it can also be seen as an opportunity to record sections of the port which haven't previously been fully researched, creating a permanent record of its history before any changes may take place in the future.



5. History of the Site

The Promenade is a stretch of land which creates a roadway along the seafront at the Port of Dover; creating access for both cars and pedestrians. It has evolved through many phases over the years, largely influenced by the fact that it is a commonly used transport link between the Western and the Eastern side of the harbour. It is mostly a reclaimed piece of land, that has slowly grown as the shingle and silts have built up over the years; resulting in it being stable enough for use to build on and develop for use of the port.

Some background history of how the Port of Dover was initially developed has been included in this report in order to give context to the significance of the structure in question: The Promenade.

It is thought that the initial success of the Port dates back to the 14th century, due to its sheltered position behind the Archcliff headland situated to the West of the Port (Leach, 2006). Other ports at the time were struggling with the build up of silt blocking entrances to the newly forming harbours, causing access issues as well as the beaching of ships. The headland protecting the Port of Dover blocked strong winds resulting in the formation of mud and shingle, creating an open pool with access to clear waters; this safely allowed ships to berth within the port. Dover was the 'gateway to England' and many passed through its town in order to further travel to places like Canterbury for pilgrimage or the capital London. Further development was needed and in 1495 Sir John Clark installed a small pier on the East of the Archcliff headland, this worked well for some time, strengthened by shingle which had built up around the structure. However, this shingle eventually grew too much and threatened to block the gate of the small dock, known as the Paradise Pent.

An impression of the port was drawn by Vincent, King Henry VIII's royal painter, around c.1520-1530, and called 'The Haven of Dover', as seen in **Figure 3** in **Appendix 001**. Although the perspective of this image is slightly misleading, it clearly shows the layout of the port, with a small and developing town in the background. The formation of Union Street has not yet begun here as the focus of the port is to the west of the developing harbour, at this time only consisting of a few jetties.

A coloured plan was drawn in 1582 (**Figure 4** in **Appendix 001**) by Thomas Digges, which shows the layout of the harbour. Thomas Digges was a local typographer at the time and was commissioned to do the piece by the contemporary Lord Warden William Brooke, the 10th Baron of Cobham. He would have been acting on behalf of Queen Elizabeth the 1st, who had always tried to improve the conditions within the harbour and make it run more efficiently. The plans included Lord Cobham's intentions of installing a second sluice on the 'snargate over the sluice' piece of land. This is the first evidence of the strip of land that would later become Union Street.



The 1595 plan of the harbour (**Figure 5 in Appendix 001**) shows the port at a much further developed stage, with large amounts of progress to the Western side of the harbour. The map itself has also been drawn in a much more technical way which means it's easier to read as well as being a more accurate representation of the harbour in 1595.

These maps reflect a layout that can be seen underlying the structure of the port as it is today. The Port in 1595 was compiled of three different sections, all situated to the Western Side of the harbour today. The Pent (Wellington Dock), the Great Paradise (Granville Dock and the Tidal Basin) and the Little Paradise are all labelled on the map drawn by Digges (**Figure 5 in Appendix 001**), with the Little Paradise also noted to be 'decaying' at the time of record. The Little Paradise continued to silt up until it became completely filled in and built over in the 19th century.

Digges' map shows the start of the Port of Dover being at its most established size to date, with dockyards forming and structures being built where needed in order to make the port sustainably usable. At the time shingle was becoming an issue and effecting movement around the port. Clark's pier had been badly damaged by a storm and was no longer fulfilling its function. In 1606, James I declared a Royal Charter with the condition that '11 discreet men' would take over management of the port, known as the Guardians of the Harbour of Dover. The Lord Warden at the time was amongst the eleven along with the mayor of Dover and other courtiers; control of the ports affairs remained with the organisation until 1861 when the new Harbour Board was founded. The initially well intentioned scheme, however, brought little change to the port, at one point the townsmen took it upon themselves to come out with shovels and buckets in order to clear the shingle themselves (Leach, 2006).

Within the charter was also a condition that stipulated that any of the reclaimed land that had formed from shingle within the harbour, would automatically belong to the Harbour Board, and that this included land, forming at the time, on the seaward side of the Pent. This could be labelled today as the Esplanade and Waterloo Crescent, forming The Promenade.

As the land developed over time housing was built on the reclaimed land, all paying rent accrued to the Harbour Board (Leach, 2006). The Prince of Wales Pier would also later be built projecting off this land. Houses often acted as hotels for the crews coming off of the docked ships, with a portion of any rent collected or tolls charged paid to the port. An increase in income for the Harbour Board meant improvements to the port began to be devised, and with this, proper surveys detailing the layout of the harbour had to be taken.

These surveys did not officially take place until 1641, after many poor attempts, eventually drawn by a local Freeman, William Eldred, who later went on to become a Master Gunner at Dover Castle. Multiple maps were drawn up by Eldred, giving an overview of the town in 1641, as well as detailed sections of maps taken throughout the harbour. Each one had the dwellings



at the time included and, as well as this, on the reverse of the maps is lists of tenants and their sub tenants names.

Figure 6 in **Appendix 001** is a map drawn by William Eldred, showing a much more developed port and properly surveyed buildings. It can also be seen here that the development on the eastern side of the Harbour is yet to be started; this is something that didn't happen until the 20th century as it would require a vast amount of reclamation works.

There are multiple early and later Post Medieval buildings known to have stood in the Western side of the Port of Dover, including a chapel, now lost, called Chapel of Our Lady of Pity. The majority of these structures were lost in the 19th and 20th centuries although remains of these may still be present under the parking and haulage facilities in the Western Dockyard (Maritime Archaeology, 2008). Many were demolished to ground level with basements being filled in with rubble, typically from the demolition waste. Some of these would have stood along Union Street and ran onto to the Esplanade and along the seafront; they would have been terraced style buildings with a mixture of churches, hotels and pubs located amongst the houses. A more technical plan of the Port of Dover can be found dating back to 1737 (**Figure 7** in **Appendix 001**); this would have been commissioned by the Dover Harbour Board. The layout of the port has clearly evolved by this point, with the main sections of the harbour becoming much more developed and substantial. The map itself has also been drawn in a much more technical manner, removing the misleading perspectives that have been included on Eldred's. The area of reclaimed land at the base of the cliff appears to have developed further with more homes being constructed, depicted on the plan by an outline of rows of houses at the base of the cliff line. Houses that were previously visible on The Promenade drawn by Eldred in 1641 have now gone, suggesting that they were demolished before 1737.

An official decision to formally redevelop this naturally forming shingle bank was made in 1816 by the Harbour Commissioners and a large amount of houses were constructed along Marine Parade. Completed by 1820, Marine Parade still stands to this day, converted to offices, flat and a hotel.

The Waterloo Mansions, which are also still present along The Promenade today, are Georgian and built 1834-8 by the architect Phillip Hardwick (Historic England, 2017). These properties (numbers 1 to 30 Waterloo Crescent) are Grade II listed buildings and remain relatively unchanged in character from the front façade. They are all currently in different conditions supplying a variety of functions, including a conversion to a hotel, homes, offices and club houses; some however are in an inhabitable condition and not in an use. They serve as a reminder of the success of Harbour as a passenger and commercial port in the 19th century (Maritime Archaeology, 2008).



In 1850 it was decided to improve the sea defences present along The Esplanade, this was due to an increase in shoreline erosion following the construction of the Admiralty Pier which changed the pattern of wave action around the harbour. A large granite wall was installed in order to protect the Western Harbour, this ran from Waterloo Crescent along The Promenade covering Marine Parade. The Eastern dockyard was not yet developed and therefore not protected from tidal influences. Because of this a large quantity of shingle would be washed away over the years due to a lack of sea defences not being in place. Once it was realised by the harbour that shingle was not settling at the cliff base, small defences were put into place by the Borough Council in 1878. This was done to project future possible land and opportunities for construction and development of the port.

The granite sea wall that curved along the seafront was well used by locals as a The Promenade and encouraged a large amount of tourism to the area. Because of this influx, large hotels like the Burlington, which was opened in 1867 and remained on the seafront until 1949, thrived on those visiting the port and the nearby Castle. This hotel was slightly set back from The Promenade in order to make way for gardens and a direct line to the pleasure pier which was planned to be built in 1892; this hotel was once Dover's largest building but was severely damaged during WWII and subsequently demolished. A view from this hotel along the pleasure pier can be seen in **Plate 4**. The Grand Hotel opened around 1891, just off of The Promenade, but was also demolished, along with other properties, after it received heavy shelling in WWII. During this time sea bathing also strongly established itself on the seafront and further encouraged more tourism to the area.

Dover Promenade Pier Company was formed in 1880 in order to manage the construction of a pleasure pier that was to be built extending out of Waterloo Crescent. A competition was held in order to choose a design for the pier; this was won by J.J Webster who came from Liverpool (Kenthistoryforum.co.uk, 2016). Construction began in 1892 with the same Webster being the engineer and Alfred Thorne the contractor. The pier cost £24,000 to build and was 900ft long and 100ft wide and officially opened on the 22nd May 1893; a pavilion was added to the end of the pier in 1901.

The 'Christine', collided with the pier in November in 1893, with a further 100ft being damaged by a storm in 1894, **Plates 1-5** show the damage to the pier. Maintenance and repairs took place and the pier was reopened on 4th August 1895 as seen in **Plate 3** (Piers.org.uk, 2016).

An image taken from the Burlington Hotel gives a different view of the pier, taken in 1908 (**Plate 4**), where in **Plate 5** the pleasure pier can be seen, with added colour, also in 1908. In WW1 the pier was purchased by the Admiralty and used by the Navy as a landing stage, it reopened to the public after the war offering steamer trips to Hastings. However, in 1925 the pier was in a state of disrepair, with restoration costs becoming unjustifiable. In 1927 Dover

Industries Ltd were contracted to dismantle the pleasure pier, salvaging the gates which now survive at Popes Hall, Lenham, Kent (Piers.org.uk, 2016).



Plate 1: *The Pleasure Pier after it had suffered damage by a storm, c.1894, looking north-east, DHB.*



Plate 2: *The Pleasure Pier after it had suffered damage by storm, c.1894, looking North, Dover Museum d22111.*

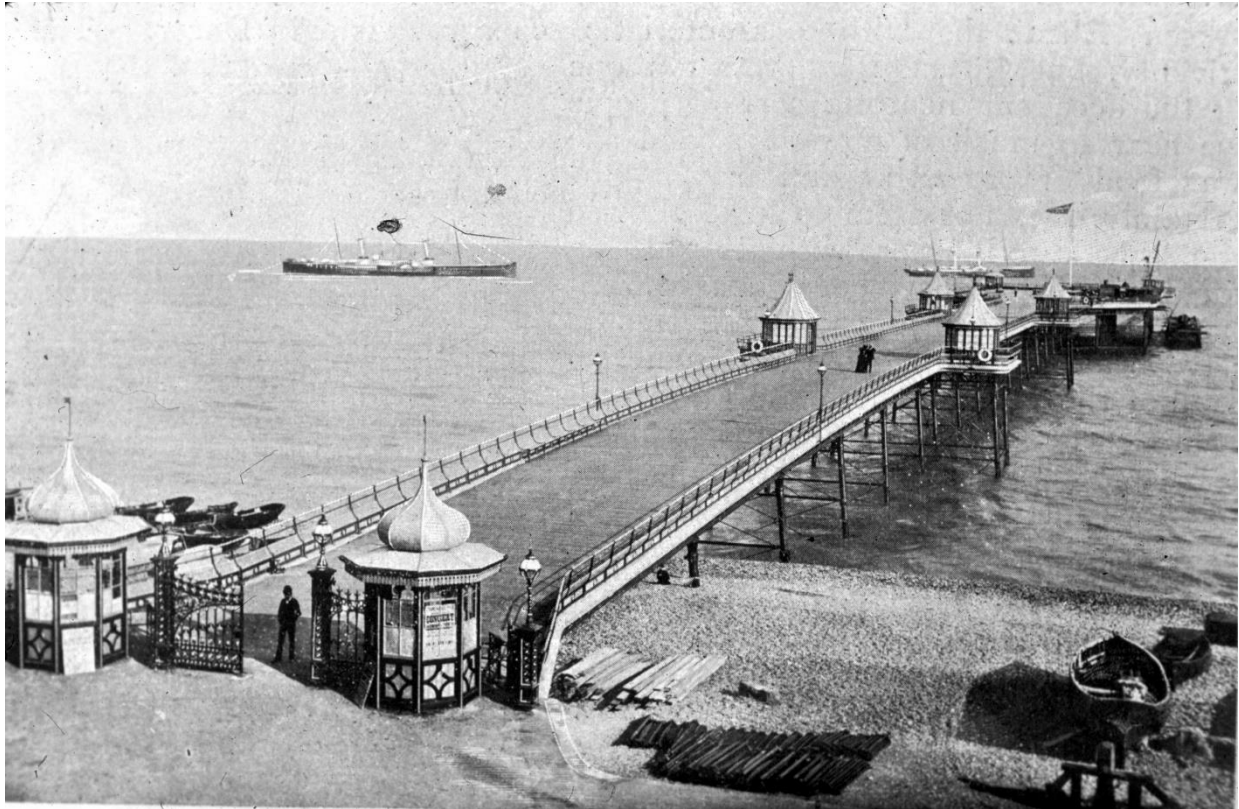


Plate 3: *The Pleasure Pier after its restoration, c.1895-1900, looking North, Dover Museum d25956.*



Plate 4: *The Pleasure Pier from the Burlington hotel, 1908, Looking south-east, Dover Museum d27773.*



Plate 5: *The Pleasure Pier with added colour, 1908, Looking south-east, Dover Museum d27775.*

The Eastern side of Dover Harbour did not see its main development start until around 1901 with the construction of the Eastern Arm breakwater. This was completed in 1904 and from then onwards the Eastern Dockyard has slowly developed further. In order for this development to take place land had to be reclaimed around the base of the cliffs, **Plates 6-8** show different stages of the reclamation process. The Eastern Docks played a large part during the war housing submarines in the dockyard and holding ammunition stores in caves in the base of the cliff. From 1952 it began to convert into a large car ferry terminal which ran ferries to and from France as well as various other places. Jubilee Way was built in 1977 allowing direct access for motorcars out of the port to the top of the cliffs, rather than driving up the steep hill that runs parallel to that of Dover Castle. This relieved port traffic that often caused congestion in the town as well as giving quicker access to cars and lorries to the Ferry Terminal.



Plate 6: Land that was to be reclaimed and become the Eastern side of the Dockyard, workers can just be seen on the cliff face about half way up. 18/10/1898, looking North, DHB.



Plate 7: *The land that would be reclaimed to become the Eastern side of the Dockyard, 09/04/1900, looking North, DHB.*

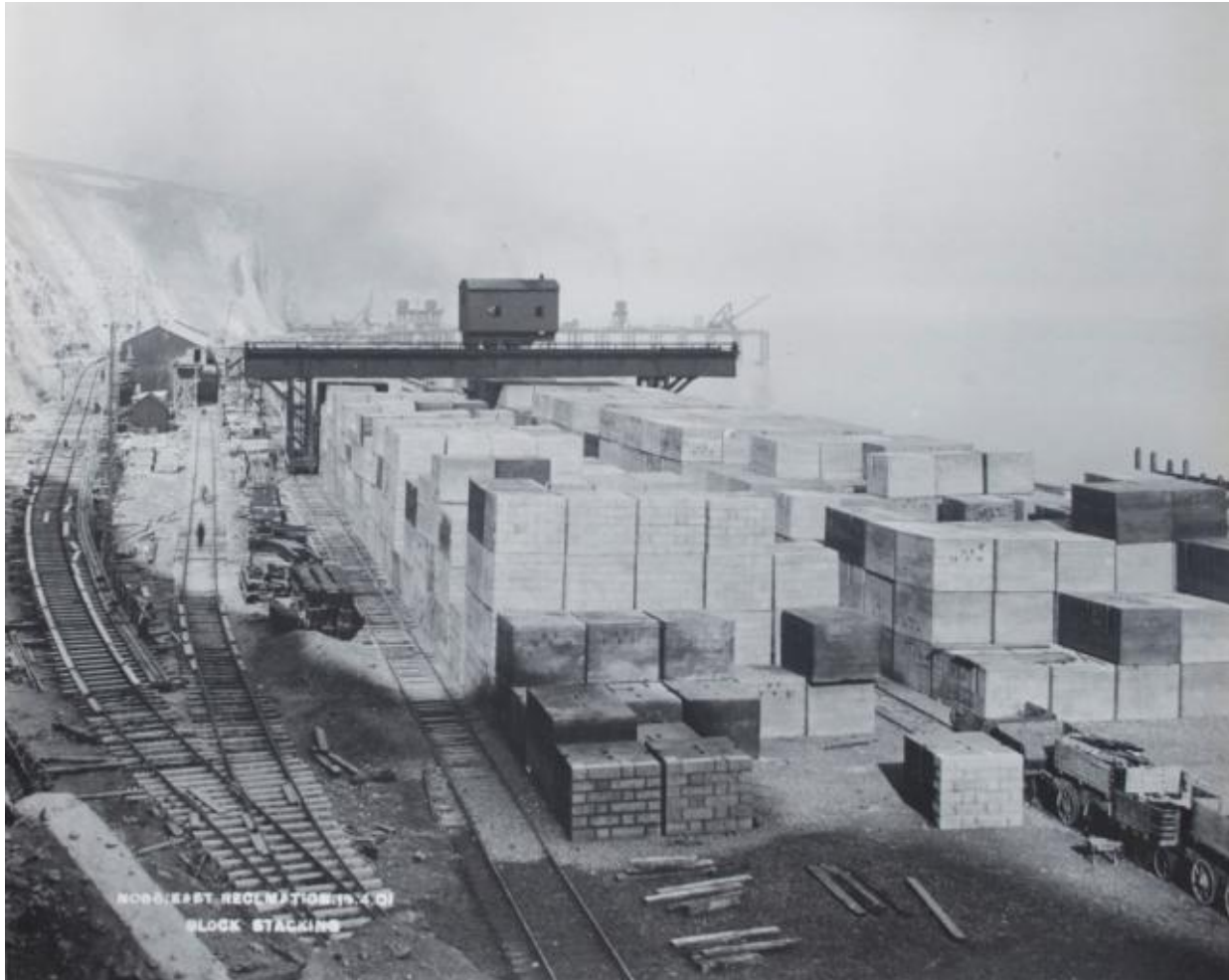


Plate 8: *The land that would be reclaimed to become the Eastern side of the Dockyard, 19/04/1901, looking North, DHB.*

Housing which is still present today, known as East Cliff Terrace, is situated close to the Eastern Dockyard entrance and has been present since the early 19th century and changed only marginally. This is mainly due to the listing of the group of houses (numbers 1-39) in 1973, mainly due to their character and design being strongly reflective of their era. The layout of their footprint can be seen present on The Promenade in **Figure 8** in **Appendix 001**, drawn in 1957. Images of this housing taken in 1952 can be seen in **Plate 9**. **Plates 10-13** show different viewpoints looking across the harbour, East to West..



Plate 9: *East Cliff Terrace can be seen to the left of the image, with the entrance to the Eastern Docks to the right, 1952, looking North, DHB.*



Plate 10: *View from the Eastern Docks looking back to the Western side and the Waterloo Mansions, 1955, looking south-west, DHB.*



Plate 11: View from the Eastern Docks looking back to the Western side and the Prince of Wales Pier, 1956, looking South, DHB.



Plate 12: View from the Prince of Wales Pier looking towards the Waterloo Mansions, 1956 looking north-west, DHB.



Plate 13: View from the Eastern Docks looking back to the Western side and the Waterloo Mansions, 1958, looking south-west, DHB.

Dover Harbour's railway line ran between the Harbour Station, situated close to the Admiralty Pier, and the Eastern Docks from 1918 to 1964. The track ran along The Promenade and also onto the Prince of Wales Pier. Soon after the track was laid, a train was involved in an incident which led to the Admiralty, who had control of the harbour at the time, to erect a small wire fence either side the track lines. A flagman was also hired to walk in front of the train and wave a red flag, to warn those of its presence. The flagman also signalled the train to a stop as there was no electronic signalling in place at the time. It was a single track, which had passing loops and catch points; this enabled the train to travel in either direction along The Promenade. The connection with the landward end of the Prince of Wales Pier was not a smooth one as the sharp corner meant that trains were often derailed which caused delays in timetables.

The Esplanade hotel, which had been present on The Promenade since 1838 had to be partially demolished, and the void braced, in order to fit the train line along the Prince of Wales Pier. **Plate 14** shows a parade walking through the partially demolished hotel and onto the Prince of Wales Pier; the brace can be seen in the background. The section of the rail line was

installed alongside the Prince of Wales Pier which was finished in 1904 (**Plate 15**). The general layout of the seafront around this time can be seen in **Figure 9** in **Appendix 001**.



Plate 14: *A parade taking place on the Prince of Wales Pier, the Esplanade Hotel can be seen braced in the background, c.1920, looking West, Dover Museum Collection d28101.*



Plate 15: *The rail line connection at the landward end of the Prince of Wales Pier, c.1904, looking East, Dover Museum Collection d05808.*

When the track was first laid it was not set into the roadway, leaving the track protruding above the road surface. In 1924 Dover Harbour Board re-laid the track line flush to the road surface. This proved very beneficial for cars wanting to drive over the track; however this resulted in cars parking over the rail lines and often holding up trains.

WWII saw the Admiralty return to the seafront at Dover, and the train line became a well-used means of the transportation of goods, supplies and coal between the two docks. Oil stored in the caves of the white cliffs also became much easier to transport and store by using the train line. After WWII, the track was turned to transporting damaged materials from the harbour and wrecked ships. Freight wagons were also using the line. The need to transport coal diminished after the war as ships were converting to oil engines which continued to be stored in caves in the base of the cliffs (Jenkinson, 1990).

The following years saw the train line become much more hazardous to the public. Despite warnings, people would often dodge out in front of trains and there were many near misses as well as incidents. During winter ice and soot would fill the ridges in the track that would often have to be removed by hand. The growing popularity of cars also caused more delays with incidents of cars parking over the line steadily increasing, at worse causing 45 minute to hour long delays.

The last train to run the length of The Promenade was on 31st of December 1964 (Jenkinson, 1990). Primarily due to the introduction of the 'roll-on roll-off' berths in the Eastern Docks the tracks were lifted off the main Promenade, but remained visible on the Prince of Wales Pier. They can also still be seen outside what is left of the Dover Harbour Station. **Figure 10** in Appendix 001 shows a plan for the removal, partial removal, or burial of the removed train lines, **Plate 16** shows the rail line in 1961, on the Prince of Wales Pier before it was removed.



Plate 16: A detail looking down the Prince of Wales Pier with the train lines clearly visible, 1961, Dover Museum Collection d27037.

Little information survives on the condition of The Promenade during both WWI and WWII. This is due to high levels of secrecy and a lacking of both maps and photographs of the area the few that do exist, the majority of which have large copyrights against them.

After WWII any buildings that stood along the seafront generally needed a large amount of repair, this was due to the vast amount of shelling Dover received in the war, getting its name as Hellfire Corner. A collection of images, taken around 1950, show Waterloo Crescent in a variety of different stages of repair after the war (**Plate 17-21**). Waterloo Crescent before its restoration can be seen in **Plate 20**, the building has continuously been restored and maintained and to this day gives the seafront a strong sense of Georgian Character. However, the apartments that stood next to the Marine Parade were demolished in order to make way for a new, more modern set of flats. It was hoped by the Harbour Board and Council that this modern style would positively contrast Waterloo Crescent and therefore balance out the character of the overall aesthetic to the seafront **Figure 12 and 13** in **Appendix 001** show the layout of the seafront after the war.



Plate 17: The front of Harbour House and the associated Waterloo Mansions, with the train line visible, c.1950, looking north-west, DHB.



Plate 18: *The front of Harbour House and the associated Waterloo Mansions, showing more of the seafront layout, c.1950, looking North, DHB.*



Plate 19: *The front of the Waterloo Mansions, c.1950, looking West, DHB.*



Plate 20: 3 Waterloo Crescent showing damages and dilapidation after WWII, c.1950, looking north-west, DHB.



Plate 21: Taken from in front of the Waterloo Mansions looking towards the harbour, c.1950 looking north-east, DHB.

Initially it was proposed that the design of the flats be influenced by that of New York; however after much application and deliberation of this, the final design was chosen by tender in 1956. Aerial images of the harbour before the intended building was added to the landscape can be seen in **Plates 22-23**. The design is by Rush and Tompkins, of Sidcup, and was proposed at a cost of £1,044,613. In February of 1958 a competition was held to name the flats, and The Gateway was chosen and by October 1959 they were completed, visible in **Plate 24**.

The flats and associated gardens still remain present today although largely their interiors have been totally renovated. An alternative proposal for the flats that was not accepted can be found in **Figure 13** in **Appendix 001**. General overviews of the seafront can be seen in **Plates 25-28**; they show a good depiction of how the seafront and The Promenade looked in the late 1950's.



Plate 22: Aerial image of the Western Dockyard, with the layout of the seafront visible, 1950, looking South, DHB.



Plate 23: Aerial image of the Western Dockyard, showing the layout of the buildings lining The Promenade, 1950, looking West, DHB.



Plate 24: Image showing the seafront at Dover Harbour, the newly built gateway flats can be seen in the background, c.1960, looking North, DHB.



Plate 25: Looking north down The Promenade towards the Eastern Dockyard, taken from a Harbour House Balcony, 1956, looking North, DHB.



Plate 26: Taken from in front of the Waterloo Mansions looking along the Georgian terrace, 1956, looking North, DHB.



Plate 27: Photographed from the Prince of Wales Pier looking towards the Waterloo Mansions, 1956, looking north-west, DHB.



Plate 28: *The Promenade with flower landscaping, 1956, looking north-east, DHB.*



The land which had to be cleared in order to build the new Gateway Flats initially served as the local baths for the town (Dover Express, 2001). These fell into disuse and were cleared in 1878 by Dover Harbour Board and a pleasure garden was built for the community to enjoy. Granville Gardens were considered very grand for their time and were a popular addition to The Promenade. After the war they were badly damaged and repaired somewhat, however a large amount of it was lost with some features such as a grand fountain, being filled in and turned to flower beds. The gardens are still present today with only some of the land being integrated for use within the Gateway Flats construction project. Many locals view the gardens today as an 'imitation' of their former self (Dover-kent.co.uk, 2016).

Modern improvements have included the construction of the Premiere Inn in 2001 and, in 2010; an esplanade improvements scheme took place which saw the western side of The Promenade undergo a significant modern update. The seaward side of the land had a concrete structure added, providing benches and shelter, as well as becoming a prominent feature of the character of the dockyard. The art installation was created by Tonkin Liu and had elements on the beach, along the foot path and also in the form on lamp posts; all depicting the movement of waves. Images can be seen in **Plates 29-30**, as well as **Plate 31** showing a commemorative plaque present on the esplanade that details those involved in the project. (Tonkinliu.co.uk, 2016)



Plate 29: *The concrete structure installed by Tonkin Liu emulates waves rising and falling on a shoreline, Tonkinliu.co.uk, 2016.*



Plate 30: The seating which has been incorporated into the concrete structures installed on The Promenade, Tonkinliu.co.uk, 2016.



Plate 31: Detail of The commemorative concrete plaque which can be found amongst the installed works on The Promenade, 2016, DHB.



6. Construction Details

An official technical construction plan of The Promenade as a stretch of land does not exist, as it isn't a working part of the port infrastructure. However, a small extract can be found in a report written by Canterbury Archaeological Trust in April 2015, this has been included below. Full structural reports have been completed of the area covering the condition of the Union Street Quay, Esplanade Wharf and Esplanade Quay, with their focus being on the areas involved with docking. A visual survey was conducted by Atkins concerning solely the sea wall and its condition, this can be found in **Section 7** of this Desktop Study. The following is an extract from their report summarising the seawalls history and construction. *The present-day promenade, popular with locals and tourists alike, stands between 1.00 and 2.00m higher than the adjacent shingle beach, its seaward side delimited by a solid revetment of mortared stone blockwork. The source of the stonework is not certain - none of the stone is immediately local to Dover and it must have been imported. An origin in the nineteenth century for the retaining wall appears certain enough and the structure seems to have been in existence by the 1860s. The 25 inch OS map for 1898 clearly marks the completed wall and there can be no doubt that this is the same one as the present structure. On the map it is shown as then being between 8 and 14 metres wide, fronted by a strip of sand and shingle. The extent of this structure is thus considerably more than is exposed today, which implies that significant quantities of shingle have accumulated against it during the twentieth century, obscuring the lower levels. This is also confirmed by nineteenth century photographs. Deposition of beach material is likely to have occurred due to the changes in currents following the construction of the various harbour walls and breakwaters that were erected during the course of the twentieth century (Canterbury Archaeological Trust, 2015, p. 12).*

7. Current Condition

Plates 32-50 demonstrate the current condition and form of The Promenade; images were taken in September 2016.



Plate 32: *The Prince of Wales Pier and Clock House whilst construction works for the redevelopment are taking place, 23/09/2016, looking South, DHB.*



Plate 33: *The Water Sports Centre present on the seafront, 23/09/2016, looking north east, DHB.*



Plate 34: *Harbour House on Waterloo Crescent, 23/09/2016, looking north-west, DHB.*



Plate 35: *The view towards the castle from outside Harbour House, 23/09/2016, looking North, DHB.*



Plate 36: *The largest section of Waterloo Mansions with added works by Tonkin Liu, 23/09/2016, looking north-west, DHB.*



Plate 37: Looking from the Waterloo Mansions towards the Eastern Dockyard, 23/09/2016, looking North, DHB.



Plate 38: *One of two kiosks positioned along The Promenade, 23/09/2016, looking north-east, DHB.*



Plate 39: *The Waterloo Mansion closest to the Eastern Dockyard, 23/09/2016, looking north-west, DHB.*



Plate 40: *The Gateway Flats with the castle and cliffs in the background, 23/09/2016, looking North, DHB.*



Plate 41: Waters edge with a low tide opposite the Gateway Flats, 23/09/2016, looking north-east, DHB.



Plate 42: *The Prince of Wales Pier in the background with the Waterloo Mansions to the right of the image, 23/09/2016, looking South, DHB.*



Plate 43: *Detail of the Gateway Flats, 23/09/2016, looking West, DHB.*



Plate 44: *The Eastern Docks can be seen in the background with the Premier in to the left of the image, 23/09/2016, looking north-east, DHB.*



Plate 45: *The Premier Inn situated on The Promenade, 23/09/2016, looking north-west, DHB.*



Plate 46: *Old defences next to a concrete groyne- date installed unknown, 23/09/2016, looking north-east, DHB.*



Plate 47: *Detail of a collection of stones used as defences- date installed unknown, 23/09/2016, looking north-east, DHB.*



Plate 48: *View of the Eastern Docks from the small groyne, 23/09/2016, looking north-east, DHB.*



Plate 49: *A look back at the Western Docks including the Waterloo Mansions and the Gateway Flats, 23/09/2016, looking south-west, DHB.*



Plate 50: *The base of the White Cliffs and the start of East Cliff Terrace, 23/09/2016, looking north-west, DHB.*



Plate 51: *The Promenade connecting the Eastern Dockyard- including East Cliff Terrace, 23/09/2016, looking North, DHB.*



8. Visual Survey of the Sea Wall's Current Condition

In 2012 Dover Harbour Board commissioned Atkins Limited to conduct an inspection and structural appraisal of the marina walls located in the Western Docks. The resulting Asset Management Structural Integrity Surveys (AMSIS) were completed in January 2014 and provide the most recent condition appraisal of all Western Dock marina walls. Information from the AMSIS reports Atkins, 2014 has been combined with recent photographs and information collected during site visits by DHB staff to provide an overview of the nature and extent of the current structures and their overall condition.

Plates 32-66 demonstrate the current form of the Sea Wall through photographs from the AMSIS surveys (Atkins, 2014) photographs taken by DHB as part of the Level 1 Heritage Recording (Dover Harbour Board, 2016) and additional photographs taken by DHB for the purpose of this study.

Atkins 2014 describes the construction of the Sea Wall as follows:

The outlined structural details below are derived from archive drawings which have been provided to Atkins Limited by DHB, and are attached in Appendix 001 of this report (and do not necessarily reflect as-built conditions, e.g. sometimes relating to tender drawings or repair works). It should be noted that all dimensions quoted below are approximate. Where dates are shown on the drawings, the oldest structures are circa 1946 but for several structures no drawings (or dated drawings) are available and it is expected that they are considerably older (or at least the original structural elements).

Most of the structures have been modified/ repaired since their original time of construction and some of the drawings show original details, whereas some relate to subsequent modification works. Due to the considerable length (~1km) of the Eastern Beach Sea Wall (SEAWALL01) and varying structural forms, the frontage has been split into discrete lengths. Groynes along the Eastern Beach were not inspected.

The surveys of The Promenade were conducted on 10th and 11th June 2013 and 12th August 2013. The inspection record consists of photographs of specific features observed and general views of each structure. Along The Promenade the structural integrity of the street furniture was not inspected, for example seating, raised planting, shelters, street-lighting, etc.

The AMSIS reports (Atkins, 2014) provide a detailed description of the construction details of The Promenade Sea Wall derived from site observations and archive drawings provided to Atkins by DHB. These drawings are included in **Appendix 001** as follows:



DHB Dwg No	Description	Author	Date	App 001 Fig No
17407-A	New Section of SeaWall- East of No 6 Groyne	DHB	02/03/1979	15
4595	Dover Bay- Protection of shore	Unknown	01/04/1851	16
4787	Dover Bay-Protection of shore	Unknown	01/01/1851	17
4788	Boundary Groyne	Unknown	01/01/1851	18
6382	Marine Parade	Unknown	01/01/1902	19
6384	Sea Front Wall- Typical Section New Work	DHB	10/03/1943	20
6389	Sea Front Wall- Repairs and Reconstruction Necessitated by Scour of Beach	DHB	05/10/1945	21
6390	Proposed Conversion of Remaining Part of the Boat Slope- Marine Parade	DHB	23/10/1946	22
6392	Section of Sea Front Wall Opposite 27 Marine Parade and Adjacent to concrete slope	DHB	01/01/1943	23
6393	Sea Front Wall- Repairs and Reconstruction Necessitated by Scour of Beach	DHB	01/06/1945	24
6394	Sea Wall- Between 'O' and Boundary Groyne- Beach Levels	DHB	01/11/1922	25
6395	Plan of Sea Front	DHB	01/01/1905	26
6398	Sea Front- Repairs to Sea Wall	DHB	28/10/1946	27
6399	Sea Front- Promenade Wall- Plan Showing Repairs Carried out and Proposed	DHB	26/03/1947	28
6400	Sea Front- Promenade Wall- Details of Tie Rods, turnbuckles and Plates	DHB	03/04/1949	29
6401	Sea Front- Promenade Wall- Details of main Piling Wall and Anchorages	DHB	12/04/1947	30
6402	Sea Front- Promenade Wall- general Site Plan and Borings	DHB	15/04/1947	31
6403	Sea front- Promenade Wall- Details of Toe and Piling	DHB	28/04/1947	32
6404	Sea Front- Promenade Wall- Supplementary Details of Sheet Piling	DHB	01/09/1947	33
6405	Sea Front Wall- Additional Concrete required for Anchorages	DHB	10/10/1947	34
6406	Sea Front- The Promenade – Supplementary Drawing Showing Details of Anchorage for Long Tie Rods Under Rail Track	DHB	13/10/1947	35



DHB Dwg No	Description	Author	Date	App 001 Fig No
6408	Sea Front Repairs- Sketch to Accompany Report Dated 29/09/1947	DHB	23/10/1947	36
6409	Sea Front Repairs- Sketch to Accompany Report Dated 29/09/1947	DHB	29/10/1947	37
6411	Sea Front Wall- Record Drawing on Completion of Works 1947/1948- Location and Representative	DHB	14/02/1948	38
6412	Sea Front Wall- Record Drawing on Completion of the Works 1947/19478- Plan and Seaward Elevation	DHB	14/02/1948	39
6413	Sea Front Wall- Record Drawing on Completion of the Works 1947/19478- Plan and Seaward Elevation	DHB	14/02/1948	40
6416	Sea Front Wall- Sections	DHB	28/07/1948	41
6418	Sea Front- Beach levels on West Side of Groynes	DHB	23/12/1948	42
6419	Sea Front- Beach levels on East Side of Groynes	DHB	23/12/1948	43
6420	Sea Front- Beach levels on West Side of Groynes	DHB	23/12/1948	44
6421	Sea Front- Beach levels on East Side of Groynes	DHB	23/12/1948	45
6422	Sea Front- Beach levels on West Side of Groynes	DHB	23/07/1950	46
6423	Sea Front- Beach levels on East Side of Groynes	DHB	23/07/1950	47
6424	Sea Front- Beach levels on East Side of Groynes	DHB	23/07/1950	48
6425	Sea Front- Beach levels on West Side of Groynes	DHB	23/07/1950	49
6426	Sea Front- Beach levels on West Side of Groynes	DHB	14/05/1952	50
6427	Sea Front- Beach levels on East Side of Groynes	DHB	14/05/1952	51
6428	Sea Front- Beach levels on West Side of Groynes	DHB	14/05/1952	52
6429	Sea Front- Beach levels on East Side of Groynes	DHB	14/05/1952	53
6430	Sea Front- Beach levels on West Side of Groynes	DHB	23/02/1954	54



DHB Dwg No	Description	Author	Date	App 001 Fig No
6431	Sea Front- Beach levels on East Side of Groynes	DHB	23/02/1954	55
6432	Sea Front- Beach levels on West Side of Groynes	DHB	23/02/1954	56
6433	Sea Front- Beach levels on East Side of Groynes	DHB	23/02/1954	57
6444	Sea Front- Beach Level	DHB	06/01/1950	58
6445	Sea Front- Beach Level	DHB	06/01/1950	59
6446	Sea Front- Beach Level	DHB	06/01/1950	60
6447	Sea Front- Beach Level	DHB	06/01/1950	61
6448	Sea Front- Beach Level	DHB	02/03/1956	62
17407	New Section of Sea Wall- East of No 6 Groyne	DHB	02/03/1979	63
17526	Sea Front- Renewal of Steps to Beach Adjacent to Groyne No 2	DHB	11/07/1979	64
17775	Sections Through Seafront Showing Movement of Beach	DHB	16/01/1974	65
18771	Sea Front- Repairs to Sea Wall Between Boundary Groyne & 'O' Groyne	DHB	24/09/1981	66
25258	Sea Front- new Sea Wall West of No 3 Groyne- Piling Details	DHB	28/04/1994	67
25259	Sea Front- New Sea Wall West of No 3 Groyne- Concrete Details	DHB	29/04/1994	68



Plate 52: *Sloping blockwork revetment, the seawall can be seen on the left, 2013, looking North, Atkins 2014, 15.*



Plate 53: *Concrete spalling with a masonry base, could have been installed as a tank or sea defence, 2013, looking North, Atkins 2014, 16.*



Plate 54: *Marine Growth along the concrete additions to the sea wall, 2013, looking North, Atkins 2014, 19.*



Plate 55: *A section of the sea wall, 2013, looking North, Atkins 2014, 20.*



Plate 56: *A ladder providing access to the beach covering different additions of the seawall, 2013, looking South, Atkins 2014, 21.*



Plate 57: *Looking along to seawall towards the direction of Waterloo Crescent, 2013, looking South, Atkins 2014, 22.*



Plate 58: *Steel sheeting covers the sea wall, looking towards the direction of the Eastern Docks, 2013, looking north-west, Atkins 2014, 24.*



Plate 59: *Looking down onto the dragons teeth which were installed into concrete, 2013, Atkins 2014, 25.*



Plate 60: *Looking down onto the dragons teeth which were installed into concrete, 2013, Atkins 2014, 25.*



Plate 61: *The much higher section of shingle, looking towards the North End of Waterloo Crescent, looking west, 2013, Atkins 2014, 28.*



Plate 62: *Undermining section further along The Promenade towards the Prince of Wales Pier, 2013, Atkins 2014, 29.*



Plate 63: *The much more modern, rear wall surround the kiosks found along The Promenade, 2013, Atkins 2014, 30.*



Plate 64: *A section of patched sea wall showing a clear change in material, outside of Harbour House, 2013, Atkins 2014, 31.*



Plate 65: *A much older section of wall opposite the sea sports centre and outside Harbour House, looking south-west, 2013, Atkins 2014, 32.*



Plate 66: *The side of the approach onto the Prince of Wales Pier, looking south-west, 2013, Atkins 2014, 33.*



9. Conclusions and Recommendations

This desktop study details the development of this area known as The Promenade from its earliest origins to the present day. This provides a detailed historic record ahead of works which may be undertaken as part of the wider DWDR scheme. With the exception of the Navigation Cut described below, the precise nature of works which may impact The Promenade is not yet fully determined. Therefore, this report has been written as a precautionary measure to inform any further works which may be required. The Promenade also represents a locally popular part of the harbour, well known throughout the town with a significant history.

The historic structures described in this document comprise both listed buildings and non-designated structures. However, as the works will not impact the listed structures there is no current requirement for Listed Building Consent.

As part of the DWDR works, the Tidal Basin and Granville dock will be infilled, existing access into Wellington Dock from the Tidal Basin will be closed off and a new navigation channel will be created to provide access into Wellington Dock. A retaining wall will be constructed across the existing entrance prior to reclamation behind the structure. The new Navigation Cut will be implemented towards the south of The Promenade, closer to the historic Western Dockyard, which will link and provide access for small to medium vessels to navigate into the Wellington Dock. A vehicular crossing over the new Navigation Cut will be created by a vehicle bridge.

Although initially disruptive during the works, when it is finished it could be assumed that it would run as efficiently as the swing bridge does currently allowing visitors easy access to key areas of the port and also to drive along the seafront. These works do not affect any listed buildings along The Promenade which reduces disruption. The only structure affected would be that of the listed Wellington Dock and Listed Building Consent has already been granted by Dover District Council for this work.

This report is not entirely inclusive and there are some remaining assets which can be found on The Promenade for which no further information has been located. For example, the small shelters which can be found amongst the work by Tonkin Liu, as well as the remains of past structures like the remaining sea, and possibly tank defences seen in **Plate 45** and the large cut stones seen in **Plate 46**. It was not uncommon for work to go ahead during War which was not officially recorded with drawings and official documents.



10. References

Atkins (2014), Dover Harbour Board Asset Management Structural Integrity Surveys Sea Wall and Promenade- SEAWALL01, SEAWALL02, PAVING218. Unpublished report reference: 5116154 / 072 / DG / 202.

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11. Appendices

Appendix 001 – Figures

Appendix 001 – Figures

***This document is to be read in conjunction with The
Promenade Desktop Study***

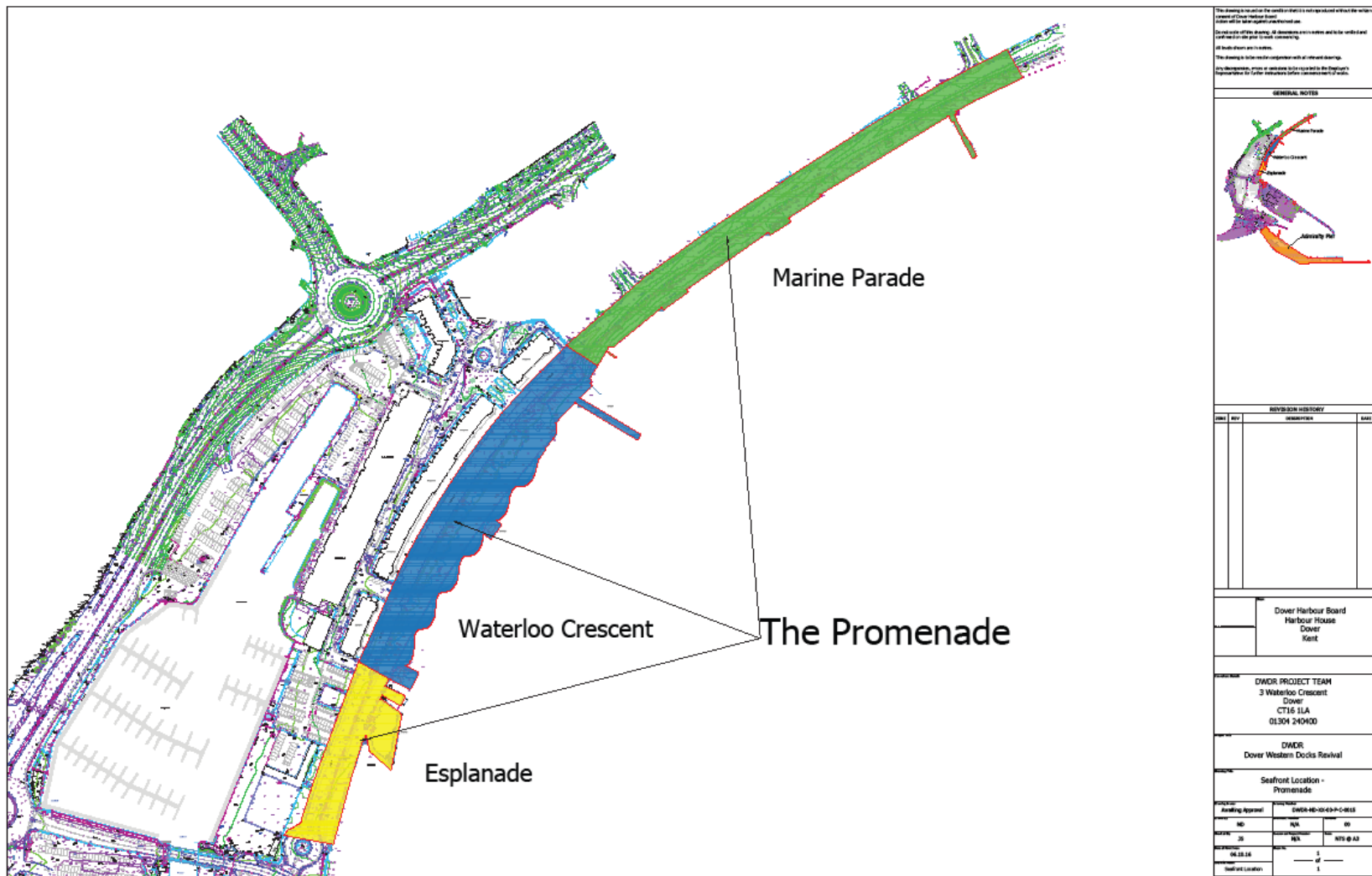


Figure 1: Location plan of The Promenade, detailing its three different sections, DWDR.

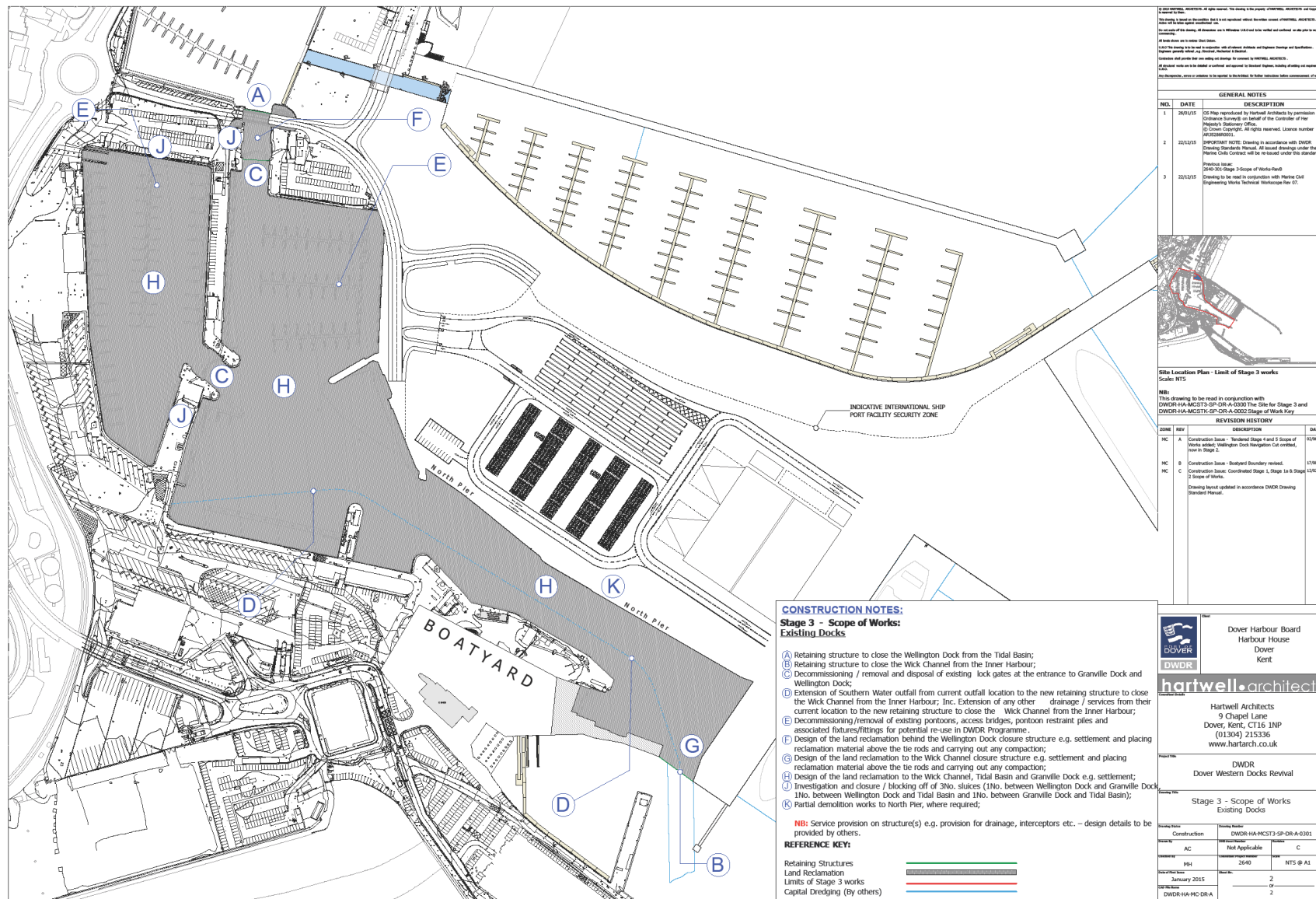


Figure 2: DWDR Project Office, Scope of Works for DWDR Stage Three, 2015, DWDR.



Figure 4: *The Haven of Dover, c1530, Kent History and Library Centre, DHB/P141/1.*



Figure 5: British Library, *State of Dover Haven* by Thomas Digges, 1595, © The British Library Board, Cotton Augustus I.i, f.46

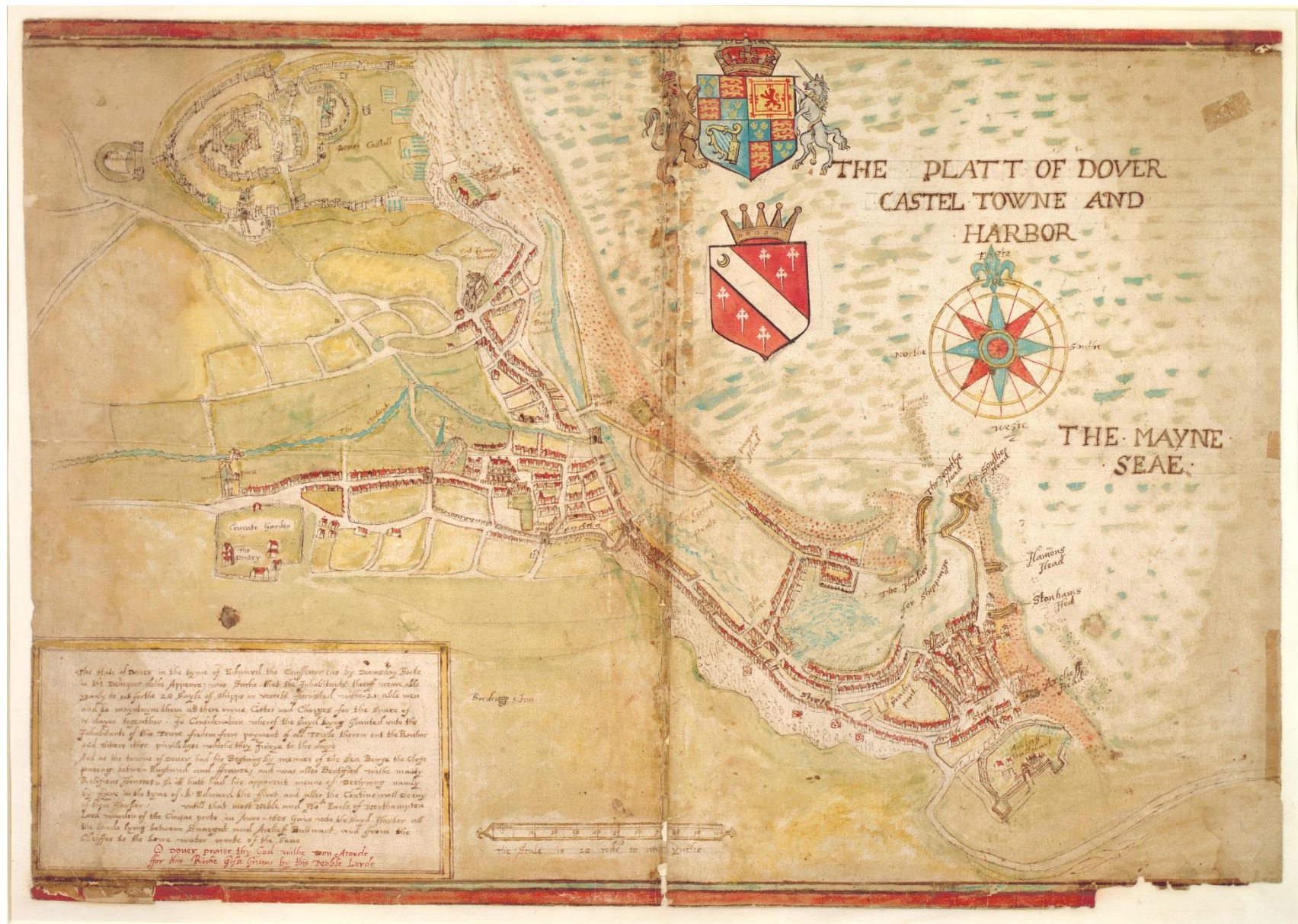


Figure 6: The Platt of Dover Castle Town W. Eldred, c.1605, DHB.

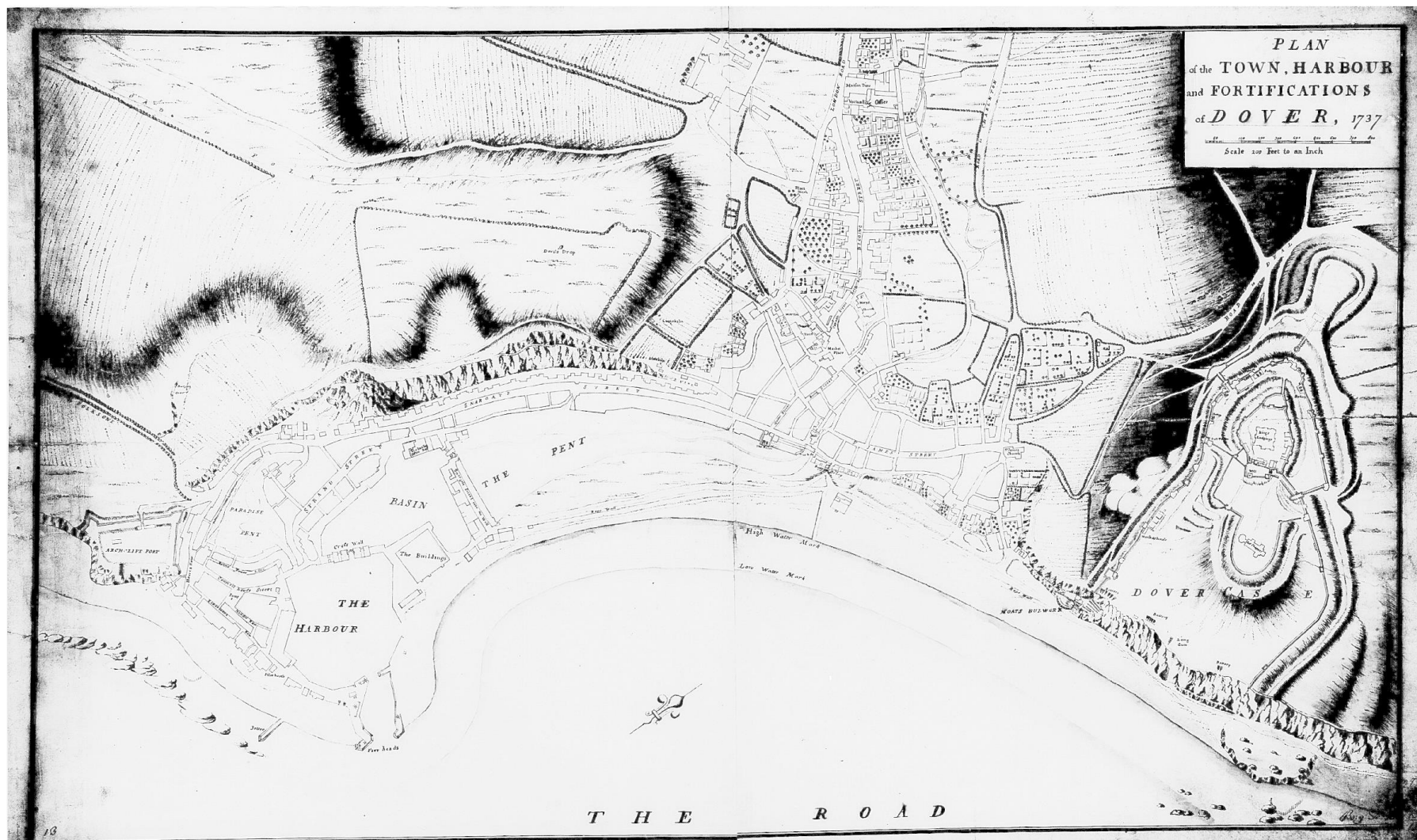


Figure 7: Town Harbour and Fortifications, c.1737, DHB.

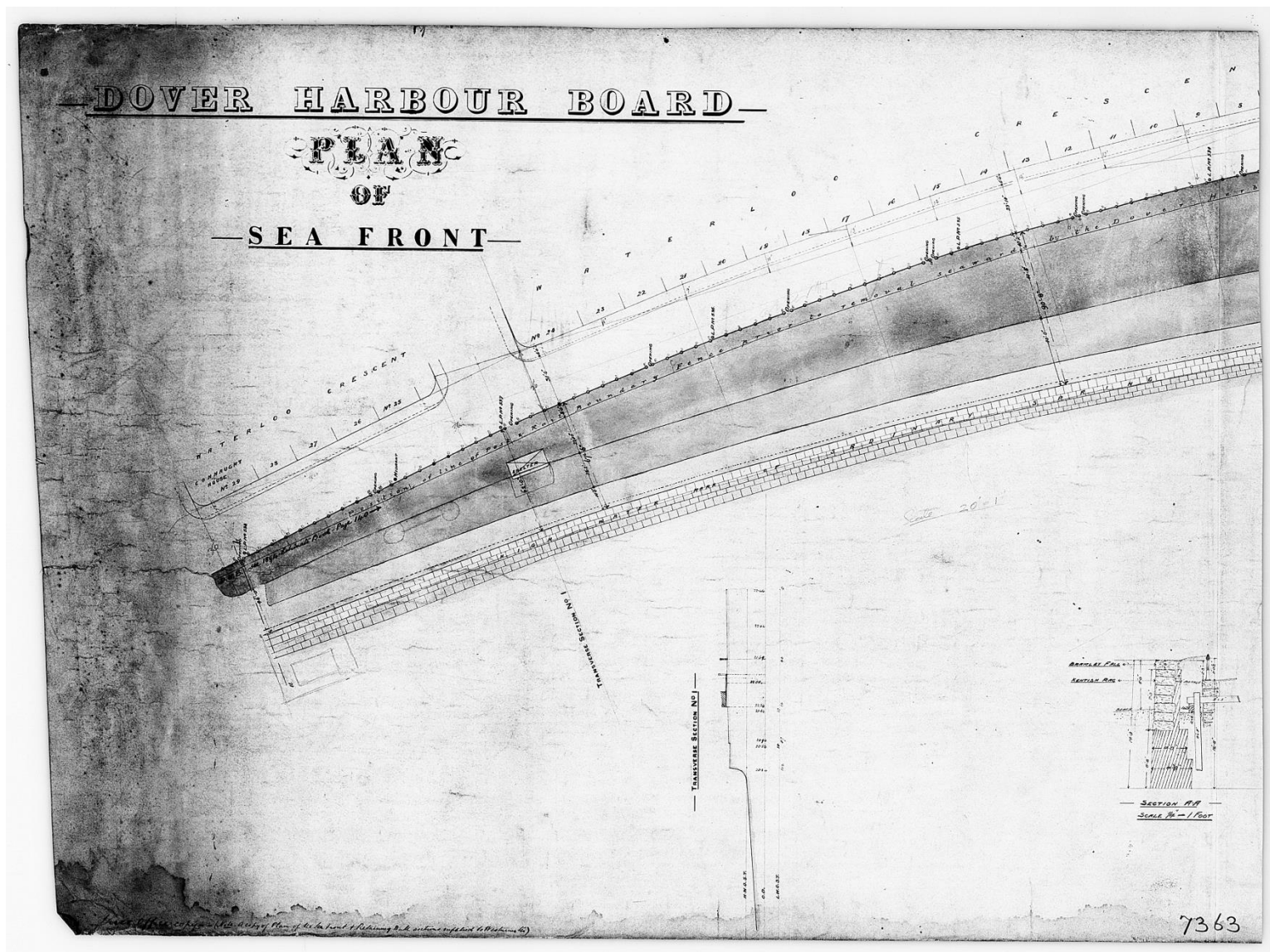


Figure 9- Dover Harbour Board, Plan of Sea Front, 1/9/1903, DHB Historical Drawings Archive Ref: 7363.

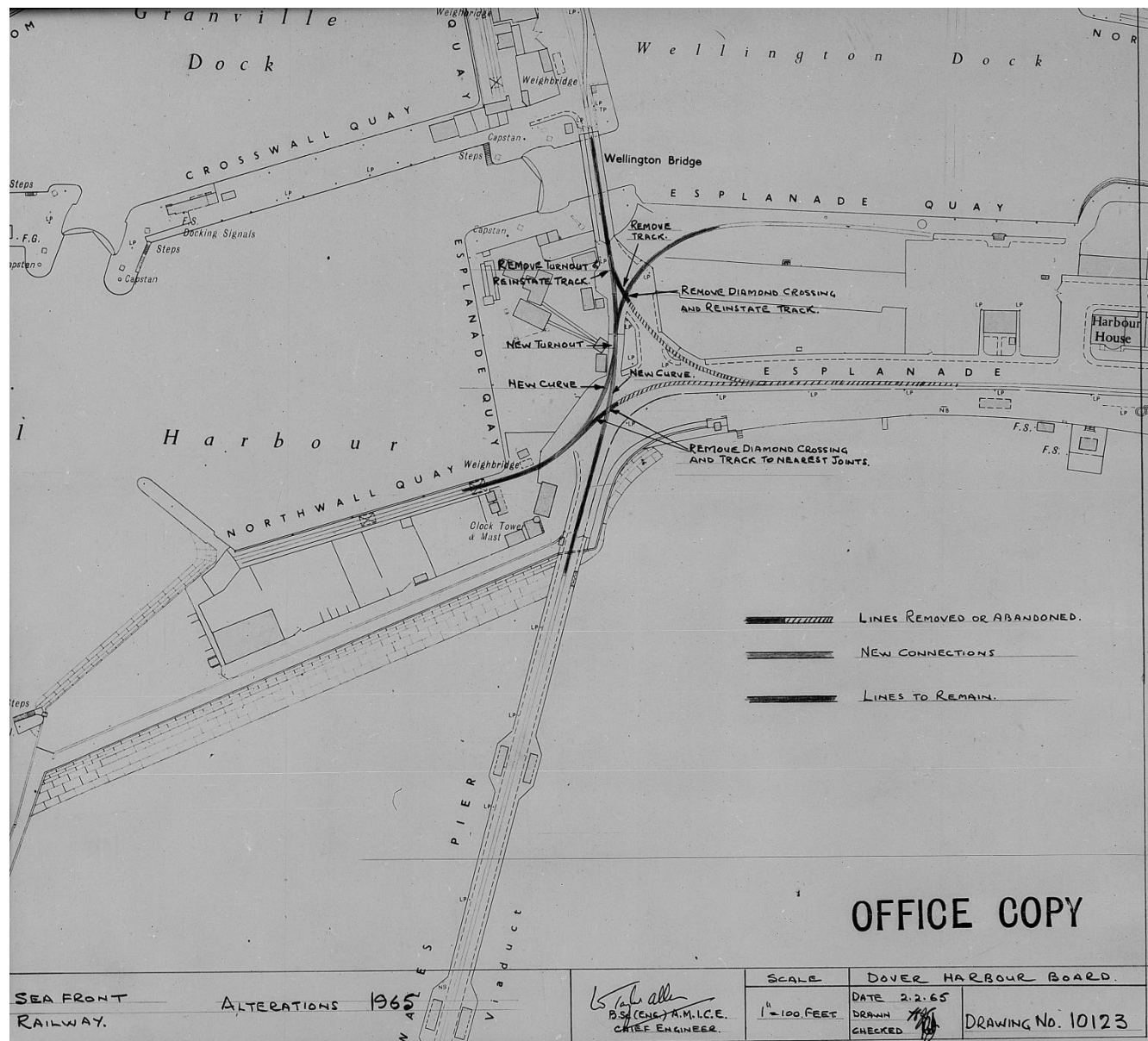


Figure 10- Seafront Railway Alterations, 2/2/1965 DHB Historical Drawings Archive Ref:10123.

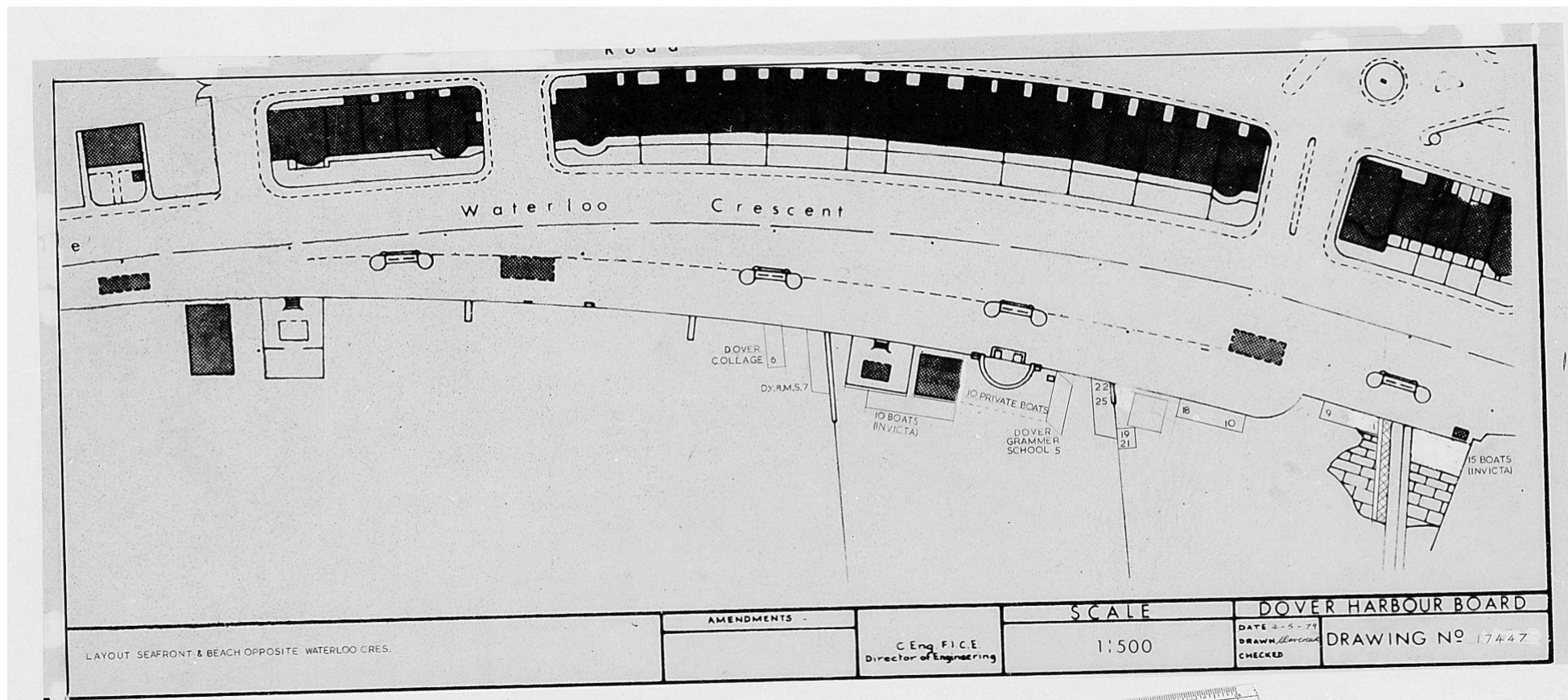


Figure 11- Layout of Seafront and Beach Opposite Waterloo Crescent, 4/5/1979, DHB Historical Drawings Archive Ref: 17447.

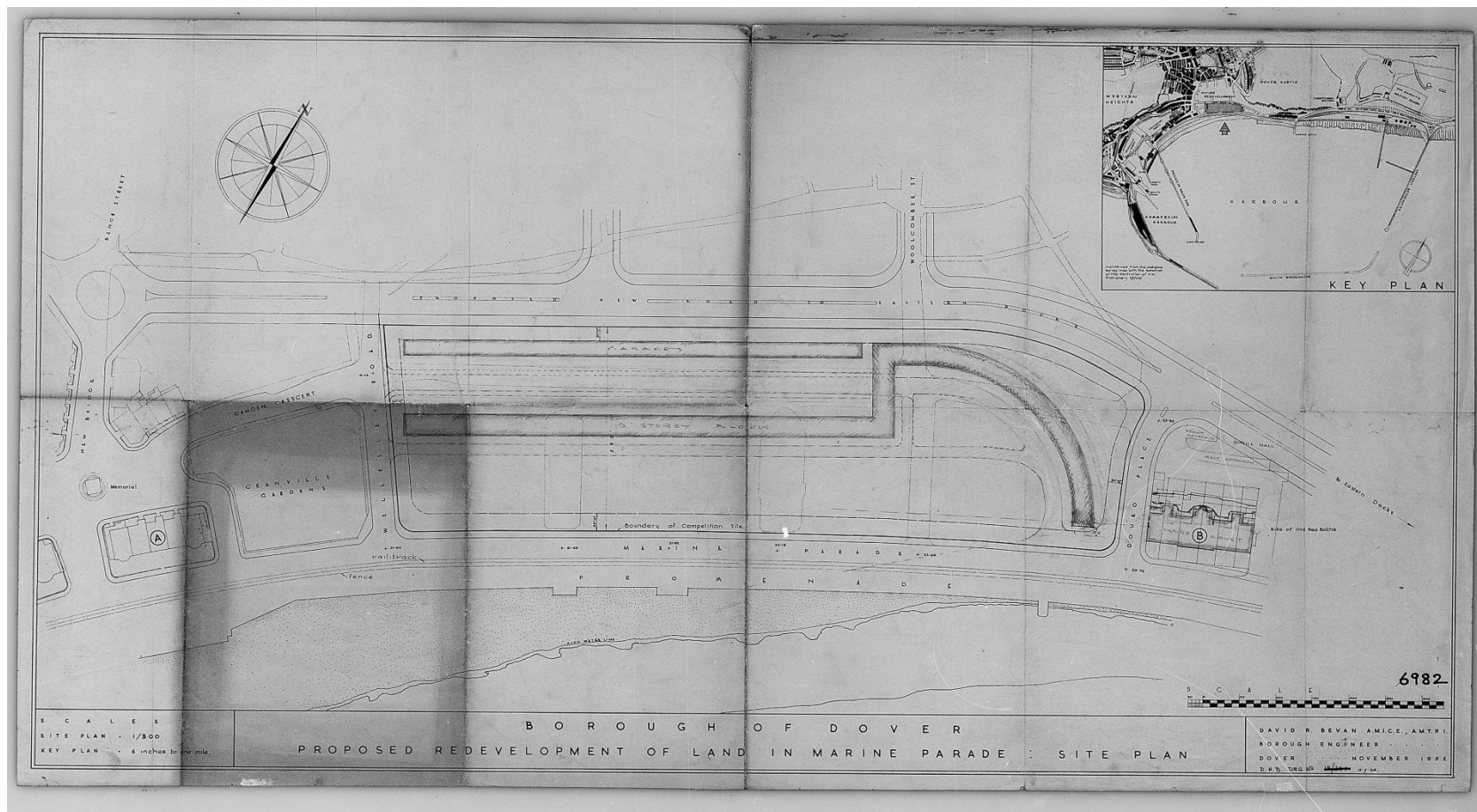


Figure 13- Proposal for the Gateway flats, Bevan, , 11/1952 DHB Historical Drawings Archive Ref: 6982.

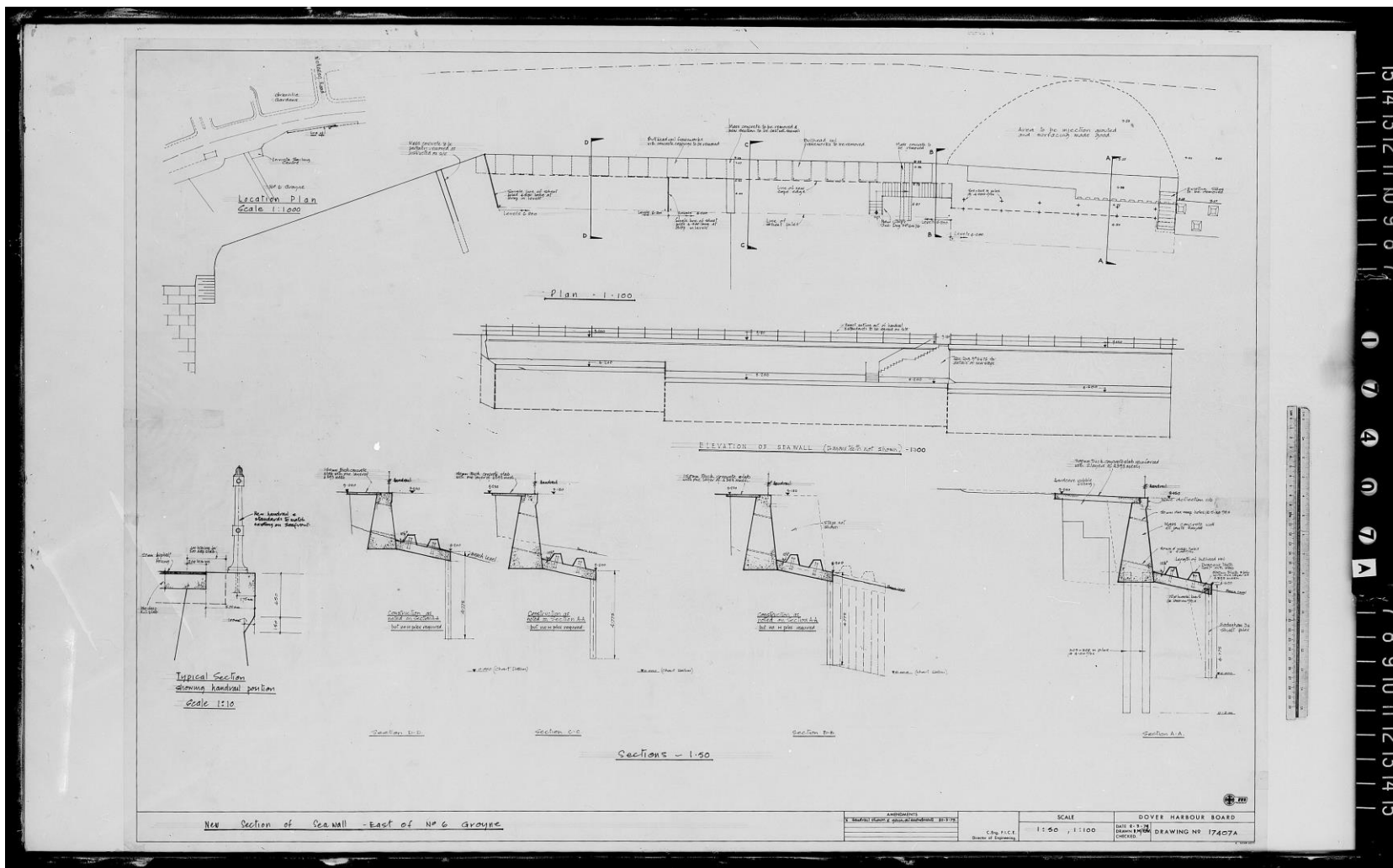


Figure 15- New Section of Sea Wall- East of No 6 Groyne, 02/03/1979, DHB Historical Drawings Archive Ref: 17407-A

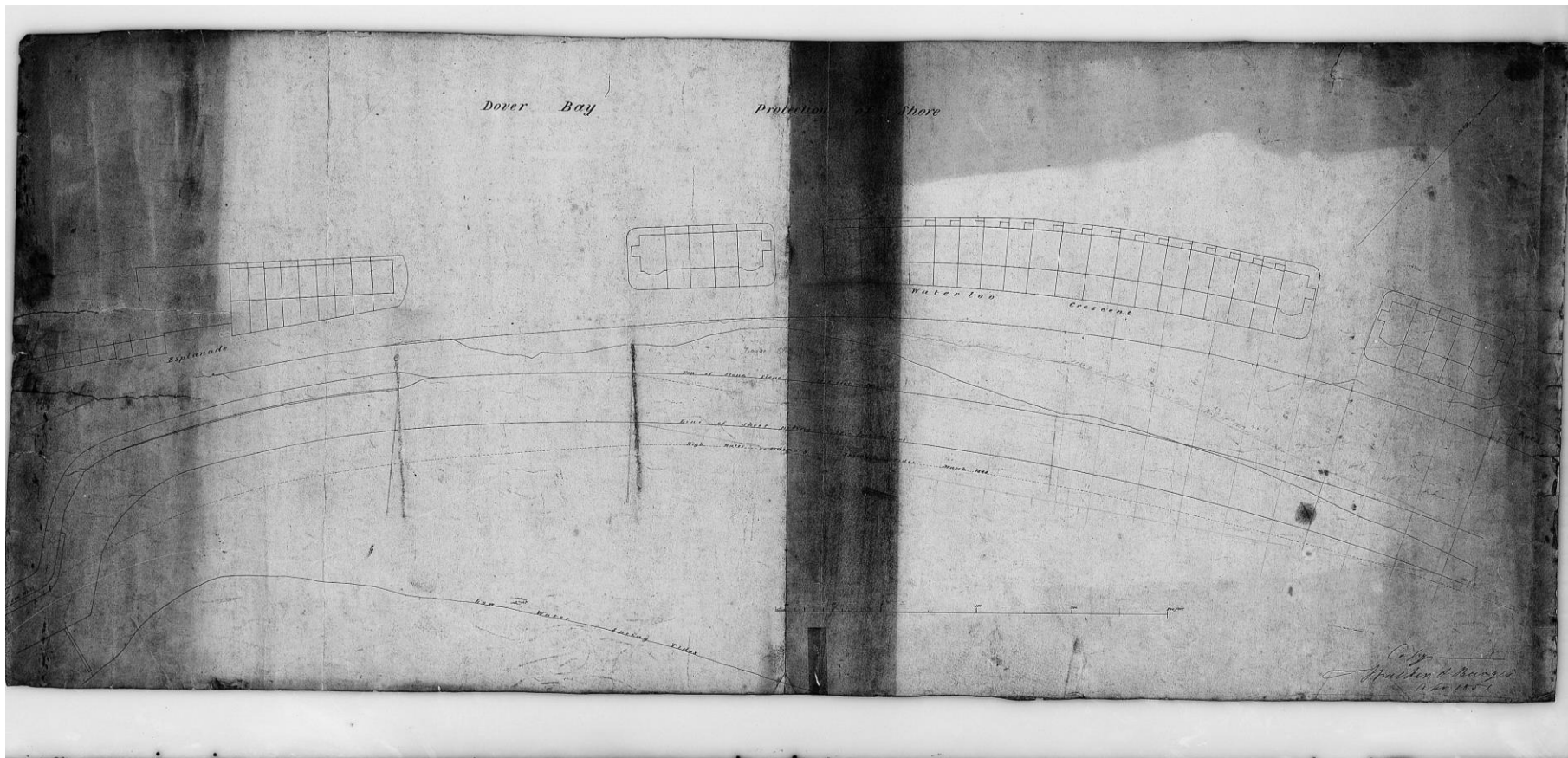


Figure 16- Dover Bay- Protection of shore, 01/04/1851, DHB Historical Drawings Archive Ref: 4595.

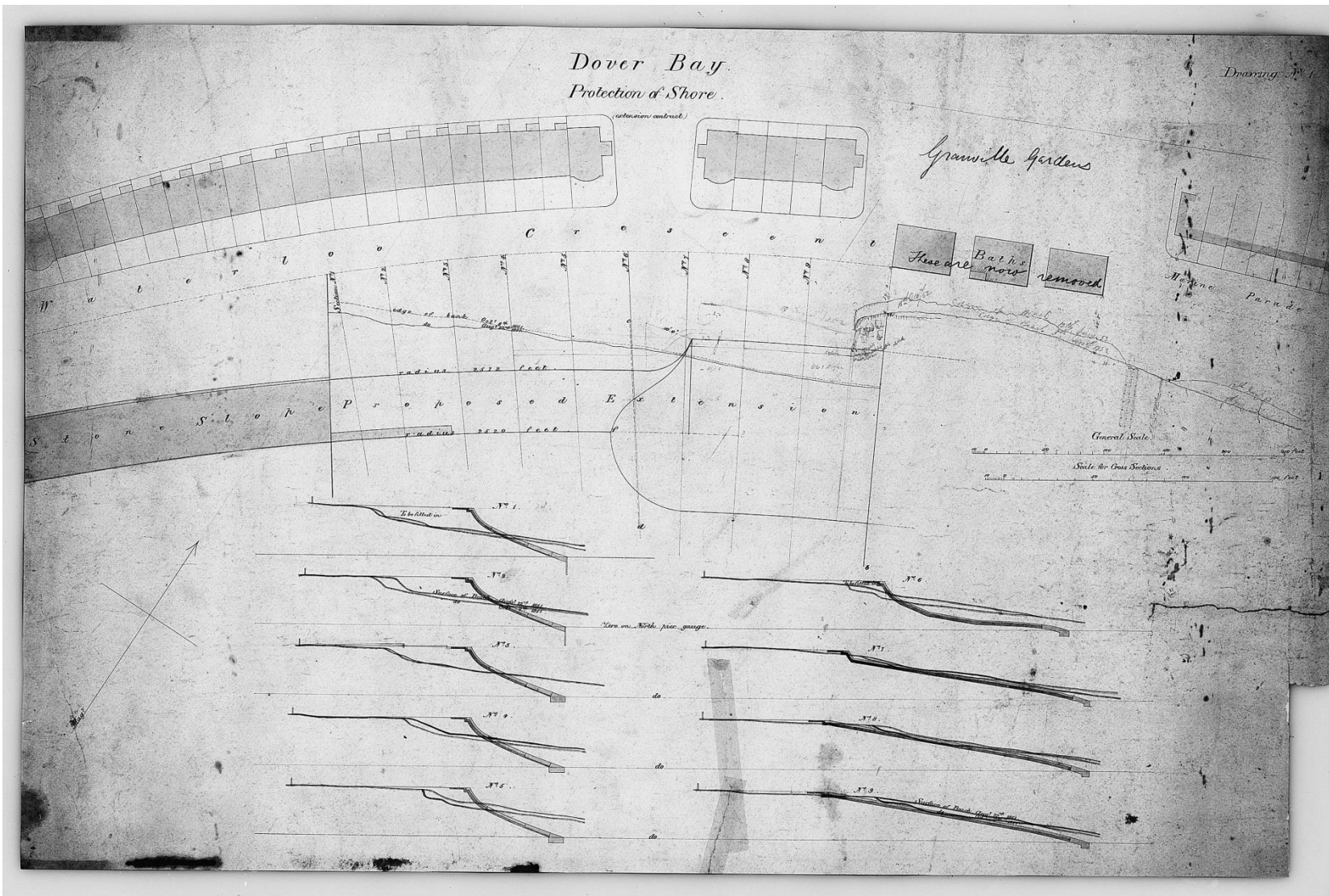


Figure 17- Dover Bay- Protection of shore, 01/01/1851, DHB Historical Drawings Archive Ref: 4787.

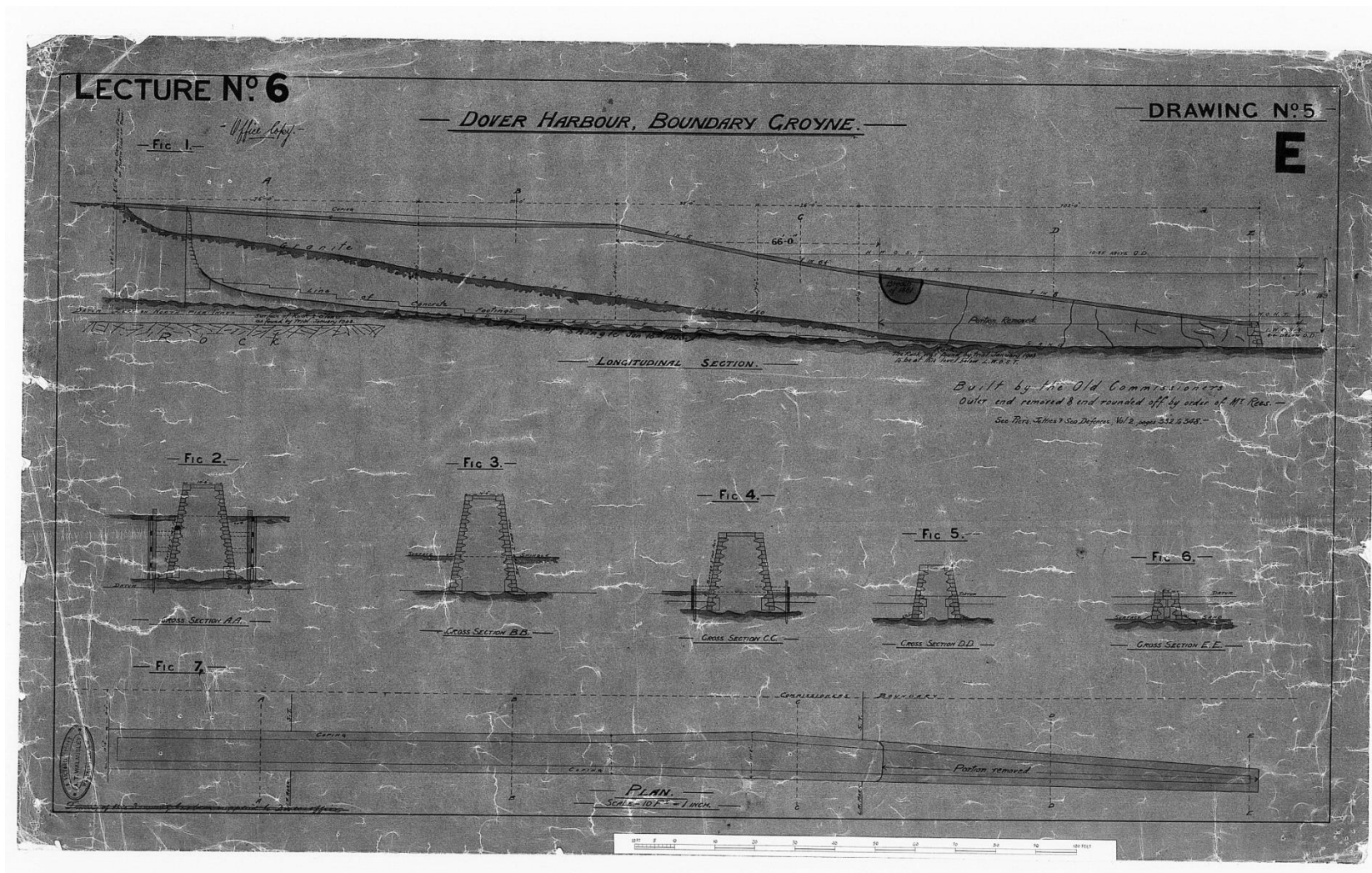


Figure 18- Boundary Groyne, 01/01/1851, DHB Historical Drawings Archive Ref: 4788.

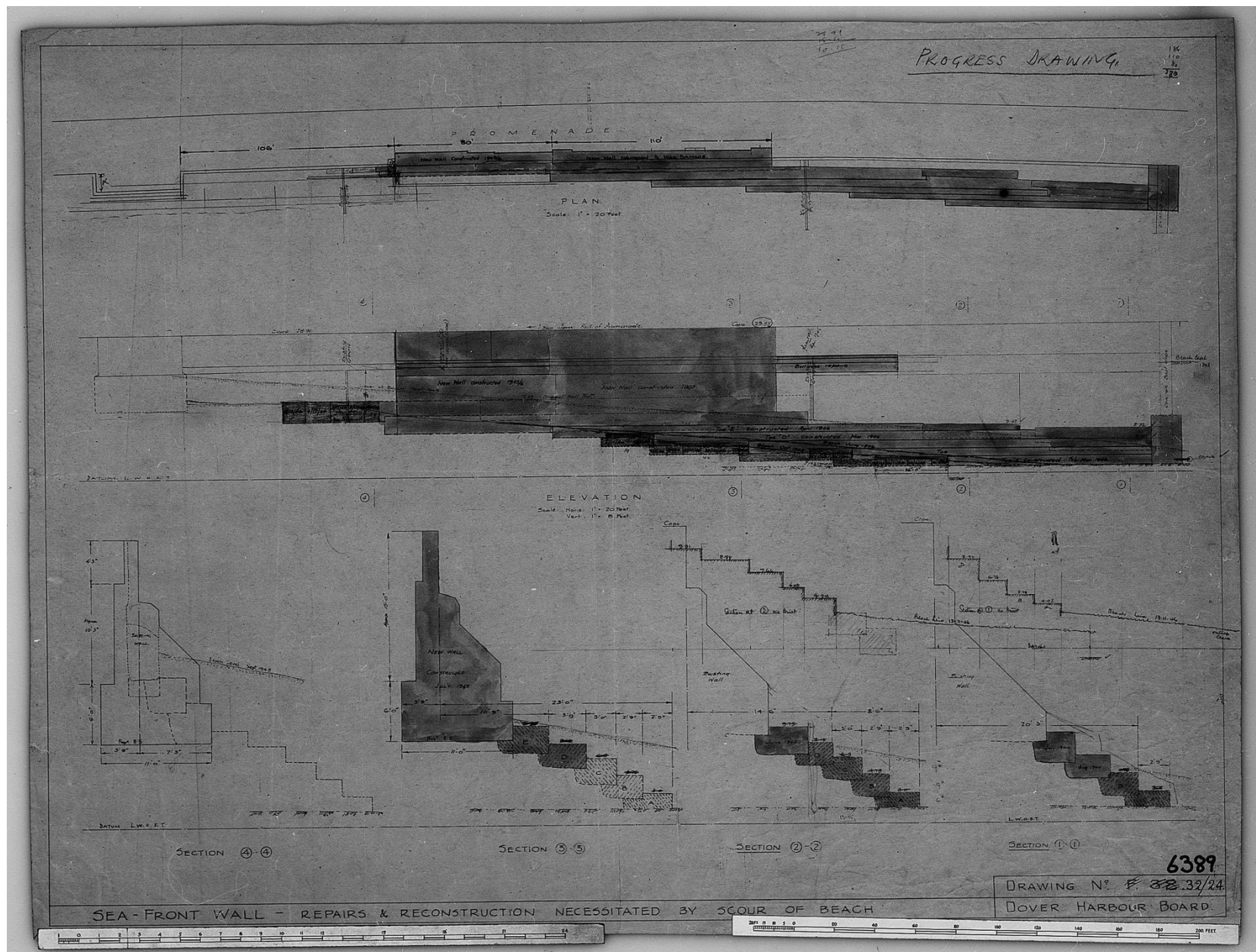


Figure 21- Sea Front Wall- Repairs and Reconstruction Necessitated by Scour of Beach, 05/10/1945, DHB Historical Drawings Archive Ref: 6389.

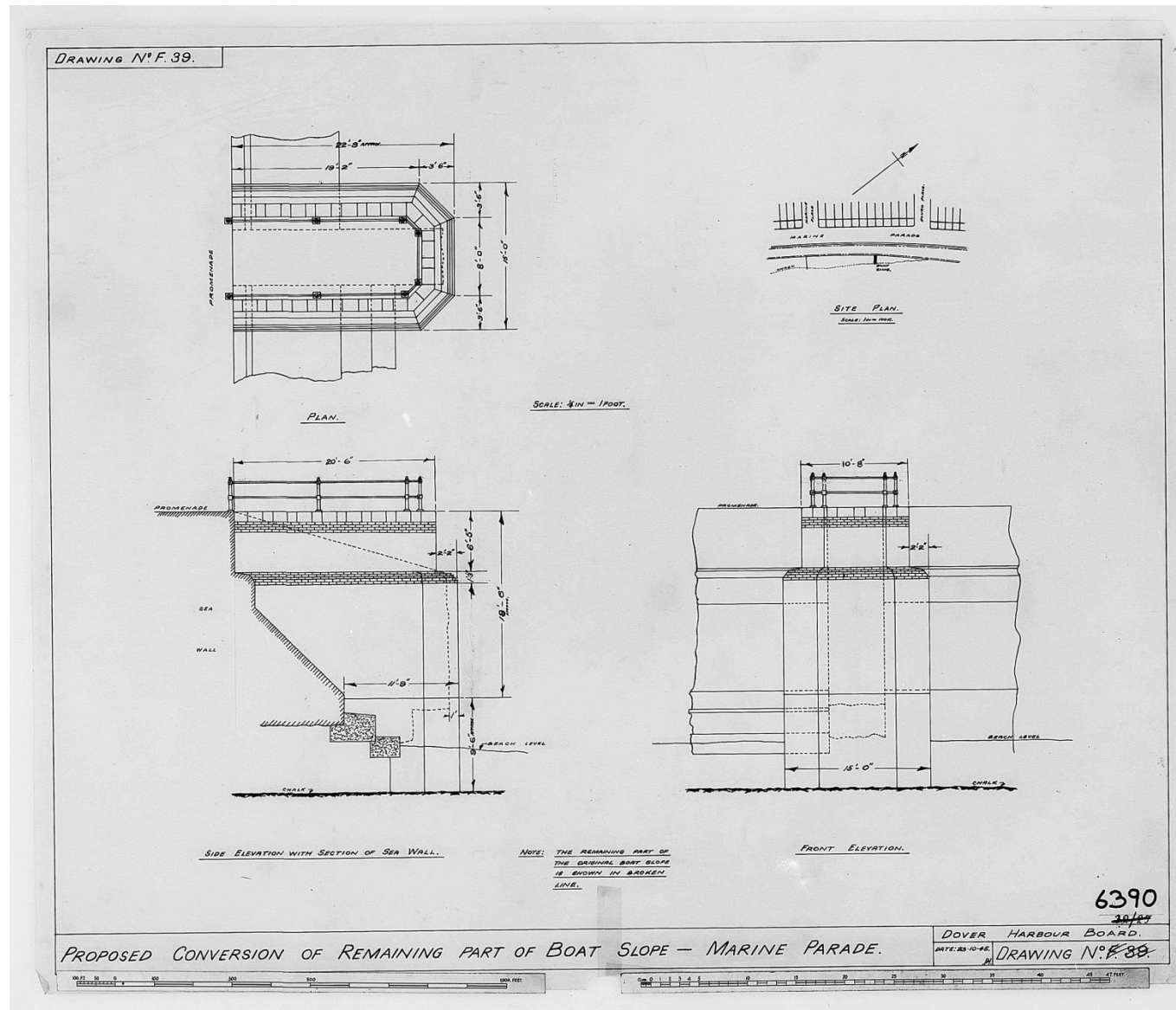


Figure 22- Proposed conversion of remaining part of the boat slope, Marine Parade, 23/10/1946, DHB Historical Drawings Archive Ref: 6390.

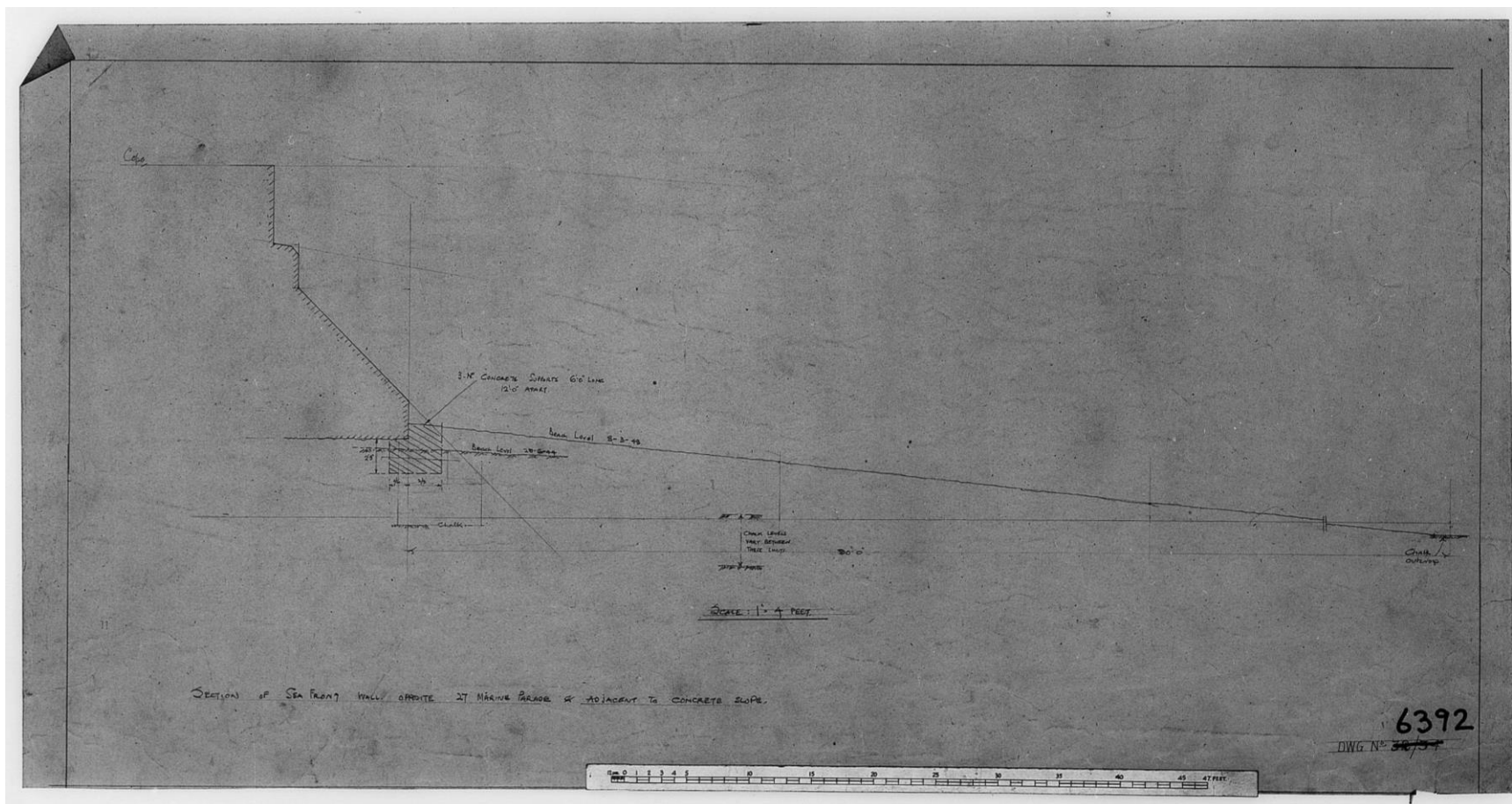


Figure 23- Section of Sea Front Wall Opposite 27 Marine Parade and Adjacent to concrete slope, 01/01/1943, DHB Historical Drawings Archive Ref: 6392.

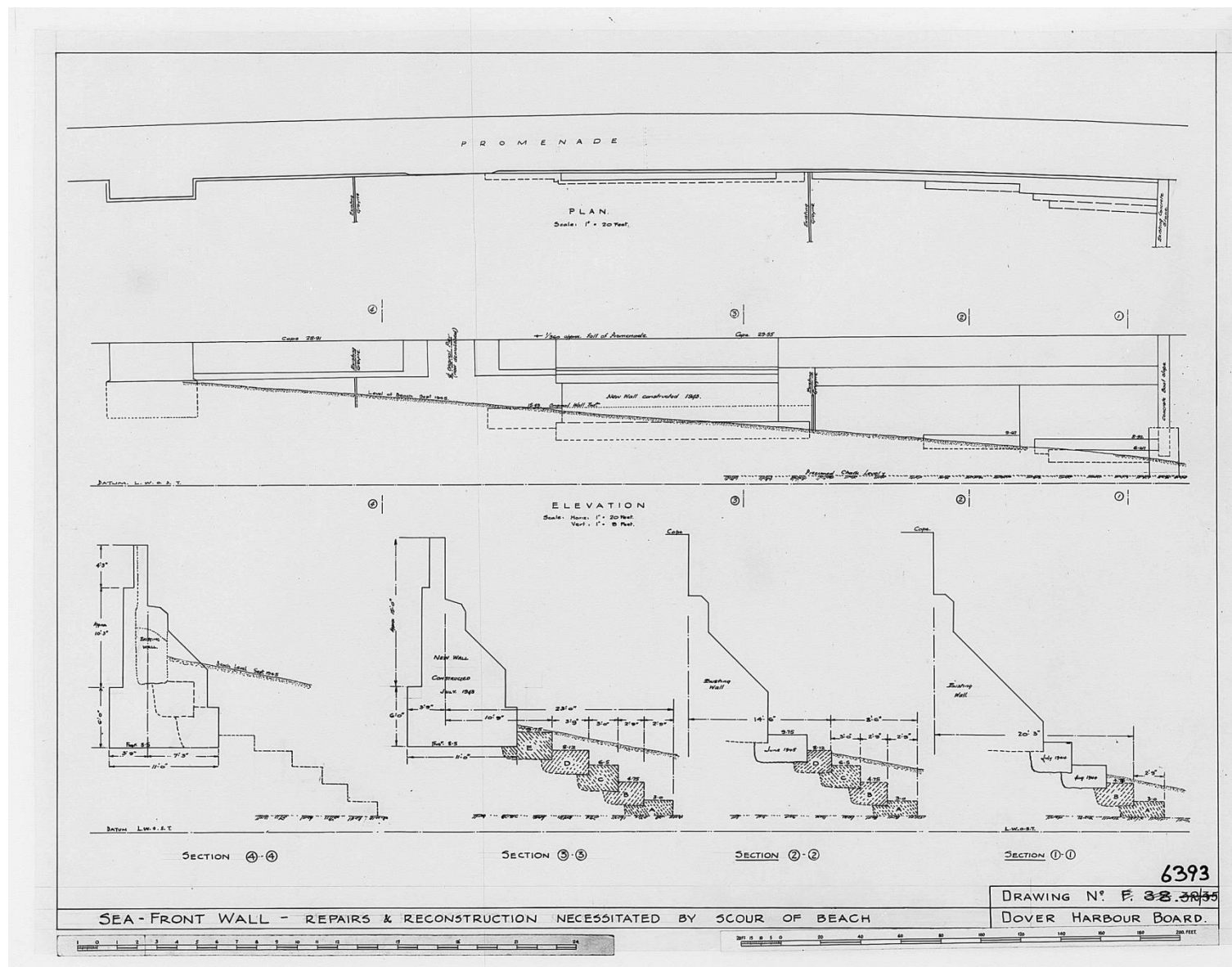


Figure 24- Sea Front Wall- Repairs and reconstruction necessitated by Scour of Beach, 01/06/1945, DHB Historical Drawings Archive Ref: 6393.

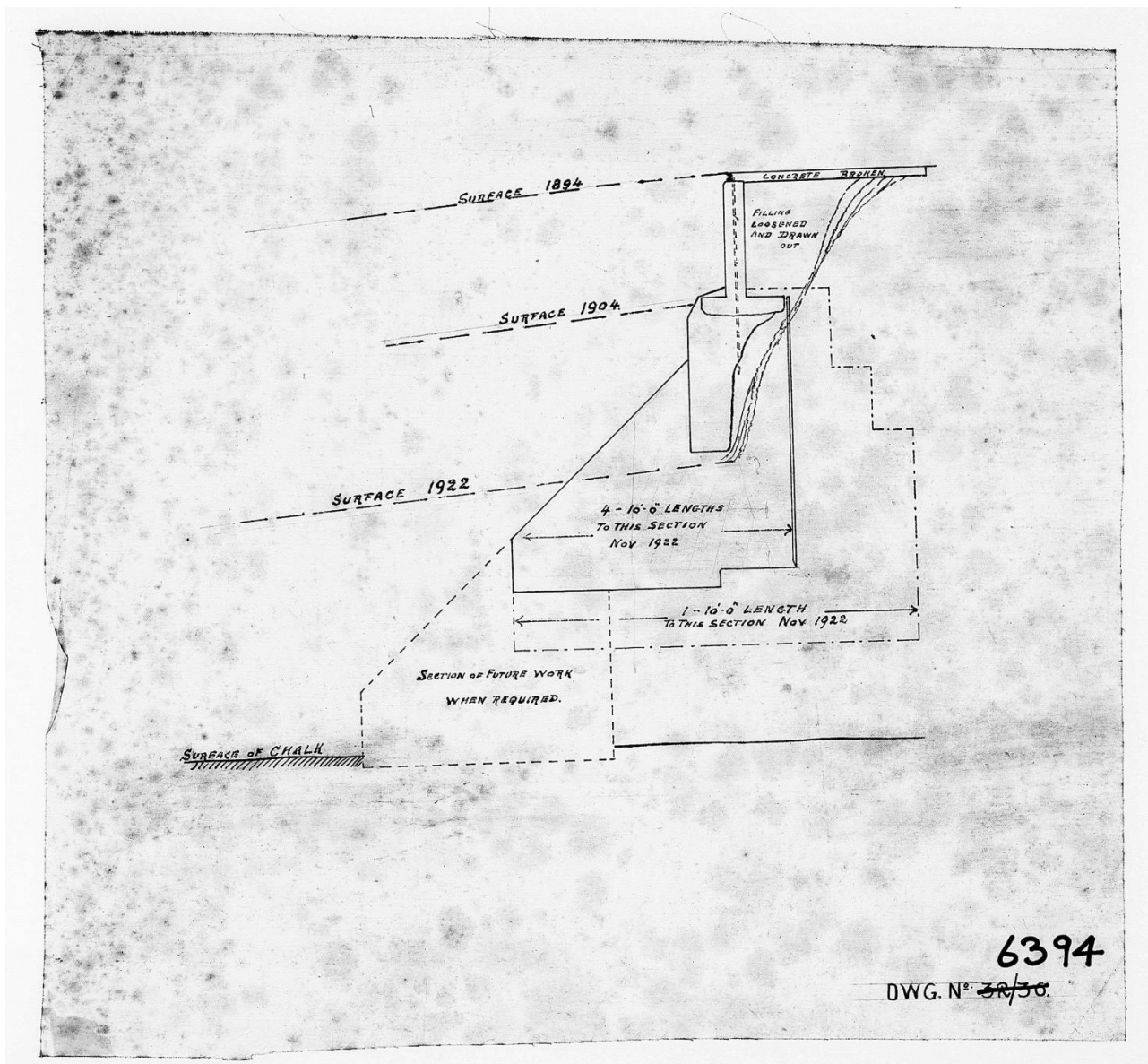


Figure 25- Sea Wall Between 'O' and boundary groynes- beach levels, 01/11/1922, DHB Historical Drawings Archive Ref: 6394.

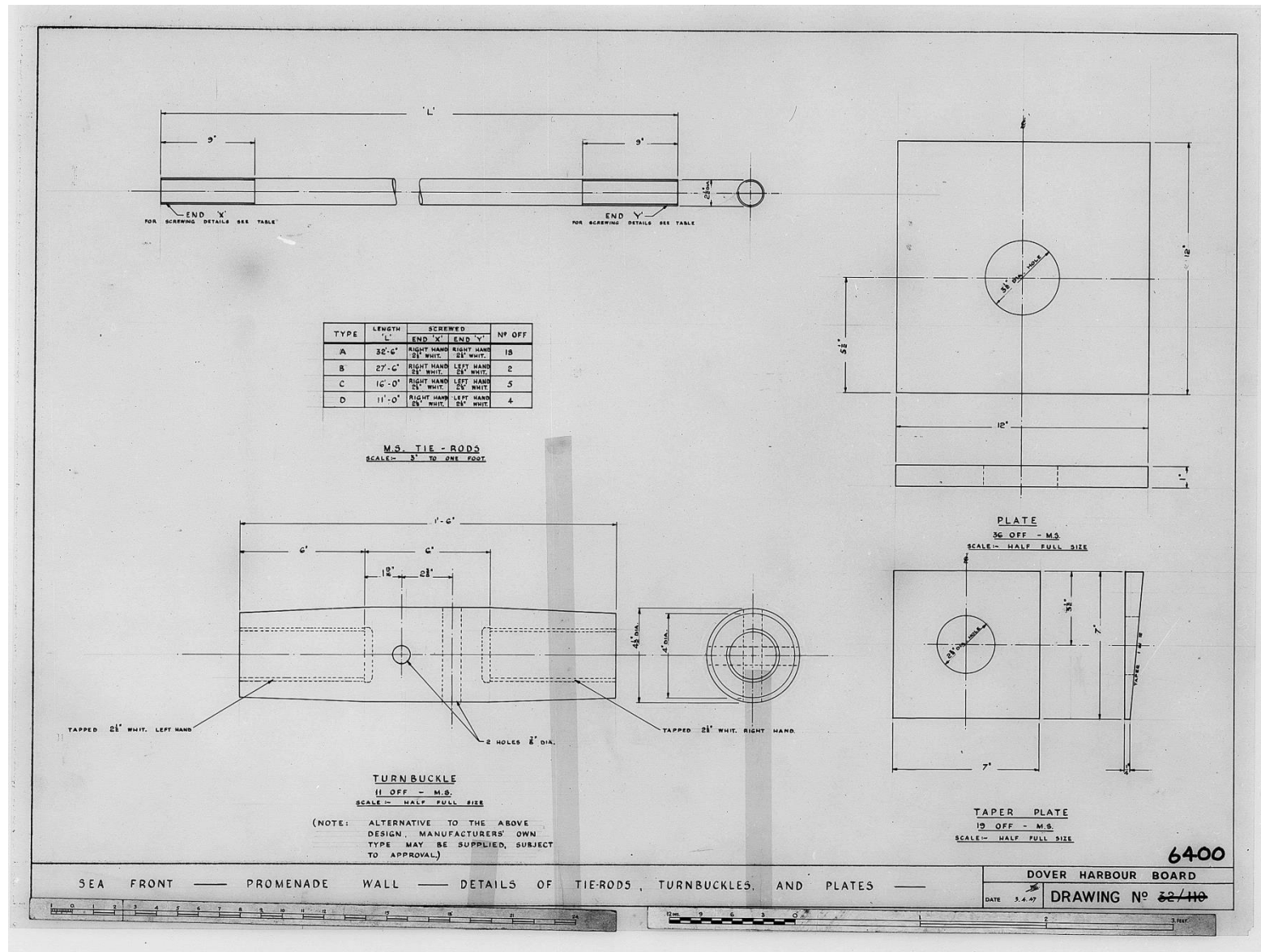


Figure 29- Sea Front- Promenade Wall- Details of Tie-Rods, Turnbuckles and Plates, 26/03/1947, DHB Historical Drawings Archive Ref: 6400.

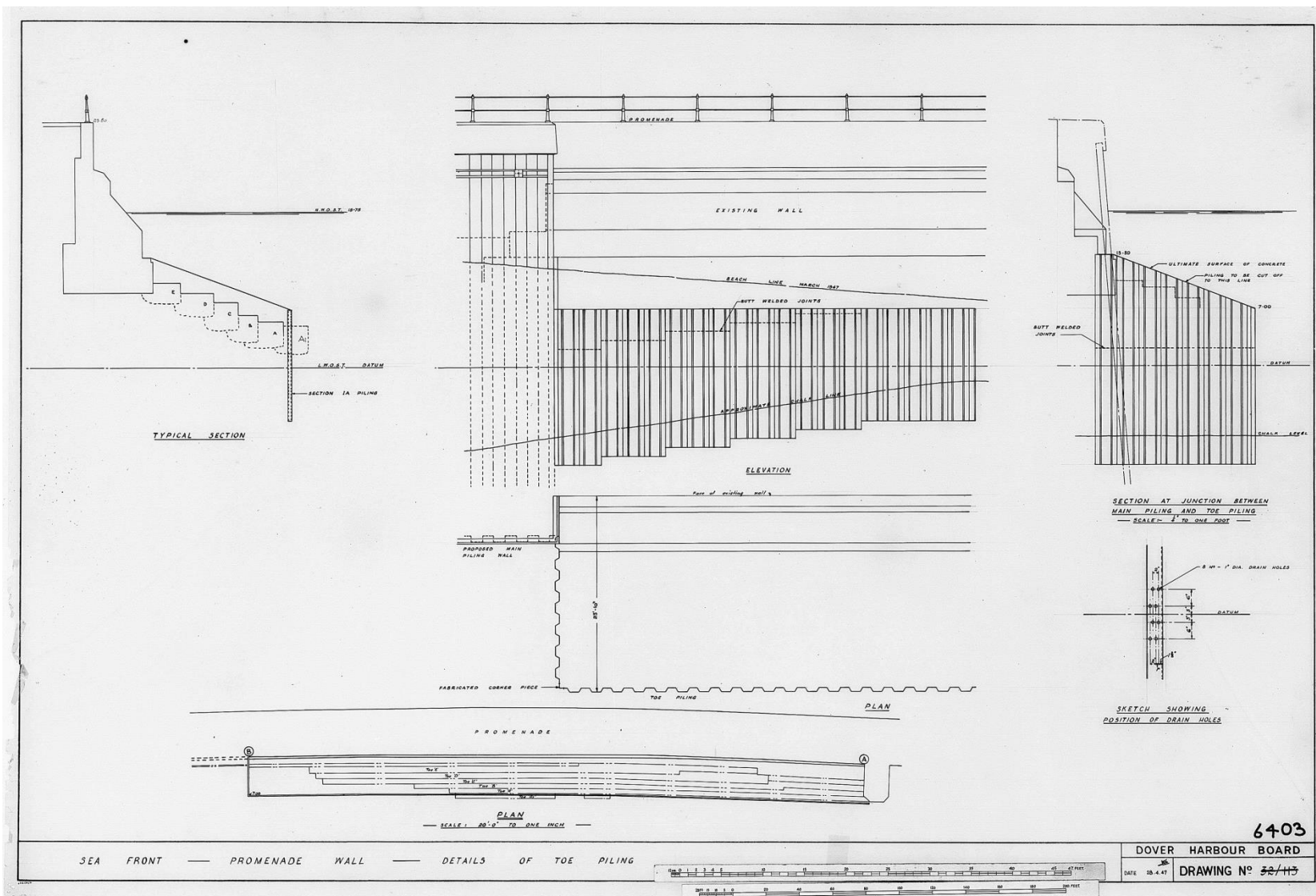


Figure 32- Sea Front- Promenade Wall- Details of Toe Piling, 28/04/1947, DHB Historical Drawings Archive Ref: 6403.

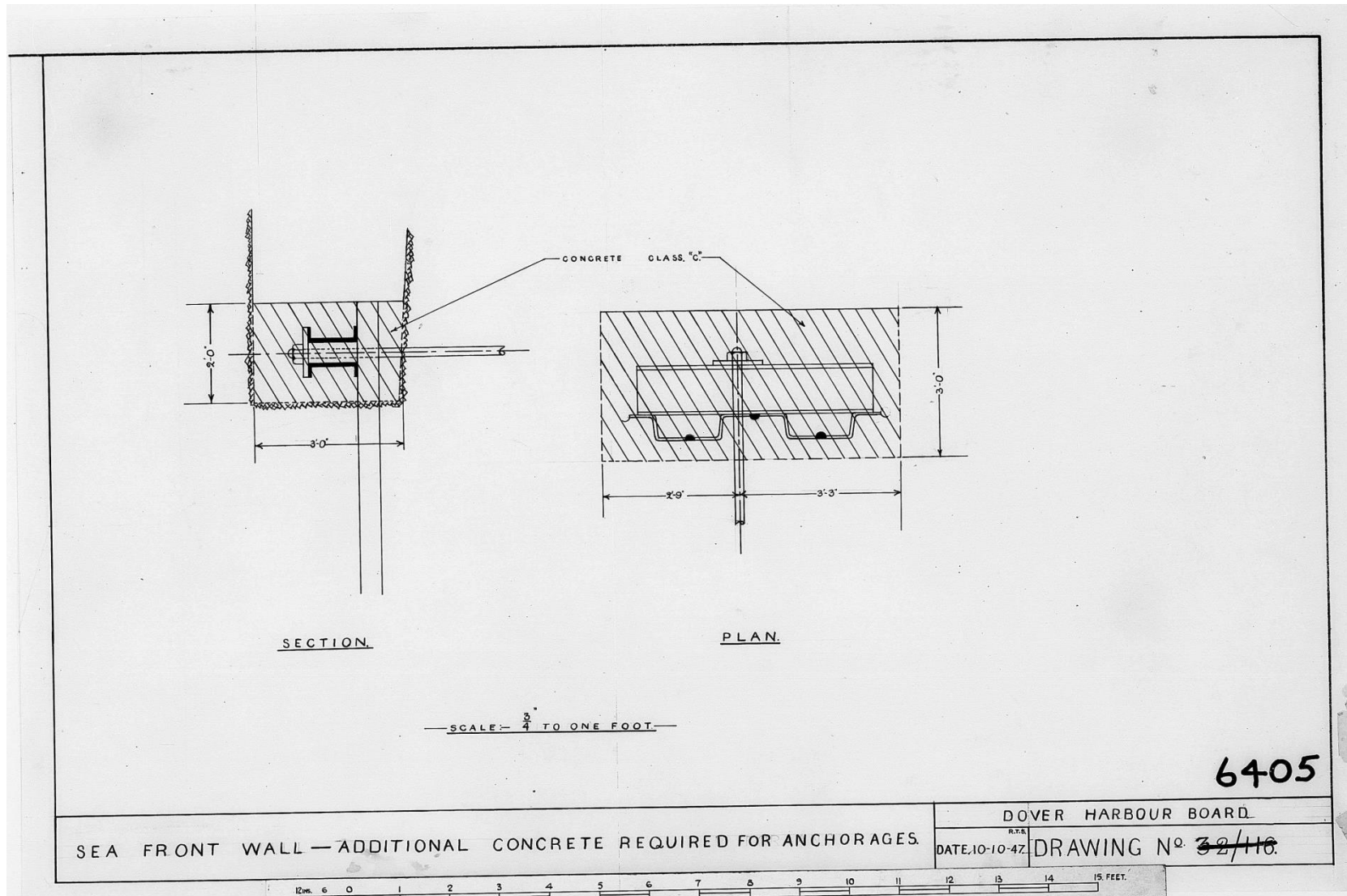


Figure 34- Sea Front Wall- Additional Concrete Required for Anchorages, 10/10/1947, DHB Historical Drawings Archive Ref: 640

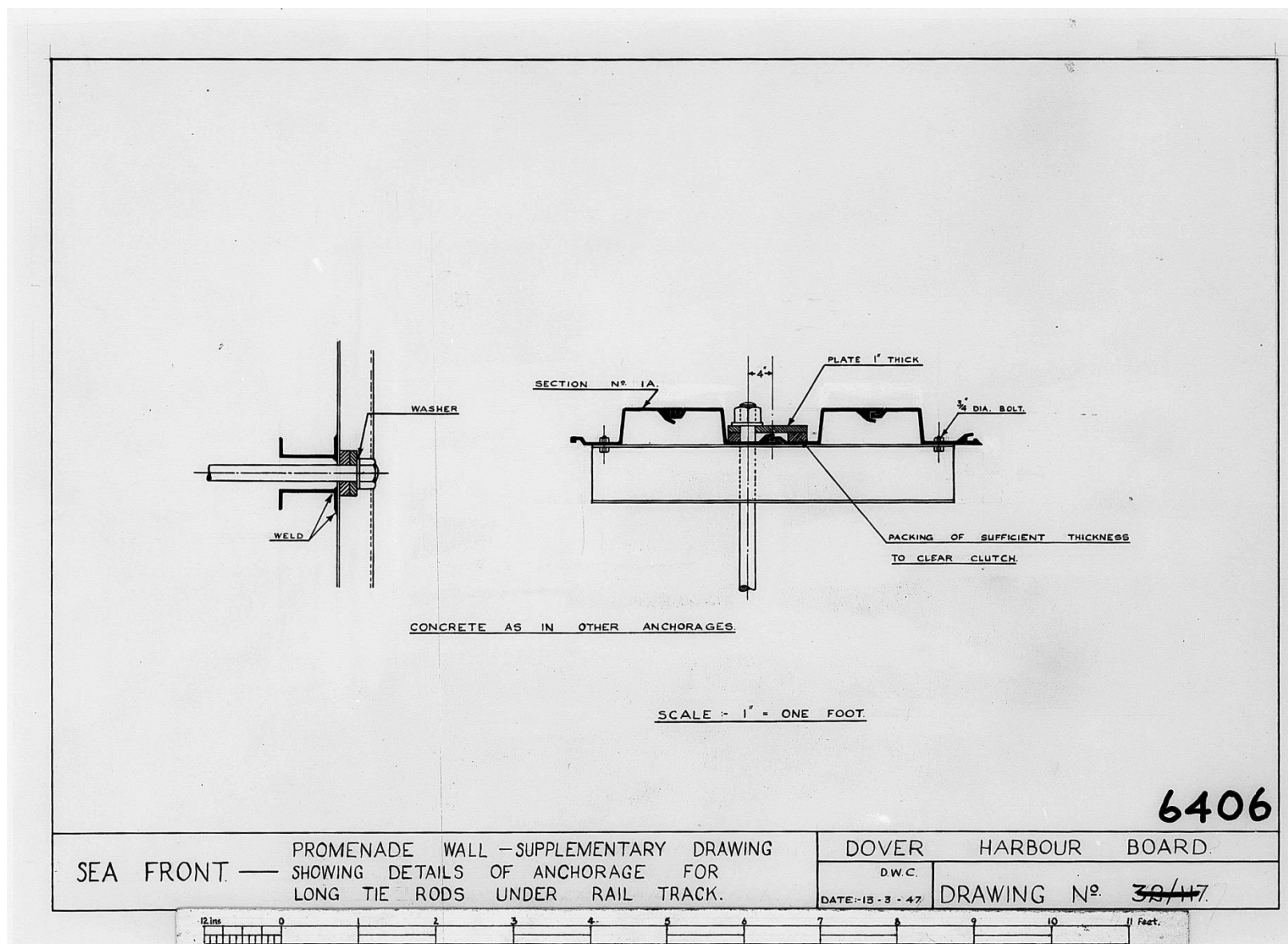


Figure 35- Sea Front- Promenade Wall- Supplementary drawing showing details of anchorage for long tie rods under rail track, 13/10/1947, DHB Historical Drawings Archive Ref: 6406.

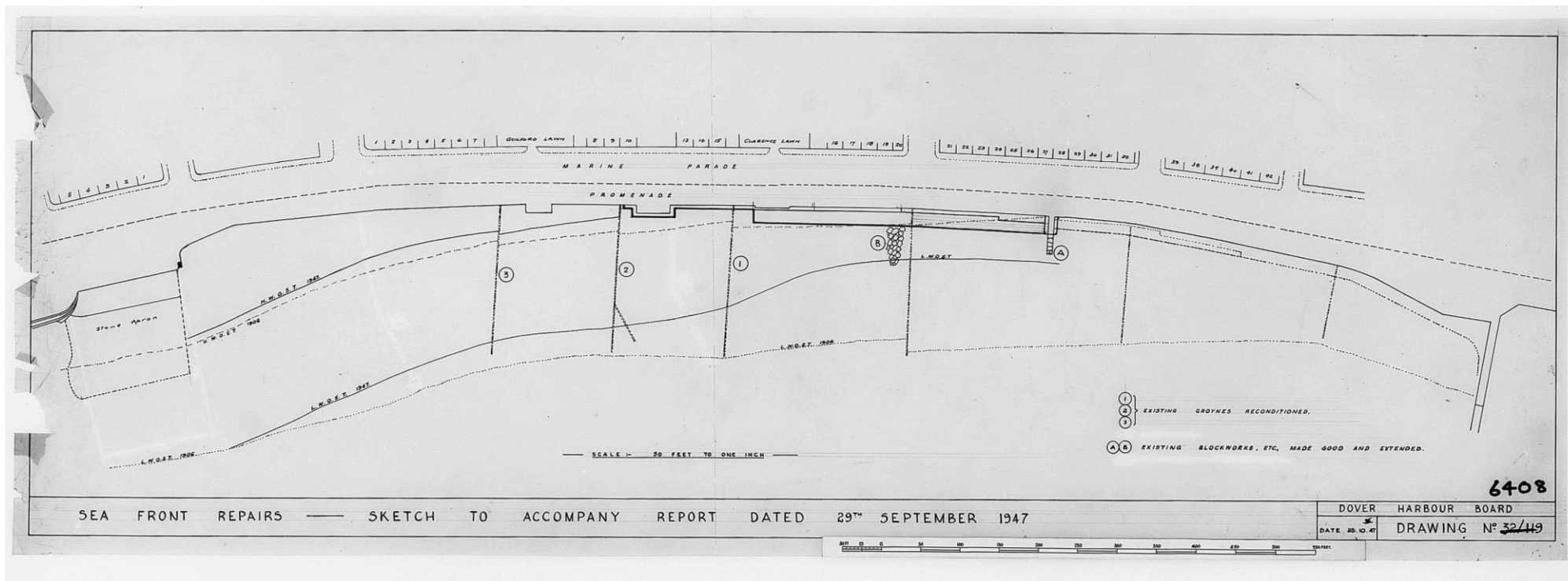


Figure 36- Sea Front Repairs- Sketch to accompany report dated 29th September 1947, 23/10/1947, DHB Historical Drawings Archive Ref: 6408.

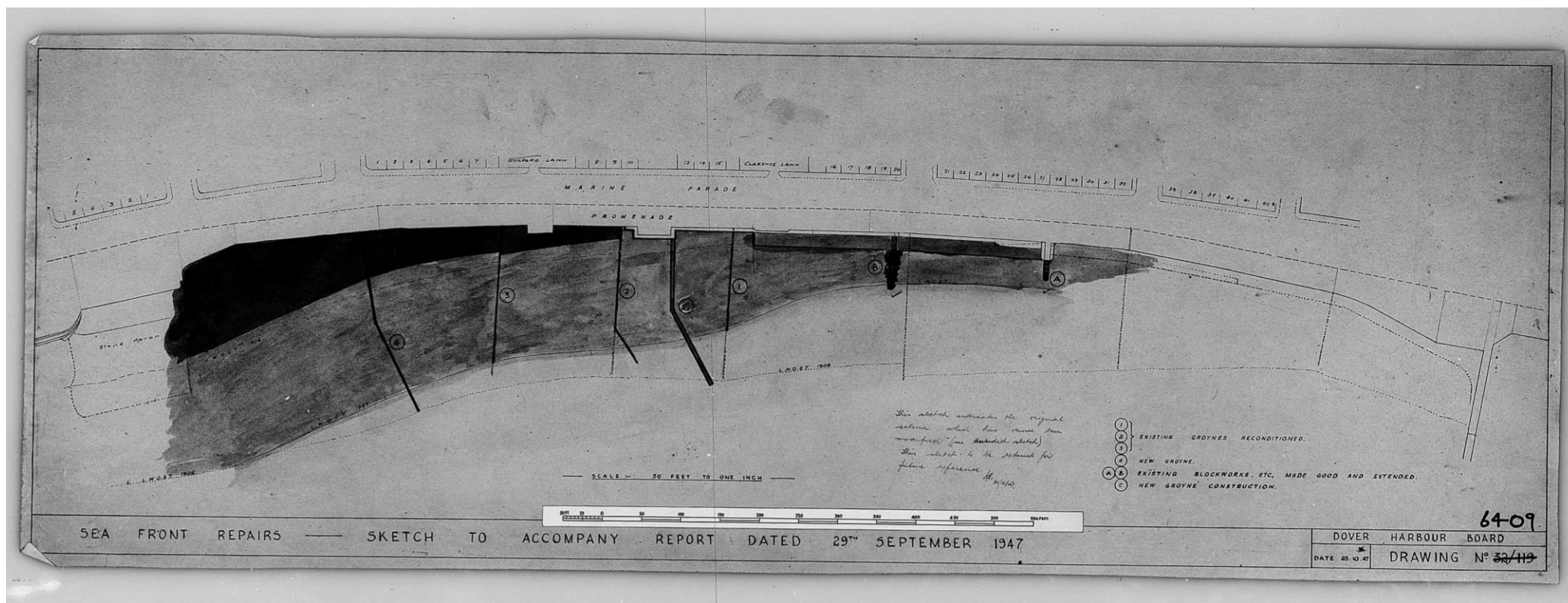


Figure 37- Sea Front Repairs- Sketch to accompany report dated 29th September 1947, 29/10/1947, DHB Historical Drawings Archive Ref: 6409.

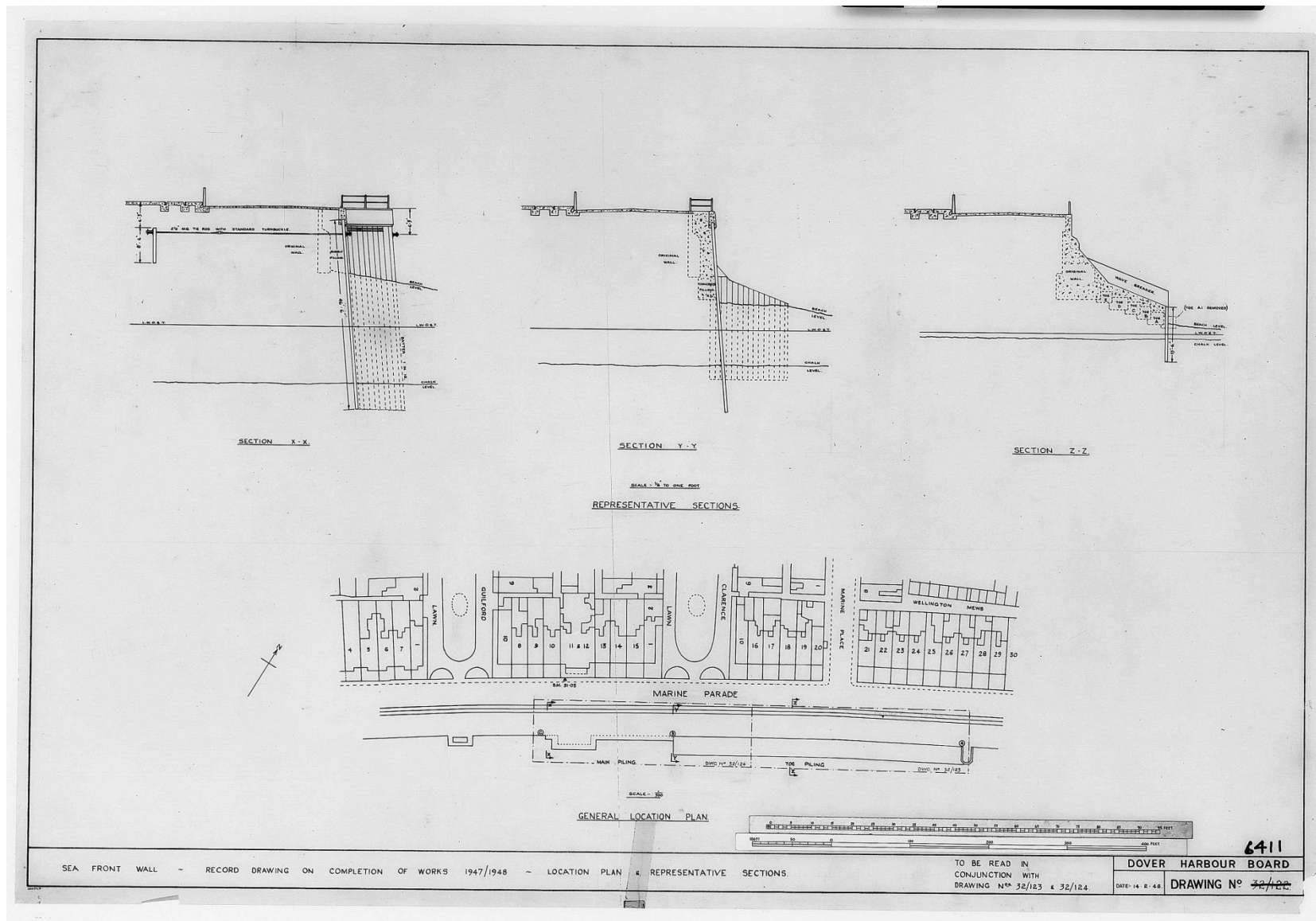


Figure 38- Sea Front Wall- Record Drawing on completion of works 1947/1948- Location and representative, 14/02/1948, DHB Historical Drawings Archive Ref: 6411.

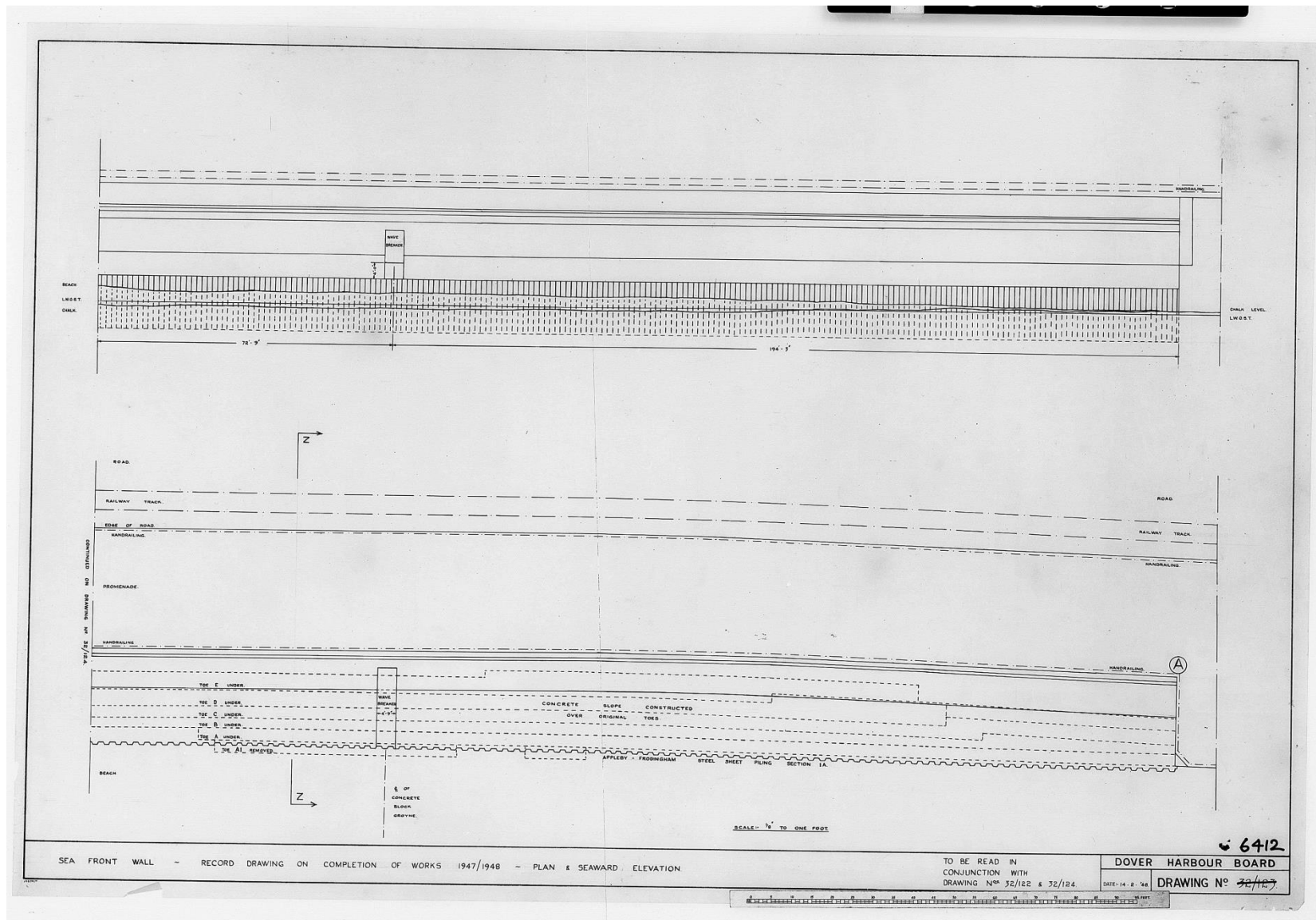


Figure 39- Sea Front Wall- Record Drawing on completion of works 1947/1948- Plan and Seaward Elevation, 14/02/1948, DHB Historical Drawings Archive Ref: 6412.

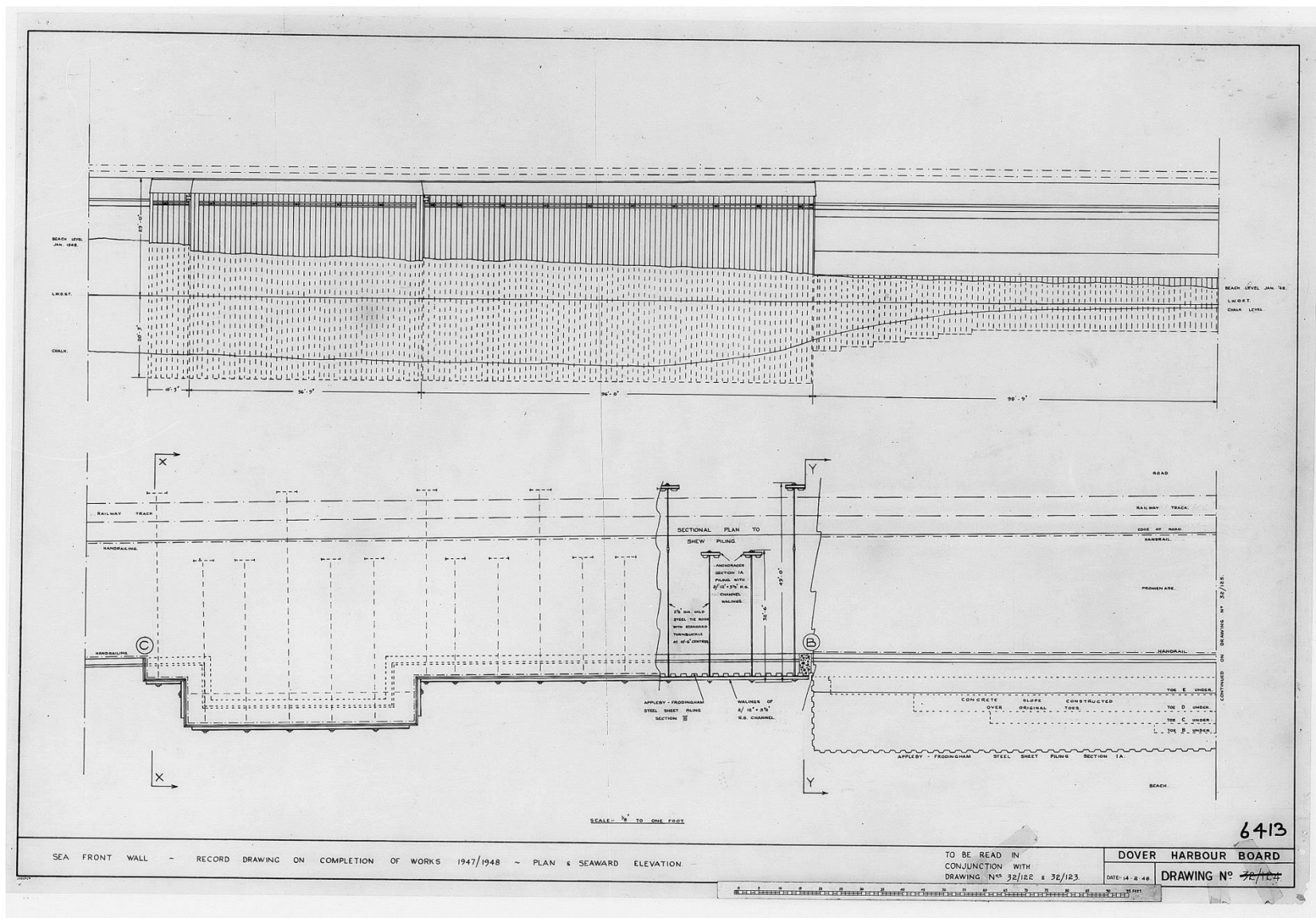


Figure 40- Sea Front Wall- Record Drawing on completion of works 1947/1948- Plan and Seaward Elevation, 14/02/1948, DHB Historical Drawings Archive Ref: 6413.

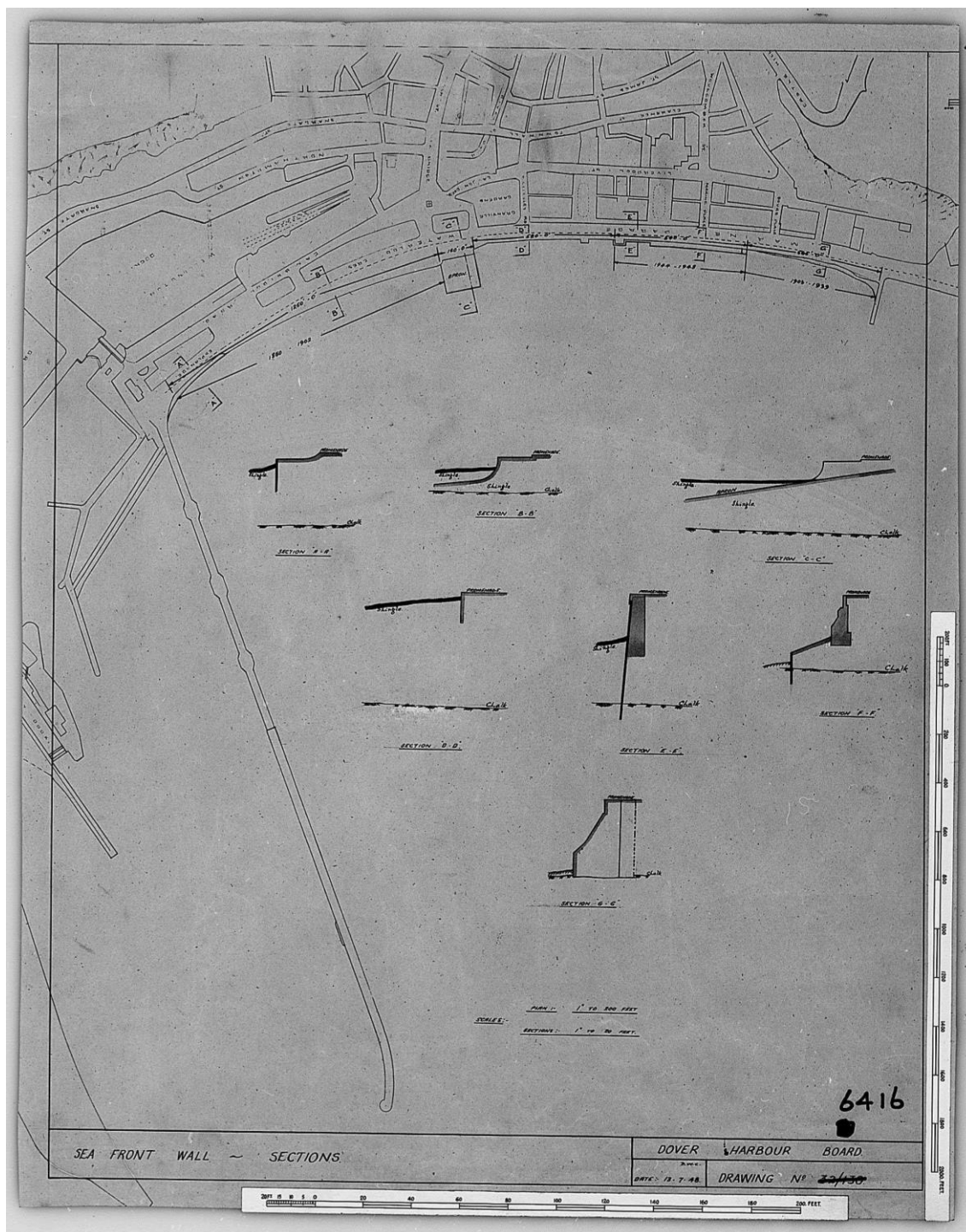


Figure 41- Sea Front Wall- Sections, 14/02/1948, DHB Historical Drawings Archive Ref: 6416.

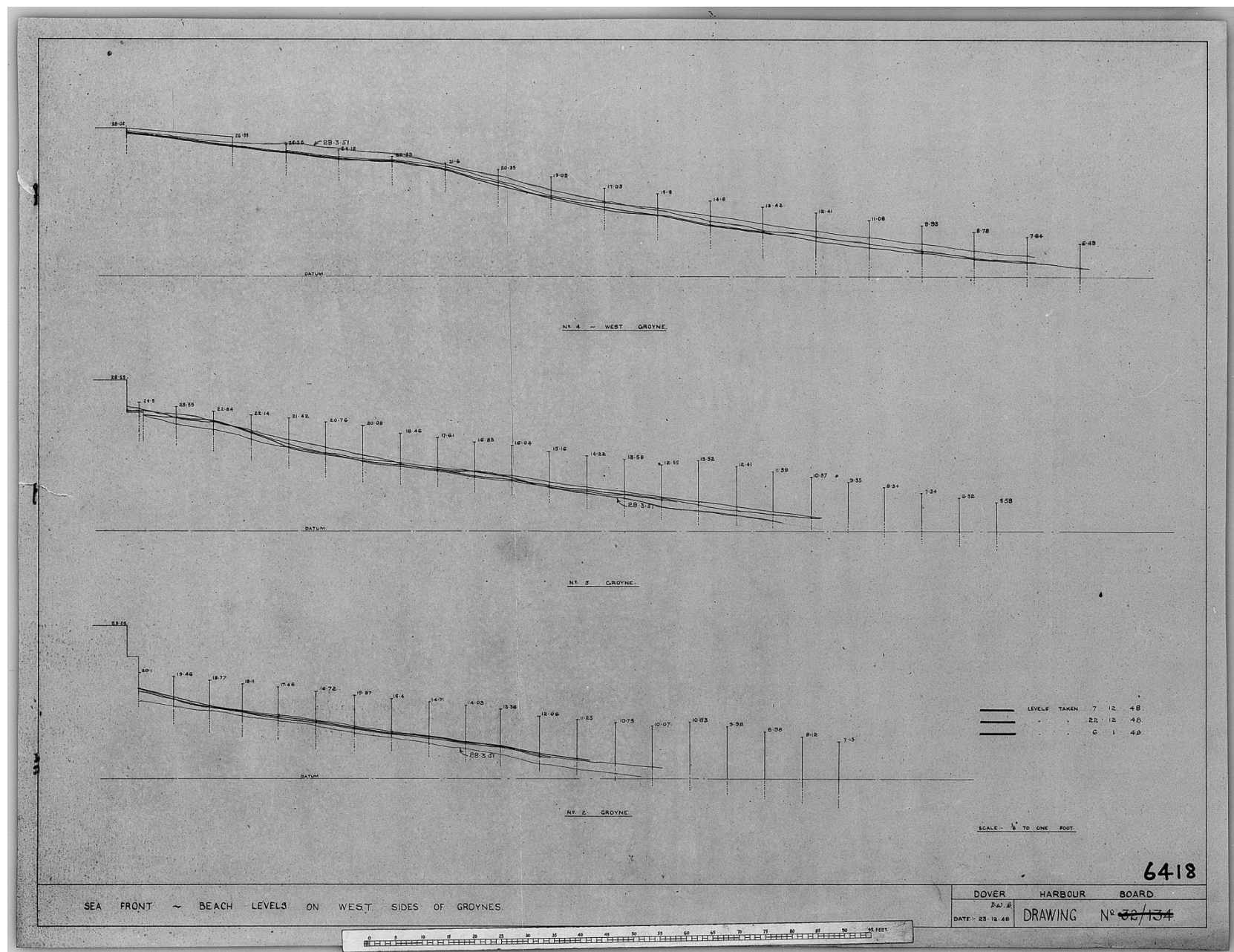


Figure 42- Sea Front- Beach Levels on West Side of Groynes, 23/12/1948, DHB Historical Drawings Archive Ref: 6418.

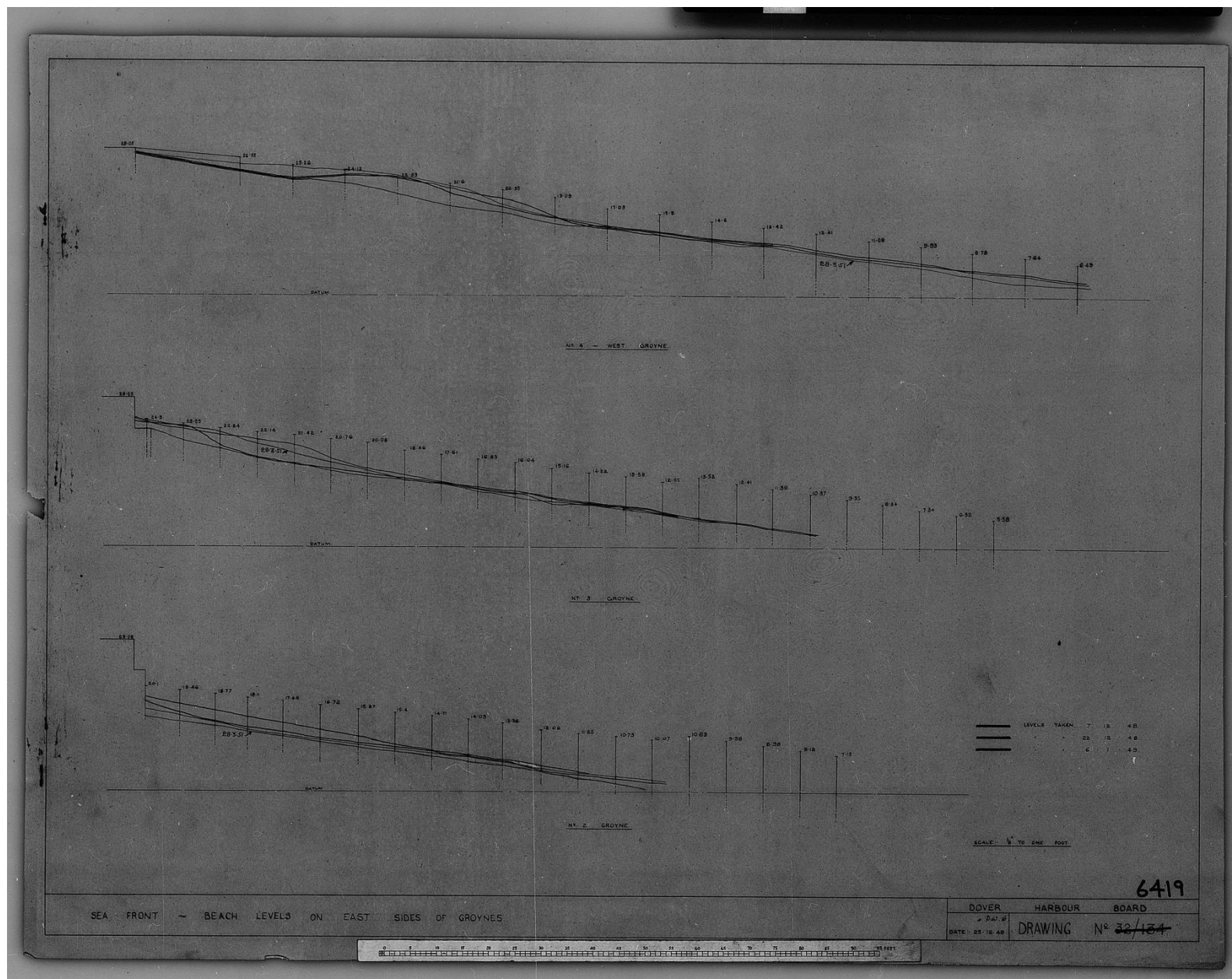


Figure 43- Sea Front- Beach Levels on East Side of Groynes, 23/12/1948, DHB Historical Drawings Archive Ref: 6419.

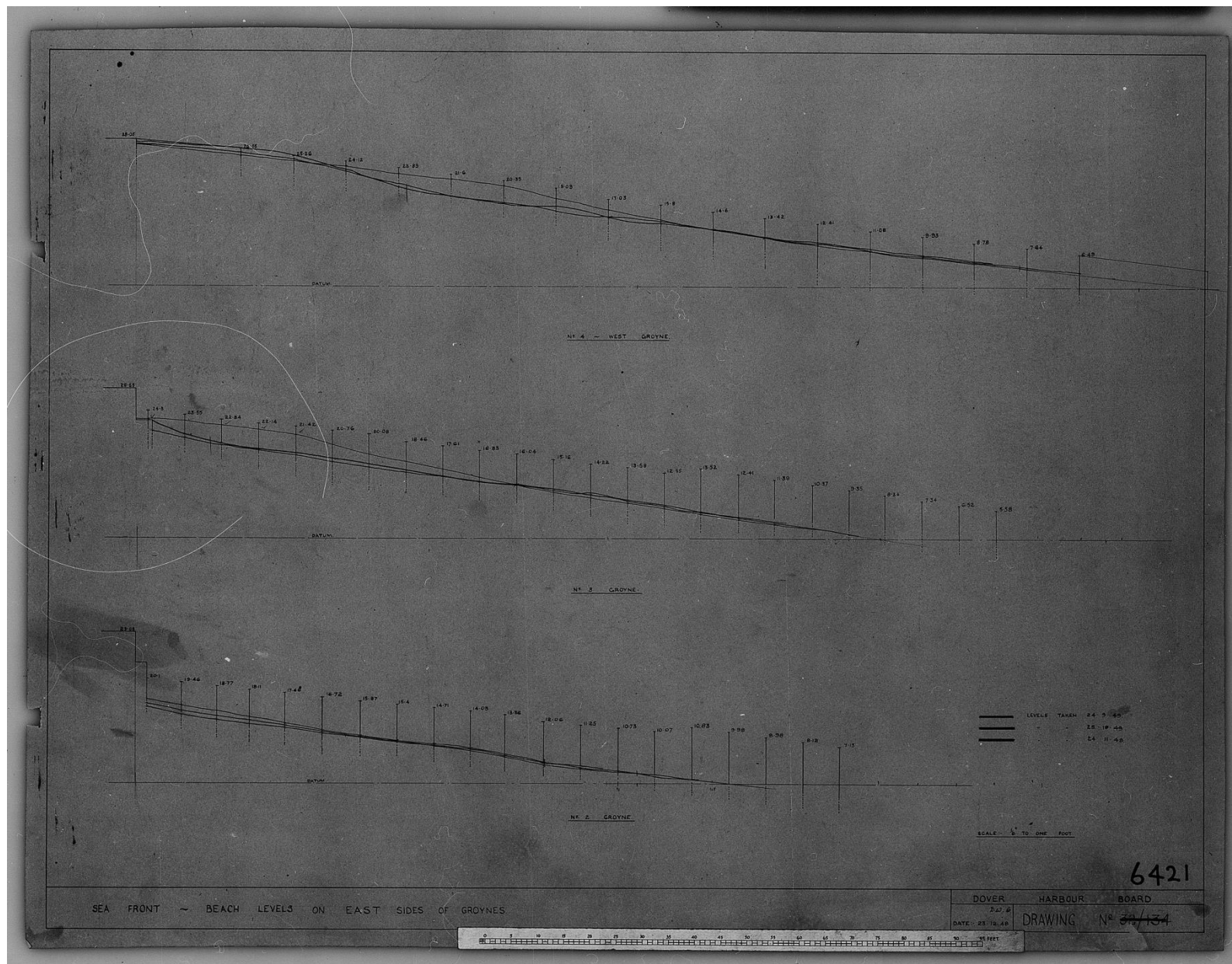


Figure 45- Sea Front- Beach Levels on East Side of Groynes, 23/12/1948, DHB Historical Drawings Archive Ref: 6421.

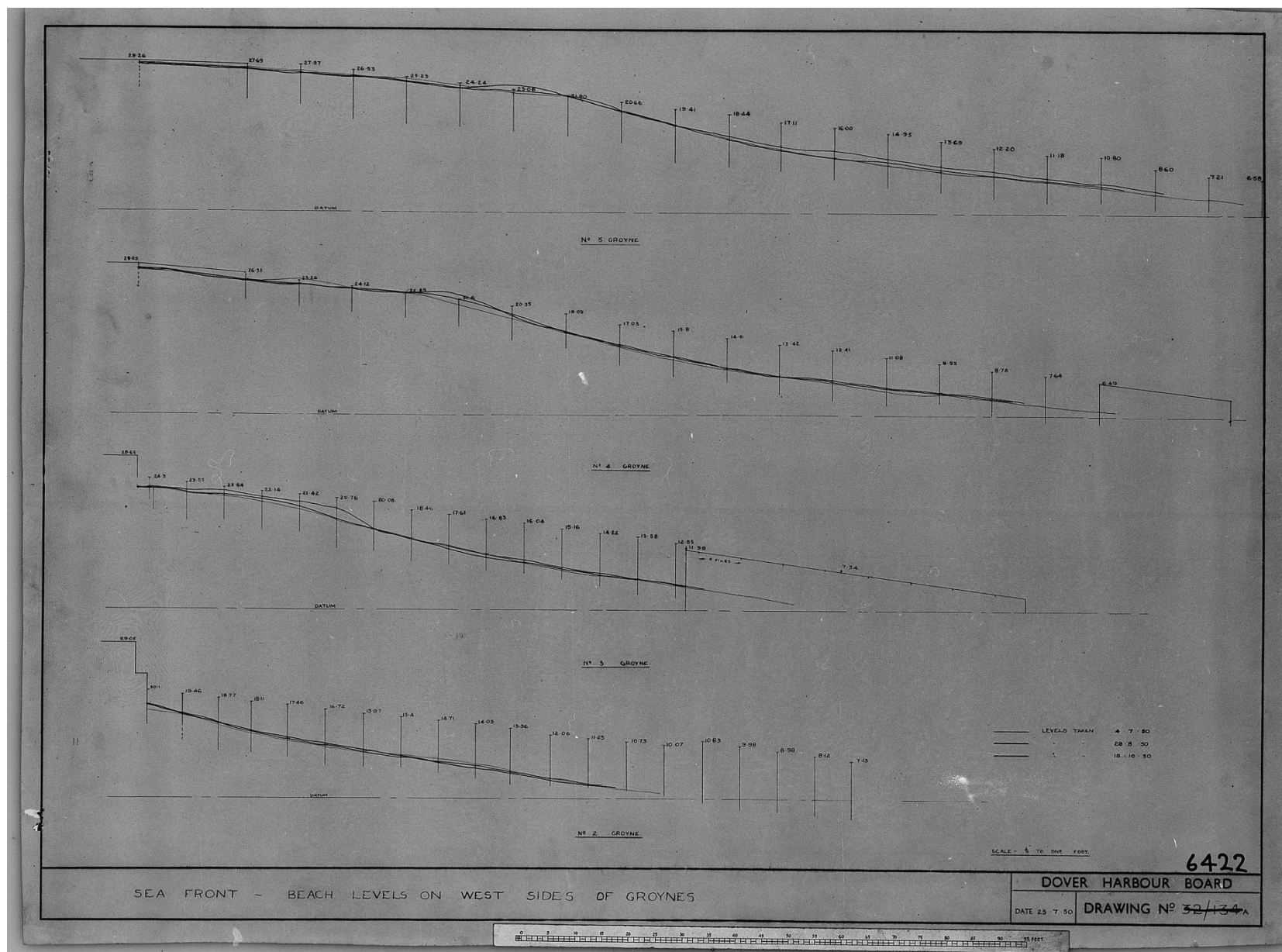


Figure 46- Sea Front- Beach Levels on West Side of Groynes, 23/07/1950, DHB Historical Drawings Archive Ref: 6422.

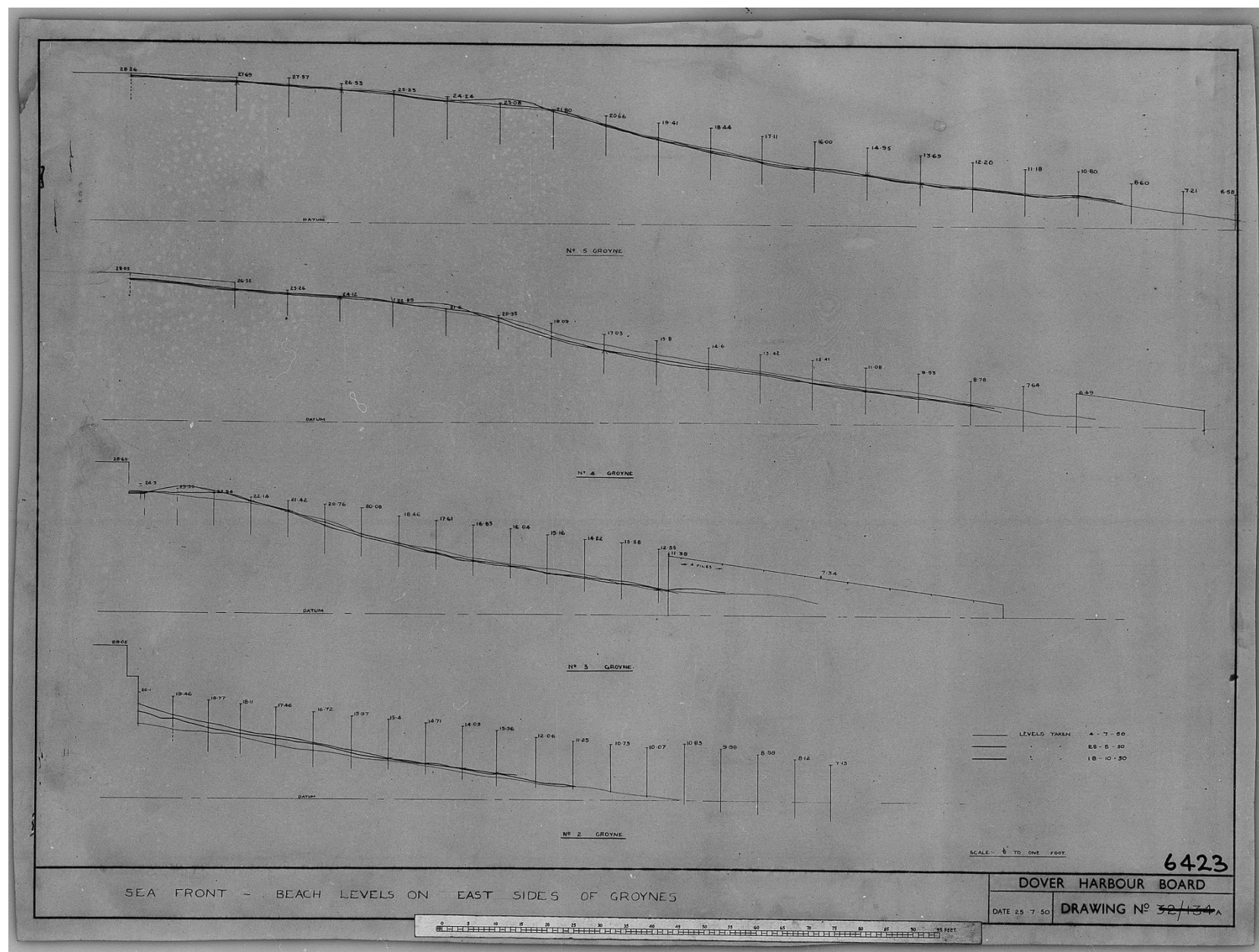


Figure 47- Sea Front- Beach Levels on East Side of Groynes, 23/07/1950, DHB Historical Drawings Archive Ref: 6423.

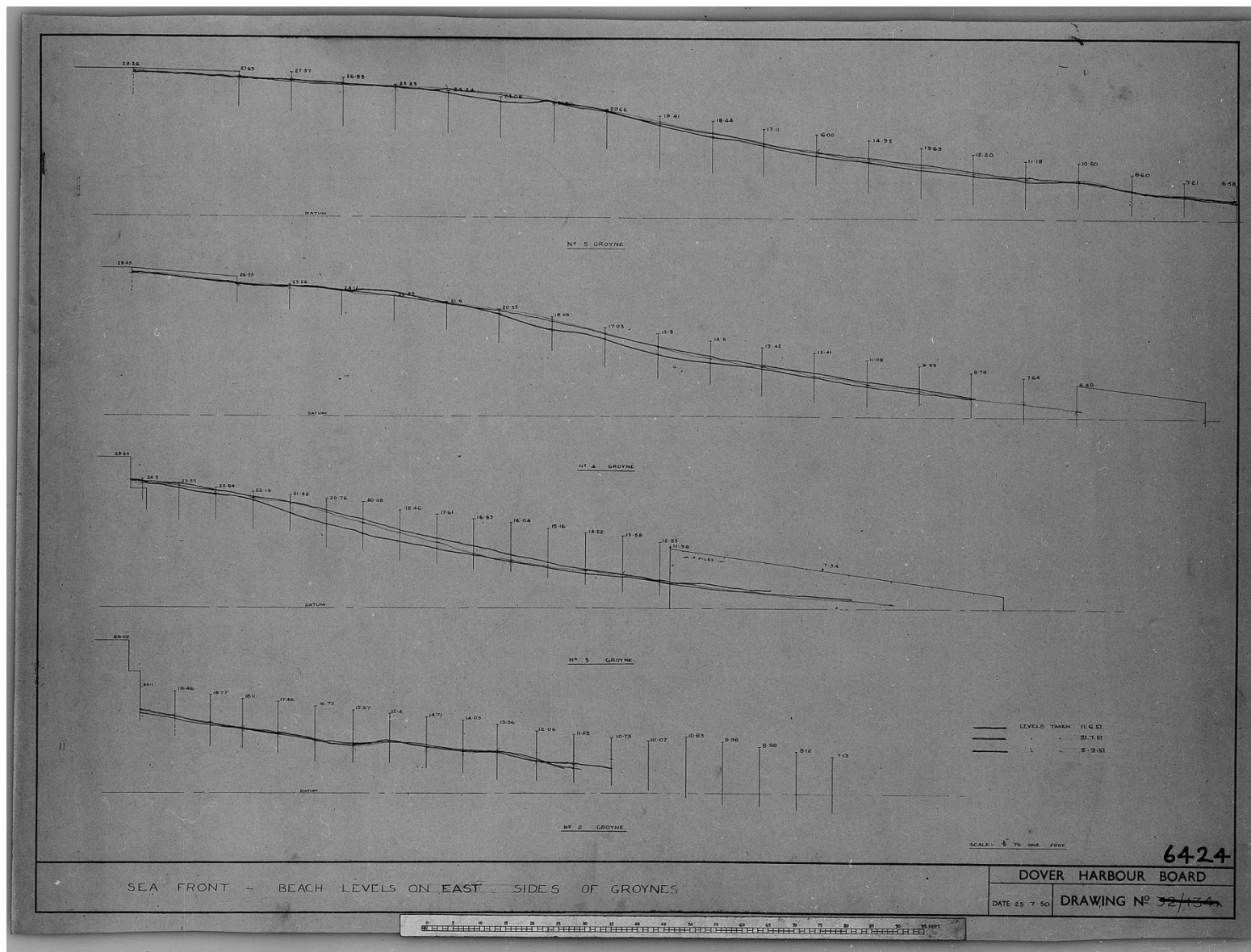


Figure 48- Sea Front- Beach Levels on East Side of Groynes, 23/07/1950, DHB Historical Drawings Archive Ref: 6424.

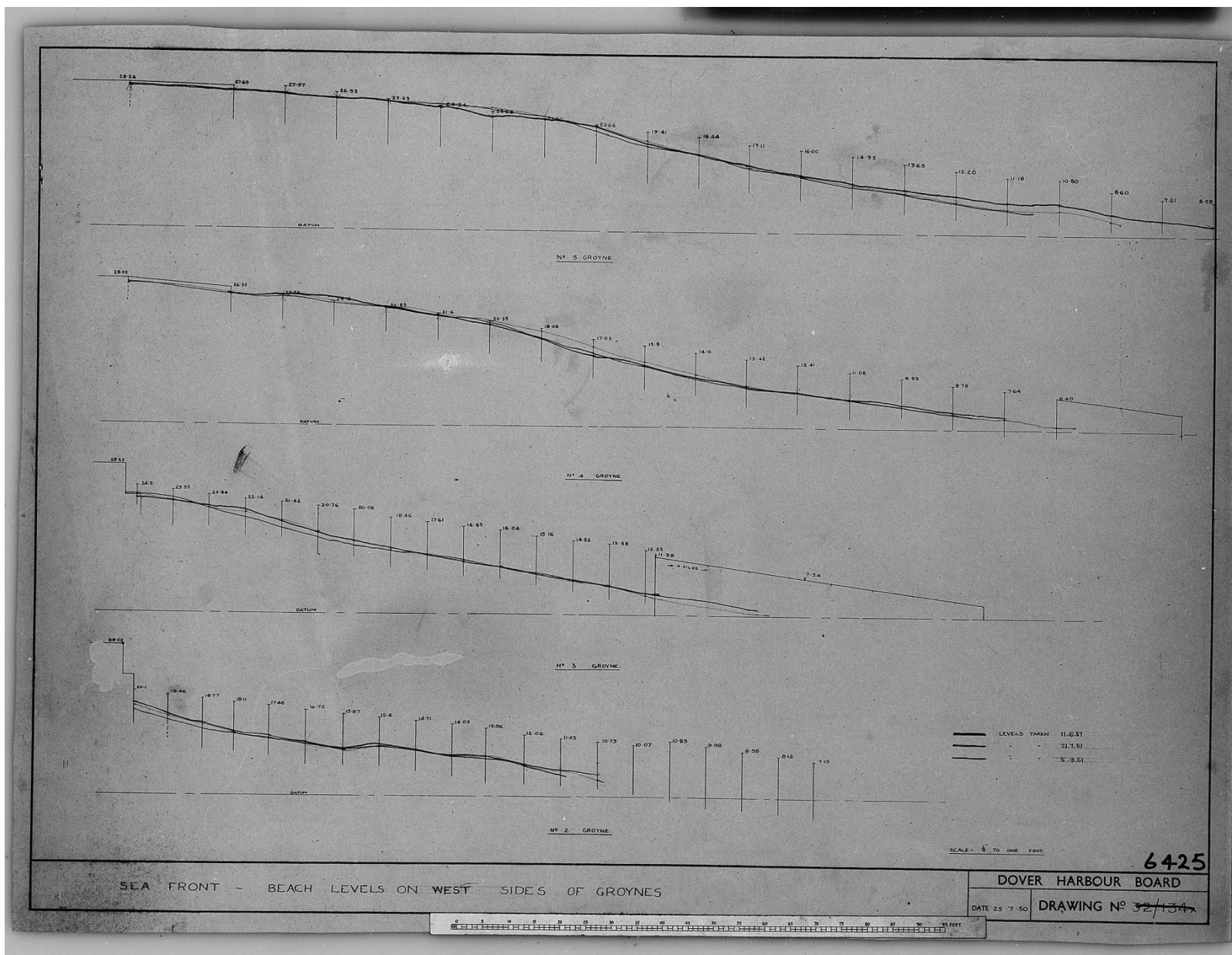


Figure 49- Sea Front- Beach Levels on West Side of Groynes, 23/07/1950, DHB Historical Drawings Archive Ref: 6425.

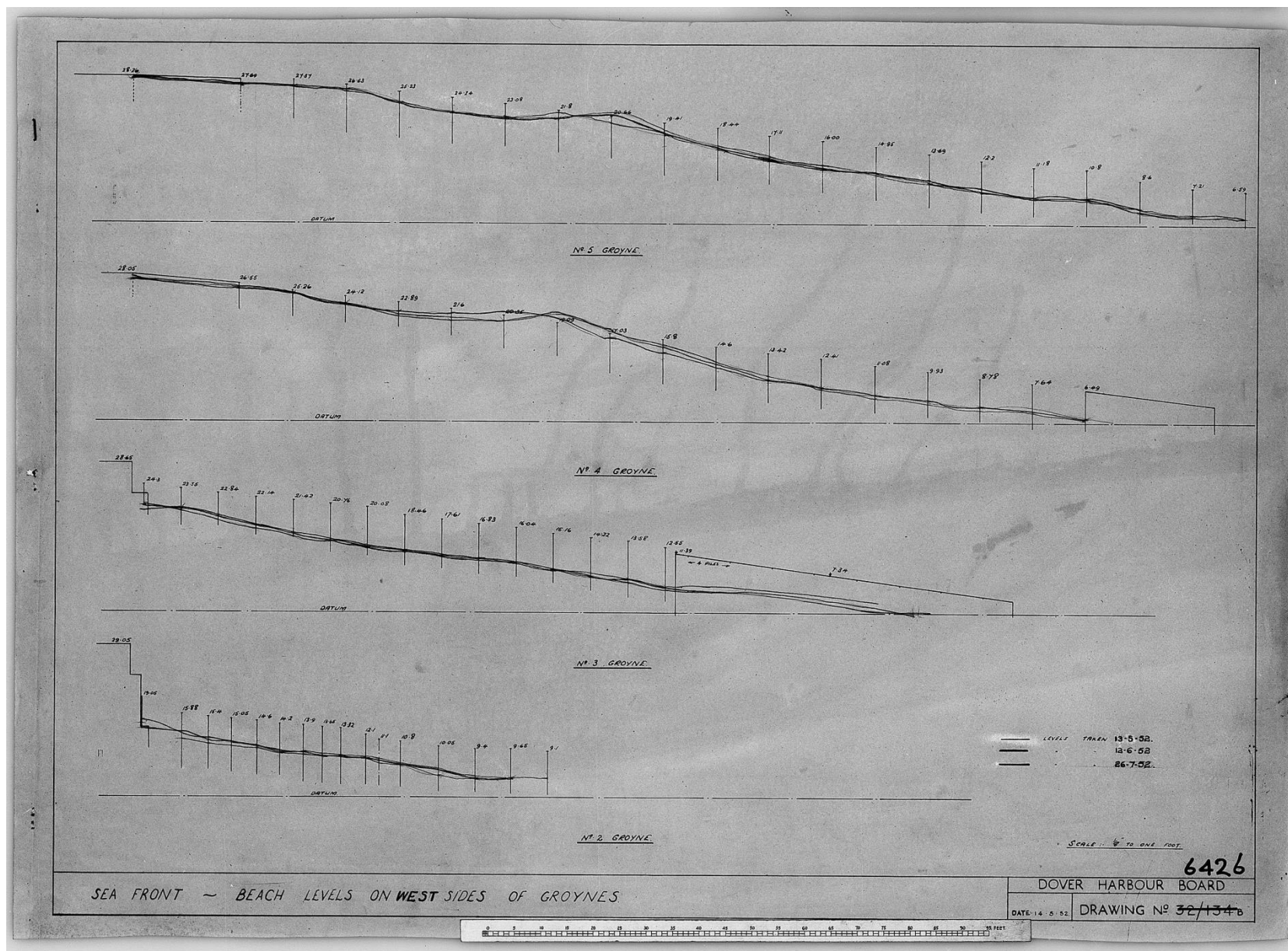


Figure 50- Sea Front- Beach Levels on West Side of Groynes, 14/05/1952, DHB Historical Drawings Archive Ref: 6426.

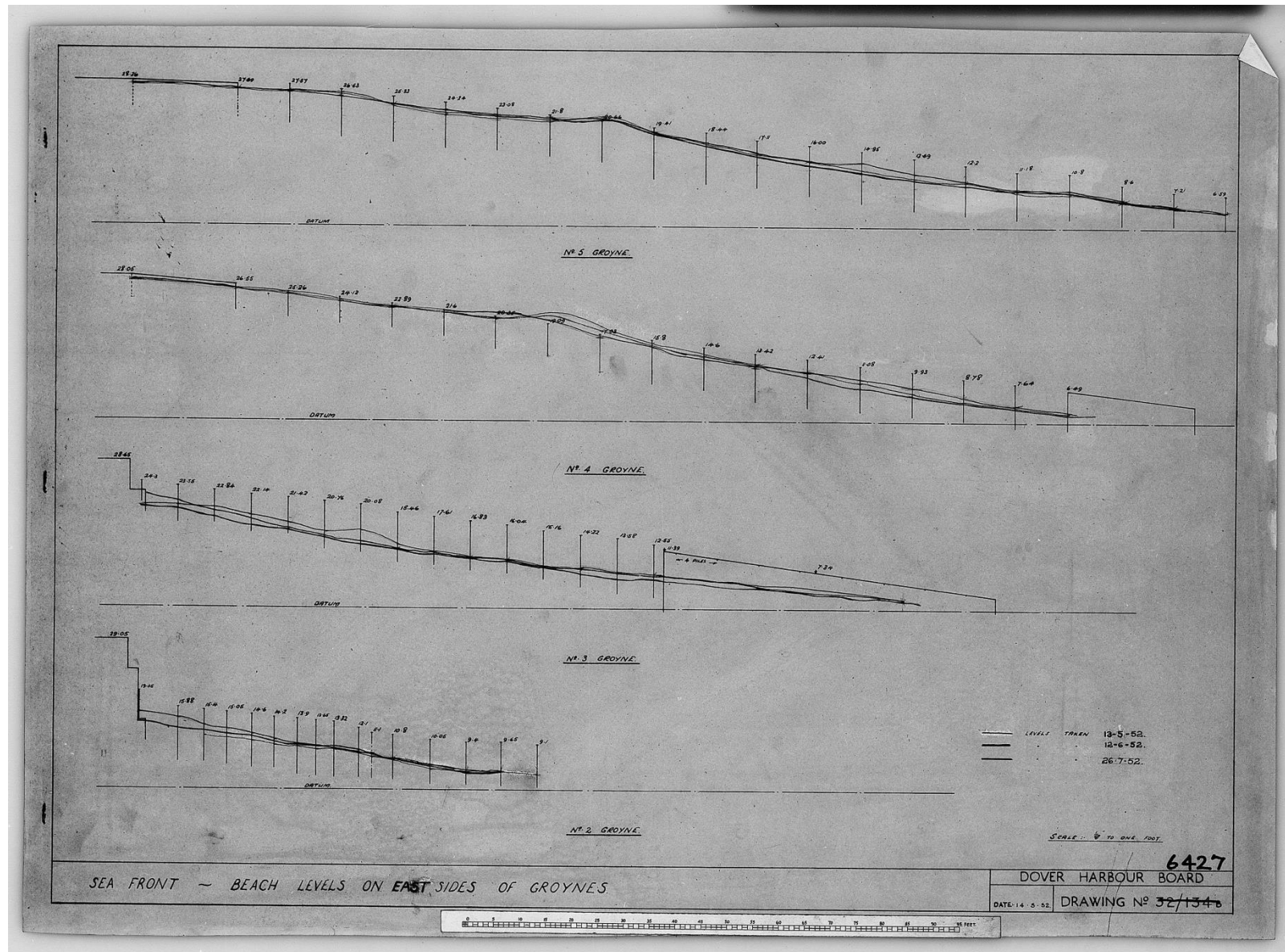


Figure 51- Sea Front- Beach Levels on East Side of Groynes, 14/05/1952, DHB Historical Drawings Archive Ref: 6427.

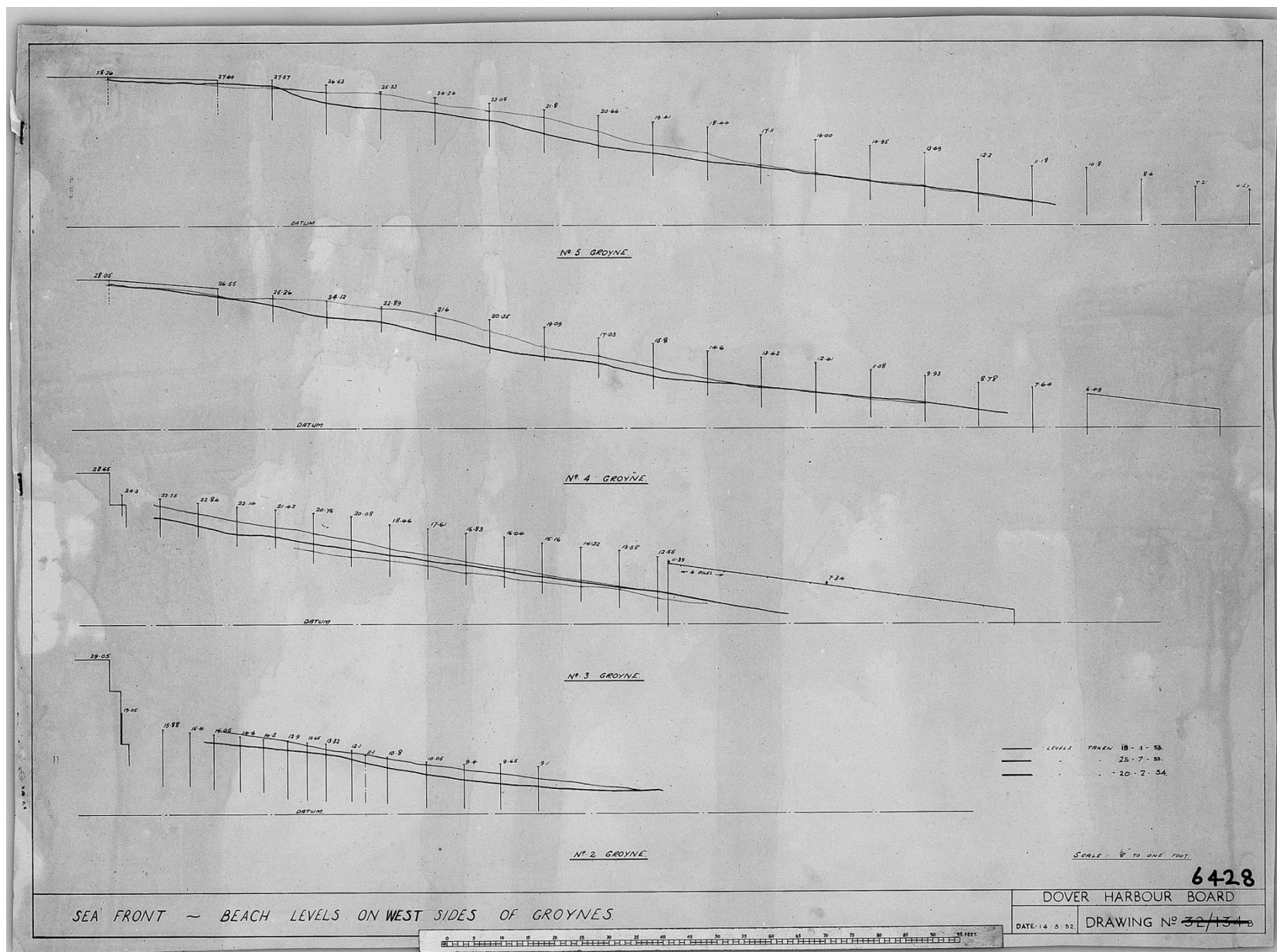


Figure 52- Sea Front- Beach Levels on West Side of Groynes, 14/05/1952, DHB Historical Drawings Archive Ref: 6428.

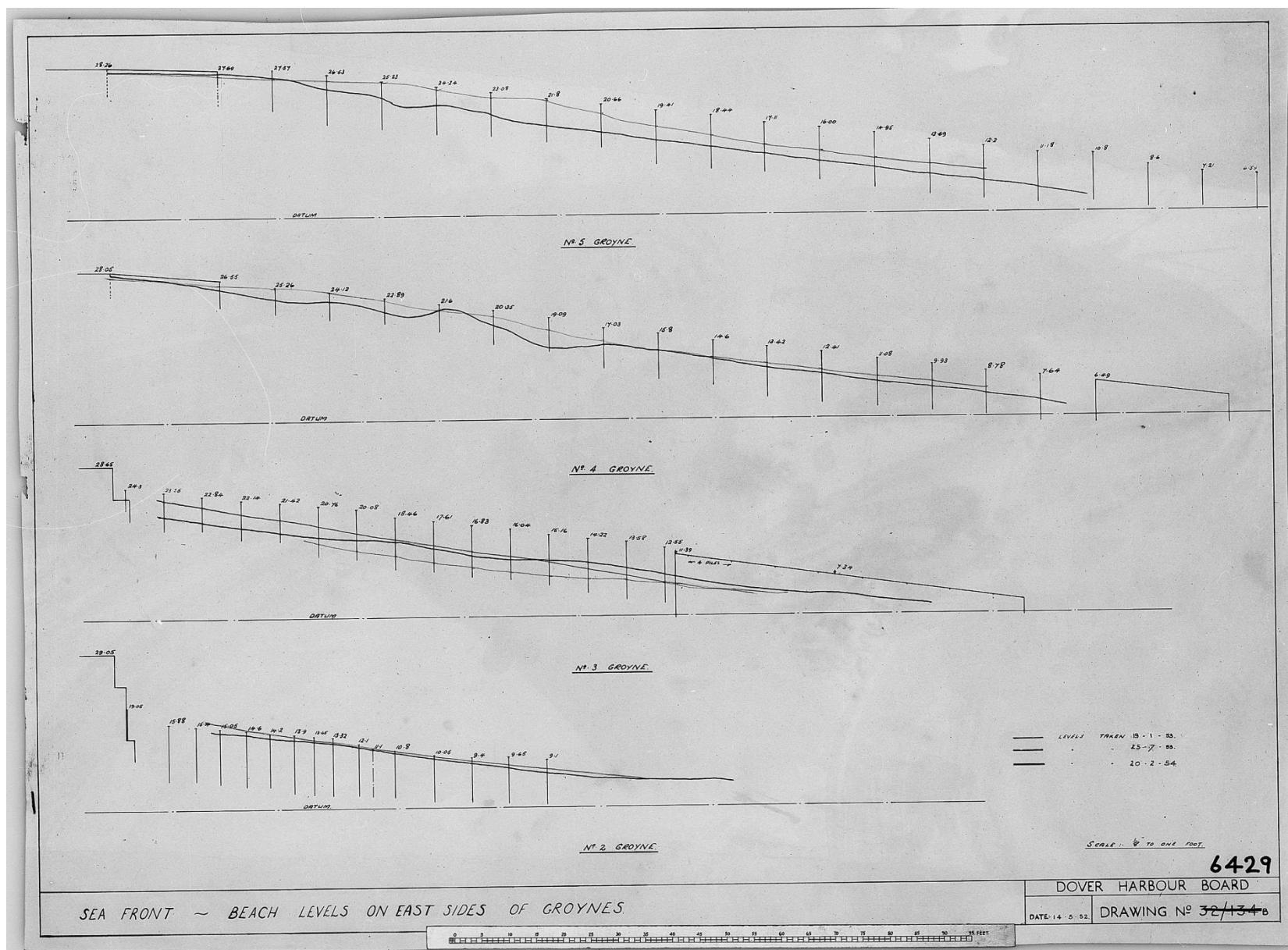


Figure 53- Sea Front- Beach Levels on East Side of Groynes, 14/05/1952, DHB Historical Drawings Archive Ref: 6429.

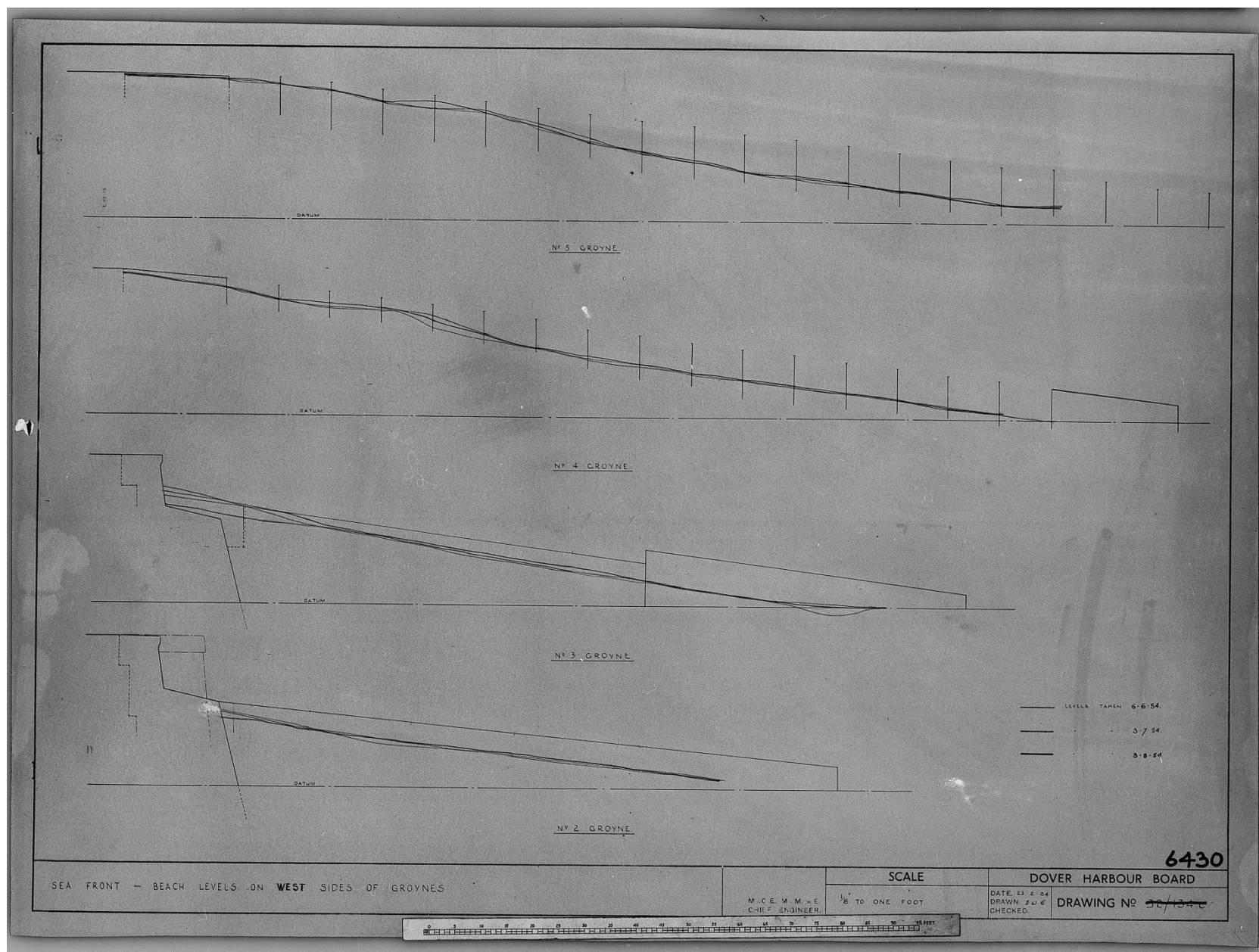


Figure 54- Sea Front- Beach Levels on West Side of Groynes, 23/02/1954, DHB Historical Drawings Archive Ref: 6430.

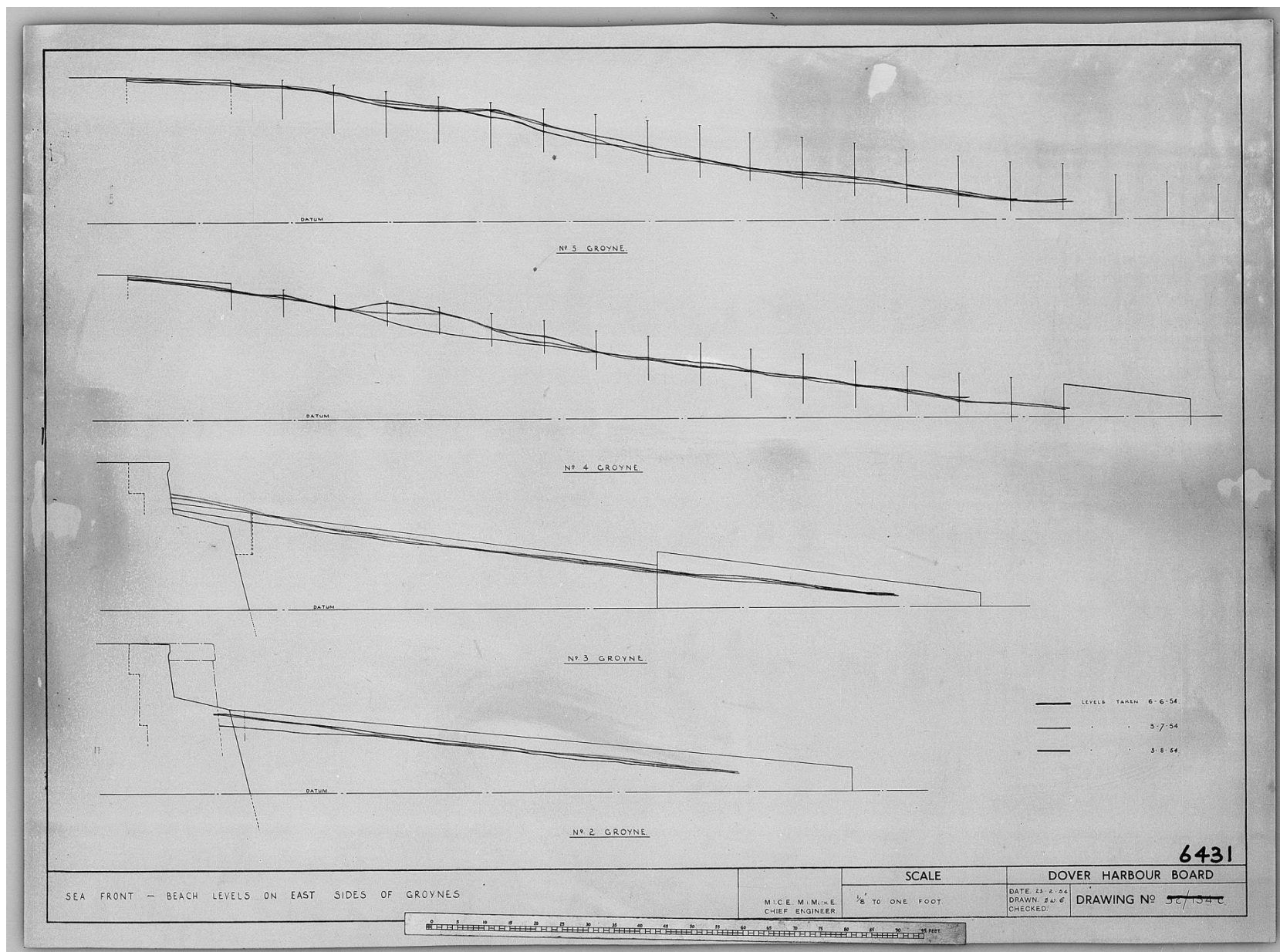


Figure 55- Sea Front- Beach Levels on East Side of Groynes, 23/02/1954, DHB Historical Drawings Archive Ref: 6431.

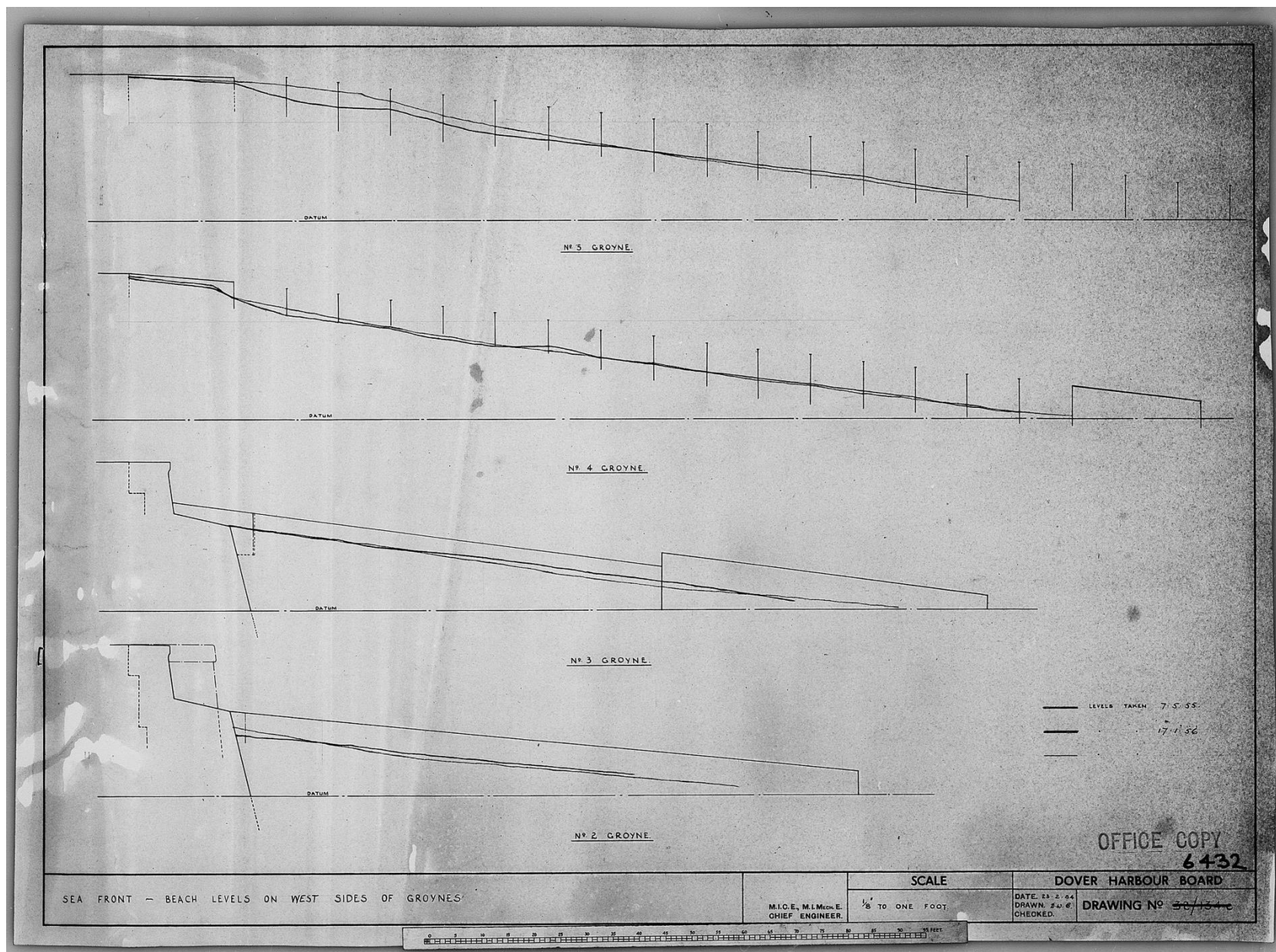


Figure 56- Sea Front- Beach Levels on West Side of Groynes, 23/02/1954, DHB Historical Drawings Archive Ref: 6432.

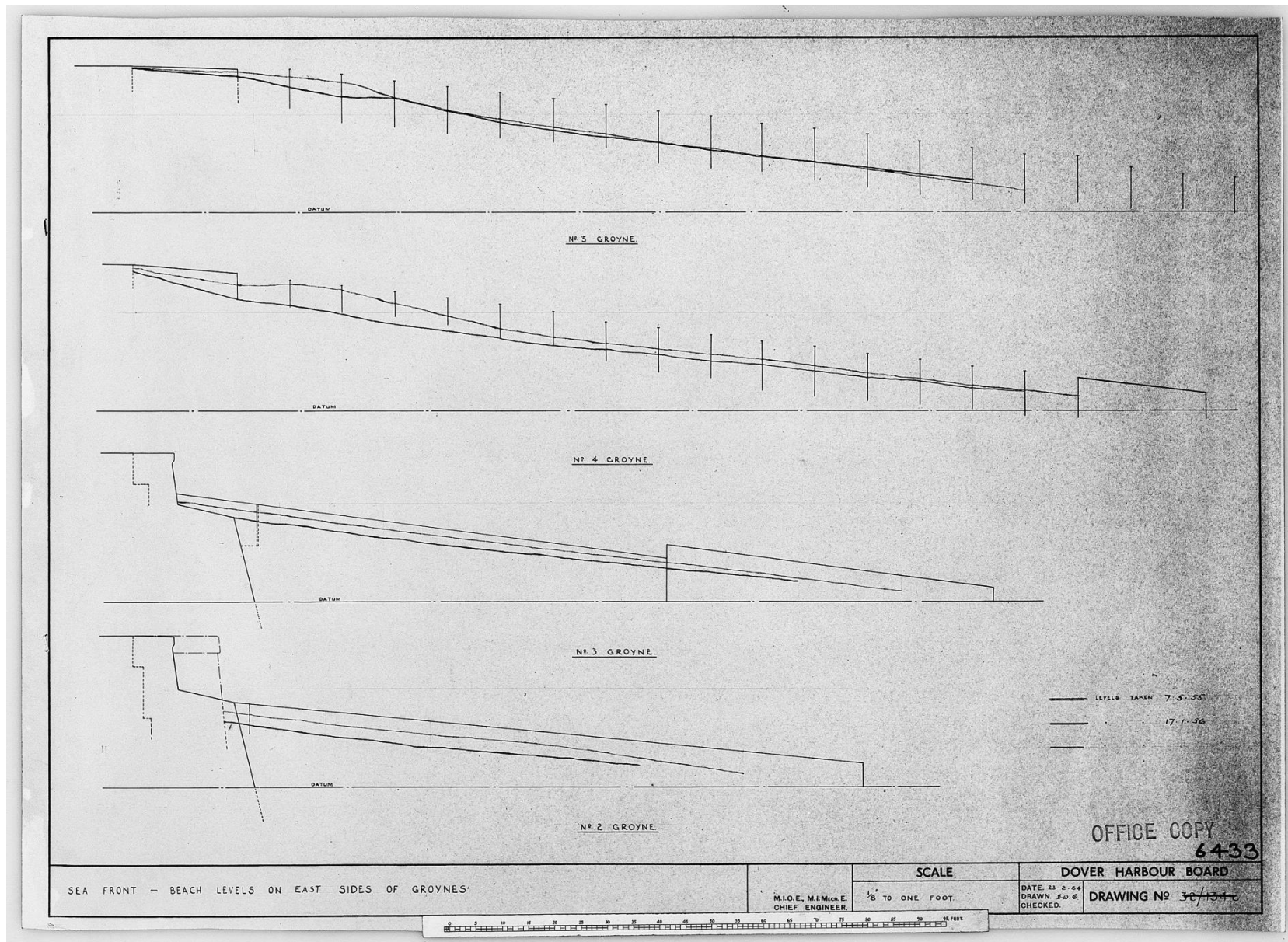


Figure 57- Sea Front- Beach Levels on East Side of Groynes, 23/02/1954, DHB Historical Drawings Archive Ref: 6433.

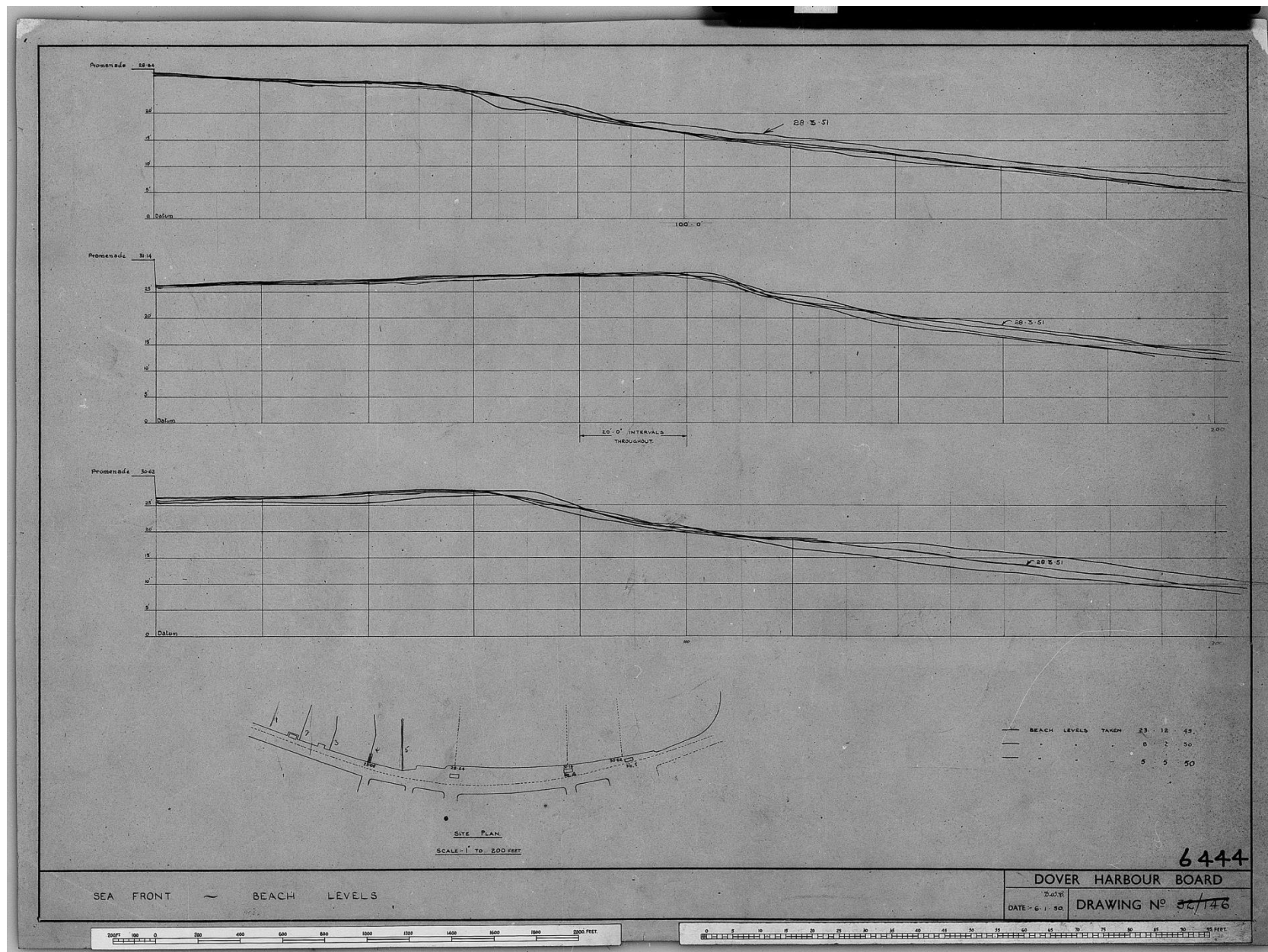


Figure 58- Sea Front- Beach Levels, 06/01/1950, DHB Historical Drawings Archive Ref: 6444.

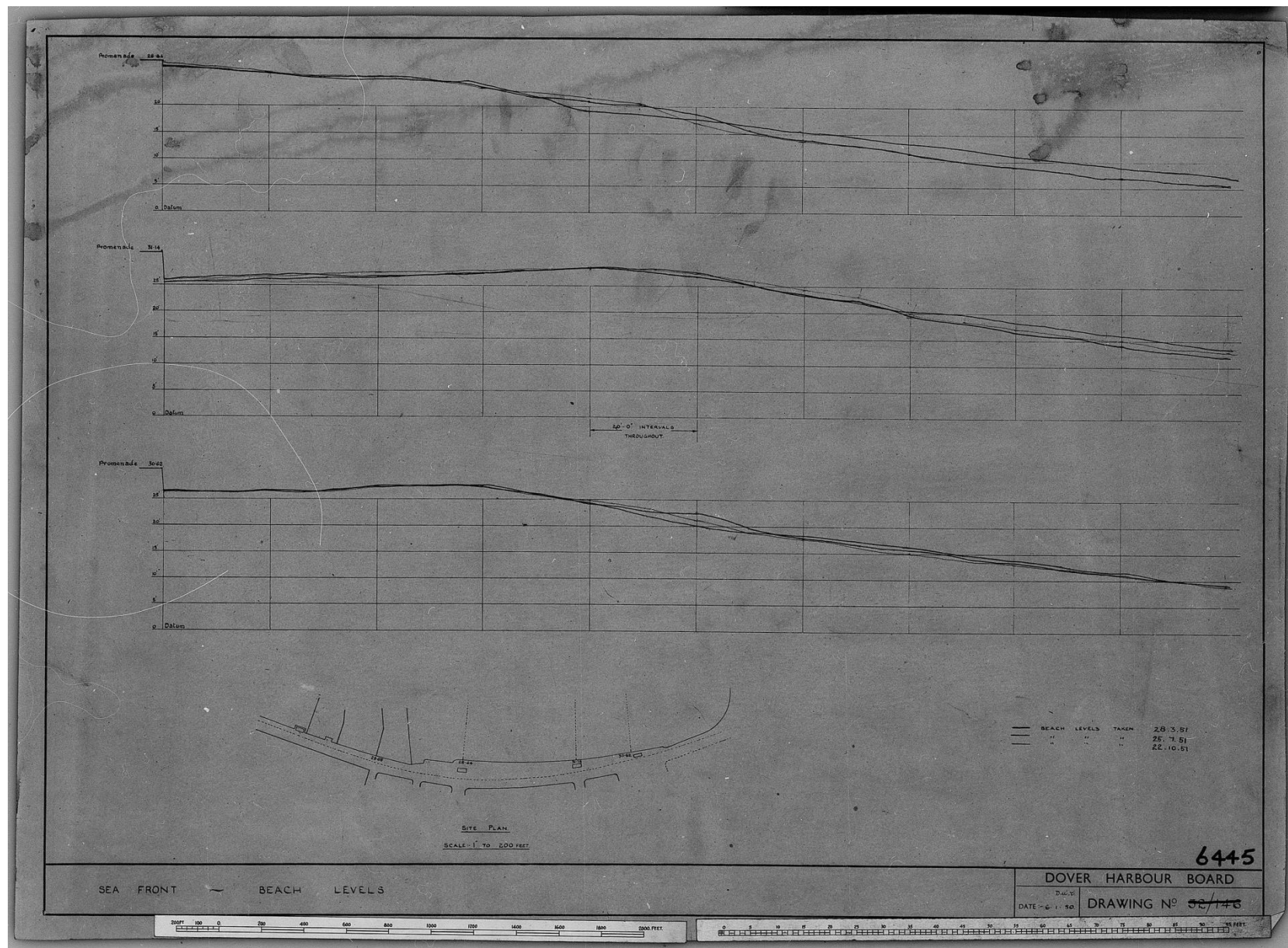


Figure 59- Sea Front- Beach Levels, 06/01/1950, DHB Historical Drawings Archive Ref: 6445.



Figure 60- Sea Front- Beach Levels, 06/01/1950, DHB Historical Drawings Archive Ref: 6446.

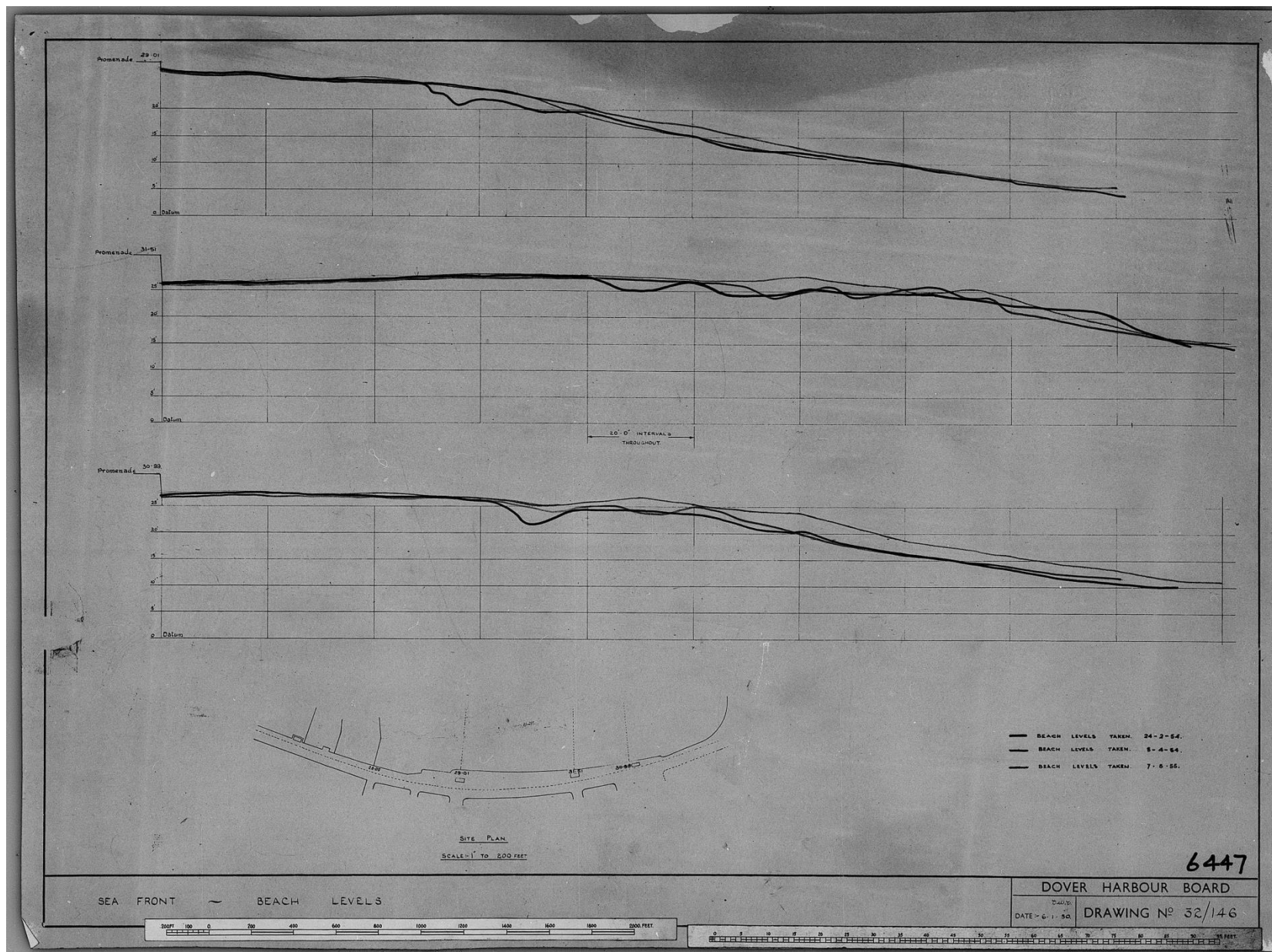


Figure 61- Sea Front- Beach Levels, 06/01/1950, DHB Historical Drawings Archive Ref: 6447.

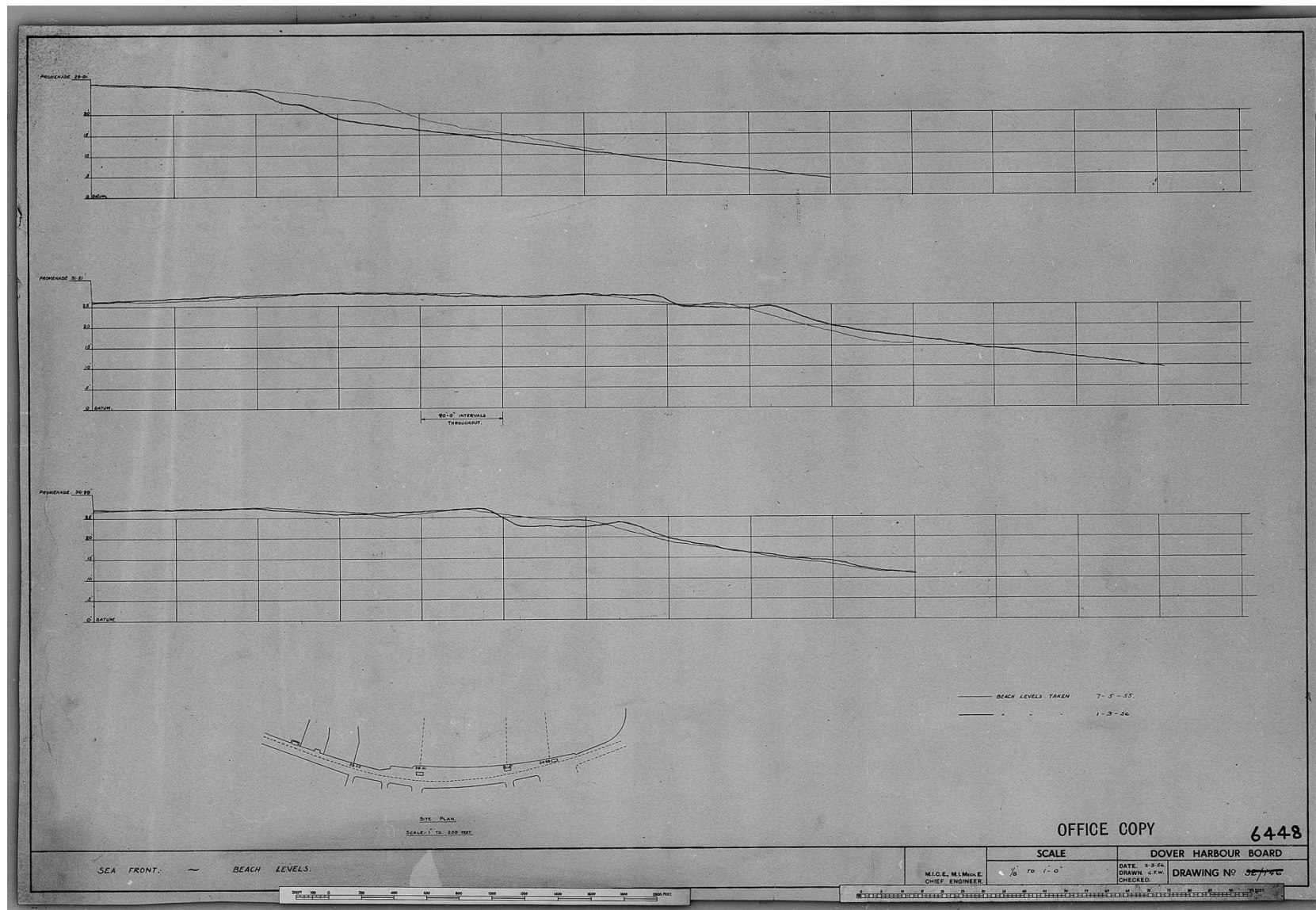


Figure 62- Sea Front- Beach Levels, 02/03/1956, DHB Historical Drawings Archive Ref: 6448.

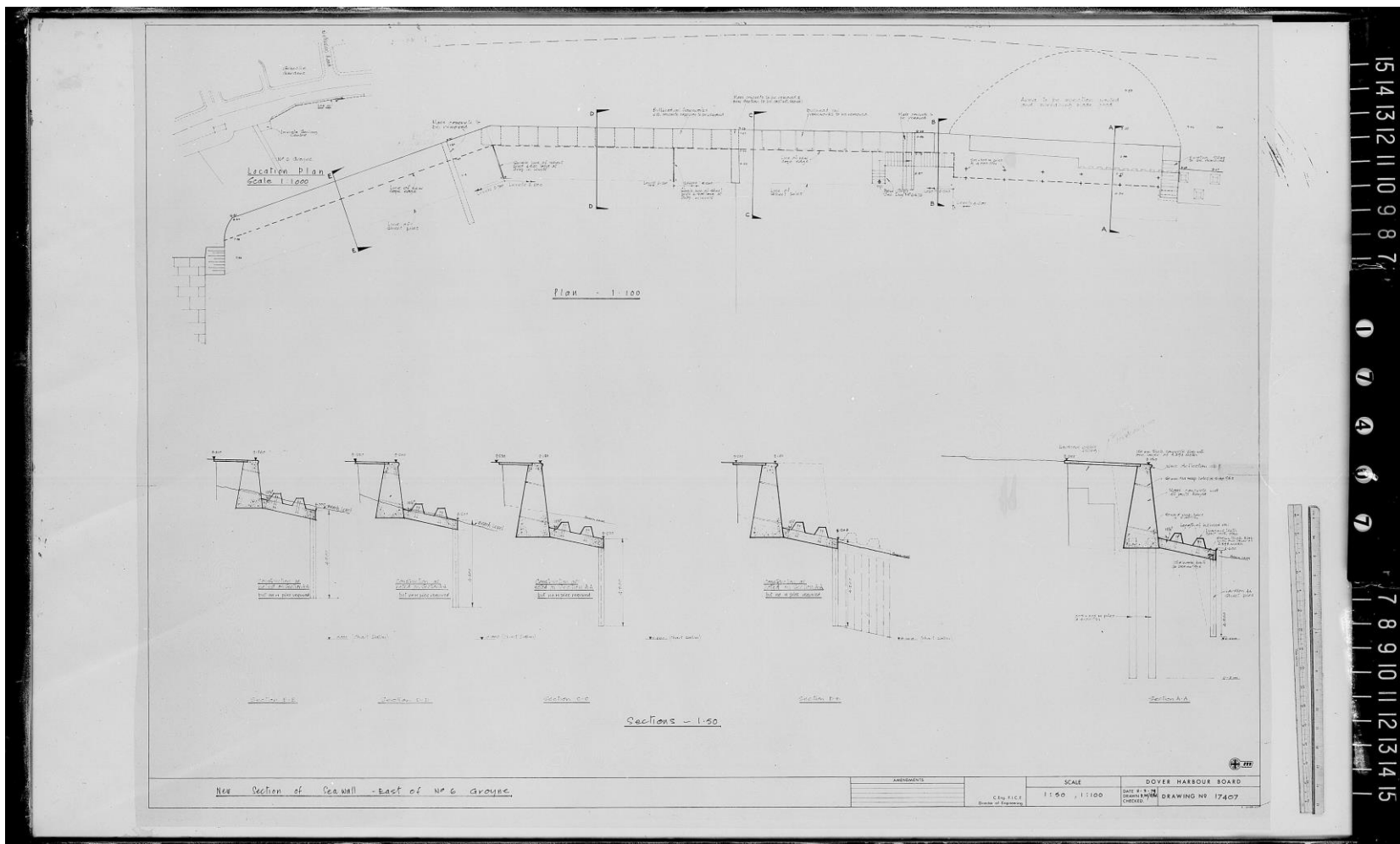


Figure 63- New Section of Sea Wall- East of No 6 Groyne, 02/03/1979, DHB Historical Drawings Archive Ref: 17407.

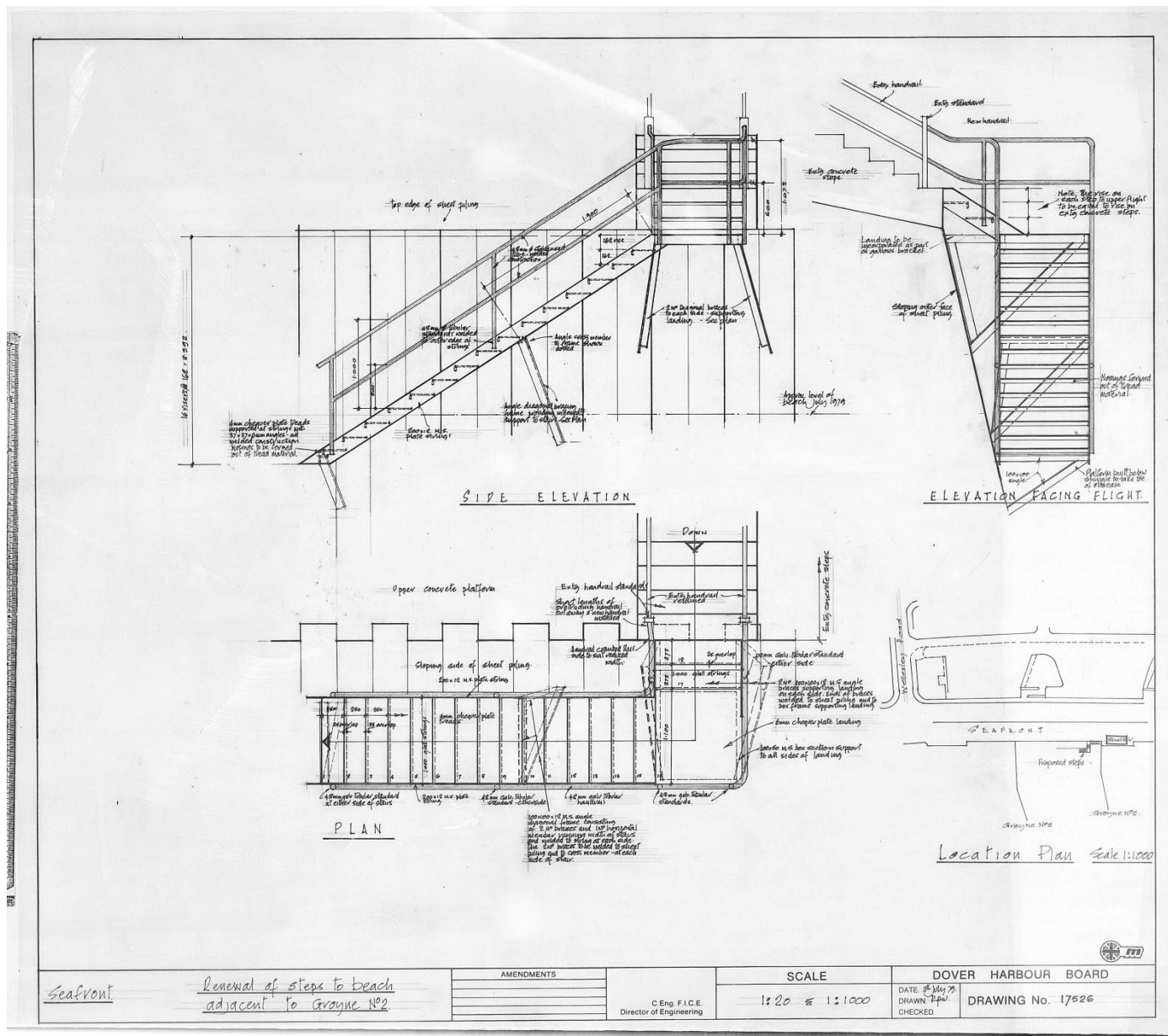


Figure 64- Sea Front- Renewal of steps to beach adjacent to Groyne 2, 11/07/1979, DHB Historical Drawings Archive Ref: 17526.

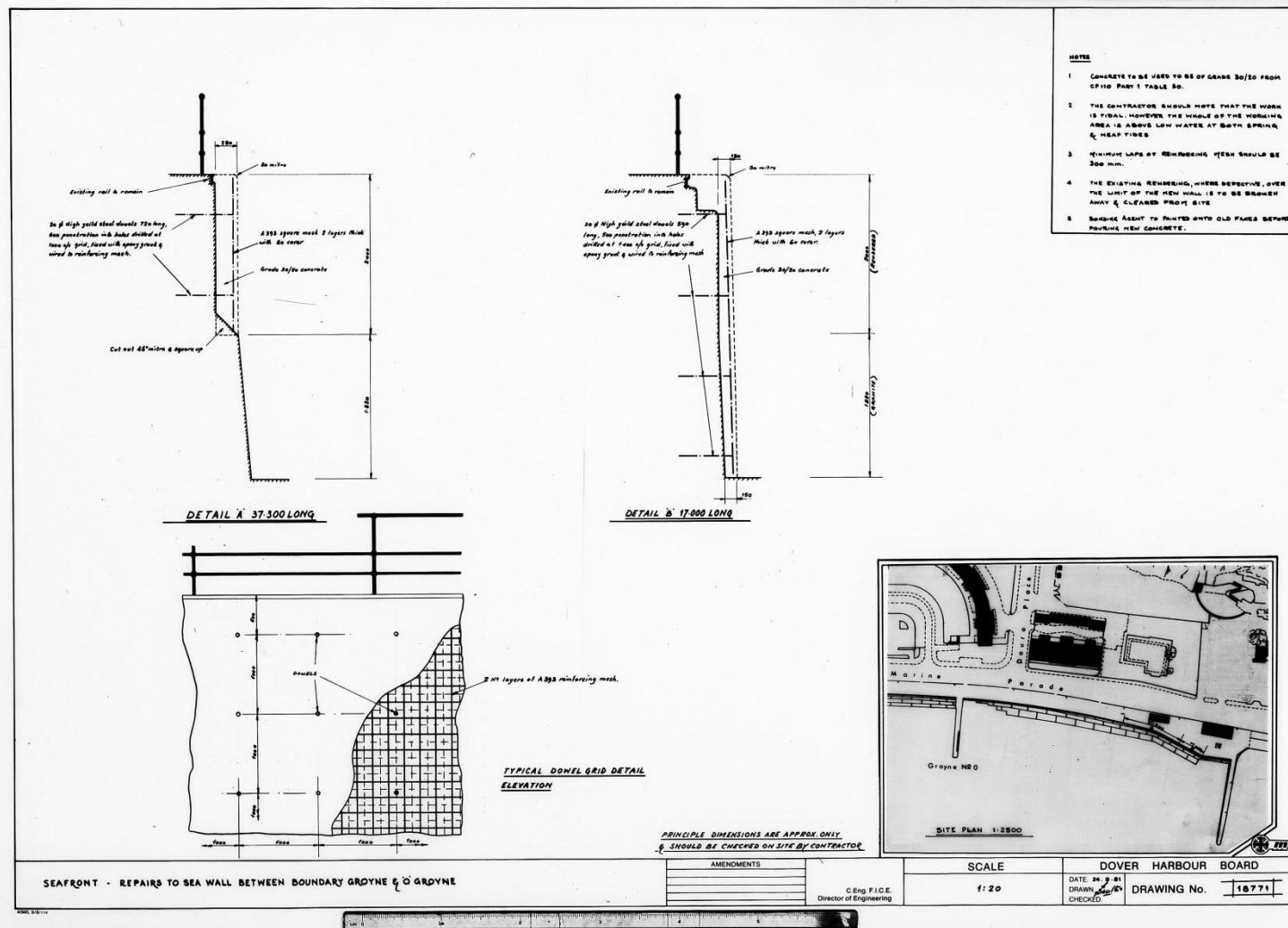


Figure 66- Sea Front- Repairs to Sea Wall between Boundary Groyne and 'O' Groyne, 24/09/1981, DHB Historical Drawings Archive Ref: 18771.

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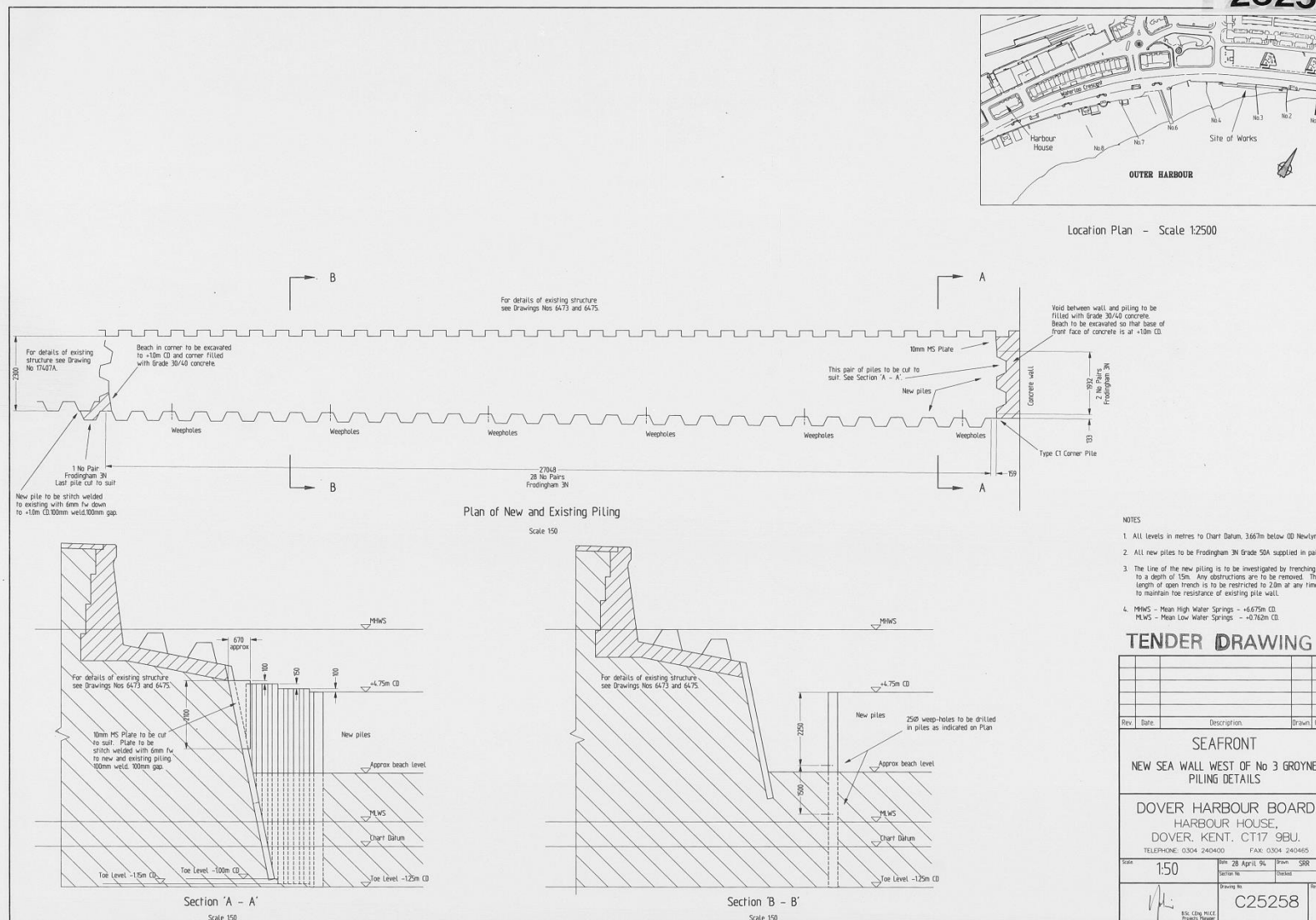


Figure 67- Sea Front- New Sea Wall West of No 3 Groyne- Piling Details, 28/04/1994, DHB Historical Drawings Archive Ref: 2525.

