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Department of Commerce and Labor  
COAST AND GEODETIC SURVEY

Superintendent.

State: *California*

DESCRIPTIVE REPORT.

Top. Sheet No. *3098-3099*

LOCALITY:

*San Pedro, Wilmington,  
Long Beach, Naples, W. Na-  
ples & Bay City*

1910

CHIEF OF PARTY:

*H. W. Rhodes*

The revision of this chart has been unsatisfactory for the reason that there are apparently errors in it, greater than can be accounted for in the shrinkage, and the location of objects by observations from the triangulation stations has not been satisfactory. A comparison of points shown on U.S. Engineers' map No. 4, submitted herewith, and the same points shown on chart No. 5145, will show numerous discrepancies. For example the position of the Southern Pacific Ry. track across the bay between Wilmington and San Pedro appeared to be in error by about 30 meters on chart 5145. The Army Engineers have used triangulation station Deadman's Island as a center of co-ordinates for their surveys and there is submitted herewith to accompany map No. 4 a pamphlet issued by the Engineers' Office describing the established harbor lines, and giving a list of reference points together with a table of their coordinates.

The town of San Pedro is now a part of the city of Los Angeles having consolidated with the city in August 1909. As the harbor is now within the City limits and is known locally as "Los Angeles Harbor" it would seem appropriate that the title of chart 5145 be changed from San Pedro Harbor to Los Angeles Harbor. Local shipping is now reported from "Los Angeles Harbor" and recent government appropriations for work there have been made under the new name.

There is a strong local sentiment in favor of this change of name on the Coast Survey Charts, and in view of local usage and of the fact that the change has already been recognized by other departments of the Government, it is recommended that such change be made.

Much local controversy has arisen over the definition of the term "Inner Harbor" particularly as to whether it includes the channel inside of Deadman's Island. It will be noted that map No. 3

submitted herewith, gives the name "Inner Harbor" to the channel abreast the old water front and it is recommended that this Bureau avoid the discussion, so far as naming the channel is concerned, as it is said to involve legal points concerning the expenditure of certain appropriations. It is recommended that the name "Wilmington Lagoon", which is now obsolete, be changed to "Inner Harbor" the one now used in all government work pertaining to that territory.

During the past few years there has been much litigation concerning titles to the land in the Inner Harbor and over definitions of "Harbor Lands", "Tide Lands", and "Ordinary High Water", and during the trials, Coast Survey Charts 5143 & 5145 were introduced as evidence that the areas enclosed by full lines represented land which at the time of the survey was above H.W.M. (this interpretation having been furnished by the Office). The local Army Engineers' Office states that these lines were based on a map of a survey of the area inside of Terminal Island in 1899, a copy of which was furnished to the Coast Survey by the Engineer Corps about 1903, and which indicated the "Tidal islands" in question as without definite boundary. A map of that survey (map No. 5) is submitted herewith, with the recommendation that the Office consider the advisability of indicating more clearly in a future edition of the chart, just what character of land is intended to be represented within the areas mentioned.

The corrected copy of chart 5145 submitted herewith shows a shrinkage of 1 meter per 100 in a north and south direction and of 1 meter in 77 in an east and west direction and this distance has been taken into account in plotting triangulation stations and details from field notes and other maps.

SAN PEDRO.

Corrections and extensions to the streets of the former town of San Pedro have been made from field notes supplemented by map No.1 which was furnished by the City Engineer of Los Angeles. Pacific Avenue is 100 feet wide south of the government reservation in the vicinity of 26th.St. and only 80 feet wide north of that point; the chart is therefore incorrect in showing it to be 100 feet wide throughout its length. By using the intersection of the line through stations Deadman's Island and Old with the east line of Pacific Ave. as a starting point, (given on page 10 of sketch-book) the streets to the southward have been plotted, allowing for the above mentioned shrinkage in the chart.

Buildings.

several of the buildings shown on the chart have been removed or destroyed and are mentioned in the report on the triangulation. The "Hotel" shown on south Pacific Ave. was burned some years ago. The flat table land in that vicinity is being rapidly built up with substantial residences.

The old buildings of the S.P.Ry. Co. shown on the chart at the foot of Ninth Street have all been torn down or removed. The wharf at this point is now used by the San Francisco & Portland S.S.Co. and the S.P.Ry.Co. and the Pacific Coast S.S.Co. have established their buildings further up at the foot of 5th. Street. Several old buildings shown on the water front north of 5th. St. do not exist and they have been indicated on the chart for removal, by diagonal red lines. With the exception of the freight sheds of the P.C.S.S.Co. and the North Pacific S.S.Co., shown on the chart north of 5th. St., the wharves are chiefly used in handling the heavy

receipts of lumber.

The S.P.Ry.Co's slip shown Northwest of Deadmans Island is surrounded by a narrow wharf and is used almost exclusively for unloading lumber, the vacant land immediately north of the slip being used now as a lumber yard.

Improvements.

The three areas indicated on the chart as "Being filled" and lying just south of Timm's Point are all parts of what is known as the "Miner Fill". The chart shows the present condition of the work and map No.3 shows the plans of the projected improvements. A wharf 1500 feet long, on substantial reinforced concrete piling, is already constructed along the outer east end of the property and a suction dredge is now at work along the face dredging to a depth of 30 feet and using the dredged material to fill inside the bulkhead. The bulkhead is constructed of sheet piling faced with heavy granite rip-rap and is of a very substantial character. This property is known locally as the "Miner Fill" but its corporate name is Outer Harbor Dock & Wharf Company.

The area east of the Miner Fill, shown on map No.3 as the property of the P.E.Ry., has been forfeited for non compliance with the terms of the grant, and the property has recently come into the possession of the City of Los Angeles. It is the intention to construct municipal wharves on it.

The slips of the Pacific Wharf & Storage Company, shown just north of Deadman's Island, are not completed, but a dredger and a large force of men are at present engaged in their construction. The rock retaining wall north of Deadman's Island has been extended in the manner indicated on the chart to a connection with the

East Jetty, and the Pacific Wharf and Storage Company intends to fill and reclaim the interior area with the material dredged from its slips. In view of the fact that this company extended and completed the outer retaining wall, the War Department has granted it permission to cut through the East Jetty in the manner indicated.

The heavy fields of kelp formerly growing inside the Breakwater and in the area indicated on the chart between the dotted red lines and the Breakwater, have died and been carried away. A small patch still shows on the shoal near the bell buoy, and a larger patch inside the open trestle at the inner end of the Breakwater. The theory that kelp will not thrive in protected waters is a fairly well proven one, and, as considerable unfavorable criticism is made because our charts still show heavy kelp inside the Breakwater where none exists, it is earnestly recommended that it be removed from the area indicated. It has been the observation of the writer for some years that kelp requires either a considerable amount of wave motion, or currents of considerable strength, for a healthy growth. Wherever it is found flourishing in protected waters there is generally a very appreciable tidal current. As neither of these conditions considered essential to its growth are to be found here, it is unlikely that the kelp will grow again on this area.

Work is about to begin on making a rock fill along the open trestle-work at the shore end of the Breakwater, and there is no doubt that as soon as the wave action and currents are cut off, the kelp still remaining at this point will disappear.

The Breakwater has been extended as shown on the corrected chart and is now completed and accepted by the Government. Its outer end is finished with a concrete block 40 feet long and a small

red lantern is now located in the center of this block.

Much complaint is made that this light is too weak and cannot be seen at distances above a half or three quarters of a mile, but it is reported that the Light House Board is about to replace this light with one of greater power.

The pleasure wharves at Terminal and Brighton Beaches have been destroyed by the teredo and the surf. In the vicinity of Terminal Island the H.W.M. has been carried south by accretions to the shore for a distance of nearly 200 meters. This filling in is chiefly if not entirely due to the deposit of dredged material from the channel above East San Pedro; further east the H.W.M. has encroached upon the shore line as shown; see pp 24 & 25 of sketch-book for location of H.W.M.

The corrected location of the S.P.L.A. & S.L.Ry. is compiled from map No. 3 which was made by the assistant engineer of the Ry. Company and which may be accepted as giving the latest corrections to the railway property.

The red water-tank shown at "Zinc" about one mile east of Brighton Beach is the only conspicuous mark along this part of the shore.

The double and single water tanks shown on the hill near station R.R. Flagstaff, are conspicuous when not too close under the bluff to the southeastward, from which point they are obscured by the hill itself.

The 18 foot channel dredged by the Consolidated Lumber Company, from the Government Turning Basin at Mormon Island to East Wilmington, is not wholly within the limits of this chart and has therefore been shown on Chart No. 5143.

Small areas of land have been reclaimed at various points in

Wilmington Lagoon by private interests under the supervision of the Army Engineers, but with the exception of a small area on the north side of Smith's Island, none of them have been located in this work as the instructions for it provided against a duplication of any improvements shown by the Army Engineers.



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Corrections of 1 meter in 77 for North and South distances and of 1 meter in 70 for East and West distances, have been allowed for shrinkage in this chart.

Triangulation stations Deadman's Island, Clarence Hotel, and Wilmington Water Tank, together with points on Los Cerritos Water Tank, Long Beach wharf, Roof of First Nat. Bank of Long Beach, and Top of S.P.L.A. & S.L.Ry. steel draw-bridge, have been occupied for the measure of horizontal angles, and the observations will be found in the horizontal angle book submitted herewith, except for stations "Deadman's Island and Los Cerritos Water Tank, the records for which will be found on pages 7 and 2 respectively of the sketch book herewith submitted. Sextant angles for the location of a number of points will also be found in the sketch-book.

Wilmington.

The Old town of Wilmington, as reported in connection with revision of chart 5145, is now a part of the City of Los Angeles, and the boundary line between it and the city of Long Beach is shown on map No. 3 submitted herewith.

The street system of Wilmington has been extended from field notes and by the use of maps Nos. 2, 3, and 4. Map No. 2 is the Official Map furnished by the City Engineer of Los Angeles and the latest changes <sup>are</sup> indicated on it. Some outlying streets have not been transferred to the chart as they have not yet been graded or the surrounding territory improved. The old street system shown on the chart is at variance with the present one particularly near the foot of Canal Street where a few short streets, not now improved, have not been transferred.

The Pacific Electric Ry. Co's main line from Los Angeles to

San Pedro is shown crossing the town; another broad gauge line of the same company, fully constructed but not in use at the present time, runs from west First street around the Bay to a connection with the Gardena Line North of San Pedro. Its location, which has not been transferred to the chart is given by map No 13a.

The spur of the Southern Pacific Ry. shown on the chart in the northern part of Wilmington Lagoon was projected, but never constructed, and should be removed from the chart. The short curve formerly shown in the S.P. track north of Anaheim Road has been straightened as shown.

A channel from 150 to 200 feet wide, and with a depth of 17 feet at M.L.L.W. has been dredged by the Consolidated Lumber Co. from their yard at East Wilmington to deep water below Mormon Island. This channel has a small turning basin at its upper end and a number of lumber schooners now discharge cargo at this point. The Salt Lake Ry. has a line from this point connecting with their main line east of Terminal Island.

There is a dredged channel 100 feet wide and said to have 8 feet at L.W. connecting a slough of the Long Beach Harbor with one in Wilmington Lagoon as shown. This is a part of the 400 foot channel provided for by the Government and shown on maps Nos. 3 and 4.

The line of the Salt Lake Ry. across these marshes is an earthen fill and the westerly arm of Cerritos slough is therefore dammed by it. The old bed of the slough from that point eastward to Long Beach Harbor is being filled by dredged material from the latter point, and should therefore be erased from the chart. The R.R. Co. maintains a drawbridge over the dredged channel above mentioned.

Long Beach Harbor.

The projected harbor of Long Beach is shown on maps Nos. 14 and 15. The southerly channel (shown on the chart in full lines) has been dredged to a depth of 21 feet which depth is also maintained out to the drawbridge, where a suction dredge is now (October 1910) engaged in dredging a channel outward between the jetties to a uniform depth of 16 feet.

This is practically an artificial harbor and entrance, and it is uncertain as to whether the entrance can be maintained with the present length and direction of the jetties. The jetties are of random rock construction, 500 feet apart, and the lengths shown on the chart are the finished lengths according to present plans. The Engineer for the Los Angeles Dock & Terminal Company claims 20 feet at L.W. at the end of the west jetty. The channel between the jetties has never been dredged. There is now about four feet at L.W. between the jetties but the channel is winding. It is hoped to eventually secure Government aid and extend the jetties into deep water to the Southeastward, in which case it is claimed the entrance can be maintained in a satisfactory manner.

The Craig Ship-Building Co. has a rather extensive ship yard on the channel already dredged as shown on map No. 19. This Co. has now (Oct. 1910) two steel vessels over 300 feet in length nearly ready for launching. The Company also has a sectional dry-dock already constructed and located in the first slip on the southerly channel. It is the intention to dock and repair all classes of vessels here as soon as an entrance with sufficient depth is provided.

The City of Long Beach owns the wharf shown between the second and third slips on the south side of the southerly channel. There is 21 feet at L.W. along the face of this wharf.

The Salt Lake Ry. Co. has built

The Salt Lake Ry. Company has built an elaborate steel Bascule Bridge with a clear span of 180 feet over the entrance to this harbor.

The corrected H.W.M. shown on this chart at a point 1 mile east of Brighton Beach is slightly in error as it was located with reference to the R.R. track which was itself in error on the chart. See chart No. 5145 for a more exact location of the H.W.M. at this point.

#### Long Beach City.

This city has grown very rapidly and now covers a large territory. The street system has been extended largely by means of map No. 14, which was prepared by the City Engineer and is up to date. Some streets in the suburbs of the city where there are but few improvements have not been shown. A few changes have been noted in the streets shown on the chart, the principal one being in Ocean Ave. east of 20th. Place.

The shore from Long Beach Harbor entrance has been building out for some years, but during the past two years has been receding, and is now undermining a number of houses at the shore line in Seaside Park (West Long Beach).

The old wharf shown on the chart in the extension of Magnolia Avenue has been destroyed for some years.

The Municipal Pier has been lengthened 80 feet and its outer end made symmetrical. see sketch on p.4 of sketch-book.

#### Conspicuous Landmarks.

The cement chimney of the Edison Power Company, 150 feet high by about 15 feet in diameter, located just west of the Long Beach Harbor entrance, is a most conspicuous mark. The east end of the steel lift bridge at the latter point is about 45 feet high and is also conspicuous.

The city is built up solidly along the water front in the vicinity

cinity of the Municipal Pier and has a number of conspicuous buildings: among these the most conspicuous are the Virginia Hotel south of Ocean Avenue between Chestnut and Magnolia Avenues, a six story yellow plaster structure; the First Nat. Bank Building at the N.W. corner of First Street and Pine Ave. which is six stories in height and surmounted by a conspicuous clock tower on its S.E. corner; the Auditorium a large frame structure at H.W.M. on the south side of the Municipal Pier, and the Sun Parlor at the outer end of the Municipal Pier.

The most conspicuous landmark on this chart is a large white water tank 15 feet in diameter and 50 feet above the ground, standing on a steel structure 73 feet north of station "Los Cerritos", on the hill of the same name.

#### West Naples.

This is a projected Canal City which was laid out several years ago but which has not yet been built. Its complete plan is shown on map No. 18. The southern part of the "Grand Canal" has been constructed from Alamitos Bay to the Bridge shown at its west end, but which has not yet been built.

#### Alamitos Bay Tract.

This settlement is known as "Alamitos Bay" and occupies the peninsula at the west side of the new San Gabriel River entrance. It is shown in detail on map No. 16. There are a number of summer residences here but only a small winter population.

There is a wharf about 190 meters long built in the outer extension of Pier Avenue, and a small boat wharf built in the Bay in the inner extension of the same street. The plans of these wharves are given on pp 15 and 20 respectively of the sketch-book.

The Pavilion at the inner end of the outer wharf has a high square cupola

and is a conspicuous landmark. This pavilion and the outer end of the wharf were located by cuts from stations Deadman's Island, Wharf, Roof, and Los Cerritos Water Tank. The Alamitos Bay line of the Pacific Electric Ry. runs to the end of the Peninsula.

#### Naples.

This is an elaborately designed Canal City and is shown in detail on map No. 17. An hotel has been built which is shown on the chart and there are six large concrete residences on the bulkhead shoreline due north of the inner Alamitos Bay wharf.

The settlement is reached from Alamitos Bay by ferry and from the mainland by a spur from the Newport Line of the P.E. Ry. The outer canal shown on map No. 17 has not yet been constructed. The chart shows the canals correct to date. The canals have substantial looking bulkheads and there is a sufficient depth of water at all times for launches, probably four or five feet at the least. The southerly lines shown on the chart at this point represent bulkheads. There are said to be depths of 20 feet in the channel between Alamitos Bay and settlement and Naples, but the depths are very irregular and the channel variable in width and direction.

The New San Gabriel River entrance has shifted about 800 meters to the Southeastward and is now up against the clay bluff of the Bay City shore. The channel of this river outside of H.W.M. is constantly changing and is very shoal. Fishing boats of four or five feet draft go in and out to some extent but only under favorable conditions of weather and tide.

#### Bay City.

This settlement has been shown on the margin of chart No. 5143 for the reason that its position has been determined from stations and objects which are shown only on this chart.

The town consists of about seventy residences most of which are occupied in the summer time only. There is a pleasure wharf as shown and a pavilion 40'x 80' at H.W.M. on its inner end. This pavilion is the most conspicuous mark along the Bay City front; a detailed sketch of it will be found on p.30 of sketch book.

Zup = 3098 + 3099.

Report on Electric and Steam Roads on (Charts 5143 and 5145.)

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The Southern Pacific Railway and the San Pedro Los Angeles & Salt Lake Railway are the only Steam Roads shown on these charts.

The Pacific Electric Railway( now a Southern Pacific Corporation) has a ramified system of lines covering the whole territory and now owns the Los Angeles Interurban Railway, a narrow gauge line into San Pedro.

The lines of the Pacific Electric Railway are shown in detail on maps 11, 12, 13, 13a, 20, 21, 22, 23, & 24 which were secured through the courtesey of the Chief Engineer of that line. Map No.6 which was also furnished by the P.E.Co. also shows their local lines in San Pedro.

A number of the tracks of the Southern Pacific Co. (steam) at San Pedro are now equipped with trolley wires and used by the P.E. Ry. so that it is impossible to distinguish the lines on the chart or on the maps of that portion of the city.

There is a complex network of tracks at San Pedro and it has been found impracticable to get a comprehensive sketch of them with the means at hand for the revision of the charts and for that reason map No.1., which is the latest city map, together with Nos. 12, 13, and 13a, are submitted to show the track system as it exists at p present. Many changes in the location of the tracks shown on the old chart cannot now be shown on the chart owing to the number of lines already shown.

The P.E.Ry system, with the exception of the L.A.Inter-urban line already mentioned) is all standard gauge, and as its interurban lines do practically all of the passenger and express business and a portion of the freight business throughout this territory, they deserve the same prominence on the chart as a steam road.



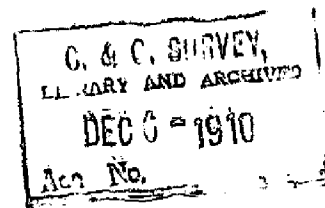
The San Pedro Los Angeles & Salt Lake Railway now has a line from Terminal Island to East Wilmington where it connects with the Southern Pacific system as shown.

*Refs 3078 and 3099.*

List of maps to accompany revised (charts Nos. 5143 & 5145.)

*Shipments*

13466	1. City of San Pedro.	Scale 1": 300'
13467	2. City of Wilmington.	1": 600'
13468	3. Los Angeles Harbor. (also map 3a)	1": 600'
13469	4. San Pedro Harbor Lines. (U.S. Eng. 1908)	1 : 7500
13470	5. San Pedro Harbor. (Top. by Eng. Corps 1899)	1 : 7500
13471	6. City of San Pedro. (Lith. map with car lines)	
13472	7. San Pedro & vicinity. (Lmts of U.S. Mil. Res.)	
13473	8. Consolidated Lumber Co's channel at Wilmington.	
13474	9. Consolidated Lumber Co's Yards, Wilmington.	
13475	10. Pacific Wharf & Storage Co's Slips at San Pedro.	
13476	11. P.E Ry. (Wilmington to Long Beach)	1": 200'
13477	12. (Gardena Line at San Pedro)	1": 200'
13478	13. (Wilmington to San Pedro)	1" : 200'
13479	13a. " " " "	
13480	14. City of Long Beach	1": 600'
13481	15. Los Angeles Dock & Terminal Co. Bdy lines	1": 200'
13482	16. Alamitos Bay. Lith. map.	
13483	17. Naples and Extensions.	
13484	18. West Naples.	
13485	19. L.A.D. & Term. Co. (Craig shpbldg plant)	
13486	20. P.E. Ry. Newport Beach Line to An. Lndg.	1": 200'
13487	21. Seaside to Alamitos Bay.	1": 200'
13488	22. Al.B. ext. (Term. Av. to Newport Line.	1": 100'
13489	23. Naples Spur.	1": 100'
13490	24. Redondo Ave. Line.	1": 200'



## UNITED STATES HARBOR LINES FOR INNER AND OUTER HARBORS, SAN PEDRO, CAL.

Description for the Purpose of Modifying and More Clearly Defining the position of the lines approved by the Secretary of War December 30, 1905, and for the establishment of additional lines for the outer harbor and inner harbor, recommended July, 1908, by Board of Officers appointed by S. O. No. 13, Office of the Chief of Engineers, Washington, April 28, 1908.

Note 1. The reference stations, indicated by letters in the description and on the map, are described below under the head of "Reference Stations."

Note 2. The initial point of the survey is "R", the U. S. Coast and Geodetic Survey Station on Deadmans Island. The coordinates (in feet to the nearest tenth) of Harbor Line Stations, reference points and land marks, referred to Station "R" are given below under the head of "Coordinates."

### OUTER HARBOR.

*Pierhead line.*—Beginning at Station 15, which is  $S 21^{\circ} 34' 15'' W$ , 1202.7 feet from "R", and on the south end of the west jetty; thence  $S 17^{\circ} 35' E$ , 2250 feet to Station 219; thence  $S 72^{\circ} 25' W$ , 650 feet to Station 217; thence  $N 17^{\circ} 35' W$ , 3855 feet to Station 233; thence  $S 72^{\circ} 25' W$ , 400 feet to Station 231, from which "J" bears  $N 17^{\circ} 35' W$ , 1500 feet; thence  $S 17^{\circ} 35' E$ , 4113.3 feet to Station 215; thence  $S 35^{\circ} 02' 30'' W$ , 683.3 feet to Station 214; thence  $N 54^{\circ} 57' 30'' W$ , 1000 feet to Station 218; thence  $N 17^{\circ} 35' W$ , 3733.3 feet to Station 225; thence  $S 72^{\circ} 25' W$ , 600 feet to Station 227; thence  $S 17^{\circ} 35' E$ , 156 feet to Station 224, from which bulkhead Station "L" on the north boundary of U. S. Reservation, and hereinafter described, bears  $S 84^{\circ} 18' W$ , 750.4 feet; thence  $S 84^{\circ} 18' W$ , 40.9 feet to a point on the bulkhead line hereinafter described.

Beginning again at a point from which bulkhead Station "K" on south boundary of U. S. Reservation, and hereinafter described, bears  $N 89^{\circ} 53' W$ , 761.4 feet; thence  $S 89^{\circ} 53' E$ , 42 feet to Station 222, from which Station 224 bears  $N 17^{\circ} 35' W$ , 1463.4 feet; thence  $S 17^{\circ} 35' E$ , 3830.6 feet to Station 213; thence  $S 35^{\circ} 02' 30'' W$ , 790.1 feet to Station 207 on the axis of the breakwater.

*Bulkhead line.*—The Bulkhead line as established is 1000 feet from the outer pierhead line, and 40 feet from the pierhead lines defining the channels (the 40 feet being the minimum distance, measured at

mean lower low water level, from the pierhead line to the bulkhead, whose construction below that level may approach but not pass the pierhead line), and is more particularly described as follows:

Beginning at Station 15 of the pierhead line; thence S  $72^{\circ} 25'$  W, 40 feet to a point; thence S  $17^{\circ} 35'$  E, 1250 feet to a point 40 feet S  $72^{\circ} 25'$  W from Station 14 on the pierhead line; thence S  $72^{\circ} 25'$  W, 570 feet to a point 40 feet N  $72^{\circ} 25'$  E from Station 242 on the pierhead line; thence N  $17^{\circ} 35'$  W, 2895 feet to a point; thence S  $72^{\circ} 25'$  W, 480 feet to a point; thence S  $17^{\circ} 35'$  E 2925.55 feet to a point 50.33 feet S  $35^{\circ} 02' 30''$  W from Station 9 on the pierhead line; thence S  $35^{\circ} 02' 30''$  W, 1346.44 feet to a point 50.33 feet N  $35^{\circ} 02' 30''$  E from pierhead Station 218; thence N  $17^{\circ} 35'$  W, 3742.75 feet to a point; thence S  $72^{\circ} 25'$  W, 680 feet to a point; thence S  $17^{\circ} 35'$  E, 187.6 feet to a point 40.9 feet S  $84^{\circ} 18'$  W from pierhead Station 224; thence S  $84^{\circ} 18'$  W, 709.5 feet to Station "L" on the north boundary of U. S. Reservation, from which "X" bears S  $70^{\circ} 10'$  W, 114.5 feet.

Beginning again on south boundary of the U. S. Reservation at Station "K" from which "W" bears N  $74^{\circ} 29'$  W, 77 feet; thence S  $89^{\circ} 53'$  E, 761.4 feet to a point 42 feet N  $89^{\circ} 53'$  W from pierhead Station 222; thence S  $17^{\circ} 35'$  E, 2615.6 feet to a point 50.33 feet S  $35^{\circ} 02' 30''$  W, from station 211 on the pierhead line; thence S  $35^{\circ} 02' 30''$  W, 1713.6 feet to Station 209; thence N  $76^{\circ} 50'$  W, 1215 feet more or less to the easterly shore of Point Fermin.

#### INNER HARBOR, FROM ENTRANCE TO NORTH SIDE OF SMITHS ISLAND.

*West side pierhead line.*—Beginning at Station 15, from which "R" bears N  $21^{\circ} 34' 15''$  E, 1202.7 feet; thence along the axis of the west jetty (passing through Station ddd, ccc, bbb, aaa, zz, and yy) to Station 16, from which "R" bears S  $50^{\circ} 54' 50''$  E, 1277.9 feet; thence N  $25^{\circ} 45' 45''$  W, 3100 feet to Station 18, which bears S  $73^{\circ} 45'$  E, 2.5 feet from "M"; thence in a curve of 2827 feet radius, 1583.5 feet to Station 19, the center of the curve, Station 298, being N  $67^{\circ} 10' 25''$  E from Station 18 and S  $80^{\circ} 44' 02''$  E from Station 19; thence N  $14^{\circ} 59' 10''$  E, 553.4 feet to Station 20; thence N  $26^{\circ} 42' 30''$  E, 1549.4 feet to Station 21, which is 193.6 feet easterly of the line "DE", measured at right angles to that line from a point 63.2 feet northerly of "E"; thence N  $23^{\circ} 00' 30''$  E, 703 feet to Station 23, which is 258 feet easterly of line "DE", measured at right angles to that line, from a point 763.25 feet northerly of "E"; thence N  $45^{\circ} 10' 20''$  W, 233.6 feet to Station 24; thence N  $72^{\circ} 14' 34''$  W, 50 feet to Station 25, a point in the line "DE" 869.6 feet northerly of "E".

Beginning again on the south side of Smiths Island at Station 30, a point on the line "DE" 1081 feet northerly of "E"; thence  $S 72^{\circ} 14' 34''$  E, 290 feet to Station 29; thence  $N 17^{\circ} 45' 26''$  E, 883.8 feet to Station 28; thence  $N 32^{\circ} 26'$  W, 312.3 feet to Station 27, a point 50 feet from line "DE", measured at right angles to "DE" from a point 2164.8 feet northerly of "E"; thence  $N 17^{\circ} 45'$  E, 778.4 feet to Station 474; thence  $N 42^{\circ} 15'$  W, 57.7 feet to Station 476, a point in line "DE" 2628 feet southerly of "D".

*West side bulkhead line.*—Beginning at Station 15 of pierhead line; thence along the axis of the west jetty (passing through Stations ddd, ccc, aaa, zz, yy, xx, and ww) to Station 17; thence northerly, parallel to the pierhead line and 90 feet westerly therefrom, to a point in the pierhead line joining Stations 23 and 24; thence along the pierhead line to Station 25.

Beginning again on the south side of Smiths Island at Station 30 and following the pierhead line to a point whose perpendicular distance westerly from the line joining Stations 28 and 29 is 90 feet; thence northerly, parallel to the line joining Stations 28 and 29, to an intersection with the pierhead line joining Stations 28 and 27, thence following the pierhead line through Station 27 to a point on the pierhead line 46.2 feet  $S 17^{\circ} 45'$  W from pierhead Station 474; thence  $N 42^{\circ} 15'$  W, 57.7 feet to a point in the line "DE" 2674.2 feet southerly of "D."

*East side pierhead line.*—Beginning at a point in the axis of the east jetty 1386 feet northerly of "R"; thence westerly to Station 290, from which "R" bears  $S 18^{\circ} 13'$  E, 1386 feet; thence in a curve of 2292 feet radius, 1067.7 feet to Station 294, from which "Q" bears  $N 25^{\circ} 36' 20''$  W, 694.4 feet, the center of the curve, Station 292, being  $N 88^{\circ} 54' 55''$  W from Station 290, and  $S 64^{\circ} 23' 40''$  W from Station 294; thence  $N 64^{\circ} 14' 15''$  E to a point in the axis of the east jetty.

Beginning again at Station "Q"; thence  $S 64^{\circ} 14' 15''$  W, 90 feet to Station 296, from which Station 294 bears  $S 32^{\circ} 59' 45''$  E, 700 feet; thence  $N 51^{\circ} 02' 45''$  W, 899 feet to Station 301, which is 500 feet from the pierhead line joining Stations 16 and 18; thence parallel to the said pierhead line  $N 25^{\circ} 45' 45''$  W, 333.2 feet to Station 302; thence in a curve of 2327 feet radius, concentric with the curve on the west side of the harbor, 1267.4 feet to Station 303, the center of the curve, Station 298, being  $N 67^{\circ} 28' 24''$  E from Station 302 and  $S 81^{\circ} 19' 14''$  E from Station 303; thence  $N 14^{\circ} 58' 50''$  E, 379.5 feet to Station 304; thence  $N 25^{\circ} 49' 15''$  E, 1091.25 feet to Station 103, which is 502.7 feet from the pierhead line joining Stations 20 and 21, and from which "N", a concrete monument at the north

end of the "single work" of the east jetty, bears S 55° 45' 40" E, 284 feet; thence N 31° 58' 45" E, 303.8 feet to Station 104, from which "E" bears N 54° 48' W, 720 feet; thence N 38° 46' 20" E, 1048.8 feet to Station 105, a point 1063 feet from the line "DE" on the west side of the harbor, measured at right angles to "DE" from a point 763.25 feet northerly of "E"; thence N 35° 04' E, 332.8 feet to Station 106, a point 1162 feet from the line "DE", measured at right angles to "DE" from a point therein 1081 feet northerly of "E"; thence N 41° 50' 40" E, 1395.9 feet to Station 107, from which "I" bears S 39° 31' 45" E, 850 feet.

*East side bulkhead line.*—Beginning at a point in the east jetty 1386 feet northerly from "R"; thence northerly along the axis of the east jetty to a point therein, from which pierhead Station 294 bears S 64° 14' 15" W.

Beginning again at station "Q"; thence northwesterly along the east jetty to a point 90 feet distant from the pierhead line joining Stations 296 and 301; thence northerly parallel to the pierhead line and 90 feet easterly therefrom, to Station 120, from which "I" bears S 39° 31' 45" E, 759 feet.

#### INNER HARBOR—WEST BASIN.

*Pierhead line.*—Beginning at Station 25, a point in line "DE" 869.6 feet northerly of "E"; thence N 72° 25' W, 10 feet to Station 49; thence S 85° 46' W, 291.1 feet to Station 50; thence N 68° 26' 10" W, 300.6 feet to Station 51; thence N 53° 10' W, 456 feet to Station 52; thence N 46° 45' 40" W, 237 feet to Station 53; thence N 48° 27' 10" W, 1284.2 feet to Station 54; thence N 00° 14' W, 294 feet to Station 486, from which "j" bears S 57° 46' W, 87 feet; thence N 28° 30' E, 1146.2 feet to Station 488; thence S 77° 45' W, 3000 feet more or less to the high water line on the west shore of the bay.

Beginning again on the south side of Smiths Island at Station 30, a point in the line "DE" 1081 feet northerly of "E"; thence S 89° 41' 30" W, 352.2 feet to Station 31; thence N 55° 57' 40" W, 656.4 feet to Station 32; thence N 47° 26' 10" W, 1365.6 feet to Station 484; thence N 28° 30' E, 1450 feet to Station 482; thence N 77° 45' E, 522.8 feet to Station 480; thence S 64° 45' E, 933.1 feet to Station 478; thence S 42° 15' E, 642.3 feet to Station 476, a point in line "DE" 2628 feet southerly of "D".

Beginning again at Station 40, a point in line "DE" 1993 feet southerly of "D"; thence N 27° 15' W, 1060.5 feet to Station 520; thence N 17° 45' E, 3670 feet to Station 512; thence S 86° 15' W, 1775.3 feet to Station 508, from which "n" bears N 33° 45' W, 1312.9

feet; thence N 33° 45' W, 1300 feet more or less to high water line on the north shore of the bay.

Beginning again on the high water line on west shore of the bay; thence N 77° 45' E, 3500 feet more or less to Station 494, from which "k" bears N 7° 08' 20" E 1545.6 feet, and Station 520 bears N 77° 45' E, 1635.6 feet, and Station 488 bears S 28° 30' W, 594 feet; thence N 47° 45' E, 1233 feet to Station 498, a point 800 feet distant from line adjoining Stations 520 and 512; thence N 3° 45' W, 2251.6 feet to Station 500; thence N 33° 45' W, 1700 feet more or less to high water line on the north shore of the bay.

*Bulkhead line.*—The bulkhead line is parallel to and 40 feet shoreward from the pierhead lines throughout; except in the channel southerly of Smiths Island, where it is coincident with the pierhead line from Station 30 through Stations 31 and 32 to a point 41.2 feet S 47° 26' 10" E from pierhead Station 484; and from Station 25 through Stations 49, 50, 51, 52, 53 and 54 to Station 486; thence runs N 61° 30' W, 40 feet.

#### INNER HARBOR—EAST BASIN.

*Pierhead line.*—Beginning at Station 40, a point in line "DE" 1993 feet southerly of "D"; thence S 42° 15' E, 500 feet to Station 472; thence N 64° 11' 30" E, 649.8 feet to Station 470; thence N 3° 45' W, 1550 feet to Station 468; thence N 38° E, 2051.1 feet to Station 466; thence S 3° 45' E, 450.5 feet to Station 464; thence S 38° W, 1150 feet to Station 462; thence S 3° 45' E 546.2 feet to Station 460; thence S 15° 17' 30" E, 798.2 feet to Station 456; thence S. 5° 08' W, 1034.3 feet to Station "O"; thence S 65° 01' 30" E, 91.9 feet to Station 452; thence N 49° 31' 00" E, 244.1 feet to Station 450; thence N 38° E, 2831.9 feet to Station 438; thence N 03° 45' W, 1400 feet to Station 434; thence N 48° 45' W, 973 feet more or less to Station 430 on the east line of C Street, Wilmington, prolonged; thence northerly along said line 339.1 feet more or less to Station 426 on the southerly line of Water Street.

Beginning again at pierhead Station 107, from which "I" bears S 39° 31' 45" E, 850 feet; thence in a curve of 4297.3 feet radius, 1968.2 feet to Station 404, the center of the curve, Station 514, being N 25° 45' 30" W from Station 107 and N 52° W from Station 404; thence N 38° E, tangent to the above curve, 2922.2 feet to Station 406, from which an old 4" x 4" post, Station 446, bears S 67° 10' 40" W, 1003.5 feet; thence N 67° 10' 40" E, 4049.1 feet to Station 408, at which is an old 4" x 4" post marked "IB 13".

Beginning again at Station 410, 700 feet N 33° 51' W from Station 408; thence N 33° 51' W, 1566.7 feet to Station 412. Beginning

again at Station 414, from which Station 412 bears S 33° 51' E, 600 feet, and an old 4" x 4" post, Station 416, marked "IB 12", bears N 33° 51' W, 1026 feet; thence S 38° W, 4366 feet to Station 442, which is 500 feet distant from line joining Stations 438 and 434, and from which Station 438 bears S 38° W, 750.9 feet; thence N 3° 45' W, 1600 feet to Station 424; thence N 38° E, 1685 feet to Station 420; thence N 3° 45' W, 600.7 feet to Station 418; thence S 38° W, 2132.3 feet more or less to Station 422 at intersection with the south line of Water Street, Wilmington; thence westerly along the south line of Water Street 890 feet more or less to pierhead Station 426 above described.

*Bulkhead line.*—Beginning at Station 120 of bulkhead line; thence N 41° 50' 40" E, 133.3 feet to a point 40 feet distant from the pierhead line; thence parallel to and 40 feet shoreward from the pierhead line throughout, being discontinuous where the pierhead line is discontinuous, for distances of 700 feet and 600 feet at the southeast corner and northeast corner respectively of the east basin.

The distance given between bulkhead lines and pierhead lines in the inner harbor, whether 90 feet or 40 feet, is to be the minimum distance, measured at mean lower low water level, from the pierhead line to the bulkhead, whose construction below that level may approach but not pass the pierhead line.

Bulkheads below mean lower low water may have slopes not flatter than 1 to 1½ towards, but must not pass, the pierhead lines regardless of the depth to which the channels may be dredged along those lines.

*Provided,* That no obstruction to navigation shall be placed in the existing channel passing west of Mormon Island to Wilmington and Long Beach Harbor until another channel of equal navigable capacity shall have been provided in its stead.

*Provided further,* that all lines heretofore approved are superseded by lines herein described.



## REFERENCE STATIONS.

[All bearings are from the true meridian passing through U. S. C. & G. S. station on Deadmans Island, which station is herein designated "R".]

- "A" Two-inch round iron 36 inches long, with top 9 inches below top of ties, 4.5 feet south of center of main track of Southern Pacific Company at switch about 2300 feet easterly of entrance to railroad station at Wilmington. From "A" a switch-stand bears N 37° W, 13.75 feet distant, and an old well-casing 12 inches diameter and projecting 13 inches bears S 54° W, 107.3 feet.
- "B" Two-inch round iron 36 inches long, in center of main track of Southern Pacific Company near easterly end of long tangent, 442 feet easterly of entrance to railroad station at Wilmington. From "B", "C" bears S 46° 58' 37" W, 3960.2 feet distant.
- "C" Two-inch round iron 36 inches long, set in concrete in center of main track of Southern Pacific Company 400.3 feet southerly of south end of third trestle from Wilmington. From "C", "B" bears N 46° 58' 37" E, 3960.2 feet.
- "D" Two-inch round iron 36 inches long, set in concrete in center of main track of Southern Pacific Company 19 feet northerly of the northerly end of the fifth trestle from Smiths Island. From "D", "E" bears S 17° 45' 26" W, 5600 feet.
- "E" Two-inch round iron 36 inches long, in center of main track of Southern Pacific Company 869.6 feet southerly of south end of trestle between Mainland and Smiths Island near first point of curve south of Smiths Island. From "E", "D" bears N 17° 45' 26" E, 5600 feet, and white 6" x 6" post on bluff, marked "S. P. L. Co.," bears N 29° 58' W, 135.7 feet.
- "F" Two-inch round iron 36 inches long, with rocks around it, 12 feet east of center of public wagon road from Wilmington to San Pedro. From "F" the mouth of 12" sewer-pipe culvert marked "4868" bears N. 24° 23' E, 14.5 feet, and "G" bears N 9° 09' 16" W, 2639.2 feet.
- "G" Two-inch round iron 36 inches long, 12 feet east of center of public wagon road from Wilmington to San Pedro. From "G" the mouth of 24" sewer-pipe culvert bears S 43° 30' W, 14.7 feet, and center of fresh water well near edge of marsh bears N 61° 45' E, 345.3 feet.
- "H" Two-inch round iron 36 inches long, on north side of main track of San Pedro, Los Angeles & Salt Lake Railroad Company and 9.7 feet from its center, marking point of intersection of the two tangents northeast of Brighton Beach Station.
- "I" Two-inch round iron 36 inches long, with top 5½ inches below top of rails, in center of main track of San Pedro, Los Angeles & Salt Lake Railroad Company near Terminal Island Station. From "I" the northwest corner of store and post-office bears N 84° 03' E, 37.4 feet, and the base of easterly post supporting station-shed bears S 19° 24' W, 31.4 feet.
- "J" Two-inch round iron 36 inches long, near root of west jetty near foot of San Pedro Street, between the double tracks of the Pacific Electric Railway Company, 2 feet west of west rail of east main track. From "J", U. S. C. & G. S. station "Timm" ("Y") bears S 72° 15' 47" W, 114.28 feet, and station "R" bears S 57° 22' 34" E, 2327.2 feet.

- "K" An unmarked point on south boundary of U. S. Reservation near high-water line, from which U. S. C. & G. S. station "Old" ("W") bears N 74° 29' W, 77 feet, and station "R" bears N 63° 11' 05" E, 4981.6 feet.
- "L" An unmarked point on north boundary of U. S. Reservation near high water line, from which the stone monument ("X") on bluff, marking said boundary bears S 70° 10' W, 114.5 feet, and station "R" bears N 81° 17' 44" E, 4945.9 feet.
- "M" Nail in top of pile cluster southeast corner Southern Pacific wharf, 21 inches westerly and 21 inches northerly from face of fender piles on front and end respectively. "M" is N 73° 45' W, 2.5 feet from pierhead station 18.
- "N" A copper bolt set in a concrete monument, 1½ feet square, which stands at the north end of the single work of the east jetty. The northeast corner of Crescent boarding house is 29.8 feet distant, and southwest corner of Salt Lake R. R. engine house is 9.7 feet distant.
- "O" 1½" galvanized pipe 4 feet long set 4 feet in the ground and covered with rocks, outside of present high water mark, at meander corner No. 1 of public land survey of 1880, as restored by U. S. Assistant Engineer in 1904. From "O" an old pile stump bears S 26° W, 13.2 feet.
- "P" Nail in center of center pile of a solitary row of 3 piles 5 feet apart projecting about 2½ feet above ground, on Mormon Island.
- "Q" A copper bolt set in concrete monument, 1½ feet square, which stands at the northerly end of the double work of the east jetty, in the northeast corner of that work.
- "R" U. S. C. & G. S. station "Deadmans Island" on summit of Deadmans Island, now marked by 4" sewer pipe 27 inches long set 3 feet in the ground, with 2" x 3" stake in center thereof and surmounted by old tall 3-legged signal. A lower 4-legged signal bears S 32° 25' W, 34 feet distant.
- "S" U. S. C. & G. S. station "Pt. Fermin Light."
- "T" U. S. C. & G. S. station "Pt. Fermin" with signal standing.
- "U" U. S. C. & G. S. station "R. R. Flagstaff".
- "V" U. S. C. & G. S. station "Solitary" with signal standing.
- "W" U. S. C. & G. S. station "Old" with signal, near southeast corner of U. S. Reservation.
- "X" A stone on north boundary of U. S. Reservation near edge of bluff.
- "Y" U. S. C. & G. S. station "Timm" with signal, near edge of bluff at Timm's Point.
- "Z" U. S. C. & G. S. station "Catholic Church Spire".
- "a" Mast of wireless telegraph station in San Pedro.
- "b" Whitish, rough stone 8" x 13" projecting 9 inches, marked with ¾ inch hole ½" deep and letters "U. S.", 30.4 feet east from center of Beacon Street, and 5 feet south from center line of Ninth Street produced, as measured from their curbs.
- "d" One-inch pipe 36 inches long driven 32 inches, in Plaza north 34° 45' 41" E, 295.18 feet from "b".
- "e" U. S. C. & G. S. station "Presbyterian Church Spire" (called "Methodist" in Coast Survey records).
- "f" U. S. C. & G. S. station "Public School", cupola and flag.
- "h" Cupola and flag-pole on Clarence Hotel.

- "j" One-inch pipe 36 inches long, driven 33 inches,  $1\frac{1}{2}$  feet from foot of stone pitching, side of county road. A 4" x 4" stake projecting 8 inches marked "M H W" bears N  $7^{\circ} 33'$  W, 43.1 feet distant.
- "k" One-inch pipe 36 inches long, driven 3 feet vertically in foot of bank 23 feet west of the center of county road and 4 feet above it,  $40\frac{1}{2}$  feet from stone pitching on east side of road, 83 feet N  $22^{\circ}$  W from outlet of wooden culvert.
- "l" Stand-pipe on San Pedro water-supply main, on summit of hill westerly from stations "k" and "F".
- "n" A fresh water well between county road and bay, square wooden walls. A windmill over its center. A tank and public watering trough near by.
- "o" One-inch pipe 36 inches long driven 32 inches in ground in rank grass near marsh grass. No near witness.
- "p" South gable of old "U. S. Warehouse" in Wilmington.
- "q" Apex of roof of high railroad water tank in Wilmington, N  $71^{\circ} 43'$  W, 177.4 feet from "r".
- "r" Station "Bench" of 1897 survey made for Deep-Water Harbor Board, south of Southern Pacific railroad in Wilmington and east of road leading to wharf. A wooden stake with tack, surmounted by four-legged signal. Iron pipe with brass cap marked "Geol. B. M. 7 ft." bears N  $14^{\circ}$  E, 2.3 feet.
- "s" A one-inch pipe 36 inches long driven  $2\frac{1}{2}$  feet in bare spot surrounded by marsh grass, from which old 4" x 4" stake marked "Wilmington" bears N  $0^{\circ} 59'$  E, about 960 feet distant. No near witnesses.
- "t" A copper nail in top near center of 12" sheet piling forming south end of double work of east jetty.
- "v" One-inch pipe 36 inches long driven 40 inches in sand dune 567.84 feet N  $51^{\circ} 58' 25''$  W from "I".
- "w" One-inch pipe 36 inches long driven 36 inches on site of old U. S. C. & G. S. signal "Hydro" below high-water mark 144.93 feet N  $43^{\circ} 47' 52''$  W from "v".
- "x" One-inch pipe 36 inches long, driven 3 feet in rocks near westerly edge of railroad embankment, 314 feet northerly from trestle "504 C", 9.31 feet easterly from line "ED" produced, measured at right angles to that line, and distant 295.67 feet N  $19^{\circ} 33' 45''$  E from "D".
- "y" Smokestack on ship-yard mill, Mormon Island.
- "z" U. S. C. & G. S. Station "Terminal", flagstaff on center of outer end of Terminal wharf.
- "aa" U. S. C. & G. S. station "Rattlesnake Island" of 1872, between Brighton Beach and Seventh Street railroad stations and 39.8 feet north-westerly from track; now marked by 4" x 27" sewer pipe set 2 feet in the ground above an undisturbed inverted bottle buried in 1872, and by new 4-legged signal.
- "bb" Flagstaff on Brighton Beach Hotel.
- "cc" A one-inch pipe 36 inches long driven 32 inches, on sand ridge surrounded by marsh. No near witnesses.
- "dd" Station "Beach" of 1897 survey made for Deep-Water Harbor Board, between Brighton Beach and Obispo, 69.8 feet southerly of Salt Lake Railroad track; now marked by 4" x 27" sewer pipe set 2 feet in the ground and covered with stone.

# COORDINATES

Of harbor line stations, reference points, and landmarks, being their distances in feet to the nearest tenth of a foot, north or south and east or west from "R", the U. S. C. and G. S. station on Deadmans Island.

A	17013.0 N	4759.9 E	yy	770.4 N	971.7 W
B	15942.6 N	3245.7 E	zz	224.8 N	815.4 W
C	13240.6 N	350.5 E	aaa	156.2 S	807.8 W
D	12400.3 N	180.1 W	bbb	408.6 S	791.8 W
E	7067.1 N	1888.0 W	ccc	543.5 S	741.5 W
F	13156.9 N	2541.4 W	ddd	918.8 S	584.6 W
G	15752.6 N	2959.7 W	9	2627.3 S	1065.5 W
H	10704.2 N	5471.9 E	14	2310.1 S	61.6 W
I	8126.5 N	1020.5 E	15	1118.5 S	442.2 W
J	1524.2 N	2381.1 W	16	805.7 N	991.9 W
K	1976.6 S	6910.4 W	18	3597.6 N	2339.3 W
L	657.7 S	4295.8 W	19	5149.5 N	2523.8 W
M	8598.3 N	2341.7 W	20	5684.1 N	2380.7 W
N	6284.6 N	1225.8 W	21	7068.2 N	1684.3 W
O	9977.3 N	769.9 E	23	7715.3 N	1409.5 W
P	11410.4 N	1303.2 E	24	7880.0 N	1575.2 W
Q	2976.6 N	958.1 W	25	7895.3 N	1622.8 W
R	0.0	0.0	27	9118.5 N	1180.1 W
S	7396.8 S	7135.2 W	28	8849.9 N	1012.6 W
T	6026.3 S	7199.4 W	29	8008.2 N	1282.1 W
U	4634.6 S	7017.0 W	30	8096.6 N	1558.3 W
V	1658.1 S	7251.1 W	31	8094.7 N	1910.5 W
W	1956.0 S	3984.6 W	32	8462.1 N	2454.4 W
X	696.5 S	4403.5 W	40	10502.3 N	787.9 W
Y	1489.4 N	2489.9 W	49	7898.3 N	1632.3 W
Z	3688.3 N	4394.3 W	50	7876.8 N	1922.6 W
a	3681.0 N	3300.5 W	51	7987.3 N	2202.2 W
b	3731.4 N	3081.2 W	52	8260.7 N	2567.2 W
d	3973.9 N	2912.9 W	53	8423.1 N	2739.9 W
e	4352.0 N	3435.9 W	54	9274.8 N	3701.0 W
f	4895.9 N	4165.6 W	103	6394.4 N	1460.6 W
h	6523.1 N	2431.8 W	104	6652.1 N	1299.7 W
i	7184.7 N	1955.8 W	105	7469.8 N	642.9 W
j	9523.4 N	3775.8 W	106	7742.2 N	451.7 W
k	12681.7 N	2879.8 W	107	8782.1 N	479.5 E
l	12542.7 N	4990.3 W	207	6376.7 S	2403.5 W
n	15915.9 N	2655.5 W	209	5874.5 S	3342.7 W
o	16028.4 N	1673.3 W	211	4430.3 S	2329.9 W
p	15688.5 N	1901.2 E	213	5629.8 S	1949.8 W
q	15552.2 N	2752.1 E	214	4386.8 S	1077.7 W
r	15496.6 N	2920.5 E	215	3826.8 S	685.4 W
s	16035.6 N	7823.4 E	217	3459.8 S	392.1 W
t	2097.4 N	481.2 W	218	3812.1 S	1896.4 W
v	8476.3 N	573.2 E	219	3263.4 S	237.5 E
w	8580.9 N	472.9 E	222	1978.2 S	3107.0 W
x	12678.9 N	81.1 W	224	583.2 S	3549.1 W
y	10246.9 N	1009.0 E	225	258.2 S	3024.2 W
z	7876.8 N	1409.6 E	227	434.5 S	3596.2 W
aa	9660.1 N	3229.8 E	231	94.8 N	1928.0 W
bb	9917.6 N	4571.8 E	233	215.1 N	1546.7 W
cc	11080.0 N	3947.7 E	242	2506.5 S	684.2 W
dd	12261.2 N	10137.8 E	290	1816.5 N	438.3 W
ww	860.1 N	1073.4 W	292	1359.9 N	2724.9 W
xx	808.6 N	998.4 W	294	2350.4 N	658.0 W

(10)

See Bp 22 57X for Cir of No 12, 289

291, 293, 1, 2, 3, 4, +1, 2'

296	2937.5 N	1039.2 W	452	9838.5 N	853.2 E
298	4694.3 N	266.3 E	456	10907.4 N	862.4 E
301	3502.7 N	1738.3 W	460	11676.3 N	651.9 E
302	3802.8 N	1883.1 W	462	12222.3 N	616.2 E
303	5045.5 N	2034.0 W	464	13128.5 N	1324.2 E
304	5412.1 N	1935.9 W	466	13578.1 N	1294.7 E
404	10006.7 N	1998.3 E	468	11961.8 N	31.9 E
406	12309.4 N	3797.4 E	470	10415.1 N	133.3 E
408	13850.0 N	7529.5 E	472	10132.2 N	451.7 W
410	14461.4 N	7139.6 E	474	9854.8 N	942.8 W
412	15762.5 N	6266.9 E	476	9897.5 N	981.6 W
414	16260.8 N	5932.7 E	478	10373.0 N	1413.5 W
416	17112.9 N	5361.2 E	480	10771.0 N	2257.4 W
418	16344.0 N	4188.2 E	482	10660.1 N	2768.3 W
420	15744.6 N	4177.5 E	484	9985.8 N	3460.2 W
422			486	9568.8 N	3702.2 W
424	14416.8 N	3140.1 E	488	10576.1 N	3155.3 W
426			494	11098.1 N	2871.9 W
430			498	11927.1 N	1959.2 W
434	13625.6 N	2690.8 E	500	14173.9 N	2106.5 W
438	12228.6 N	2782.4 E	508	14824.3 N	1926.1 W
442	12820.3 N	3244.7 E	512	14940.4 N	154.6 W
446	11920.2 N	2872.5 E	514	12652.4 N	1388.0 W
450	9997.0 N	1038.9 E	520	11445.1 N	1273.5 W

[1st indorsement.]

WAR DEPARTMENT, *July 29, 1908.*

1. The harbor lines described within and shown on the accompanying map are hereby approved, and they supersede all harbor lines for San Pedro Harbor previously established by the Secretary of War.

2. The systems of lines extending southward from stations 107 and 27 are established in accordance with the provisions of section 11 of the river and harbor act, approved March 3, 1899.

3. The systems of lines for the inner harbor, extending westward from stations 25 and 30, and northward and westward from stations 27 and 107, are established in accordance with the joint resolution of Congress approved March 26, 1908, as follows:

*"Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of War is hereby authorized to fix and establish pierhead and bulkhead lines, either or both, in the inner harbor of San Pedro, otherwise known as Wilmington Harbor, California, beyond which no piers, wharves, bulkheads or other works shall be extended or deposits made except under such regulations as shall be prescribed from time to time by the Secretary of War."*

LUKE E. WRIGHT,  
*Secretary of War.*