

AWM4
Australian Imperial Force unit war diaries,
1914-18 War

Engineers

Item number: 14/11/14

Title: Headquarters 5th Australian
Divisional Engineers

July 1917



AWM4-14/11/14

WAR DIARY

Original

Army Form C. 2118.

Instructions regarding War Diaries and Intelligence Summaries are contained in F. S. Regs., Part II and the Staff Manual respectively. Title pages will be prepared in manuscript.

or
~~INTELLIGENCE SUMMARY~~

Sheet 1.

(Erase heading not required.) Headquarters, 5th. Aus. Divisional Engineers.

250

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
CORBIE Ref. Map AMIENS France.	July		Strength of Divisional Engineers 21 Officers & 650 O.R.	
	1		Field Cos. at work on Canal, crews training for rowing and swimming Regatta to be held on Tuesday, 3rd. inst. and parties getting pontoon material to site ready for fixing tomorrow morning. More material received for "Heavy Pontoon Bridges" from Corps Workshops, MEAULTE. Lt-Col. Carey at Meaulte arranging with Workshops for delivery of material and for construction of Pile Driving Frames and Monkeys for erection of wharf on Canal at CORBIE.	
	2		Further material received from Meaulte Workshops for "Heavy Pontoon Bridges". Parties from each Field Coy. at work on construction of bridges and marking out courses for Divisional Engineers Rowing and Swimming Regatta to be held tomorrow. Copies of Lt-Col. Carey's BRIDGING POLICY forwarded to C.E., 1st. Anzac and E. in C. G.H.Q. *	* App. 1
	3		Rowing and Swimming Regatta held on SOMME RIVER at CORBIE about 1 mile up stream from Corbie Lock.	
	4		C.R.E. forwarded to C.E. 1st. Anzac, Lieut. Oliver and Clark, 15th. Field Coy. report on HEAVY PONTOON BRIDGES, plans of which were received from G.H.Q. * D.H.Q. have arranged that continuous classes be held for Infantry Officers in Bridging Experiments. 8th. Field Coy. instructed to carry out this, using ground sheets, Infantry Shelters and such other material as would be available for use by the Inftry. during an advance and crossing of water.	* App. 2
	5		Received sketches of new wiring and also drill for same from D.H.Q. * this forwarded to 14th. Field Coy. to carry out tests; material for same being obtained from Corps Workshops, Meaulte during the day. 15th. Field Coy. checking and sorting material for Heavy Pontoon Bridges.	* App. 3
	5		Continuation of Pontoon and Bridge Training by Field Cos. 15th. Field Coy. still at work on Heavy Pontoon Bridge and other two Cos. constructing light bridges only.	
	6		Lt-Col. Carey left for 10 days leave to England, Major H. Bachtold Acting C.R.E. during his absence. Material being obtained from Anzac Corps Workshops, MEAULTE, for construction of Pile Driving Frames as per design got out by 15th. Field Coy. *	
	7		5th. Aus. Div. Pioneer Battalion arrived in CORBIE and are being put through a course of Pontooning and Bridging Work by 14th. & 15th. Field Companies.	

A7092). Wt. W12839/M1297 750,000. 1/17. D. D & L., Ltd. Forms/C2118/14.

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WAR DIARY

or

~~INTELLIGENCE SUMMARY~~

(Erase heading not required.) Headquarters, 5th. Australian Divl. Engineers.

Original

Army Form C. 2118.

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Sheet 2

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
CORBIE Ref. Map. AMIENS. France.	July 7		2/Lieut. H. WAGSTAFFE reported for duty and is transferred from 5th. Aus. Divl. Artillery Redistribution of Pontoon Equipment between Field Cos. to allow each to have a turn at constructing the Heavy and Medium types of Bridge. *	* App.5.
	8 to		Continuation of training in Pontoon Work and Heavy Bridging by Field Cos. 14th. & 15th. Cos. instructing Parties Of Pioneers in Pontooning.	
	15		Field Cos. commenced work on separate sections of a wharf on Canal Bank ^{on} and down stream side of Bridge. The Piles for this work were obtained from trees in swamp near by. 13th. Lieut. A.W. Holbrook, RE, 15th. Field Coy.A.E. transferred to 77th. Field Co.RE 17th. Division.	
	16		14th. Received 1st. Anzac Routine Order No. 316 "DIVISIONAL SIGNAL COY."; "The C.R.E. of Divisions will exercise the Functions of C.O. as regards the personnel of Divl. Signal Companies. This does not give him authority to interfere with the technical duties of the personnel or with the methods in which they are employed" (Authority A.G. No. A/18369 dated 11/11/16).	
	17		8th. 14th. & 15th. Field Cos. working on Pile Driving for Wharf on Bank of Canal. 14th. Coy. completed driving during the day and commenced sheeting.	
	18		8th. Infy. Brigade marched from SENLIS to CORBIE during the morning, arriving here 11.30 a/m and took whole of personnel and transport across two medium pontoon Bridges put across the Canal by 15th. Field Coy. Original arrangements were that Brigade should bivouac for night of 17/18 and return to SENLIS on the 18th. 15th. Field Coy. arranged and marked out a bivouac site, but owing to heavy rain Brigade billeted in LAN LA NEUVILLE.	
	19		All companies at work on wharf; 8th. & 15th. Driving Piles and 14th. Sheeting. Lt.Col. Carey returned from leave this morning. Major H. Bachtold returning to 14th. Field Coy. from Acting C.R.E. 14th. Brigade marched from RUBEMPRE during morning and after marching over Pontoon Bridges went into Billets at LA NEUVILLE for the night.	
	19		15th. Brigade marched from MAILLY-MAILLET and on arrival at CORBIE went through the same programme as 8th. & 14th. Brigades. 8th. Field Coy. completing Piling for Wharfs.	

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WAR DIARY

Army Form C, 2118.

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INTELLIGENCE SUMMARY

Sheet 3.

(Erase heading not required.) Headquarters, 5th. Aus. Div. Engineers.

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
CORBIE Ref. Map. AMIENS, France.	July			
	20		Transport and mounted personnel of 5th. Div. Signal Coy. and Portion of 5th. Div. Train marched to CORBIE during morning, passed over Pontoon Bridges on Canal and returned this afternoon.	
	21		Inspection by G.O.C., A.I.F. of Field Cos. and 5th. Pioneer Battalion at work in afternoon. 8th. Field Coy. built Pontoon Bridge across Canal, 14th. & 15th. Field Cos. Pile Driving and Pioneers training in Bridging Expedients.	
	22		Field Companies finishing off training in Pontoon and Bridging Work. Wharf completed except for portion of 15th. Field Coy. Section. Pontoons and Pile Driving gear being returned to 8th. Pontoon Park RE. and Anzac Workshops, MEAULTE.	
	24		Tuesday 24th. Received 5th. Aus. Div. Administrative Memos. Nos. 10, & 11, re move of Division to BLARINGHEM AREA, 2nd. ARMY on 30/31 inst. Field Cos. to move with their respective Brigade Groups. Issued Engineer Order No. 9. Companies to send advanced guard of 1 Officer and 1 o.r. to PUCHEVILLERS tomorrow 25th. to proceed to HAZEBROUCK*	* App. 6
RUBEMPRE Ref. Map ALBERT France	25		All Heavy Bridging Stores returned to Corps Workshops, MEAULTE and Pontoon Equipment which had been used for training purposes to 8th. Pontoon Park R.E.	
	27		Field Cos. route marching and Coy. Drill.	
	28		HdQRS. & Field Cos. left CORBIE between 7 & 8 a/m moving as follows :- HdQRS. to RUBEMPRE, 8th. Field Coy. to SENLIS, 14th. Field Coy. to CONTAY & 15th. Field Coy. to ACHEUX, for move to BLARINGHEM AREA. HdQRS. will move with D.H.Q. and Cos. with their BRIGADE GROUPS.	
	29		C.R.E.M. left for BLARINGHEM.	
	30		Personnel and and Transport of Headquarters left RUBEMPRE at 12 noon; arrived PUCHEVILLERS and commenced entraining 1 p/m. Left PUCHVILLERS 4 p/m.	
BLARINGHEM Sheet 5A HAZEBROUCK	31		Arrived ARQUES. (Sheet 5A HAZEBROUCK, BELGIUM) 12.30 a/m & commenced detraining. Marched to BLARINGHEM. Strength of Divisional Engineers 23 Officers 684 O.R. Letter 83/210/11 sent by CRE to CE, 1st Anzac. This is continuation of letter sent in June with ref. to Heavy Bridging *	* App. 7

Instructions regarding War Diaries and Intelligence Summaries are contained in F. S. Regs., Part II. and the Staff Manual respectively. Title pages will be prepared in manuscript.

INTELLIGENCE SUMMARY.

(Erase heading not required.)

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
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Original

(3)

Appendix 1

BRIDGING POLICY.

- (1) The following methods of crossing rivers are required :-
- (a) Hasty makeshifts, such as tarpaulins or ground sheets filled with hay or brushwood.
 - (b) Pontoon Bridges) For ordinary Divisional
 - (c) Trestle Bridges) horsed vehicles.
 - (d) Lorry bridges, which will carry the great bulk of the traffic.
 - (e) Heavy Bridges on Main Roads only.
 - (f) Heavy Pontoon Bridges for Crossing Broad Rivers which cannot be dealt with sufficiently quickly by Piling or erecting Girder Bridges,
 - (g) Rafts or Ferries to carry (a) lorries or (b) the heaviest traffic, for use over very broad rivers.

(2) As regards 'c', Trestle Bridges; these, while satisfactory for ordinary Infantry and horse transport are very unreliable in rivers with soft bottoms or subject to scour and should not be used for lorry or very continuous heavy traffic. It is advisable to replace them with Pile Bridges or any other more stable pattern. This, it is suggested, besides being fairly obvious from an engineering view was borne out by results in the Japanese War and also in this war. During a rapid advance the great bulk of ammunition & supplies will be delivered by lorry. An 8 ton axle load will cover all supply vehicles, and all the essential guns, and is sufficient to enable the Army to fight, providing as it does for possibly 95% of the total transport. It should therefore be sufficient to provide on the main roads only bridges for the heaviest traffic including such items as 6" Mk. VII guns with a 17 ton axle load, and in some cases tanks.

A trestle bridges for lorries is permissible over dry chasm or even in water where it is known that the bottom is firm and where settlement and scour cannot occur. Such cases will be the exception, rather than the rule, and where a trestle bridge is built in water it should almost invariably be Piled at the first opportunity.

(3) 'e' Heavy Bridges; These appear to be well provided for in the shape of INGLIS BRIDGES and steel girders of various patterns.

'f' The provisional prints sent with E. in C. 9581/316 do not appear to me to be a satisfactory type for crossing broad rivers, and for crossing narrower rivers and canals, a pontoon bridge should be avoided if possible for heavy traffic. A pile or Girder Bridge being substituted.

P.T.O.



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Original

Approved
by
the
Director
General

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(1) The following methods of construction are required:-

(a) Heavy materials, such as girders or ground sheets for broad rivers or rafts capable of taking lorries and heavy traffic will probably be of great assistance until such time as a bridge can be built. But the design of a special bridge for this purpose appears to be an essential. Two of the main factors in such a bridge would be a span of not less than 30 ft. between the centres of pontoons. Special type of pontoon having considerably greater depth than the service pattern and allowing considerably more freeboard than 12", and special arrangements to provide for considerable variations of tide level for use of heavy traffic.

(2) As regards 'c', Trestle Bridges; these, while satisfactory for ordinary infantry and horse transport are very unreliable in rivers with soft bottoms or subject to scour and should not be used for lorry or very continuous heavy traffic. It is advisable to replace them with Pile Bridges or any other more stable pattern. This, it is suggested, besides being fairly obvious from an engineering view was borne out by results in the Japanese War and also in this way. During a rapid advance the great bulk of ammunition & supplies will be delivered by lorry. An 8 ton axle load will cover all supply vehicles, and all the essential guns, and is sufficient to enable the Army to fight, providing as it does for possibly 50% of the total transport. It should therefore be sufficient to provide on the main road only bridges for the heaviest traffic including such items as 6" M.V. guns with a 17 ton axle load, and in some cases tanks. A trestle bridge for lorries is permissible over dry chann or even in water where it is known that the bottom is firm and where settlement and scour cannot occur. Such cases will be the exception, rather than the rule, and where a trestle bridge is built in water it should almost invariably be piled at the first opportunity.

(3) 'e' Heavy Bridges; These appear to be well provided for in the shape of INGLIS BRIDGES and steel girders of various patterns. The provisional prints sent with E. in G. 281/318 do not appear to me to be a satisfactory type for crossing broad rivers, and for crossing narrow rivers and canals, a pontoon bridge should be avoided if possible for heavy traffic. A pile or girder bridge being substituted.

P.T.O.

DATE

BY

BY ENGINEER

BY SURVEYOR

H.G.

1918

Approved by the Director General

2111

INTELLIGENCE SUMMARY

WAR DIARY

C O P Y .

Original

H. Q.,
5TH AUSTRALIAN
BIVL. ENGINEERS.

Appendix - 2.

6

18/7/17.

To;- The C.R.E., 5th. Aus. Div.

From Lieut. Oliver & 2/Lt. Clark, 15th. Field Coy.

HEAVY PONTOON BRIDGES.

Sir,

In accordance with Lt-Col. Sankey's request we send herewith drawing of Distance Block with staggered claws as proposed for Bridges Types "B" & "C" in our report of 29th. ulto.

Blocks of this type were used in the heavy bridge "B" we built, and were found very easy to put in place as there is no need to move any joists of the bay last completed in order to place and secure the joists of the new bay.

The best method of erection is to bolt on the distance blocks to the outward end of each joist* directly it is placed on the saddle, and the claws there-upon prevent same from becoming displaced while the pontoon is being pushed out. Then when joists of next bay are being run, the nuts are removed, bolts drawn back, joists dropped past blocks and pushed home against them, and nuts then may be replaced and screwed up. There is ample space for men to work simultaneously on every alternate block. Alternatively the joists may be dropped on to the saddle without blocks, and these afterwards inserted, including bolts, without moving joists of the completed bay. While further, these blocks allow of any faulty joists being removed and replaced without disturbing any other joists of the bridge.

Reduction of width of distance blocks, giving $5\frac{1}{2}$ " centres for pairs of joists instead of 7" requires spacing of central joists to be $25\frac{1}{2}$ " instead of 24" if 14" between adjacent joists is retained.

With joists laid as in diagrams, viz;- parallel to length of bridge and alternate bays displaced respectively right and left of centre line, it will be necessary for claws on distance blocks to be staggered alternately to right and left for succeeding bays. The one pattern of block will however, suffice if joists of each bay are laid slightly inclined to axis of bridge, with near end displaced to left, and far end to right. This would be advantageous also in that it would enable every ribband to be secured by at least one hook-bolt passing inside the R.S.J. below. Our tests shewed that ribbands held only by hook bolts passing outside the joists were insecure unless screwed up extremely tightly.

Regarding the bridges generally, we have to report that we constructed both "B" & "D" types quite readily and without hitch though a few points call for comment.

(1) The composite trestle was the chief source of trouble. It was erected in deep water, and the suggested fascines beneath sole plates were omitted, as bottom was good and the bridge was not to be tested under load. Settlement of the legs was very slight, but nevertheless quite enough to draw the nails of the diagonal bracing. Unless settlement can be entirely prevented, it would be better to lash a distance piece between tops of trestle legs, in lieu of bracing, and stay back to shore with heavy head and foot ropes.

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(2) The 7" x 3" bearers are small for the trestle cleats; and 7" x 3 $\frac{3}{4}$ " or 4" trimmed down to a tight fit should render lashing to transom unnecessary.

(3) Service tackles of half ton capacity proved insufficient to raise transom of completed bridge, and had to be double banked. There is just room on fittings* to use two tackles side by side, and on requisitioning stores for heavy bridges B. or C. it would be well to ask for four pairs of tackles per pair of trestles, if the one ton tackles are not available.

(4) The 12 x 12 saddle beams will probably be found to be slightly warped. They should be placed so as to bear at their ends, and should be tacked at centre if necessary or couplings of pontoons may be strained.

(5) Bearing surface of road baulks as used in bridge "B" is small, requiring careful lashing or they may capsize sideways. Ribands are much better in this respect and should be used where available.

(6) In bridge "D" attention must be paid to the best spacing of baulks and ribands, which occupy almost every space on saddle beam, while the wooden chocks attached to this are quite insufficient. Carpenters should be detailed to prepare chocks, both to hold ends while pontoons are being pushed out, and while chesses are being laid and also to wedge between joists in the completed bridge, as the cleats alone do not suffice to hold baulks and riband ends firm.

(7) In pushing out pontoons in bridge "D", the ribands give trouble owing to their having no claws. It will be found best to place all baulks in place and push out, adding the ribands only after both ends of baulks have been dropped into place.

(8) The 12" x 5" R.S. Joists were found to be readily handled with simple wooden rollers along the bridge, though toggles for carrying are desirable if there is any length* to carry over uneven ground at the tail of the bridge.

Sd/ Calder K. Oliver Lt.
Edward V. Clark, 2/Lieut.



Edward A. Oliver, C/Engineer
and Colonel R. Oliver R.E.

of both ends moved toward at the fall of the bridge.
The bridge was destroyed at the time it was destroyed to
with double wooden rollers along the bridge. The bridge
(a) The 12" x 12" rollers were found to be readily handled
being dropped into place.

When the bridge was only after both ends of panels have
found best to place all panels in place and push out,
five rollers being to their having no slaws. It will be
(b) The bridge ends sections in bridge. The bridge
and ribbed ends film.

bridge, as the slaws alone do not suffice to hold panels
in place and also to wedge between joints in the completed
sections and being pushed out, and while the sections are being
detached to remove checks, bolts to hold ends while
to this or other intelligent... attention should be
space on panel's beam, while the wooden blocks attached
spacing of panel in end ribbed, which occupy almost every
(c) In bridge "b" attention must be paid to the fact
should be used where available.

slaws. Slaws are not better in this respect and
in small, requiring of careful handling or they may collapse
(d) Bearing surface of road panels is used in bridge "a"
or doubling of roadway may be required.

Panel ends, and should be fixed at center if necessary
slightly warped. They should be placed so as to bear at
(e) The 12" x 12" roller beams will probably be found to be
panels are not available.

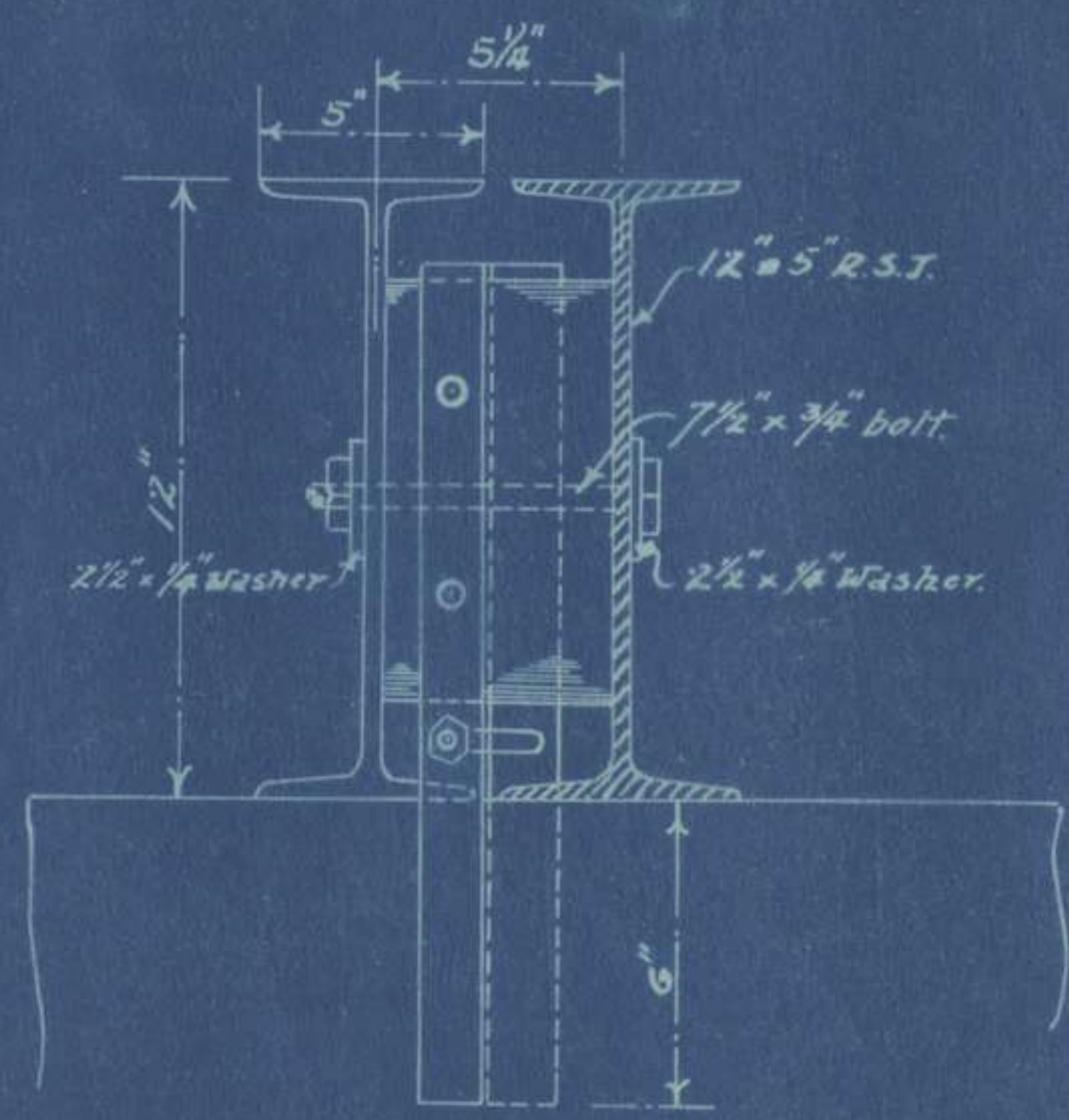
Four pairs of tracks per pair of engines, the one for
for heavy bridges. Or 0 if would be well to use for
two sections side by side, and on redundant rollers
double panels. There is just room on rollers to use
to make stream of completed bridge, and had to be

(g) Various panels of rail for quickly proved insufficient
longer jumping to stream unnecessarily.
and 12" x 22" or 4" fitted down to a right fit should
(h) The 12" x 12" rollers are small for the panels of steel

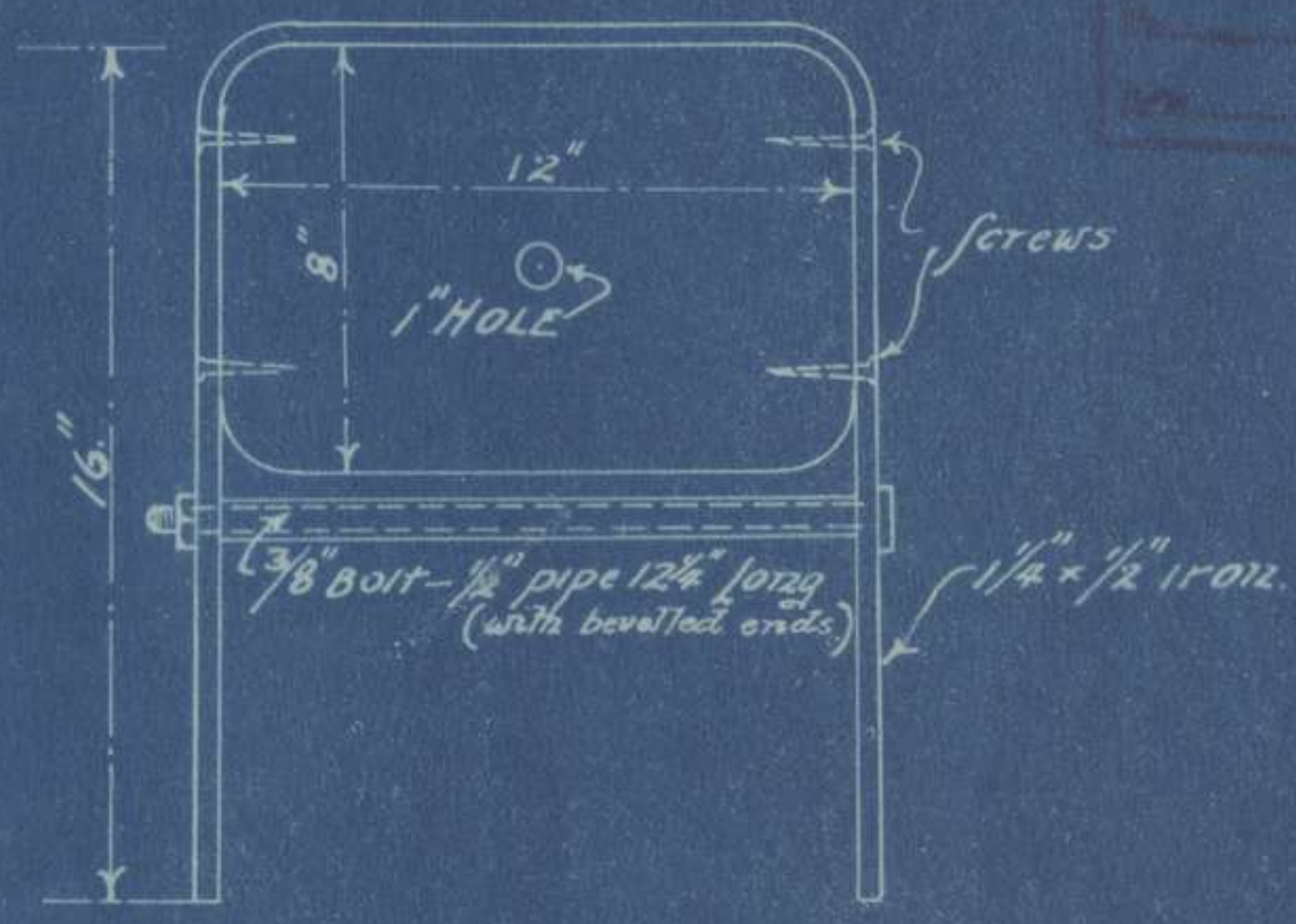
DETAIL OF DISTANCE BLOCKS

Scale 2" = 1 Foot.

Original
No. 1000
10/10/17



— END ELEVATION —
Showing block & strap in position.



— ELEVATION BLOCK & STRAP —



— PLAN BLOCK & STRAP —

Designed by
15th F.C. Coy
A.I.F.
18-7-17

250

1. COILS OF BARBED WIRE: The length of the wire on a coil differs an enormous amount; some coils are found to be 50 yds. long, others as much as 120 - 130 yds. It would be a great advantage if coils were made up in exact 50 yds. or as 100 yd. lengths and not made up by weight. This would greatly facilitate the calculation of stores required for any entanglement and prevent a great deal of wastage.
2. The weight including the drum of 100 yds. of wire with light barbs is 29 lbs. The 100 yd. coil would be the more convenient unit to standardise.
x of 50 is 15 lbs.
3. Type of Barb Wire. It is suggested that the manufacture of wire with heavy barbs placed from $1\frac{1}{2}$ to 2" apart should be stopped. It is very nearly an impossibility to slip into the eyes of Iron Screw Pickets and in any case makes work slow. Wires with small $\frac{1}{2}$ " barbs placed at 3" centres is just as effective for all tactical purposes and work with it is easy.
4. LONG SCREW POSTS. As shewn in figure 1 (a) & (b), one eye is on the opposite side of the post to the other three. In another issue two eyes are on one side of the post and two on the other. As far as can be made out, there is no conceivable reason why this is so either for convenience for wiring purposes or in manufacture. Long posts would be greatly improved if all the eyes were in one side and they had a left hand twist (see fig. 1) (c); greater care should be also taken in manufacture to test whether wire can be easily slipped in to them.
5. MEDIUM SCREW PICKETS. Medium Screw Pickets would also be greatly improved if the two eyes were on the same side of the picket and they had a left handed twist. (see fig, 2) (b)
6. NEW TYPE OF POSTS AND PICKETS. There is no type of high entanglements in which less than two separate wires have to be fastened to the top eye of a post, and there are several types in which as many as three separate wires come to the top eye. This usually means that with average men working at night, the second and third wires are very doubtfully fixed and often come off.
7. To obviate this a type of post has been designed with 6 eyes and a point to the top eye, as shewn in fig. 1 (d), and has proved to be very satisfactory.
8. A similar objection exists with the medium screw pickets. A low wire entanglement must have at least 3 lines of pickets to be effective, which means that three separate wires have to be fixed through all but the inner and outer line of pickets. (see drill for low wire entanglement). The existing medium screw picket has only two eyes. A type as shewn in fig 2 (c) has been made and these proved to be much more satisfactory.
9. The anchorage picket would also be greatly improved if another eye with a point was added, as shewn in fig. 2 (e). A trip wire fixed on the eye of the existing picket is too low to be effective, and is, therefore, usually windlassed to the apron. (in the case of an apron fence). With the type shewn in fig. 2 (e) the trip wire is fixed in the top eye.
10. NEW TYPE OF POSTS AND PICKETS (continued) These suggested types of posts and pickets not only make an entanglement more effective but make work much easier for the men, and for that reason alone

1. COILS OF BARBED WIRE: The length of the wire on a coil differs an enormous amount; some coils are found to be as long as 100 yds. and not made up by weight. This would be a great advantage if coils were made up to a standard as it is strongly recommended that they should be adopted alone.

11. Light Pattern of Posts and Pickets. This pattern is not found to be satisfactory. Several posts have been broken; they get easily bent out of shape and the anchorage pickets can be easily pulled up with one hand. It is strongly recommended that the manufacturer of this pattern should be stopped.

3. Type of Barbed Wire. It is suggested that the manufacturer of wire with heavy barbs placed from 1/2 to 2" apart should be stopped. It is very nearly an impossibility to slip into the eyes of iron screw pickets and in any case makes work slow. Wires with small "barbs placed at 2" centres is just as effective for all tactical purposes and work with it is easy.

4. LONG SCREW PICKETS. As shown in figure 1 (a) & (b), one eye is on the opposite side of the post to the other three. In another instance two eyes are on one side of the post and two on the other. As far as can be made out, there is no conceivable reason why this is so either for convenience for wiring purposes or in manufacture. Long posts would be greatly improved if all the eyes were in one side and they had a left hand twist (see fig. 1) (c); greater care should be also taken in manufacture to test whether wire can be easily slipped in to them.

5. MEDIUM SCREW PICKETS. Medium screw pickets would also be greatly improved if the two eyes were on the same side of the picket and they had a left handed twist. (see fig. 2) (b)

6. NEW TYPE OF POSTS AND PICKETS. There is no type of high entanglement in which less than two separate wires have to be fastened to the top eye of a post, and there are several types in which as many as three separate wires come to the top eye. This usually means that with average men working at night, the second and third wires are very doubtfully fixed and often come off. To obviate this a type of post has been designed with 2 eyes and a point to the top eye, as shown in fig. 1 (d), and has proved to be very satisfactory.

8. A similar objection exists with the medium screw pickets. A low wire entanglement must have at least 3 lines of pickets to be effective, which means that three separate wires have to be fixed through all but the inner and outer line of pickets. (see drill for low wire entanglement). The existing medium screw picket has only two eyes. A type as shown in fig. 2 (c) has been made and these proved to be much more satisfactory.

9. The anchorage pickets would also be greatly improved if another eye was added, as shown in fig. 2 (e). A trip wire is fixed in the top eye. With the type shown in fig. 2 (e) and is, therefore, usually windlassed to the apron.

10. POSTS AND PICKETS (continued) These suggested types of posts and pickets not only make an entanglement more effective but also work much easier for the men, and for that reason alone



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War diary

Headquarters 5th. Australian Divisional Engineers.

Chief Engineer,
1st. ANZAC.

Reference your No.321/22 dated 4/7/17.

Para. 1 & 2. Considered that the 100 yrd. coil should be the standard and that the drum be made so that it will easily rotate on an entrenching tool helve.

Para. 3. Considered that $\frac{1}{2}$ " barbs at 3" centres should be adopted.

Para. 4 & 5. Considered that the eyes should be on one side but immaterial as to whether they should have a left or right hand twist.

Para. 6, 7, 8, 9 & 10. Considered that the ordinary pattern with one eye on the top is sufficient for all wiring work that this Division is likely to do; i.e. the double apron fence.

Para. 11. This Division has no ^{had} experience with light pattern post and pickets.

8/7/17.

Major, A.E.
A/ C.R.E.,
5th. Australian Division.

Original
 H. Q.
 DTY AUSTRALIAN
 DIVL. ENGINEERS.

H/13

FIG. 1.

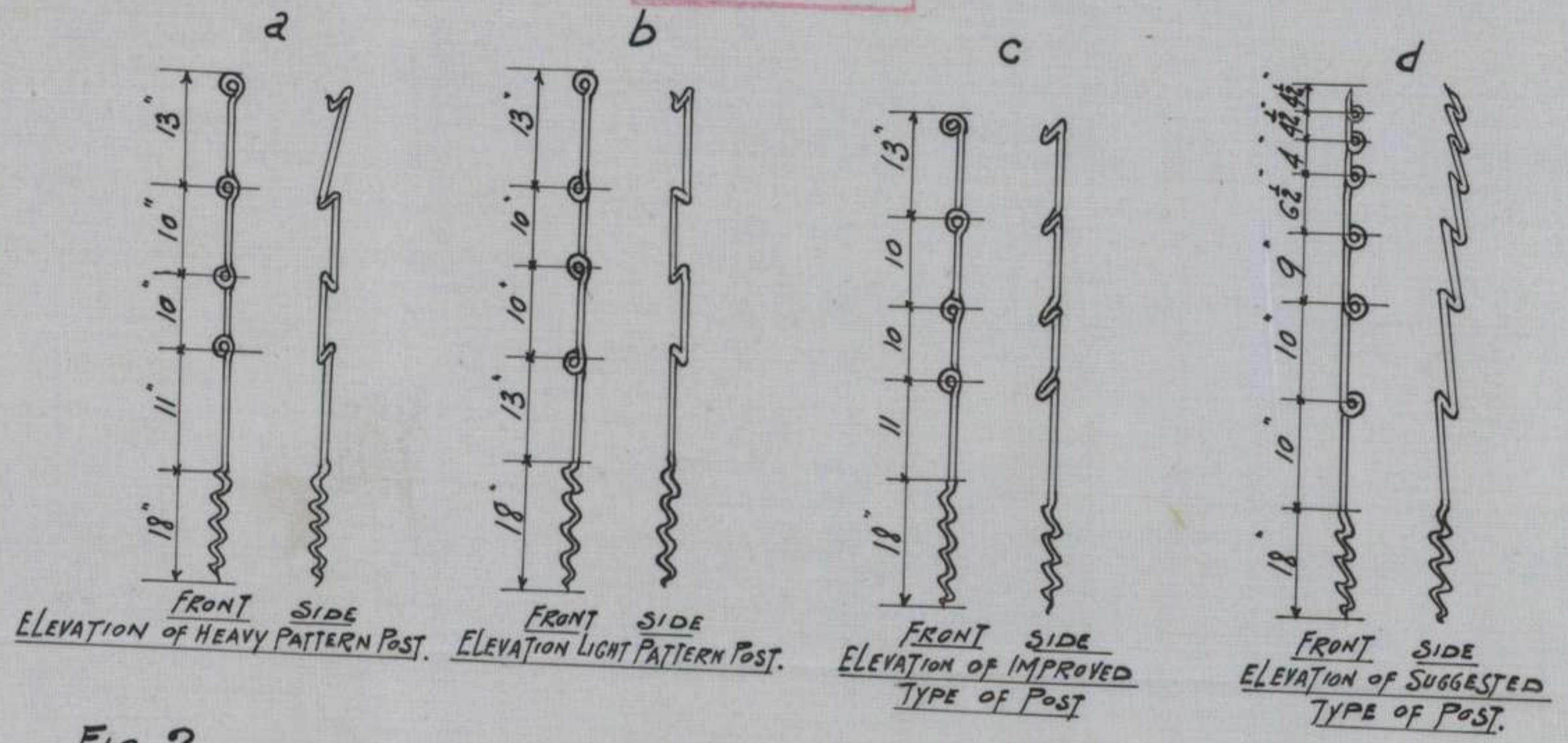
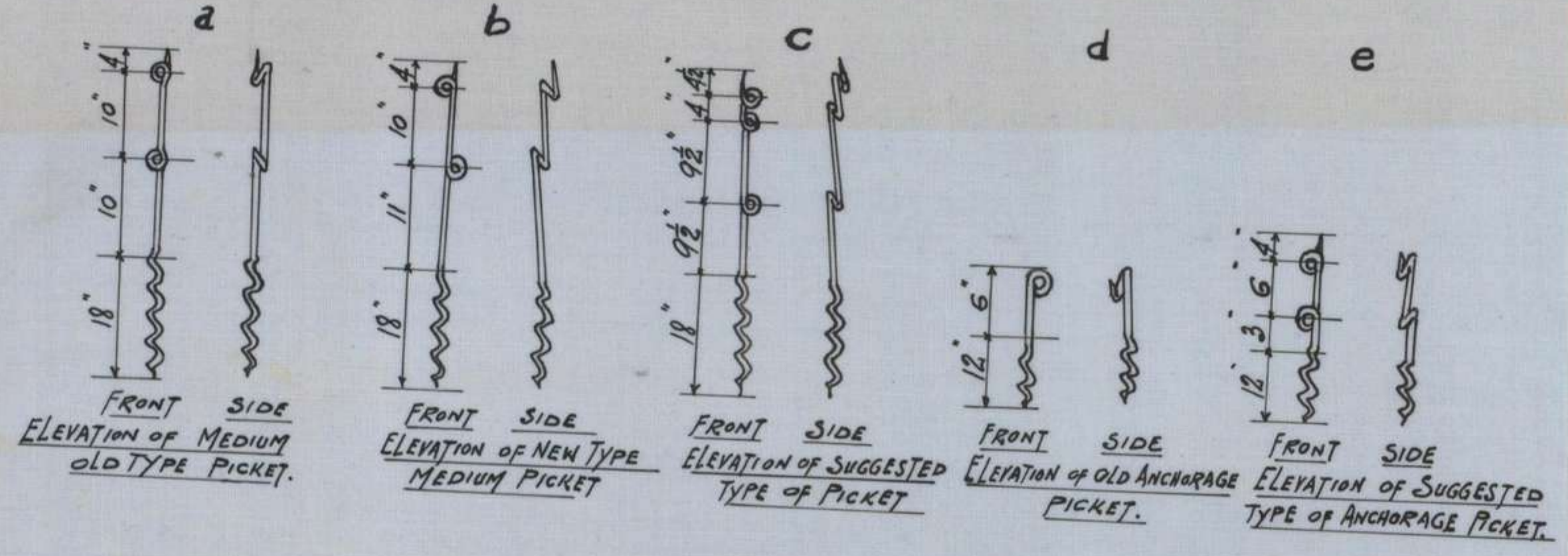


FIG. 2.



Appendix No. 3.

Headquarters 5th. Australian Divisional Engineers.

8th. Field Co.
14th. Field Co.
15th. Field Co.

War Diary
File.

REDISTRIBUTION OF BRIDGING STORES.

15th. Field Coy. will take over from 8th. Field Coy., 8 pontoons, 4 Weldon Trestles and superstructure now lying near lagoon. On the 10th. inst. 15th. Field Coy. will be responsible for the passage of the 8th. Infantry Brigade over the lagoon and canal at approximately the site where bridges were constructed for the G.O.C's inspection. These stores will also be used for the training of 2 Companies 5th. Pioneers. 8th. Field Coy. will take over from 15th. Field Coy. sufficient pontoons and superstructure for the construction of "D" Class Heavy Bridge. 14th. Field Coy. will take over remainder of 15th. Field Coy's stores and will construct the "B" Class Heavy Bridge. Stores not used by 14th. Field Coy. in heavy bridging will be used for the training of 2 Companies 5th. Pioneers. 14th. Field Coy. will give the 8th. & 15th. Field Coy. the alignment for the piles of new wharf. Piles will be driven approximately at 8' centres, top of piles to be not less than 4' above water level. Handing over will be arranged between Companies to enable them to start on the new programme of work on the morning of the 9th. inst.

7/7/17.

Major. A.E.
A/ C.R.E. ,
5th. Australian Division .

Original
H. Q.,
5TH AUSTRALIAN
DIVL. ENGINEERS.
No.....
Date.....

Appendix 6.

ENGINEER ORDER NO.9.

(1) In accordance with the move of 5th. Aus. Division to the Blaringham Area, Second Army on 30th. & 31st. inst., an Advance Party of 1 Off. & 1 O.R. from each Field Coy. will entrain at PUCHEVILLERS at 5 p/m on 25th. inst.

(2) Bicycles will be taken by all ranks and 48 hours rations will be carried.

(3) Movement Orders on the R.T.O. PUCHEVILLERS will be issued by each Field Coy. and parties must report at the station at least one hour before the departure of the train.

(4) The detraining Station will be HAZEBROUCK.

(5) The combined parties from Brigades and Divisional Units will be met by a staff officer of 5th. Aus. Div. in the square at HAZEBROUCK at 9 a/m on the 26th. inst.

10 a/m
24/7/17.
 8th.F.Co.
 14 "
 15 "
 File
 War Diary.

Sgd. S.E. Evans Lt. & Adjt.
 for C.R.E., 5th.Aus.Divn.

Appendix 8

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H. Q.
6TH AUSTRALIAN
CIVIL ENGINEERS.
 No.....
 Date.....

Appendix 7
Headquarters, 5th. Australian Divl. Engineers

Ref; No.
83/210/11.

Chief Engineer,
1st. Anzac.

(1) In continuation of my 83/210/7 of the 4th. inst., herewith drawing of distance block with suggested claws for Heavy Pontoon Bridges, and further report mentioned in para 3 of E. in C's. letter.

(2) Ref. the latter portion of para 3, E. in C. letter RE.G.11411/1 of the 15th. inst, the use of Weldon Trestles in a heavy Pontoon Bridge of the "B" type is viewed with grave concern.

(3) Ref. para 6, it is strongly urged that for canal crossings floating bridges of this type should invariably be replaced by Pile Bridges whenever possible. These Pile Bridges can always have a movable span giving a clear 19' in the centre of the bridge. This width is sufficient to pass barges, and it is submitted that a Pile Bridge is always more satisfactory in use for heavy traffic and is considerably less liable to serious damage under shell fire.

(4) Ref. para 7 of E. in C. letter it is considered that a suitable bridge could be designed for broad river crossings with 30' spans and 20' waterway between barges, the sections of which need not weigh

(2)

more than 2 tons apiece, the heaviest individual load being the main girders which would weigh about 3 tons apiece. It is considered that all parts of the bridge could be satisfactorily handled by decauville. Each girder could be carried on two ordinary flat trucks. The remainder of the bridge could, if desired, be brought up by lorry. The conditions under which a bridge of this nature would be built would presumably not be such as to preclude the use of decauville for the main girders.

Lieut-Col.R.E.
C.R.E.

5th. Australian Division.

21/7/17.

Appendix No. 7

250

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...the sections of which ...
 ...could be designed for ...
 ...it is considered that ...
 (4) Ref. Para 7 ...
 ...liable for possible damage ...
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 ...bridge. This which is ...
 ...of the ...
 ...bridges are always more ...
 ...this type should preferably be ...
 ...that for general purposes ...
 (5) Ref. Para 8. It is ...
 ...with these concerns.

H. Q.
 5TH AUSTRALIAN
 CIVL. ENGINEERS.
 No.
 Date

...more than 2 ...
 ...individual load ...
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 (8)
 H. Q.
 5TH AUSTRALIAN
 CIVL. ENGINEERS.
 No.
 Date

5th Australian Division
 G.H.E.
 Lieut-Col. R.E.

Appendix No 7

250