



How to find a point on a Great War trench map

The Western Front Association

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Introduction. The trench maps used in the Great War resulted from the exigencies of war. Although the British Army had planned what to do in the event of a European war, they were found wanting when it came to equipment. The British Army had until then always fought small scale wars of movement, they were not prepared for large scale static warfare. As part of this equipment, the maps available in 1914 were either the woefully inadequate French maps, some little better than sketches, or the slightly better Belgian maps. A few of the French maps of areas near their forts (and the Western Front) were of high quality but their coverage was quite limited. They were called Plans Directeur. The mapping system used, the scale and accuracy of the surveying and quality of the drawing would leave a lot to be desired if designed from scratch during peacetime but they were not, they were made in the heat of battle, but seen in this light, they should be considered a monumental achievement.

The importance of producing good maps in a very short time led to the decision to produce British maps that used the Imperial System (i.e. yards), super-imposed on the Belgian maps that used the Metric System (i.e. metres). This method was then also applied to the available French maps. The resulting grids give rise to some confusion in modern minds more familiar with British Ordnance Survey maps but in fact it is quite simple.

A fascinating description of various aspects of trench maps can be found in the *"Topography of Armageddon"* by Peter Chasseaud. For a comprehensive history of the mapping of the Western Front, see Peter Chasseaud's book *"Artillery's Astrologers: A History of British Survey and Mapping on the Western Front, 1914-18"*, available at Amazon.co.uk.

Sheet numbering. The most active sheet numbers for the British Army are shown on Map 1. Each numbered sheet is 32,000 metres wide by 20,000 metres but the British grid is 35,000 yards by 22,000 yards. This yard based grid did not quite fit, the misfit is more noticeable at the Western and Eastern edges. These sheets are drawn at a scale of 1:40,000 and are numbered according to the Belgian system, sheets 1-72 cover the whole territory of Belgium. This system was extended Westwards into France and the new sheets having letters added, the order being East to West, as show in Map 1. Each 1:40,000 rectangle (these are sometimes referred to as squares) was referred to by the number in the centre of each one. Later in the war, sheet 36C was renumbered to 44a and sheet 36B to 44B.

Grid system. The main grid system used for each sheet is shown in Figure 1. Early maps used a slightly different system, as shown in Appendix 1. Once the system in Figure 1 was in use, initially maps were marked with *"Revised System of Squaring"*, i.e. revised from the system shown in Appendix 1..

To provide a map reference, each 1:40,000 rectangle was divided into 24 rectangles, lettered A to X, six in a row as shown in Figure 1. Each lettered square was then further divided into numbered "squares", some numbered 1-30 and some numbered 1-36, 6 in a row as Figure 2. A small square was referenced by letter then square, e.g. P8 or B23.

Although trench maps used for Great War research are generally those drawn at 1:10,000 or 1:20,000, the map reference is derived from the 1:40,000 sheets. 1:40,000 is suitable for strategic or even tactical purposes but lacks sufficient detail for field use.

Each 1:40,000 map was subdivided into four maps to a scale of 1:20,000, referred to by compass points, NE, NW, SE and SW as shown in Figure 3.

Great War British Trench Map Grid System

1:40,000 sheet divided into 16 1:10,000 sheets (red edges)

The grid edges do not fit the underlying sheet

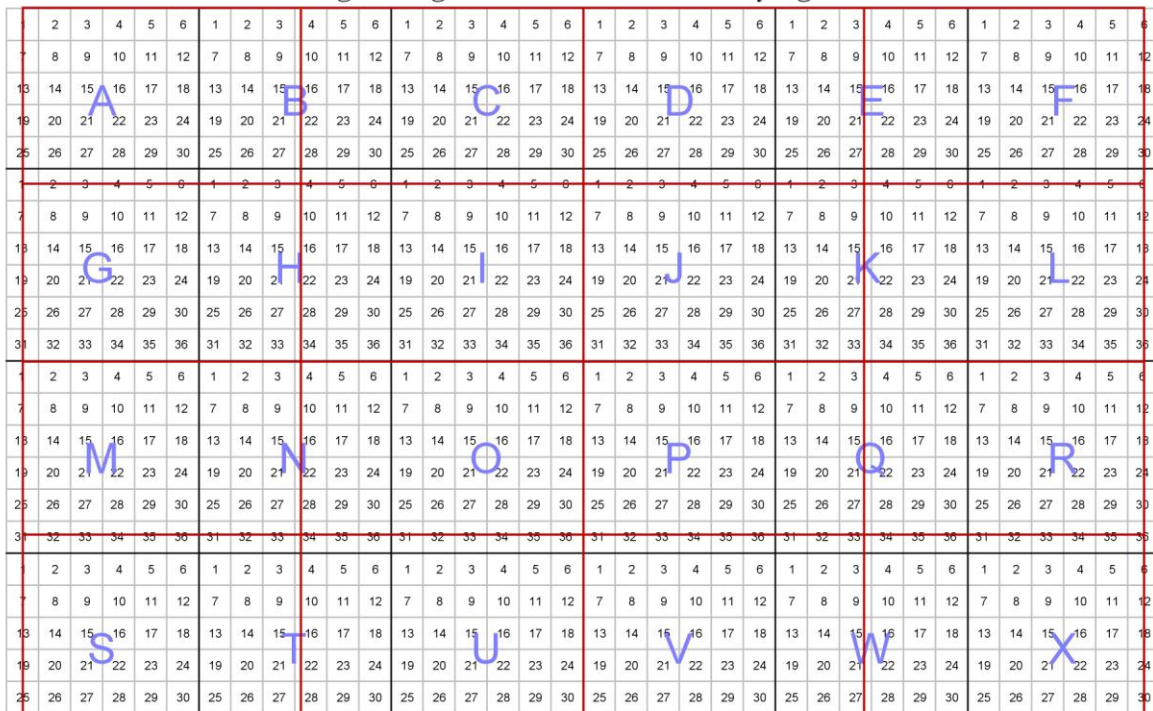


Figure 1, main 1:40,000 sheet grid system, called the "Revised System of Squaring". (See Appendix 1 for the older system)

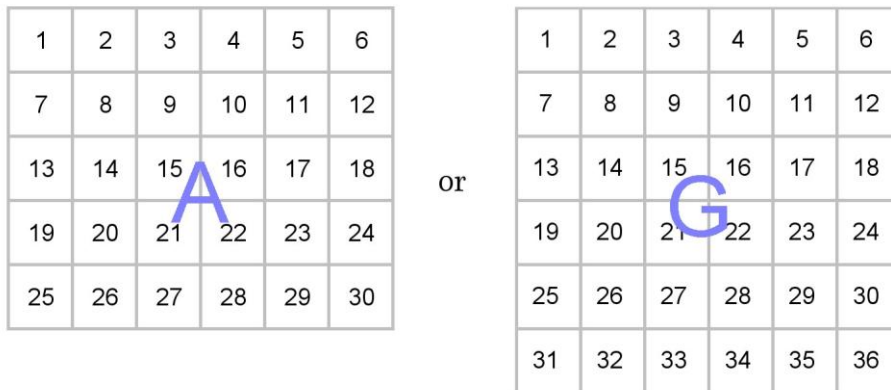


Figure 2. Each lettered square is divided into either 30 or 36 smaller squares

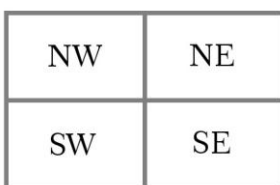


Figure 3. Each 1:40,000 sheet is subdivided into four 1:20,000 sheets

Every 1:20,000 rectangle was further subdivided into four at 1:10,000. The resulting 1:10,000 maps were named after the compass point of the quadrant they are in followed by a number as in the figure below. This means that areas mapped at 1:40,000 required sixteen 1:10,000 maps for the same area. A 1:10,000 sheet would be referred to by sheet number then sub-division, e.g. 28 SW2 or 57D NE1.

NW1	NW2	NE1	NE2
NW3	NW4	NE3	NE4
SW1	SW2	SE1	SE2
SW3	SW4	SE3	SE4

Figure 4. 1:40,000 sheet subdivided into 16 1:10,000 sheets (i.e. each 1:20,000 divided into four 1:10,000 sheets)

The grid used on the 1:40,000 was retained for the 1:20,000 and 1:10,000 maps so a single map reference was valid on all of them. The area covered by a 1:10,000 trench map is 8000 by 5000 metres, divided into 1000 and 500 yard squares (with the mis-fit at the edges).

To define a point. On a 1:10,000 trench map, the lettering of the squares were shown as large letters in the corners of each square, the numbers being presented in the centre as the sample below. Each numbered square 1000 yards wide was further subdivided into four 500 yard squares, lettered a, b, c and d row by row.

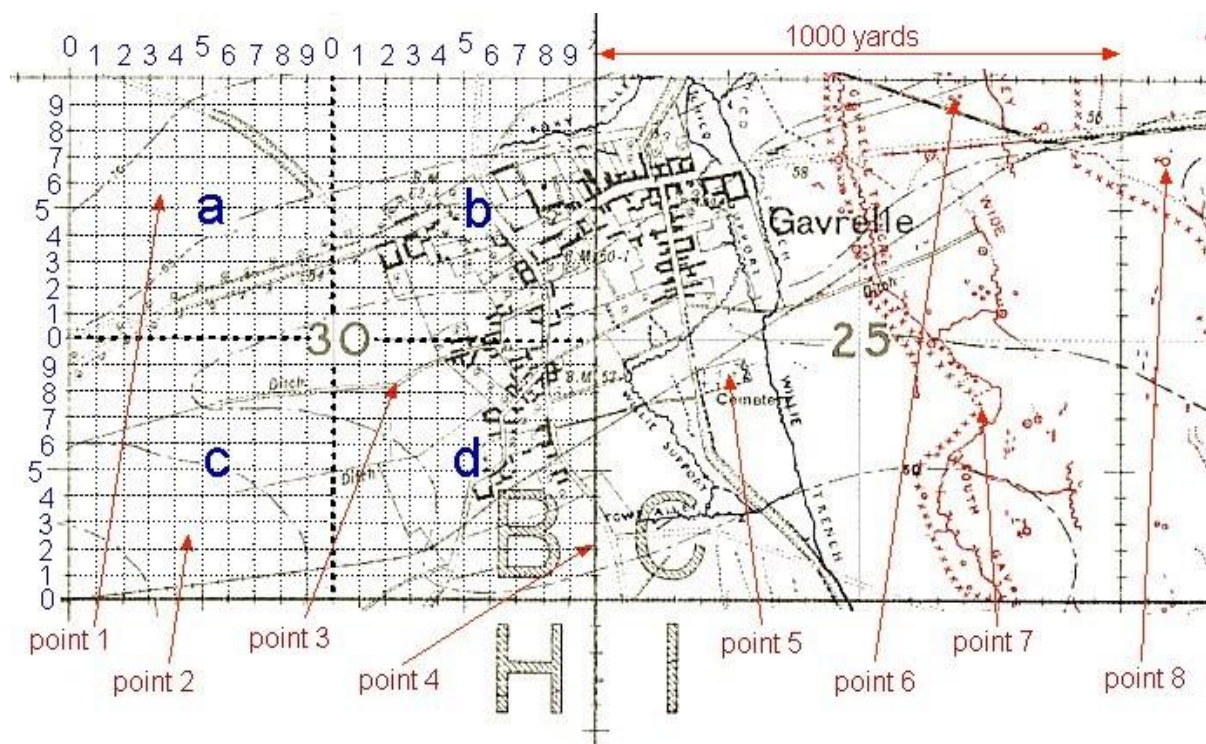


Figure 5, Section of 1:10,000 sheet 51B NW2, Oppy.

A point such as point 1 (the tip of the arrow) in figure 5 is expressed as **B30a 3.5**, i.e.:-

- **B**, the main 1:40,000 square it is in,
- **30**, the numbered square within B,
- **a** to indicate which of the four 500 yards squares
- **3** to indicate the square east-west. This is called the Easting
- **5** to indicate then the square north-south. This is called the Northing

Just **B30a 3.5** would give a reference to a number of points in France and Belgium as it refers only inside one 1:40,000 rectangle, the square B is unique only within each 1:40,000 sheet. To fully refer to a point, it is convenient to include the sheet reference such as **51B**. Most Great War references were written without the sheet reference, so one has to infer which sheet to use. This often leads to confusion. Point 1 is uniquely identified as **51B NW2 B30a 3.5** but would have been written as just **51B 30a 3.5** or even just **30a 3.5**, thus leaving the reader to determine which sheet it exists on.

The point **B30a 3.5** gives a position to a resolution of 50 yards as each small square is 50x50yards. To achieve better resolution, each 50 yard square can be thought of as being divided into a further ten rows and ten columns, so for point 1, 34.55 would indicate 3 squares from the left and 4/10th of the way into that and 5 squares to the north and 5/10ths of the way into that. Looking at another way, the point is 3.4 squares from the left and 5.5 squares up, written as 34.55.

Point	50 yard resolution	5 yard resolution
1	B30a 3.5	B30a 34.55
2	B30c 4.2	B30c 45.25
3	B30d 2.8	B30d 24.83
4 (on the vertical line)	C25c 0.2	C25c 00.21
5	C25c 5.8	C25c 51.84
6	C25b 3.9	C25b 36.92
7	C25d 4.7	C25d 48.73
8	C26a 1.6	C26a 17.67

Square 30 has a dotted grid to show the idea of the squares, real trench maps do not have these. Perhaps the easiest way to get a precise measurement is to make a scale such as the one shown below positioned over square 30. It is made from card with the scale carefully marked off from the side of a grid square. In the example here, the card (often called a Romer) is positioned to measure point 3, the tip of the arrow is placed in the corner of the cut-out card. The distance from the left (the Easting) is taken from where the vertical line crosses the scale, similarly, the distance up (the Northing) is taken from the horizontal scale.

The more accurate values for references in the form B30d 24.83 can be estimated, in this case 2.4 and 8.3 squares.

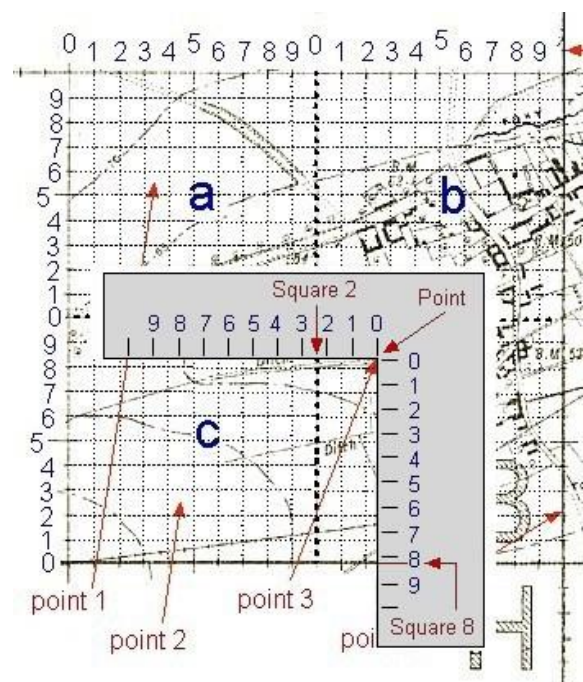
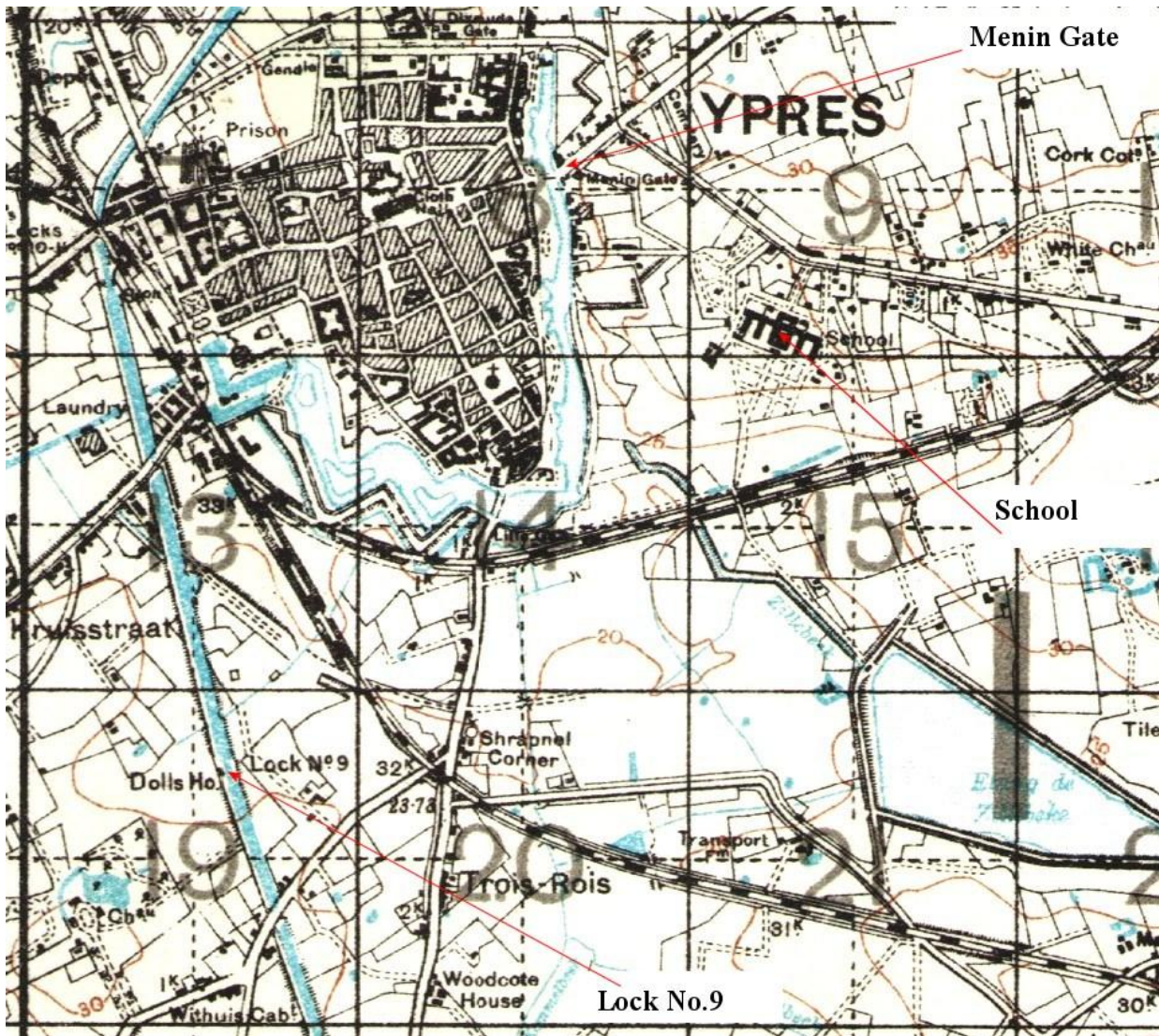


Figure 6. Using a Romer to measure position

Examples

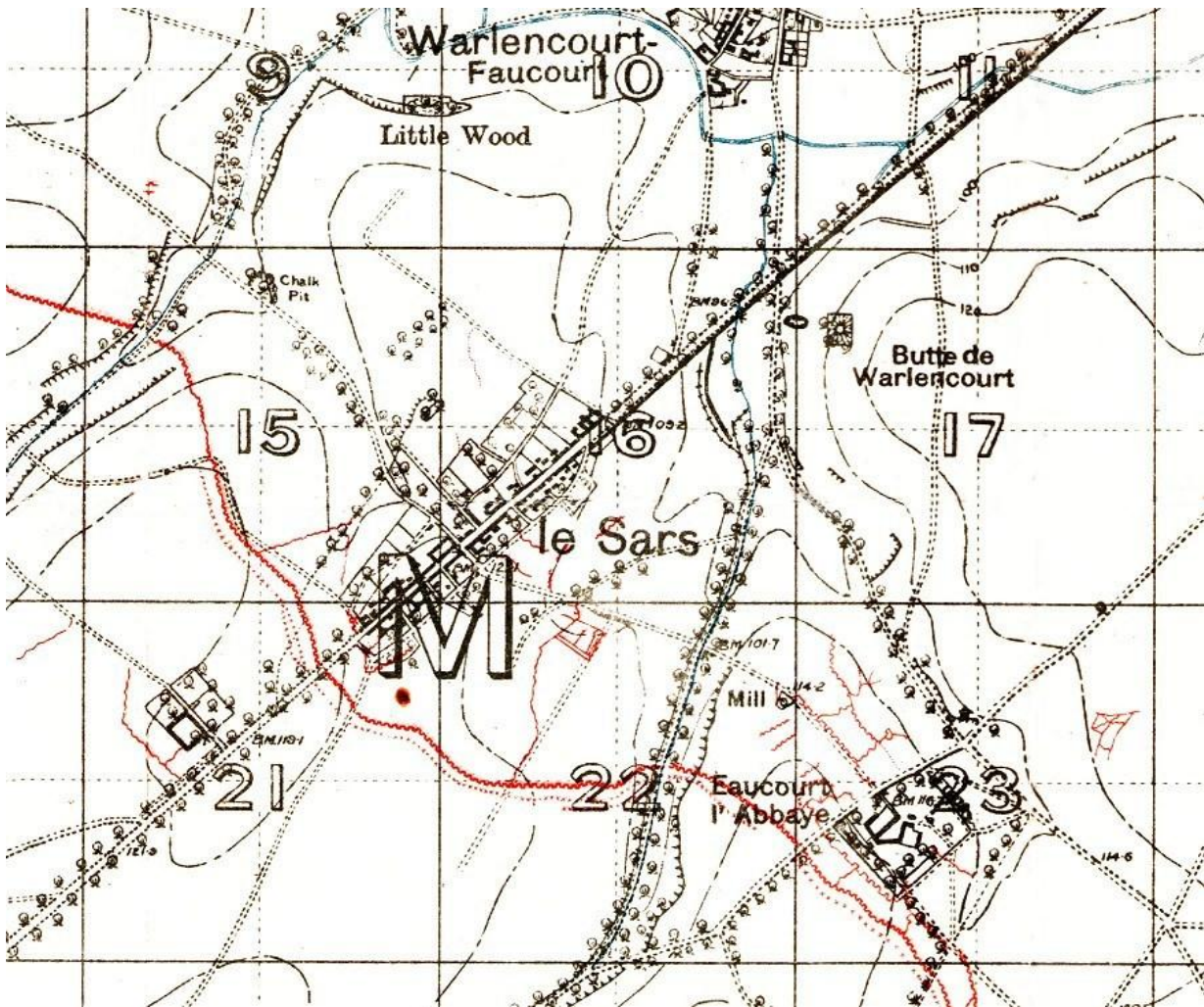


Example 1 from a 1:40,000 sheet.

The centre of the Menin Gate on the Eastern side of Ypres is at I8b3.2. This is from sheet 28 so the full reference would be 28 I8b3.2.

The centre of the school is at 28 I9c6.2

Lock No.9 is at 28 I19b2.5.

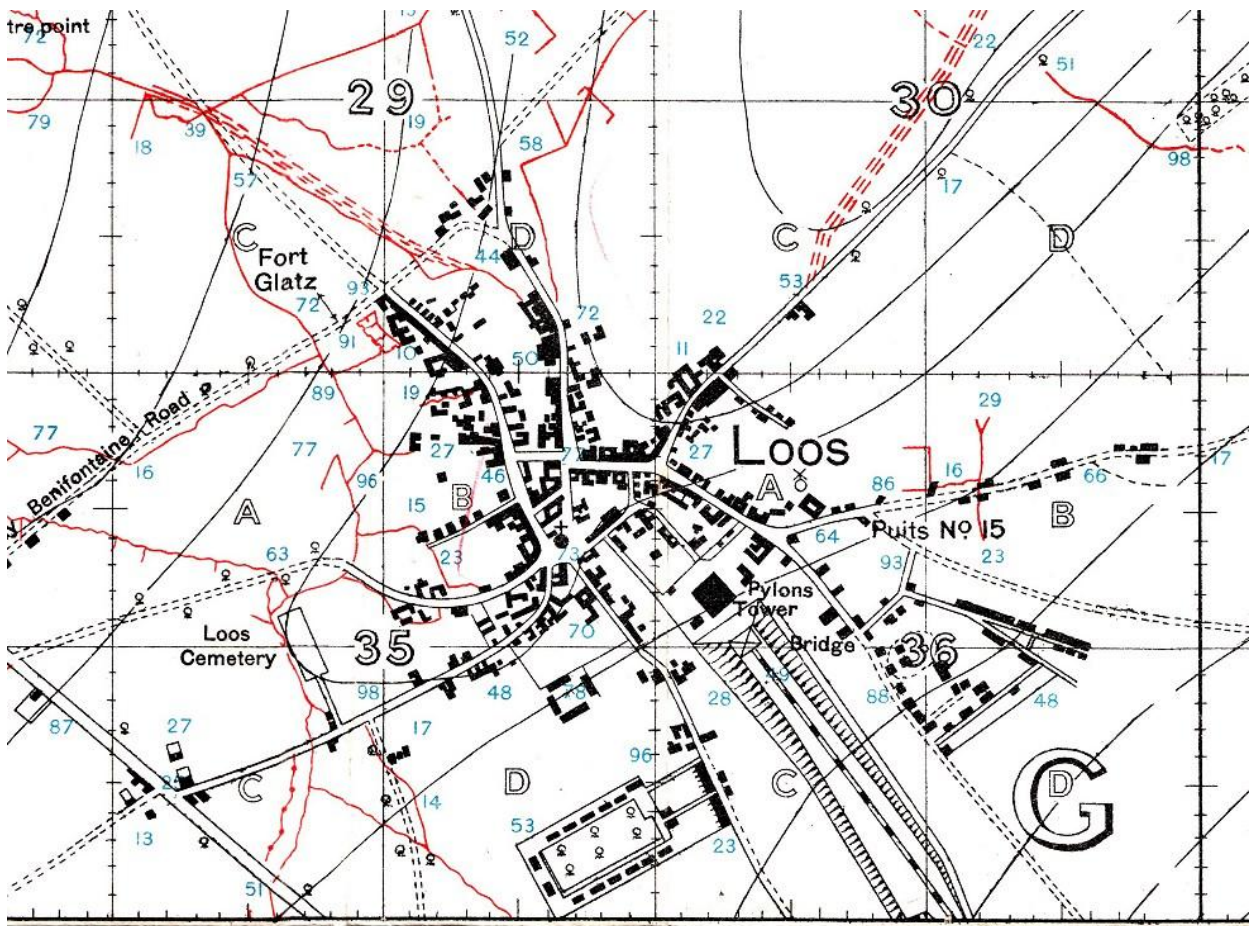


Example 2 from a 1:20,000 sheet, 57C SW

The Mill SE of Le Sars is at 57C M22b9.5 (The SW in 57C SW is not used). More accurately, it is at 57C M22b94.46.

The Chalk Pit NW of Le Sars is at 57C M15b0.8

The centre of Le Sars is at 57C M16c, there is no use here quoting the distance within square M16c.

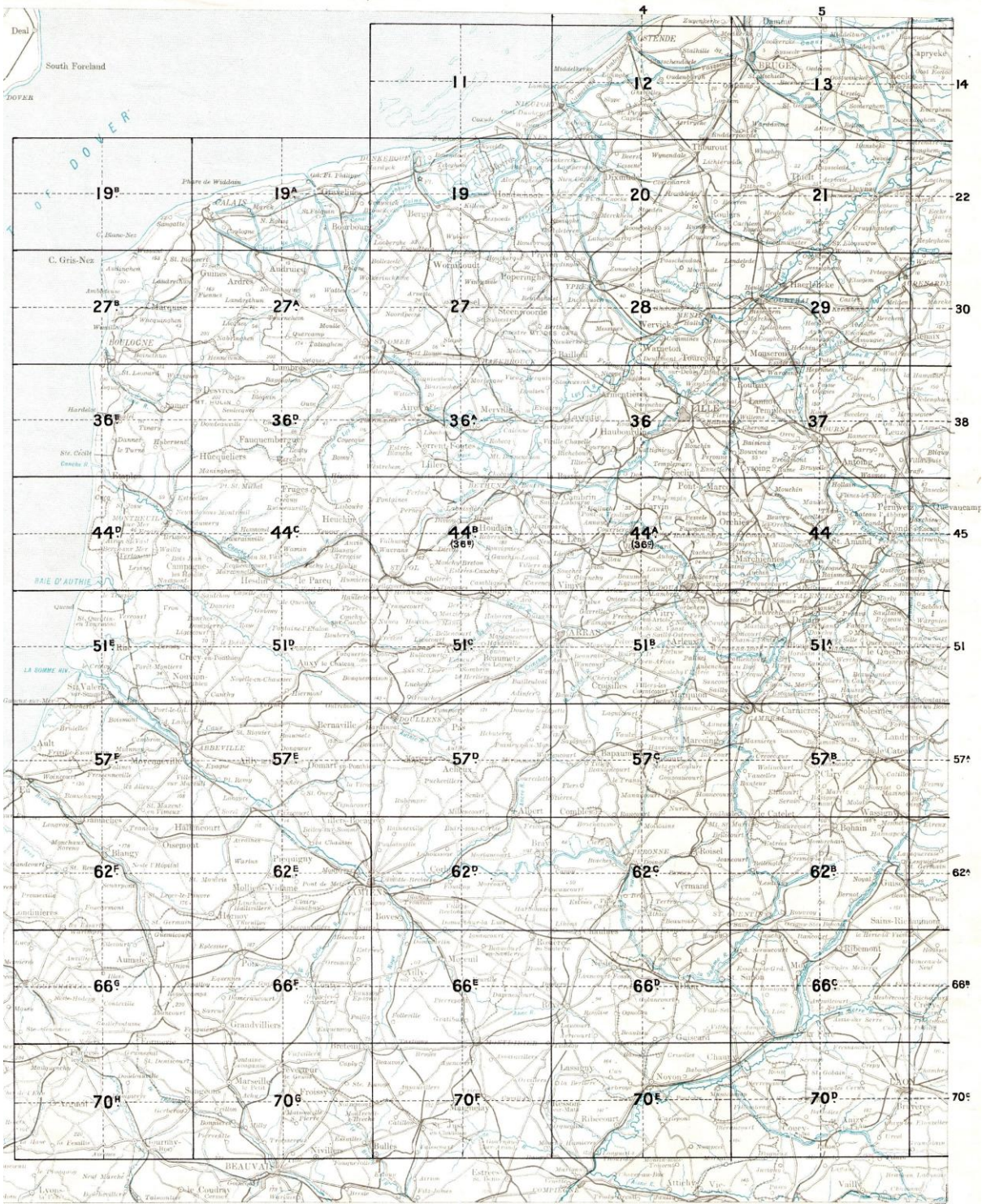


Examples 3 from a 1:10,000 sheet, 36C NW1

Loos Church is at 36C G35b7.4 or more accurately, 36C G35b65.38. This is an early map and shows the squares a-c . The NW1 is not used.

Loos cemetery extends from about 36C G35a7.1 to G35c8.9.

Tower Bridge (shown as a rectangle with diagonals) is at 36C G36a3.0 More accurately, 36C G36a33.02



Map 1, part of the grid system as used in the Great War.

Appendix

Great War British Trench Map Grid System (early form) 1:40,000 sheet divided into yard based squares.

The grid does not fit the underlying metre based sheet (exaggerated by blue outline)

1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5					
6	7	8	9	10	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10					
11	12	A	14	15	11	12	B	14	15	11	12	C	14	15	11	12	D	14	15	11	12	E	14	15	11	12	F	14	15	11	12	G	14	15
16	17	18	19	20	16	17	18	19	20	16	17	18	19	20	16	17	18	19	20	16	17	18	19	20	16	17	18	19	20	16	17	18	19	20
21	22	23	24	25	21	22	23	24	25	21	22	23	24	25	21	22	23	24	25	21	22	23	24	25	21	22	23	24	25	21	22	23	24	25
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
6	7	8	9	10	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10
11	12	H	14	15	11	12	I	14	15	11	12	J	14	15	11	12	K	14	15	11	12	L	14	15	11	12	M	14	15	11	12	N	14	15
16	17	18	19	20	16	17	18	19	20	16	17	18	19	20	16	17	18	19	20	16	17	18	19	20	16	17	18	19	20	16	17	18	19	20
21	22	23	24	25	21	22	23	24	25	21	22	23	24	25	21	22	23	24	25	21	22	23	24	25	21	22	23	24	25	21	22	23	24	25
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11	12	O	14	15	11	12	P	14	15	11	12	Q	14	15	11	12	R	14	15	11	12	S	14	15	11	12	T	14	15	11	12	U	14	15
16	17	18	19	20	16	17	18	19	20	16	17	18	19	20	16	17	18	19	20	16	17	18	19	20	16	17	18	19	20	16	17	18	19	20
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11	12	V	14	15	11	12	W	14	15	11	12	X	14	15	11	12	Y	14	15	11	12	Z	14	15	11	12	AA	14	15	11	12	BB	14	15
16	17	18	19	20	16	17	18	19	20	16	17	18	19	20	16	17	18	19	20	16	17	18	19	20	16	17	18	19	20	16	17	18	19	20
21	22	23	24	25	21	22	23	24	25	21	22	23	24	25	21	22	23	24	25	21	22	23	24	25	21	22	23	24	25	21	22	23	24	25
1	2	CC	4	5	1	2	DD	4	5	1	2	EE	4	5	1	2	FF	4	5	1	2	GG	4	5	1	2	HH	4	5	1	2	II	4	5
6	7	8	9	10	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10	6	7	8	9	10

Appendix 1, Older system of squaring.

The map is divided into large squares, lettered "A", "B", "C", "D", etc., the sides of which are 5,000 yards in length.

The large squares are divided into 25 smaller squares, numbered 1 to 25, the sides of which are 1,000 in length.

The areas 6, 7, 8, 9, 10, in squares CC, DD, EE, FF, GG, HH, JJ, are rectangles of 1,000 yards by 830 yards.

The minor squares and rectangles are to be considered as lettered "a", "b", "c", "d," but the letters are only printed in one small square to avoid confusing the map.

A point can thus be described as lying in square A.2.c, D.5.a, etc.

If the position of a point can be identified more closely, the further description N, S, E, or W may be added.

If only the description of the small squares is given, e.g., A.2, the position indicated will be taken to be the centre of A.2. Similarly, A.2.d. will be taken as meaning the centre of the minor square A.2.d. unless a further description N., S., etc., is added.

The description A.2.c.d. can be used if uncertainty exists as to whether "c" or "d" is the correct minor square.

Most maps of the Great War did not use this early system. When it was superseded, for a while maps were marked "Revised System of Squaring".

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