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ORIENTATION REPORT

ON THE

YORKTOWN BATTLEFIELD AREA

CONTAINING THE

FORTIFICATIONS, ENCAMPMENT AREAS, HEADQUARTER SITES AND ARTILLERY PARKS CONSTRUCTED BY THE BRITISH, FRENCH AND AMERICAN ARMIES IN THE YEAR 1781.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
COLONIAL NATIONAL MONUMENT
YORKTOWN, VIRGINIA

ORIENTATION REPORT
ON THE
YORKTOWN BATTLEFIELD AREA

There are many journals written by officers and other personnel who participated in the Siege of Yorktown in 1781. There are also many interpretations of the history of the siege written by historians at a later date. Though the historical aspects and the accounts of the units of troops and the officers who commanded them are well written, there is one phase which has hardly been touched and that is the technical angle. For the majority of students of American history straight historical data is sufficient and the smaller, technical details are unnecessary. But the National Park Service cannot overlook this angle on any historic ground; it must go much further in its studies. When the restoration of an area is undertaken, the smallest detail sometimes can reach large proportions. First, every detail must be studied for accurate reconstruction, restoration and preservation. Second, when the whole area is completed

the picture must be presented to the public in a comprehensive form. Third, this presentation to the public and the convenience provided for visitors must be made with a minimum of interference to the historic area.

In a battlefield there is a good deal of space between the lines; it may even seem that the fortification layout is sketchy, with a redoubt here, a battery there, and ordinary-looking shallow trenches between. Actually, topography plays an important part --- a little mound here or a dell or ravine somewhere else may not mean much to the casual observer, but to the leader of an army who must build fortifications to protect his command, or to the commander of the attacking army, who must erect fortifications to carry out an effective siege, every contour in the terrain within a range of 1,000 yards [this applies to the period of 1781] has significance and is thoroughly studied. Thus, what may be considered waste, or unimportant, space to some may have a very important meaning to an army man.

A redoubt, or a battery, must be erected where it will give the most protection to the encampment area, yet be in a position to properly defend itself. The commander who is laying the siege must place his batteries where they can do the most damage to the besieged, yet so they protect his own men from the enemy fire. The attachers'

redoubt must be placed in a position where it can protect the batteries and the men supporting the trenches from sorties by their enemy. It is readily seen how important a part the ground between the two lines of fortifications plays.

The Yorktown battlefield area was rather perplexing to both commanders. The ideal site would have been a rising central ground for Cornwallis's men and long, sloping grades for Washington's and Rochambeau's attack, with all vestige of trees and buildings removed for a distance of at least 1,000 yards. Instead of this the Yorktown field was cut by two deep ravines formed by York and Wormley Creeks, whose circular route enclosed the Town of York within the one-half mile space between them. These deep ravines assisted Cornwallis by allowing him to erect fortifications of less magnitude where they faced the ravines than would normally have been done. Yet these very same ravines permitted the Allies to bring their men, unseen by the enemy, to within 500 yards to build their first parallel. They also permitted them to shorten their line of siege fortifications, thus concentrating their fire within a very limited area. On the whole, the site of Yorktown favored the Allies more than it did the British.

For Cornwallis's original purpose the York River and the Town of York were ideally located. York River, with its deep harbor, afforded the English Navy an ideal water for any size fleet she might

bring there. The narrowness between Gloucester Point and the Town of York made it easy to defend against any attack the American Navy could muster. From land attack by the Americans he was practically immune. It would have been next to impossible for the colonies to assemble an army of sufficient strength in men and equipment to dislodge him. If that had been possible, the American Navy could not have prevented him from disembarking on his ships, of which he had between 80 and 90. (The French after the siege fell heir to between 50 and 60 ships consisting of troop and merchant vessels and men-of-war from sloops to frigates. To this number must be added the 28 or 30 vessels sunk by Cornwallis to protect his shore line. These vessels were not sunk until after the defeat of the English by Count de Grasse at the estuary of Chesapeake Bay.) It can, then, be safely said that Cornwallis's contempt for the Continental Army in a battle position, or navy in fleet formation, was what finally placed him in a precarious position. And he under-estimated the extent of support that his hereditary enemy, France, might supply the colonies.

Sir Henry Clinton wrote twice on July 11, 1781 to Cornwallis. One letter required him to occupy the Williamsburg Peninsula and the other to examine and fortify Old Point Comfort, with the purpose of preparing it for a future naval station. Clinton also consented to the fortifying of "York Heights", if he, Cornwallis, should think it

necessary.[1]

Cornwallis, deeming Hampton Roads and the James River unsuitable, disregarded the protective possibilities of Old Point Comfort, and chose Yorktown, where he arrived from Portsmouth on the 1st of August and where, by the 22nd, he had moved his entire army. Having chosen York River as an ideally secluded harbor,[2] he immediately commenced the fortifying of Gloucester Point by ordering Lieutenant Sutherland of the Engineers to prepare plans for a chain of redoubts.[3] According to Tarleton,[4] no fortifications were commenced in Yorktown until those at Gloucester had been prepared sufficiently to be tenable.

Marquis de Lafayette since the battle of Green Spring had retired to the forks of the Pamunky and Matapomi Rivers (West Point), where he made his camp. Upon the return of Cornwallis to the Peninsula, and the realization that a permanent English position was to be established in Yorktown, he dispatched part of his militia toward Gloucester Point in order to prevent the English from roaming at large while seeking forage and supplies. Later, his main army was moved to the Chicka-

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1. Clinton, Sir Henry, Observations on Mr. Stedman's History of the American War, (London, 1794), p. 20.
2. Stedman, Charles, The History of the Origin, Progress, and Termination of the American War, Vol. II, (London, 1794), p. 39.
3. Tarleton, Lieutenant-colonel, History of the Campaigns of 1780 and 1781, in the Southern Provinces of North America, (Dublin, 1787), pp. 371-372 of photostat copy in C.W.H.P. files, [Journal #40].
4. Ibid., p. 372.

hominy in New Kent County in order to close the upper Peninsula to any English depredatory expeditions.[5]

General Wayne with his Pennsylvania troops, who had, shortly after the battle of Green Spring, been dispatched by Lafayette to follow the English Army across the James River, remained there until the arrival of the French fleet.

So were the positions of the various troops at the commencement of the Yorktown Campaign of 1781.

Cornwallis retained the main part of his army in Yorktown, while Lieutenant-colonel Simcoe had command of the infantry erecting the works at Gloucester.[6] When the fortifications in Gloucester were sufficiently complete so the place could easily be protected against a nominal number of troops, the works for protecting Yorktown, designed by Lieutenant Sutherland and approved by Cornwallis, were commenced in earnest. These plans called for redoubts and batteries, connected by trenches and parapets to form a line encircling Yorktown. They also called for sufficient water batteries at Gloucester and on the heights of Yorktown to prevent an enemy fleet from entering the anchorage with an intent to destroy the English fleet.

How close the fortifications originally designed correspond to those extant the last days of the siege is not known; the only prepared

5. Tarleton, op. cit., p. 373.
6. Ibid., p. 373.

maps on file are those made shortly after the siege. According to Cornwallis's General Orders,[7] and the Clinton-Cornwallis Controversy,[8] much activity to strengthen the works took place during the siege. Tarleton,[9] gives the best description of Yorktown and the proposed construction of fortifications which we have written by one of the British forces.

Fortification plans for the town proper having been prepared and approved, attention was paid to the terrain in the immediate vicinity for the erection of outer or advanced works.

York Creek, up river on the right of the English line, and Wormley Creek, down river on the left, with their deep ravines, encircled the town to within a half mile of each other, the narrowest point being about 800 yards from the hornwork. With the exception of the growth bordering the ravines, the ground was plain and cleared for more than 2,000 yards.[10] Houses which interfered with the construction of fortifications or which might prove convenient to the enemy were removed.[11] Trees along the ravines were felled and fleches erected.[12] One large

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7. Orderly Book-Ensign Dennis. Photostat copy in C.N.M.P. files, [Journal #16].
8. Compiled, collated, and edited by Benjamin Franklin Stevens, Vols. I and II. (London, 1888).
9. Op. cit., et passim.
10. Tarleton, op. cit., p. 383.
11. Ibid., p. 372.
12. Ibid., p. 382.

redoubt was built on the right, fraised and protected with a double row of abattis [Fusiliers' Redoubt], (see photographs #'s 1 and 2). On the left two advance redoubts were erected, also fraised and protected by abattis, [Redoubts Nos. 9 and 10], (photographs #'s 3 and 4). Two redoubts were placed in the narrow bottle neck between the two ravines of the creeks, [Pigeon Quarter, or Pigeon Hill Redoubts]. The latter two redoubts also protected the road from Williamsburg from surprise attack by the enemy. One redan mounting two 6-pounders and two 3-pounders, (see photograph No. 5), several flesches, and some small redans were placed along Wormley and York Creeks.

Breaking this up into units, we find the British had eight redoubts encircling Yorktown proper, with Redoubt No. 1 on the York River shore, right of the English lines, and No. 8 on the river shore, left of the English lines. They had three outer redoubts---Fusiliers' and Redoubts Nos. 9 and 10--- and two advance redoubts at Pigeon Quarter, a total of thirteen.

They had nine batteries placed in the circle between the redoubts, beginning at Windmill Point.

They had three small and one large water battery, making a total of twelve main batteries. This does not include the small redan batteries placed as outposts along the ravines, as they would mount only guns of minor dimensions.

No accurate account of the guns mounted in any one battery, nor

their dimensions, can be given, due tothe constant change which took place during the siege. In Tarleton and in Cornwallis's General Orders many statements are made of certain embrasures being closed and others cut through. This was necessary. Cornwallis's first choice of positions for batteries was theoretical; not until the French and Americans opened fire from their batteries could he discover how his own could be made most effective. Therefore both sides often made changes to outwit the enemy. Another convincing proof of this is the many maps of the siege. Scarcely two agree on the number or type of guns placed in any one battery.

Colonial National Historical Park has copies of two maps prepared by English cartographers shortly after the siege which coincide to a marked degree (see photographs #'s 6 and 7). Probably these surveys were made jointly, and the maps prepared individually. These maps, however, are only a general plan of the entire investment; they give no cross sections or profiles to show methods or types of construction. For such details French maps must be consulted. There are two outstanding maps prepared by French cartographers which show the profiles of the English parapets and redoubts; not, however, of batteries (see photographs #'s 8 and 9). Presumably the method of constructing batteries was so universally known and used that no details of their construction were thought necessary. We are certain there were no sunken batteries erected by the British; all were

cavalier, or raised, batteries, which type often called for a ditch both in front and to the rear of the battery.

There were two types of parapets constructed in the English line surrounding Yorktown, according to these French maps. One line of parapets commenced at the river, on the right, facing York Creek, and went to Smith Street. This parapet was made by placing logs vertically in the ground close together. The writer says vertically, but they really had a slight slant toward the earth part of the parapet, similar to the slope of an ordinary parapet, which is usually about 3 feet horizontal to 6 feet 3 inches in height of palisade. The earth behind the palisades was 4 feet 4 inches high, with a width across the top of about 9 or 10 feet. As a rule, with this type of work, there was no front ditch; the earth for the parapet was taken from a ditch excavated to the rear of the firing step. Ordinarily this type of construction was used only where the soil was sandy and where the line of defense was protected against a heavy assault by the enemy as a result of deep ravines or any natural obstructions which would prevent an enemy from forming in a solid formation before an attack. The width of 9 or 10 feet across the top of the parapet was to present the enemy, if they should reach the line of defense, from having one man engage the defender with bayonets while another climbed over the palisade. For fuller details, see Appendix I and Plate 3 attached to this report.

The line of parapets erected from Smith Street to York River, on the left, was of cavalier construction; it had a ditch in front and one to the rear. This was done in order to gain height; and this type was usually constructed where mass assaults could be made. This section of parapet was also protected by fraises placed on the berm, facing outward to an angle of 45 degrees (see Appendix I).

Besides this main line of defense the British had an inner line of defense to protect their encampment area. This line was made of trenches, parapets and palisades, with logs placed vertically - probably six to eight inches apart - and was manned by reserves.

The writer will not here go extensively into details concerning the construction of the English redoubts, as they usually followed a universal method. For further particulars on works of this type reports on Redoubt No. 9 and the Pigeon Hill Redoubt may be consulted.[13]

Since we have never located the original plan of the English fortifications, or a copy of it, we must accept subsequent plans drawn by English, French and American engineers as showing the actual position of each unit on the approach of the Allied Army and assume

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13. "Final Report on Redoubt No. 9, Second Parallel" by Junior Park Research Technician Thor Borresen, dated December 23, 1938; and, "Report on the Proposed Reconstruction of a Pigeon Hill Redoubt", by Junior Park Research Technician Thor Borresen, dated November 15, 1939. Copies of these reports are in the Washington and Regional Offices, as well as at Colonial.

that they remained so throughout the siege, with the exception, of course, of those guns and embrasures that were of necessity changed because of the French and American batteries. Thus we find the English line was well established when the American and French armies left Williamsburg for Yorktown on September 28, 1781.

There were four important roads leading to Yorktown from the Williamsburg direction, counting plantation roads that could be entered from the main Williamsburg Road.

A fifth road which also played a prominent part was the Hampton Road.

The Williamsburg-Yorktown road in the eighteenth century passed through what is today the Navy Mine Depot property. Somewhere in that area the road branched off and connected with the Lee Hall Road. At that point, the first divergence of the column of Allied troops took place. All of the Americans took the fork to the right; the French continued left for a couple of miles, then branched to the right and crossed the Lee Hall Road.[14] The two regiments of Gatenais and Agenais continued a short distance, then encamped one on each side of the Williamsburg Road near the fork of Goosley Road,[15] where

14. Deux-Ponts, Count William de, My Campaigns in America... 1780-81, translated from the French Manuscript With an Introduction and Notes by Samuel Abbott Green, (Boston, 1868), p. 134 of photostat copy in C.W.M.P. files. [Journal #4].

15. Ibid., p.134.

they threw up three small redoubts to protect their camp against any sortie the English might make. One of these redoubts still remains; the others were destroyed sometime after 1853, as a map of that date shows all three of them.[16] These redoubts were actually located on the high banks overlooking Ballards Creek.

The French continued through what is known today as the Baptist tract. The two French regiments of Saintonge and Soissonais encamped near Lowells Quarter, which closed the various plantation roads. This road converged and crossed York Creek, passing to the rear of Battery No. 2 (British) and entering the town at Church Street. The French continued south and encamped the regiments of Royal Deux-Ponts and Bourbonnais slightly north of Groves Road, thus closing the Groves Road, also the plantation road from Nelsons Quarter, which crossed the upper part of York Creek and, forking, entered Yorktown at both Read and Smith Streets.

The French Royal Artillery crossed Baptist Run and placed their artillery park on property owned by General Nelson, the French commander of artillery, Colonel d'Aboville, occupying the Nelson plantation house as his headquarters.

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16. Map #126-A, dated January 10, 1853, showing Hubbard Tract, York County. Copy in possession of C. E. H. P. Engineering Division was traced by American Cement Engineering Co., of New York City, from original submitted by Thomas M. Ladd, Surveyor, City of Richmond, by order of Circuit Court of York County for use in case of Robert Anderson, Plaintiff, against Noah K. Eagle.

The Americans having crossed over to and continued on Groves Road, branched off and entered the General Nelson Quarter through one of the plantation roads, but were prevented from crossing Great Run because the British had destroyed the bridges, during the night.[17] The American engineers constructed new ones and all necessary passages over the swamps and creeks were made on the morning of October 29, when the troops crossed to the other side of Great Run. Their artillery park, laboratory, and master powder magazine were placed on property known as the Ambler Quarter, on high land above the creek. Nearby was Steuben's division of Virginia, Maryland and Pennsylvania troops. This effectively closed Warwick Road.

Continuing east, General Clinton's division, consisting of New York, Rhode Island, and New Jersey troops, encamped on Allen's or Deadman's property west of Hampton Road.

East of Hampton Road and on property occupied by a man named Inges and a tract owned by a Mrs. Smith, the Virginia Militia under General Nelson and Lafayette placed their camp. This closed Hampton Road.

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17. Journal of J. C. Louis, Baron De Closen, Vol. I, Part VI, p. 344, (page 5 of typescript copy in C.W.H.P. files), [Journal #28]. Also "The Journal of Lieut. William Feltman, of the First Pennsylvania Regiment, from May 26, 1781 to April 25, 1782, embracing the Siege of Yorktown and the Southern Campaign", in Pennsylvania Historical Society Collection, May, 1853, p. 315 of printed excerpt in C. W. H. P. files, [Journal #45].

General Lincoln with his division of light infantry, made up of Massachusetts, Connecticut, Rhode Island, New Hampshire, New Jersey, New York and Canadian volunteers, encamped on the extreme right of the Allied line, which placed them on the bank of Wormley Creek. Thus, every road leading into Yorktown was closed, and Yorktown completely surrounded.

During the 29th only minor skirmishes took place between outposts and pickets. On the morning of the 30th, the French were constantly bothered by advance English pickets stationed some distance forward from the redoubt on the right [Fusiliers'], and Rochambeau sent out the volunteers of St. Simon, together with grenadiers and chasseurs from the Agenais. They succeeded in driving the pickets back to the English redoubt.[18]

The Regiment of Touraine was then placed in an advance position, closing the old Williamsburg Road far ahead of the Gatenais and the Agenais regiments, where it protected the extreme left of the Allied line. To the Regiment of Touraine also fell the work of erecting a battery on the extreme left of the Allied line on the bluff overlooking York River where its shells could inflict damage to the British shipping as well as bombard the Fusiliers' Redoubt.[19] A hot shot

18. Closen, op. cit., pp. 345-347. (pp. 5 & 6 of typescript).
19. Deux-Ponts, op. cit., p. 140.

furnace was installed in conjunction with this battery, which eventually set fire to the 44-gun frigate Charon and two transports. This same regiment also constructed a battery consisting of six howitzers and mortars, which was located in line with the battery overlooking the bluff but was on the south of the Williamsburg Road. (see photograph No. 10).

On most of the maps of the siege a great many roads are shown connecting the various cantonments. However, many of those shown were not public highways but plantation roads built and owned individually. There were only two main roads from Williamsburg to Yorktown, one, as before mentioned, went through the property now owned by the Navy Mine Depot; the other followed what is now Route #60 and entered Yorktown by way of Graves Road. The others shown on the maps were no more than paths scarcely wide enough for two men abreast on horseback, or were roads cut through forest and fields to establish communication between various camps.[20] Naturally, many of the roads shown on the siege maps are now entirely obliterated. First, they were no longer of any use after the siege, and second, the roads constructed for military purposes were not used extensively enough to cut sufficiently

20. "Extract from the Journal of Chevalier Duplein de Cadignan, Lieutenant-Colonel in the Agenois Regiment During the War for American Independence at the Siege of Yorktown", pp. 4 and 5. Translated from the French by Warrington Dawson. Enclosure to Memorandum No. 26, New Series, in Dawson Papers, C. W. H. P. files.

deep into the soil to leave traces which ordinary roads do.

During the winter of 1935-1936 and spring of 1936, the writer spent a good deal of time in the encampment area examining and surveying every sign of old roads, and checking all evidences against the old maps. None of the distances between points on the old maps are chained or actually measured. They were all paced, which accounts for the discrepancies between the maps. It is thought advisable to include here the different means used for measuring distances. Pacing was only done for short distances, and usually covered 30 inches at each step; when long distances were to be covered measurement was according to the regular military step.

> The American step measured 28 inches from toe to heel. Ninety were taken to the minute, or a distance of 212 feet covered.
>
> The French used a step of 24 inches (French measurement) covering a distance of 152 feet per minute.
>
> The English step in the service is 30 inches, of which 75 are taken per minute, covering 187 1/2 feet.

When several miles were to be covered, like the entire battlefield and encampment area of Yorktown, the measurements were taken on horseback.

M. Lallemand gives the following distances:[21]

21. A Treatise on Artillery, (New York, 1820), II, 354.

A horse marches (walks) 425 yards (or steps) in 4 1/2 minutes
A horse trots 425 yards in 2 minutes 3 seconds
A horse gallops 425 yards in 1 minute, 3 seconds.

O'Connor claims:[22]

A horse marches 110 yards per minute
A horse trots 220 yards per minute
A horse gallops 358 yards per minute.

It is clear what confusion arises when an attempt is made to compare the various maps; each map must be scaled, using marks or locations which we know are still in existence as fixed points.

The Allied Army arrived before Yorktown on the evening of September 28 and the 29th was mostly devoted to preparing and establishing camps; only strong picket guards were advanced far enough to prevent the English from appearing in strong forces for any surprise attack.

On the morning of the 30th, a thorough reconnoissance commenced. It was then discovered, to the surprise of the entire Allied command, that Cornwallis had ordered his entire advance force to return within the main works. That this force was considerable and well placed is shown on one of the old maps, presumably of English origin (see photograph No. 5).

Starting from left to right a description of placement follows:

On the north side of Wormley Pond were three redans, one

22. O'Connor, John Michael, A Treatise on the Science of War and Fortification, (New York, 1819), I, 85.

directly in front of the dam or causeway then used as a highway, the other two on the bluff over a branch of the dam running parallel with the road after crossing. These same redans also faced the road on the opposite side of the pond, from which the Allies must appear in order to cross. Indications are that small pieces of ordnance were placed in the redans, though dimensions are not given. These three redans were manned by seamen from the ships lying in the harbor. The two on the bluffs are still in existence and can easily be seen. (1939)

In the area now occupied by the golf course's sixth fairway and part of Uniontown the 71st Regiment was placed.

On the left of the first arm of Wormley Creek, separating Uniontown from the Hampton Road, were placed the Regiment of Anspachs, and two redans overlooking the creek, each redan mounting two 3-pounders. The trees on both sides of the creek were cut down, falling top first into the ravine to form an abattis.

Between this same arm and Hampton Road was placed a redan mounting two 9-pounders.

Well in advance of the regiments closing the half-mile opening between York and Wormley Creeks, and well forward of where Warwick and Hampton roads meet, were placed the 80th Regiment in front and the 76th Regiment to the rear, as support, both covering both sides of Hampton Road, one battalion of the 80th and one of the 76th closing the Warwick Road.

To the rear of these two regiments, but on a hill overlooking them which formed the junction of the Hampton and Warwick roads, was placed a redan mounting two 6-pounders and two-3-pounders. This was later made into a redoubt by the Americans, (see photograph No. 11).

In a field slightly advanced, but to the right of the two regiments, close to Pigeon Quarter, another field battery of four 6-pounders and four 3-pounders was constructed. This is the approximate location of the redoubt later constructed by the Americans.

Slightly to the right of this field battery two redoubts were constructed, one on the north and one on the south side of Goosley Road, and to the right, but close to the road, just about in the center between the two redoubts, was placed a battery containing two 12-pounders.

Far to the right on a long point of land projecting into York Creek, on what is now known as Long Neck, was placed another redoubt. This redoubt is still extant. (1939)

On the north bank of York Creek, well advanced from the main line, several small redans were constructed, one mounting three guns, the dimensions of which are not recorded.

Several small redans were placed on the Yorktown side of York Creek, but low down near its mouth. These redans, however, are not shown as having cannon mounted in them. They were probably only picket redans for guards.

The lower extreme of Yorktown, as it parallels the creek to the river, is low country. This section was guarded by a row of palisades extending to the river's edge.[23]

On the extreme right was the Fusiliers' Redoubt.

Two more regiments were placed in reserve about half way between the Yorktown line of fortifications and the junction of the Warwick and Hamptons roads; one of guards stationed across the Hampton Road, and slightly to the left and rear of the guards was the Regiment De Rose.

That the withdrawal of this strong line of protection was not only a surprise to the Allies but to many of the British officers as well is told by Tarleton.[24] That this formed a formidable first line of defense was admitted by every officer; to remove this defense by forcing it back would have required either a heavy assault or regular siege procedure. Either method would have delayed the Allied progress for several days. Assault would have been the quicker way, but to this Rochambeau objected owing to the loss of men which would naturally result from the number necessary to force so well established a line. If Cornwallis had chosen to remain, the story of the siege of Yorktown would have been very different. A pitch battle with much loss of life, or the delay in constructing an extra line of parallels, might

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23. Tarleton, op. cit., p. 384.
24. Ibid., pp. 384-386.

have held up the capitulation sufficiently for Clinton to arrive with reinforcement. He did so on the 24th of October, appearing off the Capes with 7,000 men and about 40 ships.[25] But by Cornwallis's decision to evacuate his outer defense works, many lives were spared and much time was gained.

Washington and Rochambeau wasted no time in occupying the evacuated redoubts on Pigeon Hill. Rochambeau placed 100 grenadiers from the Bourbonnais in one and 50 chasseurs in the other.[26] The American troops immediately went to work and erected another redoubt half way between the south Pigeon Hill Redoubt and the Hampton and Warwick roads. This was the approximate site at which the British had erected the small field battery containing four 6-pounders and four 3-pounders. The redan overlooking Hampton and Warwick Roads, formerly mounting two 6- and two 3-pounders was also made into a redoubt. Thus, the narrow point of land between the two ravines became the first line of attack against the British and also the first line of protection of the Allied camp.

By the 2nd of October, this defense consisted of four substantial redoubts, all palisaded and protected by abattis; a fifth redoubt of small dimensions located on Long Neck served as a picket guard.

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25. Stedman, op. cit., II, 415; Deux-Ponts, op. cit., pp. 153-154.
26. Deux-Ponts, op. cit., p. 136.

The outlook gained by the newly acquired terrain deserves mention. The Allies now had a clear, unobstructed view of the entire English line encircling Yorktown; by the use of the ravines formerly guarded by redans and pickets, they now could get to within 300 yards of the British line.[27] General Washington accompanied by Brigadier-general Du Portail and three other engineers, guarded by 50 men from Captain Smith's Company (Pennsylvania) marched to within 300 yards of the British extreme left.[28] To fully understand the benefit of this acquisition, the Plates 1 and 2, showing various profiles and the ground's topography may be examined. On Plate 2, Profile No. 3, is given a good idea of the terrain seen from the Pigeon Hill Redoubt (see also photographs #'s 12 and 13). This plate also shows how valuable the ravines became to the Allied Army. Profile No. 6 gives the approximate location of the reconnaissances performed by Washington, Du Portail, and the engineers. With the exception of the terrain shown by Profiles Nos. 4, 5 and 7, the Allies could get close to the British line for observation without too great a risk. That this opportunity was well taken advantage of was admitted by Cornwallis when he congratulated the French Artillery Commander, Colonel d'Aboville, on the judicious manner in which he had

27. Deux-Pont, op. cit., p. 315.
28. Feltman, op. cit., p. 316.

placed his batteries.

For six days the American and French engineers examined the ground for the most suitable locations for their batteries. In the meantime the soldiers of both armies had been busy preparing fascines and gabions. The locations for their depots were chosen, and there all materials needed for the construction of batteries, redoubts and trenches were stored. The two main depots were put in branches of Wormley Creek, the Americans on the last branch, or extreme right, the French on the first branch, leading to what is now Yaintown. The French, whose lines were much more extended than those of the Americans, also used the upper branches of York Creek, especially for the redoubts and batteries to the left of Hampton Road. This can best be examined by studying the topography around Profile No. 3, Plate 2.

The French were far more advanced in siege warfare than the Americans. Rochambeau had been present at many sieges. His engineers, Colonel Desandrouines, Lieutenant-colonel Querenet de la Combe, and Major de Palys, were all tried and experienced men. Colonel d'Aboville, in charge of artillery, had acquired considerable experience on the battlefields of Europe and was by more than one officer complimented on the management of his cannon.

Though the American colonials lacked experience, they were willing to learn, and for instruction some of the best officers in Europe were

placed in responsible positions. Of these, two were outstanding---Brigadier-general Du Portail and Major-general Baron Steuben had both seen much warfare. A corps of engineers had been established in the American Army as early as May 27, 1778, with Brigadier-general Du Portail as its commander. Though at the time of the Revolutionary War they were called sappers and miners, they were nevertheless engineers and as such constructed many fortifications throughout the colonies. The commanders of each company of sappers and miners were also engineers. In Yorktown, Du Portail had the assistance of Captain James Gilliland, Captain David Bushnell, and Captain-lieutenant David Kirkpatrick. Steuben's knowledge of artillery undoubtedly was of great assistance to Brigadier-general Henry Knox, commandant of the American Artillery.

By the evening of October 6, it had been decided where each battery and redoubt was to be placed, with their connecting trenches and approaches, and the work on them commenced soon after dark.

Instead of making a day to day account of the progress in constructing the fortifications, there follows an account of each structure and each chosen location.

Beginning on the extreme left of the Allied line (York River bluff) Cornwallis had constructed the large star redoubt, fraised and protected with a double row of abattis (see photographs #'s 1 and 2).

It lay some 690 yards from the nearest English battery on which it could depend for protection. This battery was located on top of Windmill Point, (see photograph No. 14), an eminence a little advanced from the main line of English defense. The ground between this battery and the main line, or between it and Redoubt No. 1, was used as the English cemetery.[29] This section guarded the Williamsburg-Yorktown Road. To close this road the English erected a row of palisades at the bottom of the York Creek ravine, extending for some distance south of the road, then following the creek to the river's edge. Very probably a gate was put somewhere near the road, in order that relief for the star redoubt [Fusiliers'] might leave and enter. This was one of two locales in which Cornwallis could have made an extensive assault if he had chosen to attempt to break through the Allied line, although the narrow terrain would have made any success uncertain. That Rochambeau was fully aware of this danger is evidenced on all the plans of the siege. To close this avenue of escape the Regiment of Touraine was stationed fairly close to Yorktown; the Regiment of Gatenais, about one mile to the rear, was placed on the north side of the old Williamsburg Road, and the Regiment of Agenais to the south of

29. Dennis, op. cit., pp. 47-48.

the road. Between the latter two regiments and the Regiment of Touraine the road was blocked by several redans [French]. The terrain where the road is constructed is very narrow, due to a deep branch of York Creek on the south of the road and Ballard Creek on the north. In one place, at about the half-way mark of the territory occupied by the three regiments, the space narrows to about 300 yards, permitting only a small body of troops to deploy in fighting formation. To the rear of the three mentioned regiments two more had been placed in reserve, though they were slightly south of the Williamsburg Road. They were the Regiments of Saintonge and Soissonais.

The French battery erected overlooking York River bluffs mounted 12-pounders and was some 750 yards west of Fusiliers' Redoubt, (see Plate 2, Profile No. 1). This battery contained the hot shot furnace.

The mortar and howitzer battery was erected on the south side of the road, in line with the river bluff battery (see photographs #'s 10 and 15).

To the rear of the battery on the bluff and in the dell where Ballards Creek empties into York River, two battalions of St. Simon's volunteers were placed as support against any attempt by the English to make a sortie with the intention of destroying the battery. It is plain how well Rochambeau protected his extreme

left. Fusiliers' Redoubt remained in the hands of the British until the capitulation, though it was the recipient of heavy bombardment from the French battery. On the other hand, this redoubt was amply protected by the English battery on top of Windmill Point. This battery was some 1,300 yards away from the French battery beyond Fusiliers' and that distance prevented any accurate shooting for either one to damage the other. But it did offer sufficient protection and opposition to prevent the French from taking the redoubt by assault and trying to hold it, without first preparing suitable support. Toward the end of the siege the French commenced preparation for constructing a sap and placing a battery within 260 feet of Fusiliers'. This is shown in dotted lines on one of the maps prepared by Querenet de la Combe (see photograph No. 16).

The entire area covered by the foregoing description is very narrow. It is bordered on the north by York River and Ballard Creek and on the south by a branch of York Creek, and extends nearly all the way to Goosley and Williamsburg roads. Guarded as described above it would have been next to impossible for Cornwallis to have broken through, because nowhere along the entire stretch could he deploy a suitable number of men to have permitted a solid frontal attack. To pass through with his entire command before reinforcement from the main French and

American line arrived would have been impossible. This both Washington and Rochambeau knew well. Consequently, all their efforts were concentrated on the area where an army of considerable force could be mustered.

Exclusive of the small area occupied by the Williamsburg Road, the entire English right line of fortification faced York Creek. The open field between the creek and right line of fortifications was 233 yards wide, increasing in width to 515 yards at the right of the hornwork. The area bordering York Creek covered more than half of the British line. Lieutenant Sutherland in designing the line of fortifications took ample advantage of this ravine, the depth of which -- from 30 to more than 45 feet -- prevented a large scale assault from that direction. The entire area from the main line of parapets to the edge of the ravine was clear and could easily be protected. The banks of the ravine were too steep for any large body of troops to go into formation for assault. Had an attempt been made to form the line on top of the bank, the English could have poured an effective fire with grape and canister. To make such an action even more difficult, the trees on both sides of the ravine were cut down so as to fall top first into the ravine and form an effective abattis. They are so called by Querenet de la Combe (photograph No. 16). Profiles Nos. 2 and 2 3/4, Plate 2, show this ravine. Though Sutherland

designed his parapets low, with no front ditch, he did expect batteries to be placed along Long Neck and other suitable locations on the opposite side of the creek bank. Hence, the entire front of his parapet was furnished with fairly good sized timber. (see Fig. 2, Plate 3). He placed several Coehorn and royal mortars in batteries Nos. 3 and 4, whose vertical fire could drop shells into the ravine.

Colonel d'Aboville disregarded the possibility of placing batteries on any of the points along the creek banks, even though in direction it was the logical thing to do. In enfilading both the right and left of Cornwallis's line, however, the distance was not so favorable. For enfilading the left, the range required was from 816 to 1,260 yards; and on the right batteries could be placed within 750 yards. Only larger guns would be effective at this range. A 24-pounder has an effective range at 2,200 yards, using twelve pounds of powder and elevated to 5.30 degrees, and an 18-pounder about 2,100 yards.[30] At this distance, however, there was often considerable loss, as the shots could not be controlled sufficiently to produce proper effect. A distance of from 600 to 900 yards was considered the most suitable range when erecting batteries. No doubt d'Aboville did not consider it

30. Smith, Captain George, An Universal Military Dictionary, (London, 1779), p.TAB-TAB.

justifiable to place the larger guns where they could not be made to serve in full force. Moreover, there was no space where he could place advance batteries for a second parallel; therefore it would have been necessary to remain in one location during the entire siege. The felling of trees to block any attempt by the Allied Army to make an assault from this area worked also in reverse; so, the French commander-in-chief was satisfied by the placing of a picket guard at the bottom of the ravine.

Due to the topography of the ground on the entire right of the British line, Cornwallis was not only protected from attack but it interferred with any move that he might have made in forcing a passage through the Allied lines. It gave the Allies a greater advantage in attack than it did protection to the English. It permitted a strong concentration of French ordnance on the narrow stretch of land between the two creeks. Here, the French constructed the most powerful batteries of the siege.

Beginning slightly to the east (right of Allied line) of Hampton Road and continuing to the edge of the ravine of York Creek, the French constructed a series of batteries. As a whole they were called the Grand French Battery, and consisted of four separate units.

It is difficult to state definitely the number of guns mounted either in the whole or in each unit. Sebastian Bauman's map (American) (see photograph No. 17) states three of the units mounted, together, sixteen pieces of 16- and 24-pounders and nine howitzers, and that the fourth unit mounted six 13-inch mortars. This last unit was slightly forward of the gun batteries. The Querenet de la Combe map (French) (see photograph No. 16) shows one section close to York Creek mounting four guns; another west of Hampton Road, mounting four guns; one east of Hampton Road, which is the section now reconstructed, mounting twelve cannon, four howitzers and six mortars; and one battery on the other side of York Creek, directly in back of Pigeon Hill Redoubt No. 2, containing three cannon. He does not mention calibres of any of the guns.

A second French map (see photograph No. 18) gives the following: The battery on the west side of York Creek, back of Pigeon Hill Redoubt No. 2, mounting four 24-pounders; the bomb battery west of Hampton Road, eight mortars of which three were 13-inch; and five 8-inch; the one east of York Creek and to the rear of the bomb battery, mounting four 24-pounders; and the one to the west of Hampton Road, but close by it, mounting four 24-pounders; the reconstructed section east of Hampton Road mounting eight pieces of 16-pounders, four mortars, and two

howitzers.

So, we have, according to these figures:

BAUMAN (photograph No. 17)	Total of 22 guns and mortars. Total howitzers not mentioned.
DE LA COMBE (photograph No. 16)	Total of 33 pieces.
MAP F-5 (photograph No. 18)	Total of 34 guns of all calibres.

The archeological excavation of the section of the Grand French battery east of Hampton Road (that now reconstructed) revealed room for fourteen guns, which tallies with the last map. We know that two 24-pounders were taken from one of these batteries and transferred to the battery overlooking York River, where they took the place of two 12-pounders.[31] (see photographs #'s 19 and 20).

Profile No. 4, Plate 2, shows the level terrain between the two lines. The depot for serving the batteries was to the east of the Grand French Battery, on one of the branches of Wormley Pond, guarded by a redoubt (see Profile No. 5). The shallow ravine shown directly in front of the American and French redoubt curves to the rear of the redoubt, and is there much deeper. The redoubt formed the dividing line between the French and American forces.

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31. Closen, op. cit., p. 374.

The section of the Grand French Battery on the west of Hampton Road was on much higher ground than the reconstructed section. Hence, the bomb battery could easily have been constructed in front of it and still have permitted the batteries to the rear to fire over it. It was located close to the junction of Goosley and Hampton roads. The map shows it south of this junction. The average distance from these units of French batteries to the hornwork was 756 yards, (see photograph No. 21).

When the building of the second parallel began the approach was made by zig-zag trench, starting from the upper branch of York Creek, crossing Hampton Road, and returning toward York Creek again. This advanced the French line 266 yards, or to within 490 yards of the English works. Here the French constructed three batteries and two small redoubts or places of arms. In the redoubts were placed the guards for the protection of the batteries; one redoubt cut squarely across the Hampton Road. Some maps show this to the east of the road, some to the west, and others show it across the road, which is correct. In a recent excavation for laying of a pipe line, two sections of the ditches were found, showing the point of the redoubt faced the hornwork, and was nearly in the center of the road, (see photograph No. 22).

To the right, or east, of Hampton Road a battery was constructed. One map (see photograph No. 18) shows in it two 16-pounders and four 24-pounders. De la Combe (photograph No. 16) shows six cannon, but gives no dimensions. Lieutenant Feltman,[32] under date of October 18, records four 18-pounders and two 24-pounders. Yet, the excavation during its reconstruction revealed only four gun platform positions, (see photograph No. 23). It might have been possible to crowd two more guns in this battery. If so, they must have lain the planks for the gun platforms directly on the surface and not bothered with sleepers. This was frequently done in second or third parallels when immediate use of the cannon was necessary.

To the left, or west, of the redoubt closing Hampton Road another battery of six 24-pounders was constructed. On this figure the maps nearly all agree.

Behind this battery another small redoubt was built.

Then, near the edge of the ravine of York Creek, was placed the bomb battery. Map F-5 (photograph No. 18) places in it twelve mortars, five of 13-inch calibre and seven of 8-inch, and two 8-inch howitzers. Feltman,[33] claims there was one 8-inch

32. Journal, p. 320.
33. Ibid., p. 320.

howitzer, eight 13-inch mortars and two royals, all of brass. Bauman (photograph No. 17) claims there were sixteen 18- and 24-pounders in the two batteries and the bomb battery was designed for ten 13-inch mortars. However, he does state how many were actually placed in the battery.

De la Combe (photograph No. 16) places six cannon in each gun battery and eight mortars in the bomb battery, but gives no dimensions of their calibres. The French batteries on the east of Hampton Road could easily enfilade and fire ricochet onto the English line west of the hornwork (English right), to about the location of English Battery No. 4, (see Plate 1). Those on the west of Hampton Road would enfilade and ricochet fire to the left (English) of the English line. Cornwallis himself declared that he dared not show a gun. He closed his embrasures and opened them only when the French and Americans slackened fire.

On Profile No. 5, Plate 2, are shown the French and American redoubts and batteries. In the first parallel, the nearest French battery was the Grand French Battery, but to the right of the redoubt the Americans constructed a battery containing six iron 18-pounders. Both redoubt and battery are located in what is now Yaintown. In the second parallel a second redoubt was constructed, on the west side of which was a French battery containing six cannon, all 16-pounders and all of brass. To this

the maps agree, (photograph No. 24). To the east of this same redoubt the Americans constructed a six gun battery containing 18-pounders of cast-iron. The main purpose of these batteries was to attempt to make a breech in the English line, plus the assistance, of course, from the larger French batteries on the left.

It was from this redoubt, or near it, that Baron Vioménil with his 400 men emerged when the assault and capture of Redoubt No. 9 was made. It was also here that Lieutenant-colonel Abercrombie made a sortie with 600 British troops at dawn on the 16th, when he succeeded in spiking several French and American guns. Rochambeau had placed 50 men under a Captain from the Regiment of Agenais in the redoubt, expecting some retaliation from the British after the losses of Redoubts Nos. 9 and 10. He also placed troops to the rear of the second parallel, first of men from the Bourbonnais and later from the Agenais. Though the English entered the redoubt and spiked several guns, they were soon driven back and the spikes were easily and quickly removed.[34]

Studying Profile No. 5, Plate 2, and photograph No. 24, it is easily seen how 600 men could swiftly move the 546 yards

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34. Closen, op. cit., pp. 372-373.

necessary. The terrain is so level and smooth it should have been, on the other hand, as easy to discover them. Closen blames it on the Captain in charge of the pickets, saying he frequently and did then indulge in drink.[35] Though Closen was a captain in the Royal Deux-Ponts, he had been dispatched with a detachment of sappers and miners to the rear of the redoubt to guard the French trench depot, in case the English should succeed in breaking through the line.[36]

Profiles Nos. 6 and 7, Plate 2, extend over the American sector. Their first line of trenches was erected a considerable distance away from the English line. Redoubt No. 2, as shown on Profile No. 6, Plate 2, was 1,136 yards from the main line, and 866 yards away from Redoubt No. 9, which mounted only two 5.8-inch howitzers. However, the terrain here would not permit them to get any closer if they were to erect batteries that would be effective.

The American trench depot was placed in a branch of Wormley Pond, entering the American line about in the center between Redoubt No. 1 and Redoubt No. 2. The latter was kept entirely for guards and the defense of the depot, whereas Redoubt No. 1 was made into a bomb battery by placing four 10-inch mortars in it.

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35. Closen, op. cit., p. 374.
36. Ibid., p. 372.

~~tars in it.~~

The shallow ravine shown in front of Redoubt No. 2 is not the same branch of Wormley Pond where the depot was placed, but one considerably to the west. It was here that Washington and Du Portail made their reconnoissances. A battery here would have served very little purpose, due to the angle of fire necessary. Ricochet fire was the order of the day and for this as near level a terrain as possible is necessary.

American Battery No. 1, shown on Profile No. 7, Plate 2, is close to the York River and was the largest battery constructed by the Americans. According to Beaman (photograph No. 17), it contained three 12-pounders, three 24-pounders, two howitzers (no dimension) and two 10-inch mortars. Feltman,[37] gives the same number and gives dimensions, naming the two howitzers as 8-inch. He also makes the statement that the two mortars were mounted on carriages and not beds. These carriages were invented by Henry Knox, and permitted the mortars, he states, to fire horizontal fire; probably he meant ricochet. The carriages must have been very strong to withstand the recoil of a 10-inch mortar. Probably they fired ricochet only, which required much less powder charge.[38] (See photograph No. 25.)

37. Journal, p. 318.
38. Ibid., p. 318.

Though the second parallel had been constructed as far as the French-American redoubt (Profile No. 5, Plate 2), the English still retained Redoubts Nos. 9 and 10. The terrain between these two redoubts and the American line did not adapt itself to the construction of batteries, (see Profile No. 7). Hence, the decision was made to attempt to capture both by assault. For several days a strong concentrated fire from both French and American batteries was thrown against them, in order to destroy their fraises and abattis. The night of the 14th of October was set for the grand finale, and accordingly 400 Americans under Lafayette were assembled somewhere between American Redoubt No. 1 and Battery No. 1. 400 French troops were assembled near the French and American redoubt, second parallel. At the signal of six cannon shot, at 8:00 in the evening, they left their respective places of concealment. It is not the intention to here describe the battle in detail. If one is interested in an account, Count William de Deux-Ponts gives an excellent description of the French attack on Redoubt No. 9.[39] The capture of Redoubt No. 10 under Hamilton is well given, also, among the documents at Colonial National Historical Park.[40]

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39. Journal, op. cit., pp. 142-149.

40. The Remembrancer or, Impartial Repository of Public Events for the Year, 1782, III, 60-63 of photostatic copy in C.N.H.P. files, (London: Printed for J. Debrett, opposite Burlington House, Piccadilly, 1782). [Journal #9].

Their objectives attained, the Allies immediately set to work to include the newly captured redoubt in the second parallel. The Americans made nearly 660 yards, leaving only some 500 yards to the main line. The French completed the parallel from the French-American redoubt to Redoubt No. 9, and the Americans from there to Redoubt No. 10, also constructing approaches and flying saps to connect with the first parallel where ammunition and supplies could be carried in safely. The English entrance to Redoubt No. 9 was closed, and a new opening made leading into what was the rear ditch; in the work were placed two 10-inch mortars and two royals, (see photographs #'s 3 and 4). Between the two redoubts, closer to Redoubt No. 9 was constructed a large battery, American Battery No. 2 (see photograph No. 25A). Bauman (see photograph No. 17) states it was to contain seven 18-pounders, three 24-pounders, four howitzers, and eight 10-inch mortars, as well as ten 5 1/2-inch royals (small mortars), a total of thirty-two pieces of ordnance. However, he admits it was not completed before capitulation. Feltman,[41] claims the actual number in the battery on the morning of the 18th of October was ten 18-pounders, three 10-inch mortars, one 8-inch howitzer and two royals (5 1/2-inch mortars).

41. Op. cit., p. 321.

Of these last units, Redoubt No. 9 has been completely reconstructed. The American battery is about 95 percent. completed, as well as all trenches, approaches, etc., possible to reproduce. Redoubt No. 10 has mostly disappeared, due to the washing and caving in of the river bank; so has a large part of the connecting trench between the first and second parallels.

Study has been delayed on the English line of fortifications encircling Yorktown because of the Confederate works which were constructed, as we suppose, on top of the English works. Many things have happened in the town since 1781, the old buildings have been destroyed by time or man, later ones erected to replace them. This constant change has obliterated many important evidences. We know some of the original town contained houses which were destroyed by the armies before the construction of fortifications could begin, as those fortifications were laid out according to topography and not according to town limits or structures. Hence, until areas close to the present works have been examined by approved archeological methods, including several cross sections of the present Confederate works, conclusive opinions on the original English works must stand as today - uninvestigated. For further suggestion of treatment of the English line see Appendix II.

APPENDIX I

The English Line of Fortification

During the week of August 19, 1939 the State Highway Commission, under direction of the York County Board of Supervisors, extended Smith Street from its former short length beyond Main Street to the present macadam road in front of the Confederate works. In doing so they cut through the extant line of Confederate works encircling Yorktown. Being informed of this, Junior Research Technician Hatch and the writer visited the scene of the work. Though the cut made by the State Highway Commission force was rough and did not permit an accurate picture, indications of a disturbance, which appeared to have occurred before the Confederate works were constructed, were evident.

Returning to the office, the writer checked several maps of the early Yorktown development. The first one was the original town plat, dated 1691, showing layout of lots #1 to #86. This shows Smith Street running north and south. The north end starts at Main Street and runs south for a distance of 890 feet (not as far as the present macadam road). On the west side of the street are Lots #60, #61, #62 and #62,[63] and on the east side, Lots #64, #65, #66 and #67.

The second map examined, dated 1788, does not show more land to the south side of the town---Smith Street and all the others remain the same as the 1691 map shows---but does include the development of the water-front lots, which between these two dates had been set aside as the commons.

The next map, and the last one recorded in the County Clerk's Office, is one dated April 5, 1889, delineated by A. F. Hudgins for W. W. Old. This map extends two lots farther south, showing on the east side of Smith Street, in addition to those already named, Lots K and D, and on the west side Lots J and C. To extend Smith Street to the full length of these latter lots necessitated cutting through the Confederate works. However, this was never done until August of 1939.

A map drawn by Querenet de la Combe (photograph No. 16) during the siege in 1781 shows a road coming from the Nelson plantation property across the ravine. As it approaches the town it divides, one part going toward Nelson [now Pearl] Street, and the other toward Smith. From Smith Street it runs parallel with the outside of the British fortifications and connects with the Hampton Road, similar to the present back road. However, none of the French or English maps show an opening left in the fortifications to permit the entry direct into Smith Street, the entry having been made close to, and west of, a five gun battery (Battery No. 4).

Smith Street during the siege was flanked on the east side by Bat-

tery No. 4 (containing five 18-pounders) and on the west side by Redoubt No. 4, and the line constructed across Smith Street consisted of one single line of parapets (see photographs #'s 6, 7, 8, 9, 16, 26 and 28).

In scaling the several maps of the siege and comparing the result with the present line of parapets there is a slight difference. It appears that the original English line receded much more and made a deeper indentation than does the extant line. However, where the English had placed the five gun battery (No. 4) the Confederates put a redoubt-battery containing a 6- and a 12-pounder. They both appear to occupy the same site. Where the English placed Redoubt No. 4 the Confederates constructed another battery consisting of one 2 3/4-inch rifle and one 42-pounder carronade, and a whole row of small bombards, or mortars. These two appear to have been on the same location.

The present parapet forms a straight line between the two, whereas the English line bent inward considerably.

Having presented these findings to Superintendent Cox, the Historical Division requested permission to take advantage of this new cut in the parapet by re-cutting the face, using standard archeological methods and men to do the work who had had experience in this line. Here was an opportunity to secure confirmation on questions long unsettled --- Did or did not the Confederates construct their works on

top of the old English works? What dimensions were the original English parapets?

Mr. Cox readily approved the request. After consulting the Archeologist of the park and procuring his consent, we approached Dr. N. F. McMorton, owner of the property and the State Highway Commission. Consent to go ahead with the work was given by both.

Accordingly, on September 1, 1939 Mr. Gissy, Project Superintendent, sent Foreman Ayers with six men who, supervised by the writer, commenced cutting and smoothing the surface. As the excavation for archeological findings consisted of only a vertical cut, it was completed in a short time and examined by the Acting Park Historian.

The following is a description of the soil disturbances as they were revealed. (see Plate 3, Fig. 3 and photographs #'s 29 and 30).

"A" is definitely a layer of top soil and has a dark gray appearance; the soil is rather rich.

"B" and "B.B" are red clay of pretty solid consistency and show very little mixture of other materials. It must have been brought from elsewhere after all top soil or sand had been removed.

"C" is a mottled, dark gray sand mixed with loam, or cultivated soil. The depth to which this kind of soil extended was not examined to its terminus, as the lower part, or what is marked as the limit of excavation is really the ditch or road gutter. Further excavation here could easily have caused erosion and it was advised against

by the Foreman of the State Highway Commission force. However, a small pocket was excavated as shown on the drawing to determine the length of this fill and, if possible, the depth. The result is as shown by "D".

"D" is definitely top or cultivated soil, and we can consider this the original grade. The present road level is on fill and extends back for some distance. This fill was not placed there at the time the cut was made, as earth from the cut was used to fill the ditch where the road crossed. Even the present surface of the road was cut lower than originally and most certainly dates back at least to the period of construction of the Confederate works.

"E" shows the extent of cut made to bring the road to its present level. It is a mixture of red clay, sand, and top soil, in a very commingled state.

"F" is a mixture of top soil and marl. A road was at one time existent running parallel with the parapet but it has been obliterated in the last ten years, according to McNorton.

"A.A" is loam, presumably washed down from the parapet. This section probably at one time formed the ditch for the old road. The top soil formation on the present Confederate works is very scant, only about 1 1/2 inch, except near the bottom where it gradually deepens.

The writer wished for permission to excavate a trench in the center of the road extending from the present moat to about 50 feet

behind the works, and deep enough to strike virgin earth. As this would have required a couple of days it was objected to by the State Highway Commission.

So, in describing the area "B" only a conjectural explanation can be given. If Profile No. 3, Plate 2, is studied it will be noticed how the ground slopes where the parallel was constructed. 300 feet to the rear of the parapet the elevation was 65.7; 175 feet in front of the parapet the elevation was 50.0. This leaves us with a slightly more than 16 foot drop in 425 feet. After the parapet was constructed it would have been necessary to level the ground in the rear of the parapet, which accounts for the fill "E".

Neither the English nor the Confederate works show gun positions at the foot of Smith Street, yet the present parapet shows two distinct elevations, one at 64.20, which is the top of the present cut. The section marked "H" commences its rise only 16 inches back of the face of the cut and rises to an elevation of 66.20. This would almost conclusively indicate that an embrasure was there at one time. Though this is not certain, the elevation 66.20 might have been the original height of the parapet, and the present top been lowered to 64.20 at a later date for a different purpose.

The writer is of the opinion that no part of the present parapet is the original English work, but that the entire parapet is Confederate. To explain this more comprehensively it will be necessary to state a

few rules on the construction of fortifications. One is to avoid sandy soil. This was much more stressed and observed during the War Between the States - the guns were much more powerful then than during the Revolutionary War. When fortifications were constructed at what might be called leisure, all the sandy soil or top soil was collected, piled, and used as a core. The main excavation of the clay soil was then placed over it as a protective layer. The cross section here certainly indicates this. The writer doubts if the Confederates would have taken time to trim the remains of the old English work as indicated on the corners of the elevations 62.10 and 62.72. These are too sharp to have remained for eighty years; neither would the front slope of the parapet have remained in the straight line shown. A good comparison is shown by the two constructions. The exterior of the cut shows the result after 78 years of exposure to the elements; the old English line would have had an appearance somewhat similar. The difference in the layers of soil shown by "A", "B", and "C" could easily occur by starting a new excavation.

On three of the French maps profiles of the English line are shown (photographs #'s 8, 9 and 26). Though they vary greatly in dimensions, they do show the same type of profiles. Fig. 1, Plate 3, extends from York River, left of the British line, to the neighborhood of Smith Street. Fig. 2 extends from York River, on the right of the line to

Smith Street. Just exactly where the dividing line was cannot be scaled accurately. Hence, both types were drawn. Fig. 4 shows all four formations superimposed on each other. Fig. 2 is in all probability the nearest to the one erected, though the imagination is stretched to justify any comparison. If the trench the writer wished to excavate could have been dug, the ditches to the rear of the English parapets would, without doubt, have been found and the question could have been definitely settled.

In comparing the following Revolutionary period maps and using the scale marked on each, we have the following dimensions from Main Street to the rear of the present parapet.

Map	Photograph	Distance
Page (B-1)	No. 7	225
John Hills	No. 6	200
F-1 (25)	No. 28	349
Bauman	No. 17	130
52	No. 8	253
Topographical map of 1931 of the present work.....	.....	510
Actual measurement.....	.....	521

Study of Profile No. 3 shows the ground had considerable rise to within 300 feet of Main Street. In order to protect his encampment area as much as possible Cornwallis had his line well indented so as to place the parapet on a higher elevation, and had Redoubt No. 4 and Battery No. 4 put well in advance. According to measurements taken from siege maps the Confederate works are practically on the

same location as those of the British. Only the deeply indented parapet seems to vary.

Smith Street was one of five entrances into the Town of York. Though the road itself was closed by the parapet an entry was made between Smith Street and the five-gun battery east of the road. This is the usual method of closing an important road to the enemy and yet having it accessible. The other four roads were:

Main Street.

One road to the rear but west of the hornwork near Redoubt No. 5. There, also, were headquarters and the 80th Light Infantry.[42] This road was the only one by which the merchants and planters could enter or leave the town.

One road to the east of the hornwork, where it formed a junction with the parapet leading to Redoubt No. 6.

The last, or fifth, road was cut through west of Redoubt No. 7 and was the old road to the Moore House.

When the Confederates rebuilt the line in 1862 ~~four~~ three of these roads were left open. Two -- the one at Smith Street and the one between Buchner and Ballard Streets -- were closed.

The question of whether or not the Confederates constructed their works on top of the old English works still remains to be answered definitely. In checking all maps obtainable of both the Revolutionary

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42. Dennis, op. cit., pp. 15 and 22.

and Civil War periods the writer is of the opinion that with the exception of a few instances they did. The few exceptions include: the British Redoubt No. 2, which was greatly enlarged and incorporated into the line instead of being a separate unit as shown on English maps; the section crossing Smith Street; the shortening of the hornwork; and the enlargement of Redoubt No. 8, on the extreme British left.

Considerable archeological work will be necessary if a satisfactory conclusion is to be reached. To do this work, permission must be obtained from several owners of private property. Only the section from slightly west of the hornwork to Redoubt No. 8 is government property. However, as this last section is the most important one it should be thoroughly investigated even though its reconstruction is not contemplated.

ORIENTATION REPORT ON THE YORKTOWN BATTLEFIELD AREA

APPENDIX II

The Battlefield As It Exists Today

A description of the battlefield area as it exists today is thought advisable. There are several sections which, at the present time, cannot be restored or reconstructed, as the property on which the works lie is privately owned.

Beginning on the extreme left, on the bluff overlooking York River, there is the reconstructed Fusiliers' Redoubt and a short section of French trench connecting two French batteries. Both batteries are on private ground. The battery containing the cannon, and the hot shot battery, together with the site of the hot shot furnace, is on land owned by Mrs. Howard Ferris, (see photograph No. 10).

The bank along the river has suffered much from erosion. How much actually remains of the battery position we do not know, as no research has been made to the writer's knowledge. However, we can safely say a battery mounting large guns and constantly firing could not be placed too close to a precipice for fear of a cave in. A safety margin of at least some 50 or 60 feet would have been observed. During the reconstruction of Fusiliers' Redoubt we estimated that from

30 to 40 feet had been washed away. Probably the loss where the battery is located is not much larger. As this place is quite prominent, being so close to The Colonial Parkway, and the first section of the siege fortifications erected by the Allies that a visitor sees coming from Williamsburg, it should be considered important.

The bomb and howitzer battery constructed south of the Williamsburg Road, which formed part of the river bluff battery and contained four 13-inch mortars and two 8-inch howitzers is on property owned by Lee Pointer. His house, if not actually on the battery site, is very close to it (see photographs #'s 10 and 15). The trench has been reconstructed to the north side of the Williamsburg Road, leaving only the actual battery to be restored. If these two batteries could be reconstructed all the military preparations made by the French against the extreme right of Cornwallis's line would be complete.

Along the shore of York Creek there are few interfering structures. They are the buildings erected close to the English line of fortifications and of particular import are the several residences on the extension of Pearl and Read streets. The most recent of these is a brick house built by Mr. Thomas Hornsby, completed in the winter of 1939. None of these buildings interfer with any future reconstruction but they do, of course, occupy areas which were clear of all obstructions during the siege. (see photograph No. 31)

Of the outer redoubts only one can possibly be reconstructed. That is the one Pigeon Hill Redoubt for which proposed plans have been drawn up. The second Pigeon Hill redoubt is partly on property owned by the Elsie Shearer heirs (see photograph No. 32). The redoubt constructed by the Americans to close the gap between the Pigeon Hill Redoubt south of Goosley Road and the redan on Hampton road is on property owned by Mollie Norton. This same property extends to Hampton Road and takes in nearly two-thirds of the Grand French Battery site (see photograph No. 12).

We have only reconstructed one-third of the Grand French Battery which ~~lays~~ lies east of Hampton Road, in addition to several hundred feet of trenches. There still remain two large gun batteries, one small redoubt, or place of arms, and the mortar battery. On the site of this gun and mortar battery, or nearby, is a small frame building used as a residence. The location supposedly occupied by the mortar battery, which according to maps was close to the junction of the Goosley and Hampton roads, is now occupied by the Grand French Battery Service Station (see photographs #'s 12 and 21).

The zig-zag trench constructed by the French as an approach when the second parallel was started extended from the first parallel near Goosley Road, crossed part of the property where now stands Shiloh Church (colored) (see photographs #'s 12 and 21), then crossed Hampton

Road and entered the ground of the National Cemetery. From there it doubled back and again crossed Hampton Road and entered property now owned by William Marshall (see photograph No. 33), at which spot the second parallel began.

The French Depot where all the material for the construction of batteries, etc., was stored is located in Uniontown, a negro settlement. Here, also, is located the redoubt which guarded the depot and part of the first parallel. To the right of this redoubt an American battery containing four 18-pounders was built. Neither of these can be restored; the property is owned by several holders of small lots, nearly each lot having on it a frame building.

The American Depot on the extreme right of the Allied line is now under development; the former road passing through it is being rebuilt.

The sections of first parallel on Part property have already been reconstructed. American Redoubt No. 2, which forms part of this section, has been suggested for reconstruction on several occasions, but as yet no start has been made (see photograph No. 34).

American Redoubt No. 1, which also forms part of the extreme right, cannot be reconstructed at this time. This redoubt crosses the present road leading to the Naval Fuel Oil Station; though there are other roads nearby which can be used without the slightest inconvenience to anyone, several pieces of private property must be acquired in order to have it reconstructed, (see photographs #'s 35 and 36).

American Battery No. 1, which is the chief of the American batteries, cannot be reconstructed. If the Park Superintendent's residence is not actually on the site it is so close that reconstruction is impossible, (see photograph #'s 25 and 37).

The line of second parallel lying east of Hampton Road has been largely reconstructed with the exception of a few sections on property privately owned. This incorporates the small French battery next to Hampton Road and all the trenches up to the French and American batteries, where the sortie was made. However, the French battery cannot be reconstructed as it extends partly onto the Masonic Cemetery (colored) property. This is also true of the redoubt. Though no interments have taken place in the immediate vicinity of the battery or redoubt, the ground has been reserved for future burials.

The American battery belonging to the same unit has been entirely excavated and is now protected by sod, pending plans for reconstructing (see photographs #'s 24, 38 and 39). There is a short section of trench connecting this same American battery to the line of parallels leading to Redoubt No. 9 which cannot be reconstructed as it extends partly onto property owned by Mr. Floyd E. Holloway.

Redoubt No. 10 which became part of the second parallel and formed the extreme right of the Allied line cannot be reconstructed. Only a corner of the ditch remains; the balance has been washed into York River by periodic slides of the river banks. The property is owned

by Mr. Floyd B. Holloway.

In Ensign Dennis's Orderly Book it is stated as a General Order that the burial ground for the English left line was to be to the rear of the redoubt on Fort River bluff (Redoubt No. 10), and those killed on the right of the line were to be interred on the river side in front of the redoubt on the extreme right (Redoubt No. 1). The writer has no knowledge of any interments having been discovered near Redoubt No. 10, as no direct investigation has been made. But in front of Redoubt No. 1 remains have been found. This area has been developed considerably and now contains several buildings. It was during excavating for foundations of these buildings that the remains were encountered. No archeological excavation for the purpose of authenticating the discovery of these remains has been made of which the writer is aware (see photograph No. 40).

In summarizing the work of the battlefield reconstruction and of orienting the work so far done, we have the following facts to consider:

The sections now reconstructed do not form a consecutive line; rather, they are scatteringly distributed. If the ideas formulated at first concerning battlefield reconstruction had been that only examples of Revolutionary War fortifications be reconstructed for exhibit, a few units would have sufficed. As it is, a rather extensive development has taken place.

As stated in the main report, the battle zone was cleared of all structures and trees to a distance of 2,000 yards from the English works. This is now impossible, except by extensive land purchase. The Grand French Battery stands by itself and cannot be seen from the hornwork. Obstructing the view is the National Cemetery, which is heavily grown with large trees (see photograph No. 41). If the property on the other side of the road on which other sections of the battery stood (photograph No. 42), is purchased and the works reconstructed, the Grand French Battery would still be obscured from view by Shiloh Church and the trees now on the property. On the immediate right, or west, of the National Cemetery is the Masonic Cemetery (colored). Though large trees have been cut down within the latter cemetery in the last few years, considerable growth still remains obstructing all of the Grand French Battery from the hornwork. To remove all the trees in the National Cemetery, the Masonic Cemetery, and in front of Shiloh Church and substitute low planting would still leave the caretaker's lodge in the National Cemetery and Shiloh Church itself to contend with. Neither structure is of architectural value, and their prominence when exposed to full view after removal of all trees would not be desirable.

The part of the first parallel containing the redoubt and battery in Uniontown would involve difficulties in the removal of a sufficient number of buildings to make the area suitable for visitors. In fact,

to properly prepare this area for visitors and to provide a road for their convenience, it would be necessary to demolish the entire negro colony. This, of course, would be desirable.

The extreme right of the first parallel also presents considerable difficulty. Though reconstruction of American Redoubt No. 1 would be desirable because of its proximity to the Moore House Road and the development of the American Depot, two small sections of property must be acquired before this can be accomplished.

Reconstruction of the battery is out of the question. Besides the interference of the Superintendent's residence, there are the Coleman and Crutchfield properties (see photograph No. 37).

American Redoubt No. 2, first parallel, should be reconstructed. It formed an essential part of this parallel and, together with Redoubt No. 1, guarded the American Depot. Its location is on government property. The trenches on both sides of this redoubt have been reconstructed to within a few feet of the redoubt ditch.

The American Depot which is now under development by the construction of the historic and military road passing through it, together with the possible reconstruction of Redoubts Nos. 1 and 2, will make a complete American sector. The new road through the depot will be the main road for visitors covering the battlefield tour, and forms part of the battlefield route encircling all the fortifications, as marked on the Master Plan.

If the three sections of the first parallel could be reconstructed as here suggested, we would have one complete unit on each of three important roads:

The French Battery on the extreme left of the Allied line, would be the first of the battlefield area seen when coming from Williamsburg.

The center line of the first parallel would be represented by the reconstructed section of the Grand French Battery and would be the first encountered reconstructed area coming from Hampton and Newport News.

The third sector would be the American section on the extreme right (Allied) consisting of Redoubts Nos. 1 and 2 of the first parallel, the Depot, and several hundred feet of trenches. The proximity to the Moore House Road makes this development desirable and would tie in with our proposed route for visitors.

The second parallel should be reconstructed in its entirety and should form the central focus on the final story of the Siege of Yorktown. About sixty percent, is already done; by the acquisition of five parcels of land the balance can be completed. The units to be considered are the redoubt which formed the dividing line of the French and American sectors; the American Battery on the right, which is already excavated; and the French Battery on the left, which lies partly on Masonic Cemetery property. These are the three units which

received the force of the English sortie on the night of the 15th-16th of October. In addition there is a short section of second parallel which will have to be reconstructed. This would run a consecutive line from Hampton Road to York River, (photograph #'s 24, 38 and 39).

The part of the second parallel on the west side of the Hampton Road is extensive and very important in the history of the siege. This section is on property owned by William Marshall and Pattie Allen. On it at present are two residences, one service station, and several small outbuildings, all in a poor state of repair (see photographs #'s 12, 13, 21, 22, 42 and 43). The fortifications on this land were: one redoubt, two gun batteries, and one mortar battery. To this location, when it was completed, all the guns from the first parallel were moved. There was one more redoubt built directly across Hampton Road, but this, of course, is out of the question for reconstruction. However, those fortifications which were on the west of Hampton Road (see photographs #'s 22, 43 and 44) would make an excellent exhibit and one from which nearly every part of the British line could be seen, or visa versa. The terrain between the British line and the second parallel is nearly all cleared of obstructions. By the removal of the two residences, the several outbuildings, and the small service station, the entire area would be cleared from York Creek to York River. A small section of property owned by Mr. A. J. Renforth lies directly in front of the above proposed reconstruction. This would have to be considered for acquisition to prevent future obstructions. At pres-

ent it contains a small shed-like building of minor importance.

The only other obstructions extant between the English line and the second parallel area are the buildings before mentioned at the foot of Pearl and Reed streets. As they are so far to the rear of the English works they may remain without too much objection (see photograph No. 31).

Very little development can be made to the rear, or north and west of, the British works which paralleled Buckner Street and the location of British Redoubt No. 1. So many buildings have been erected in this area in the last few years that to remove them all would require great expense and effort. This section is important and military development there would be most desirable. It is the location of an English cemetery and the location of an important redoubt (photograph No. 40).

It must be admitted that a clear, unobstructed view of the entire area between the two lines was important to both armies and that importance should not be minimized in any future planning of the areas. Any farther planting or building that will destroy this view should be discouraged on any site between the lines. No construction which required deep cuts should be allowed; it should be retained as nearly as possible to its present appearance.

The question of eventual up-keep and maintenance for this military reconstruction may be raised. The open area between the British works

and the second parallel is comparatively level; cutting with a mowing machine about twice a year will prohibit any large growth. If any part of the present reconstructed fortifications should be considered of lesser importance to the visiting public, it need not be maintained with the same degree of care as those places which are constantly visited.

Previous to the time when archeological excavation and reconstruction commenced, we knew that somewhere in a certain area Washington and Rochambeau had constructed two lines of parallels, with batteries, redoubts, etc. This information was gotten from old maps and journals. Even so, their locations were only approximate. The question of what they looked like had to go unanswered. Since then, large sections of the lines have been found and completely reconstructed, so that today nearly every question which has arisen, or may arise, can be answered. If more reconstruction is done than is actually needed for siege explanation and for exhibits, and the maintenance of same does cease, they would not entirely disappear, thought they might be overgrown with shrubs and trees. The evidence will always testify that we knew where the fortifications were and what they looked like and that supposition was replaced by fact. It can never be stated that the time taken for such reconstruction was wasted. The property not now under government ownership but on which fortifications are known to exist should be acquired, to prevent

destruction and encroachment. We have two cases of particular significance here in Yorktown where this has taken place. One is land in front of English Redoubt No. 1, that set aside by Cornwallis's General Orders as the burial ground for English soldiers killed in action. The second place is Surrender Field. This, next to Victory Monument, is probably the spot most sought after by visitors, yet today it is approached by a road lined with many buildings (see photographs #'s 45 and 46), ninety percent. of which are of a nondescript type, with more added each year. This area is important; no story can be told of the final battle of the Revolutionary War without mention of this site.

An attempt to restore any part of the original line of the English fortifications encircling Yorktown would involve considerable work, and could only be done by sacrificing the present Confederate works. If any part of it is considered for reconstruction and restoration it should be confined to the hornwork and the area lying east of it; that is, Redoubts Nos. 4 and 6, with the parapet and battery between. This section faces the center of the second parallel and can easily be seen from any part of it (see photographs #'s 47 and 48).

Up to this point we have been dealing exclusively with the areas lying between the parallels and the English line of works around Yorktown. There yet remains to describe the English inner line of

fortification constructed to protect Cornwallis's camps. This inner line extended from Pearl to Ballard Street. Cutting the corner of Ballard Street, it crossed Main near Buckner, then paralleled Buckner to the edge of the bluff overlooking Yorktown waterfront. The entire inner line was made up of trenches and parapets protected by a row of palisades. It crossed lots 27, 33, 39, 45, 50 and 54. A few small cross trenches were excavated in 1936 on Lot 33, and indications of some sort of trench having crossed it were found. The area examined was so limited opinion must be reserved, however. Descriptive accounts of the siege inform us that several houses which interfered with the construction of fortifications were removed, but we do not know how many nor where they were. Inside the line of fortifications any type of construction would be in an army's favor, except, of course, those which interfered with the building of the fortifications themselves, or those which might prove fire hazards to any part of the army or supplies. Trees well inside the line would be an advantage.

Not so long ago (August 18, 1939) several members of the Branch of Planning visited Yorktown to make a study of the area suitable for reconstruction. But as yet no study has been made of the exact line of the English fortifications. To do so an extensive archeological project will be necessary. Maps have been the basis for study so far and they are at best vague and none too reliable. For an archeological study either a good deal of property must be acquired or

permission granted by private owners for exploratory trenching on their property.

But before any steps toward such a project are undertaken a definite policy, or limitation, in regard to the extent of fortification reconstruction should be established. It would be very desirable to gain accurate knowledge of the exact location of the entire English line. But still the important question arises -- Should we destroy the present Civil War fortifications to reconstruct the English line, or should we develop some of both. When we consider the amount of work involved, the property to be acquired, all the present-day buildings to be removed, the task assumes prodigious proportions. And in doing so, changes made in topography contour by excavations for basements and foundations must not be forgotten. We cannot afford to make this another Williamsburg where gaps which lack authentic evidences are filled with conjectural structures. There are, of course, many buildings in Yorktown which are objectionable, not alone from an architectural point of view but from any angle a person might choose to name. Their removal is desirable.

In dealing with the Colonial history, the writer can be of very little assistance regarding the location of buildings no longer extant, the previous existence of which is known. The only contact with this part of the history he has had has been in connection with military study. The only suggestion that he can offer is that any zoning to

be set aside for historical reconstruction study should not extend beyond the monument on the east end of town, nor beyond lots 8, 14, 20, 26, 32, 38, etc., on the south of the town, nor beyond Ballard Street on the west. The waterfront facing the north should be extensively studied. Most of the maps of 1781 show considerable development on both sides of Main Street, also a well developed waterfront, but very little beyond the immediate vicinity of Main Street to the south, or in the vicinity of the English inner line of parapets and stockades.

We have in Colonial National Historical Park files considerable material on early Yorktown land patents and deeds collected by former historians. However, our personnel has been so constantly changing that there today remains no one who can compile this study in a short time. Of valuable assistance would be Miss Drinkwine who has been with the Historical Division almost since its inauguration and who, both from personal interest and in her line of duty, has become intimately acquainted with much of the early history.

In summary, we have the following facts to be considered:

1. First and foremost is the need of setting a limit of reconstruction of fortifications, particularly those encircling or within the limits of Yorktown built by Cornwallis.

   Before this can be settled, we must consider:

A. The property to be acquired.

B. The removal of many buildings and clearing of many sites.

C. Archeological study to be made before any reconstruction can be begun or even proposed.

2. The greatest task will be in deciding what is of most value in historical interest to the public:

A. Will the destruction of original Civil War works in favor of reconstructed English works be justified.

B. Will the fact that there are so many Civil War fortifications throughout the south still in existence compensate for the fact that here at Yorktown is possible an extensive preservation of Revolutionary War remains not possible elsewhere in the country.

It is evident how much of the planning of Yorktown depends on these decisions.

The writer does not feel competent to make any suggestion for the treatment of a reconstructed Yorktown outside the limits of fortifications, except this, that no construction should be contemplated where it would interfer with any part of the English line of fortifications, as such structures would have been removed. This same policy should hold even though the present Civil War lines are to remain, as they are, if not actually on the old English line, very close to it. As for beyond those limits, inside of the town, any construction or

planting would be in Cornwallis's favor.

Thor Borresen

Thor Borresen,
Assistant Research Technician.

TB/OLD
February 21, 1940.



Photograph No. 1

Reconstructed Fusiliers' Redoubt, looking up river.

(CWHP #6802)

References in report,
pp. 7 and 25.

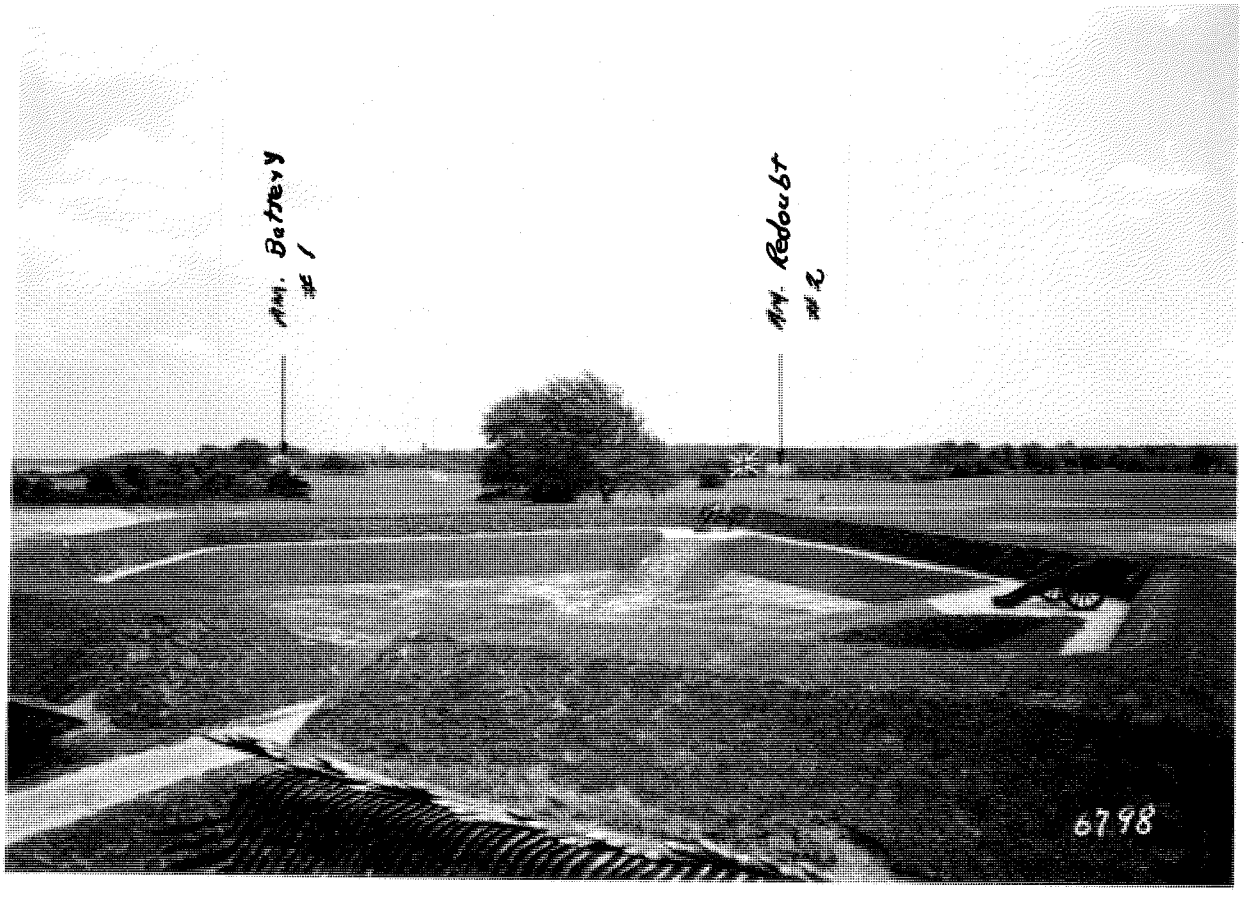


Photograph No. 2

Front view of reconstructed Fusiliers' Redoubt.

(CMHP #5529)

References in report,
pp. 7 and 25.



Photograph No. 3

Interior of Redoubt No. 9, second parallel, looking toward American line. This redoubt is reconstructed to its English appearance.

(CNHP #6798)

References in report,
pp. 7 and 41.

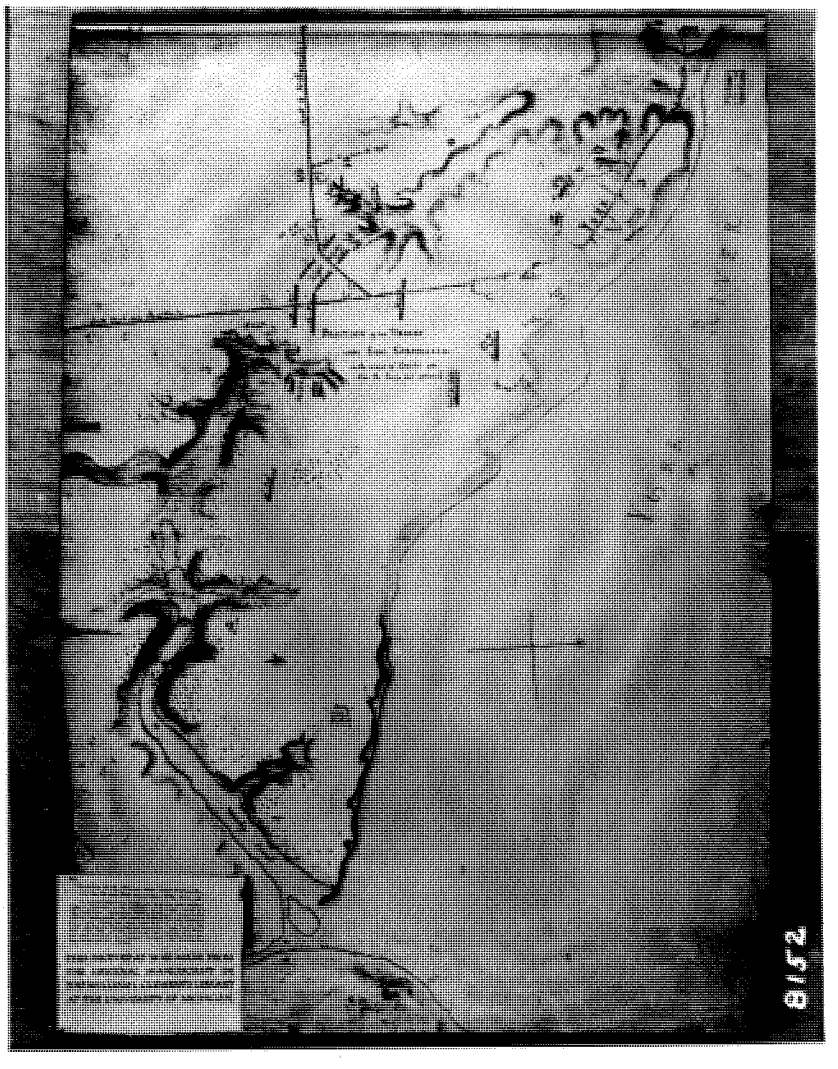


Photograph No. 4

Front view of reconstructed Redoubt No. 9. Second parallel in foreground.

(CMHP #6797)

References in report,
pp. 7 and 41.



Photograph No. 5

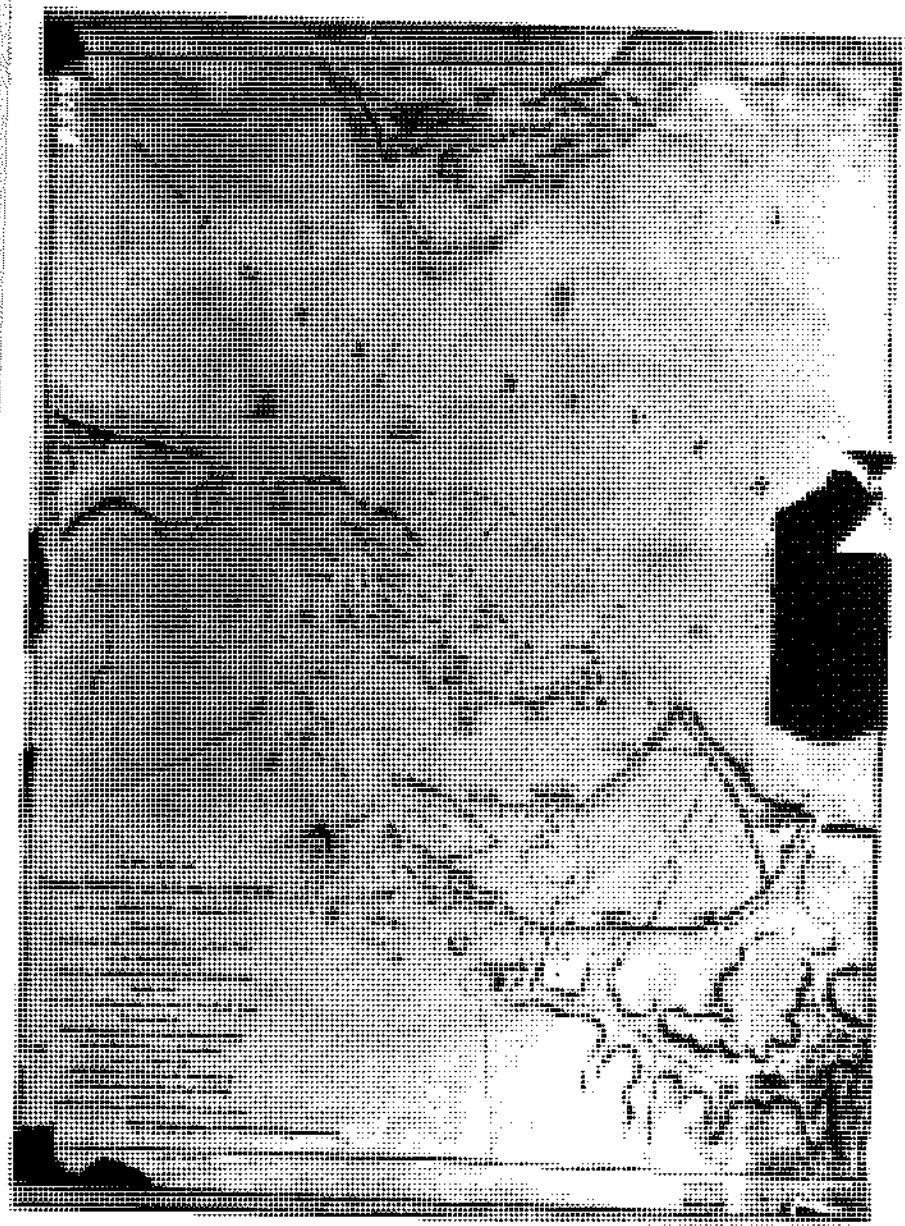
Copy of photostat at CNHP.

Labelled: "B-4 (15)".

Entitled: "Position of the Troops under Earl Cornwallis, on the 28 and 29th September 1781,...".

(CNHP #8152)

References in report,
pp. 7 and 18.



Photograph No. 6

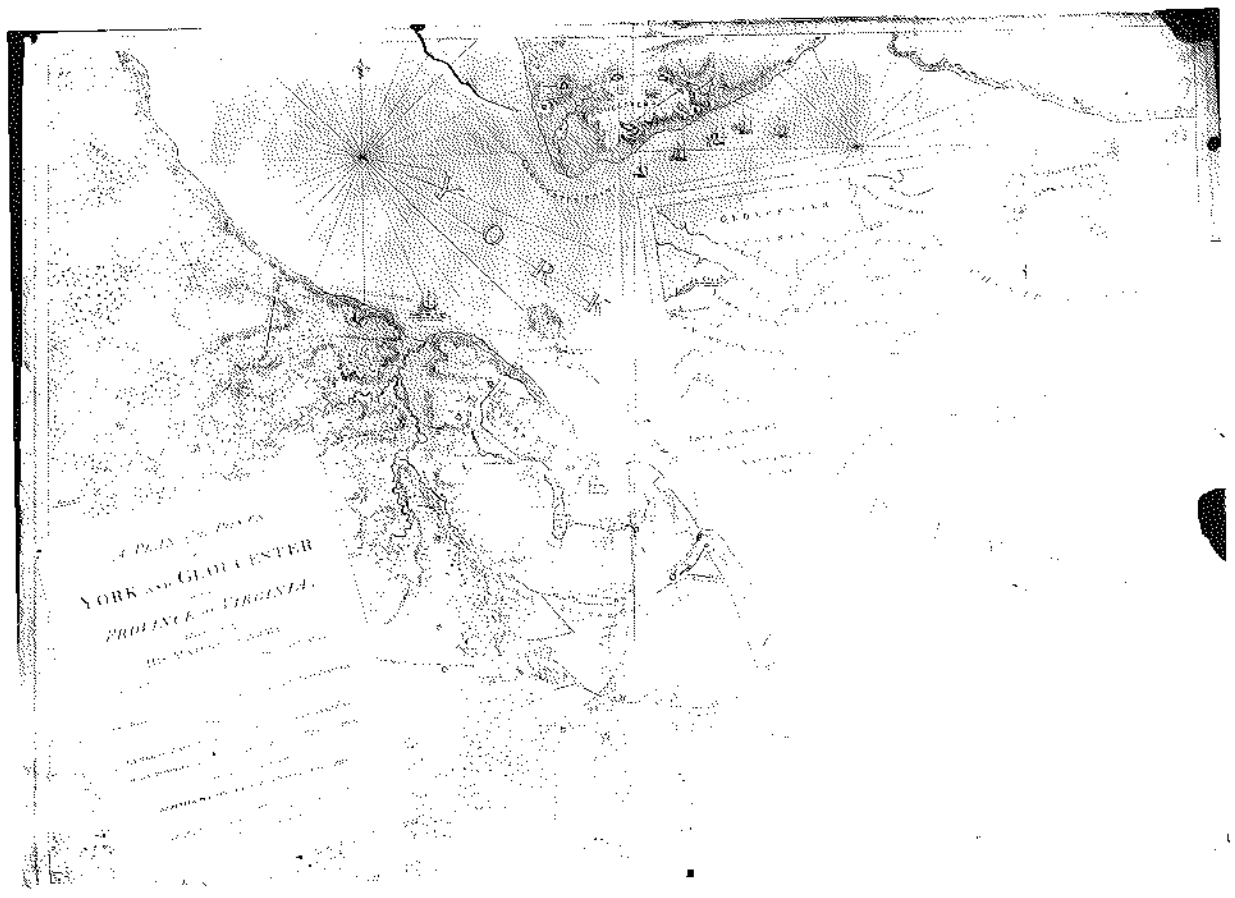
Copy of photostat at CSHP.

Labelled: "John Hills Map".

Entitled: "A Plan of York Town and Gloucester in the Province of Virginia Shewing the Works constructed for the Defence of those Posts by the British Army under the Command of Lt Genl Earl Cornwallis together with the Attacks and Operations of the American and French Forces Commanded by Genl Washington and Count Rochambeau to whom the said Posts were Surrendered on the 17th October 1781, from an actual Survey in the Possession of Jno Hills, late Lieutt in the 23d Regt & Asst Engr (London Printed for Wm Faden Geographer to the King Charing Cross, October 7th 1784)".

References in report,
pp. 9, 48 and 50.

(CSHP #8151)



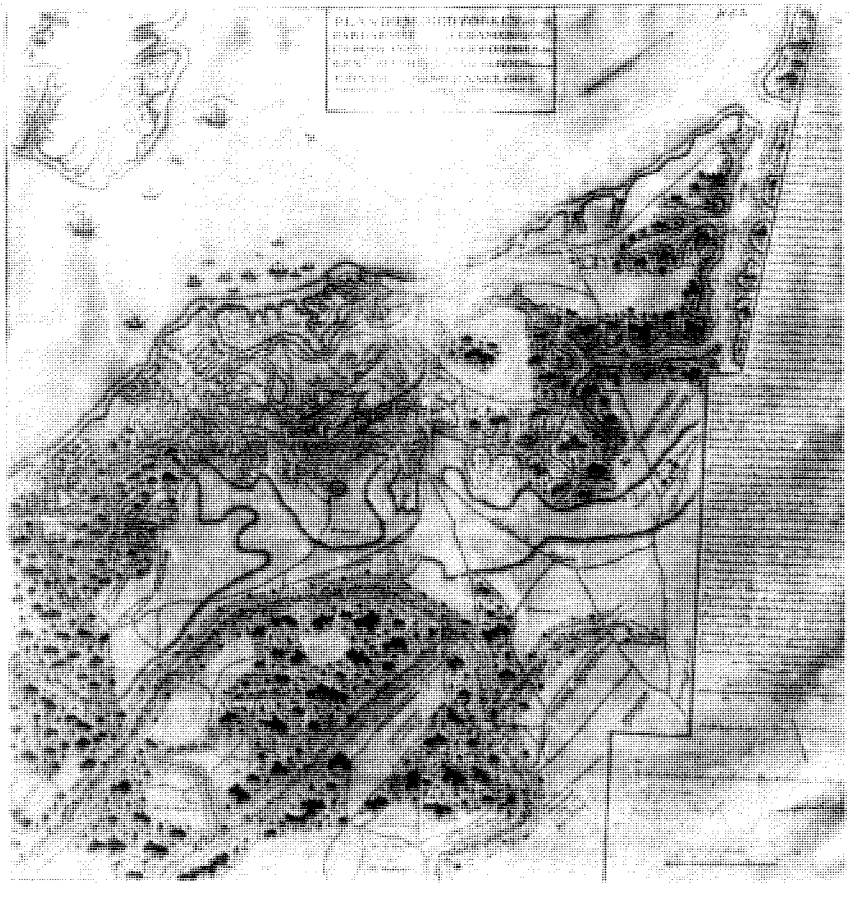
Photograph No. 7

Copy of photostat at CNHP.

Labelled: "B-1".
Entitled: "A Plan of the Posts of York and Gloucester in the Province of Virginia, Established by His Majesty's Army under the Command of Lieutt General Earl Cornwallis, together with The Attacks and Operations of the American and French Forces Commanded by General Washington and the Count of Rochambeau, Which Terminated in the Surrender of the said Posts and Army on the 17th of October 1781. Survey by Capt. Page of the Royal Artillery".

(CNHP # 6157)

References in report.
pp. 9, 45 and 50.



Photograph No. 6

Copy of photostat at CHRP.

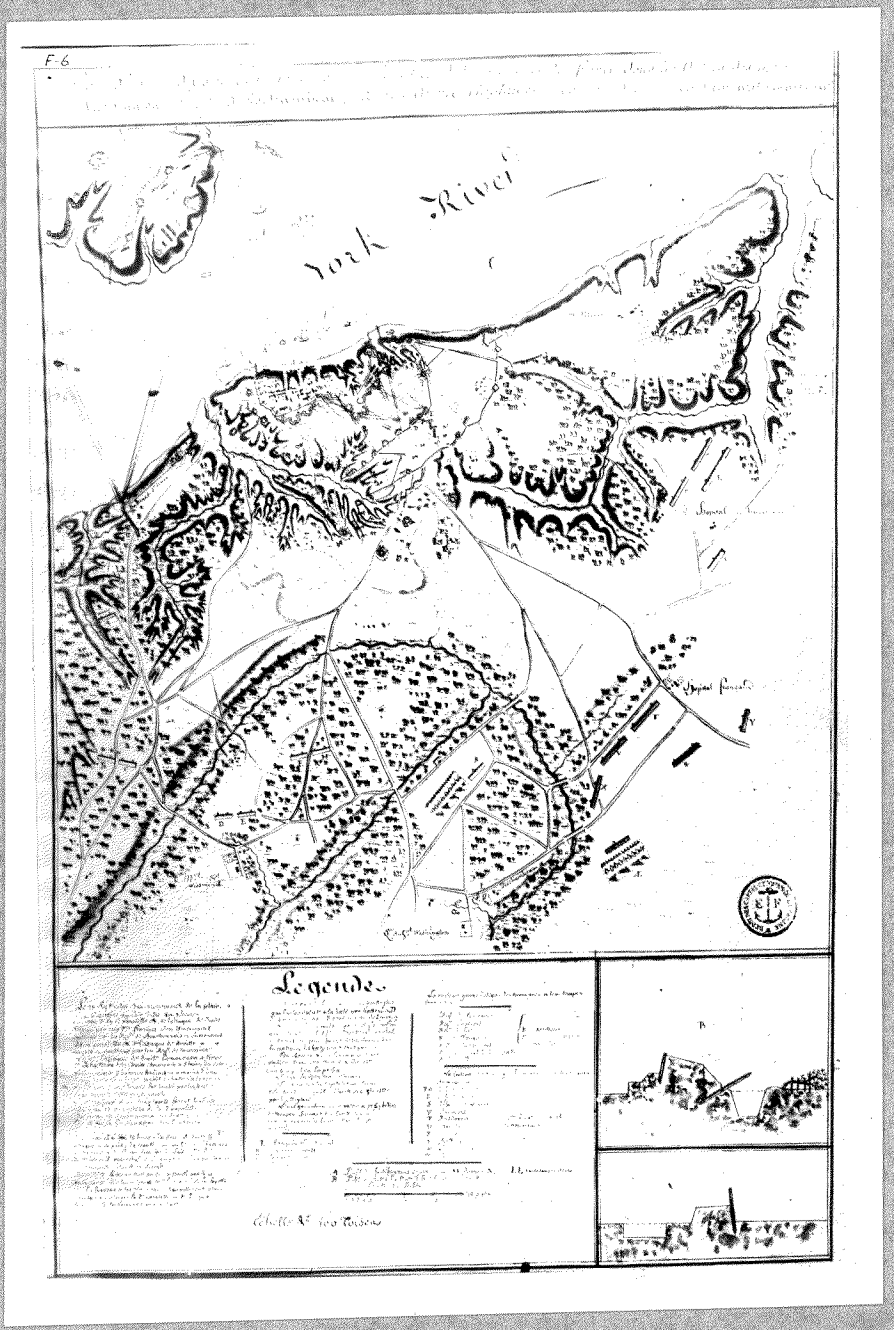
Labelled: "g2".

Entitled: "Plan du Siege D'Yor- En Virginie Par L'Armee Alliee D'Amerique Et De France Sous Les Ordres des Generaux Washington et Cte de Rochambeau Contre L'Armee Angloise commandee par [Lord] Cornwallis en Octobre 1781".

(The same, except for minor points as maps F-3 [Photograph No. 5] and F-4 [Photograph No. 26].)

(CHRP files)

References in report,
pp. 5, 45, 47 and 50.



Photograph No. 9

Copy of photostat at CNHP.

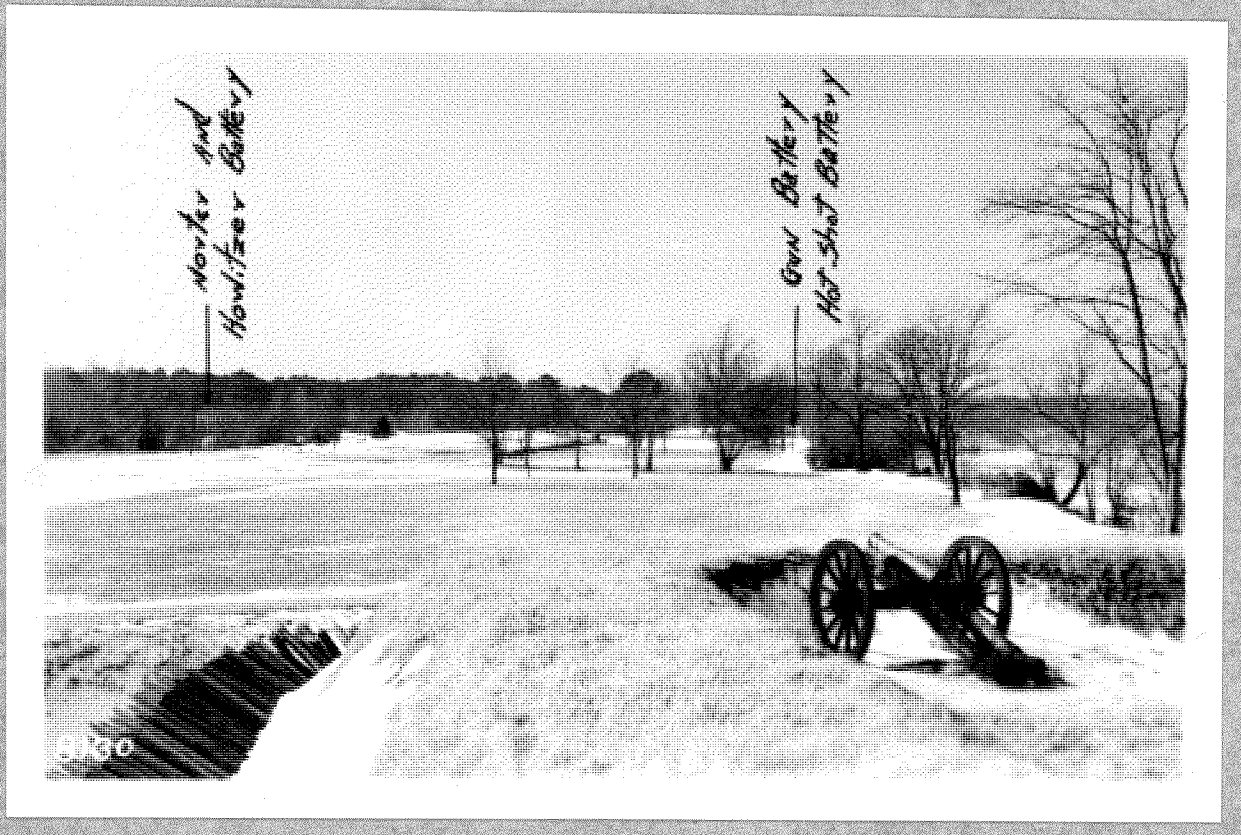
Labelled: "F-6".

Entitled: "Plan du Siege d'Yor-, en Virginie par l'Armee allies d'Amerique et de france Sous les Ordres des Cœux Washington et Cte de Rochambeau; Contre l'Armee Anglaise Commandee par Lord Cornwallis en October 1781".

(The same, except for minor points, as Map 52 [Photograph No. 8] and Map F-4 [Photograph No. 26].)

(CNHP #7312)

References in report, pp.9, 48 and 49.



Photograph No. 10

From Fusiliers' Redoubt, looking toward French gun and mortar battery sites.

(CMHP #8130)

References in report,
pp. 16, 27, 53, and 54.



Photograph No. 11

Location of an English redan which mounted two 6-pounders and two 3-pounders and was later made into an American redoubt.

(CWHP #8143)

References in report,
p. 20.



Photograph No. 12

Showing Shiloh Church (left), approximate location of zig-zag trench leading from first to second parallel. On the right, either behind or on the site of the present service station, is the approximate location of a mortar battery, part of the Grand French Battery.

(CHRP #8148)

References in report,
pp. 23 and 55.



Photograph No. 13

Photograph taken from reconstructed parapet of a Pigeon Hill Redoubt, looking in direction of the hornwork.

(CNHP #8145)

References in report,
p. 23.

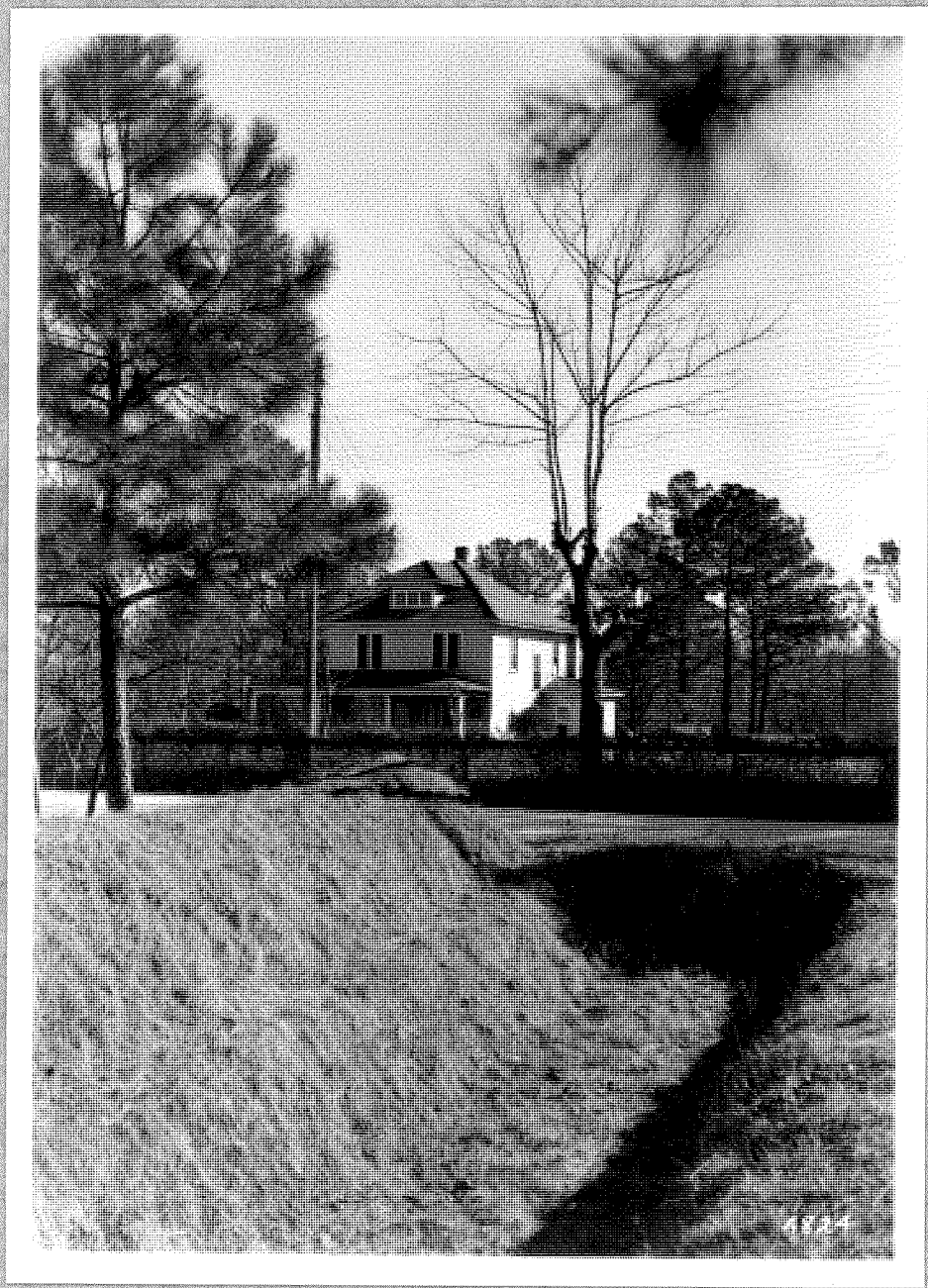


Photograph No. 14

Looking from Fusiliers' Redoubt toward Windmill Point.

(CHHP #8132)

References in report,
p. 26.

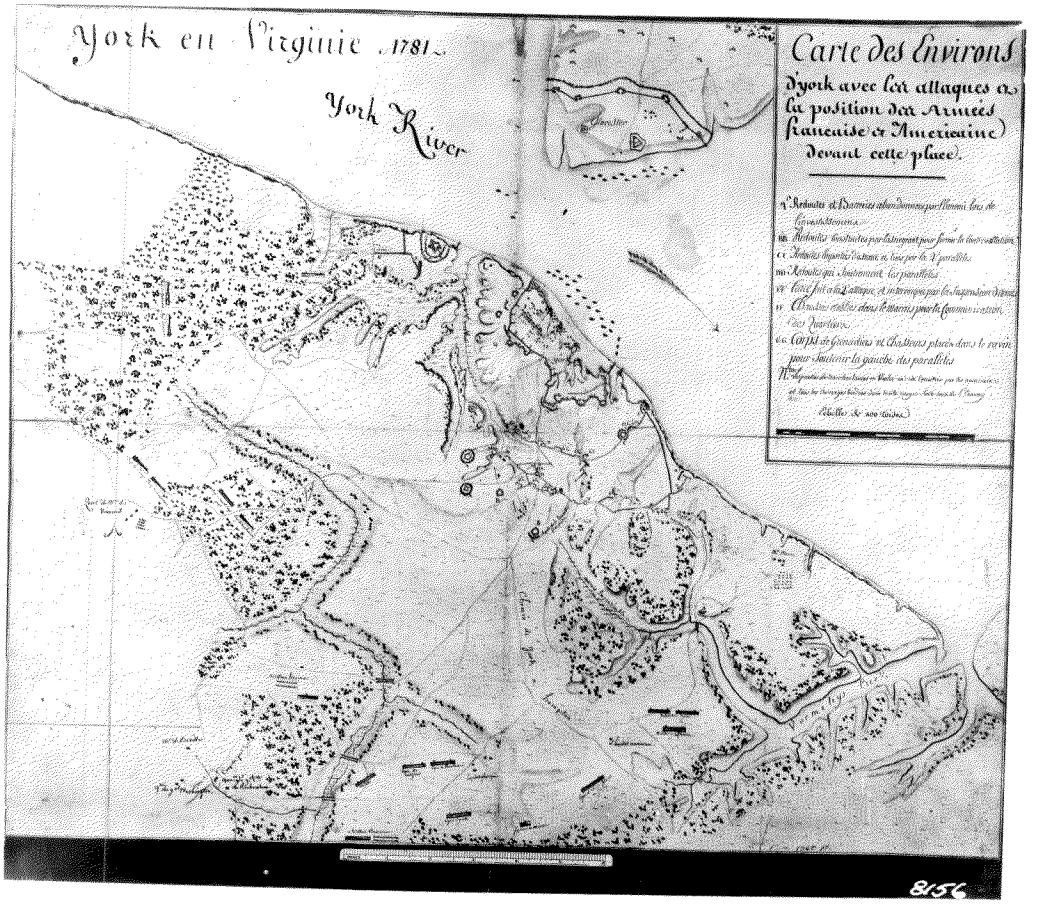


Photograph No. 15

French mortar and howitzer battery was on site of this house. Trench ends close to Yorktown-Williamsburg Road.

(CNHP #4824)

References in report,
pp. 27 and 54.



Photograph No. 16

Copy of photostat at CNHP.

Labelled: "F-5".

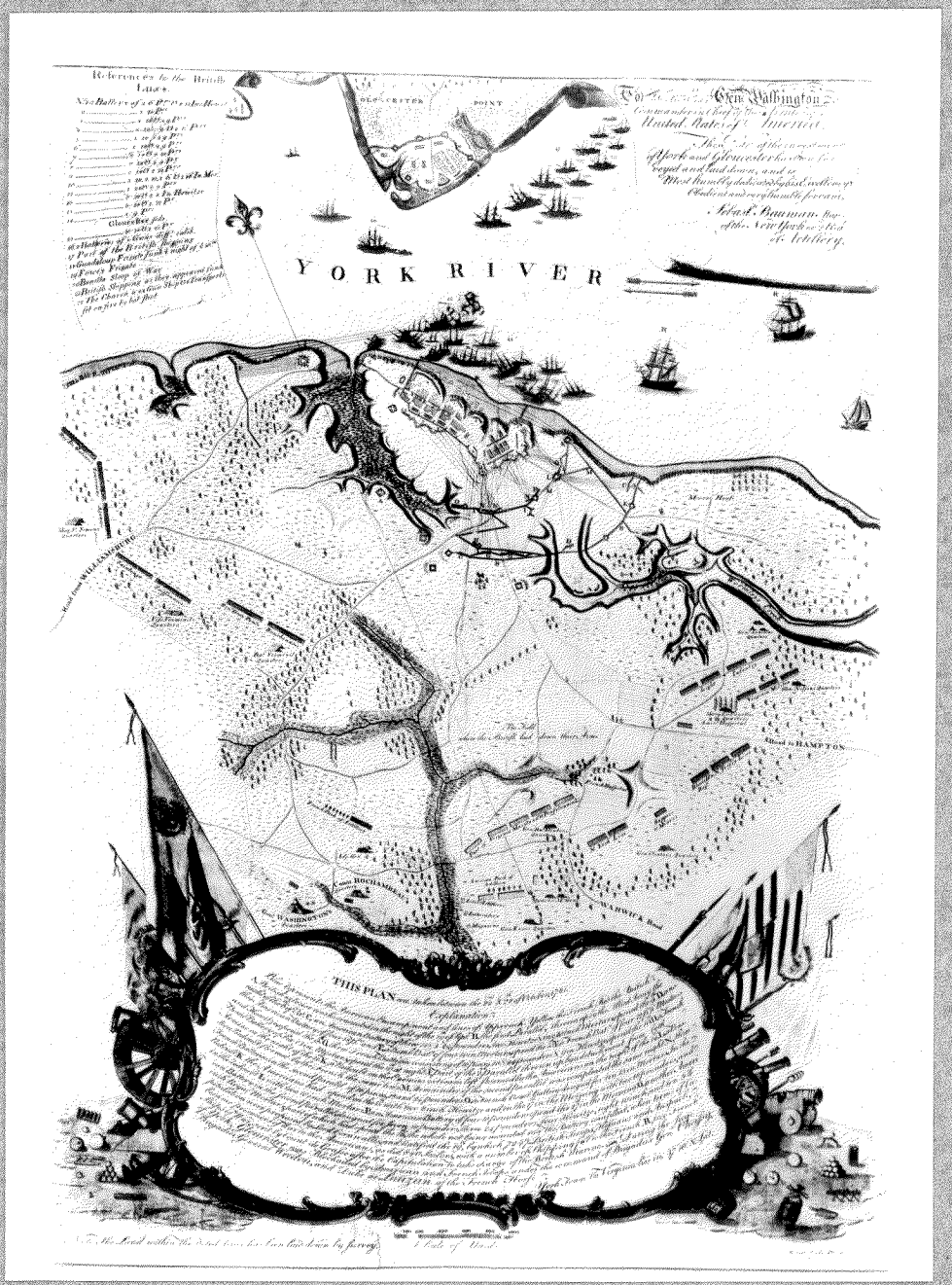
Entitled: "York en Virginie 1781. Carte des Environs d'York avec les attaques et la position des Armees francaise et Americaine devant cette place".

(This map was prepared by Querenet de la Combe, although it does not bear his name.)

(CNHP #8156)

References in report,

pp. 28, 29, 32, 33, and 35.



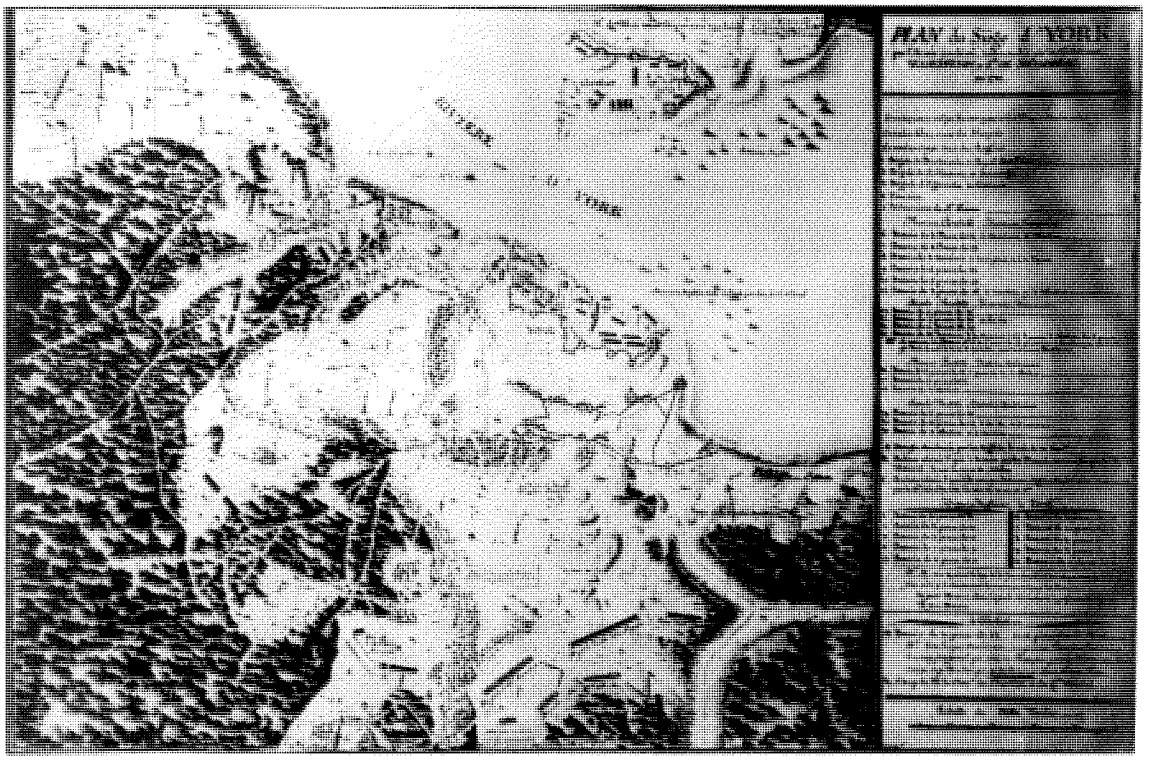
Photograph No. 17

Copy of photostat at CNHP.

Labelled: "Beauman Map".
Entitled: "To His Excellency Gen. Washington Commander in Chief of the Armies of the United States of America. This Plan of the investment of York and Gloucester has been surveyed and laid down, and is Most humbly dedicated by his Excellency's Obedient and very humble servant. Sebastn Beauman Major of the New York or 2nd Regt of Artillery".

(CNHP #4872)

References in report,
pp. 32,33,36,39,41,
and 50.



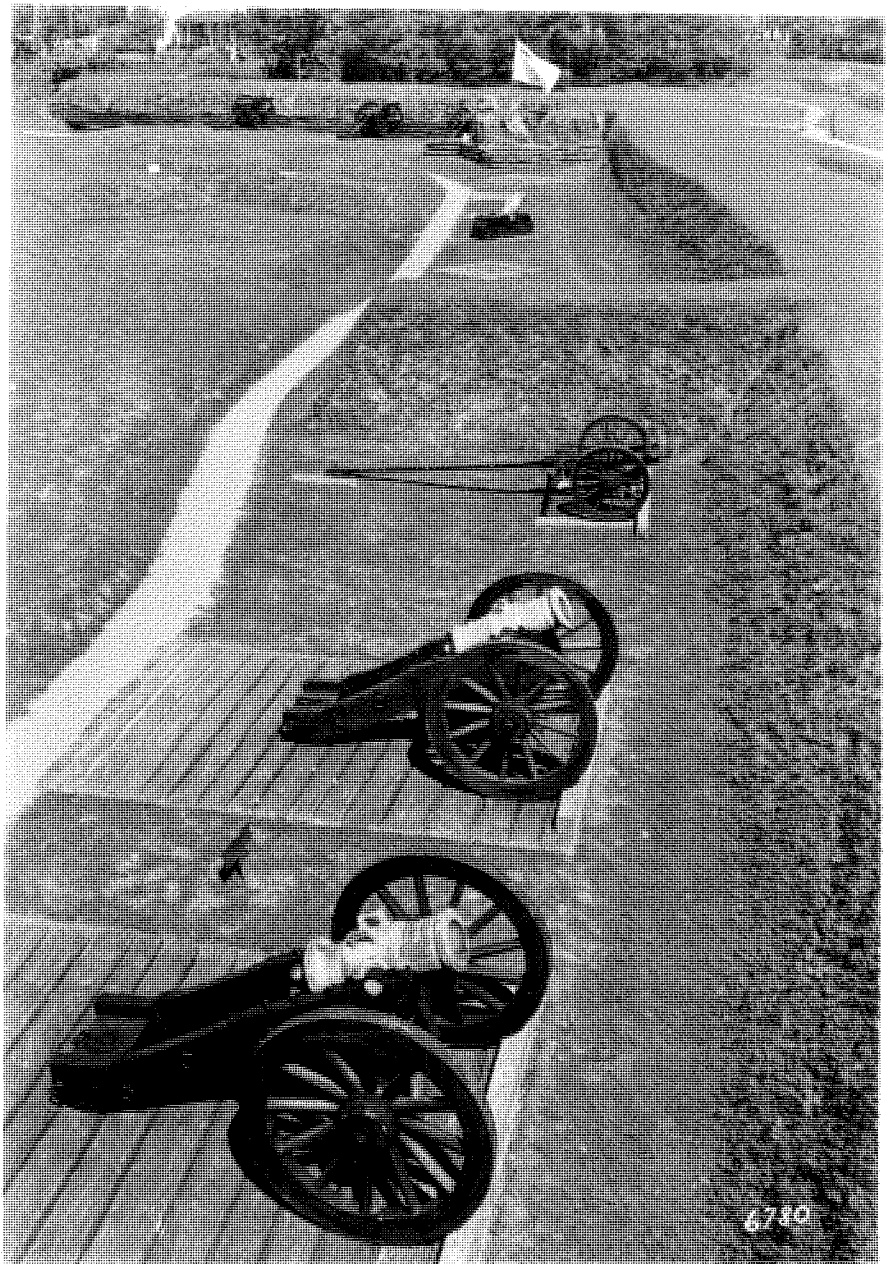
Photograph No. 18

Copy of photostat at CNHP.

Labelled: "F-5".
Entitled: "Plan du Siege d'York. par l'Armee combinee, commandee par les Generaux Washington et Cte De Rochambeau, en 1781".

(CNHP # 8154)

References in report,
pp. 32, 33 and 35.



Photograph No. 19

Howitzer section of reconstructed portion of Grand French Battery.

(CMHP #6780)

References in report, p. 33.

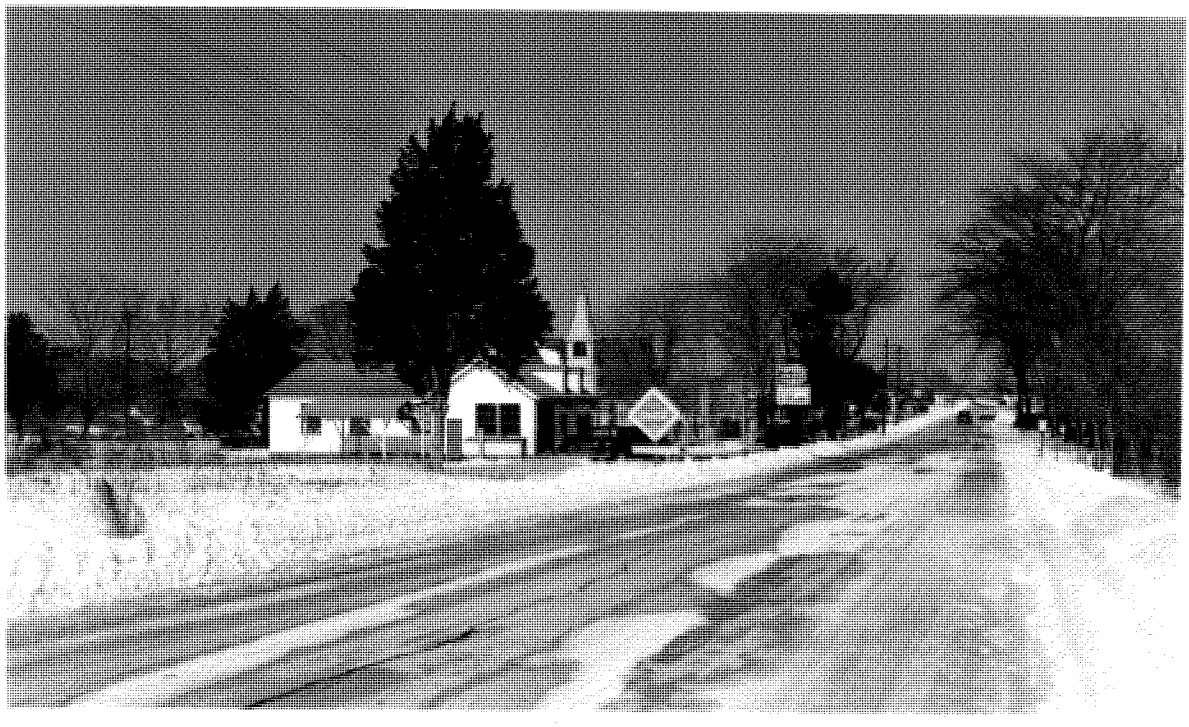


Photograph No. 20

An interior view of the reconstructed Grand French Battery; mortars in the foreground, guns center. White house in background on approximate location of the remaining two-thirds of this work.

(CNHP #6781)

References in report, p. 33.



Photograph No. 21

Hampton Road, looking toward Yorktown; on the left, Grand French Battery Service Station, approximate site of mortar battery, part of Grand French Battery. National Cemetery is behind large trees on right.

(CNHP #8141)

References in report,
pp. 34 and 55.



Photograph No. 22

Taken from present line of hornwork, looking toward French batteries, second parallel.

(CWHP #8142)

References in report,
pp. 34 and 62.



Photograph No. 23

French Battery, second parallel, east of Hampton Road, reconstructed.

(CWHP #6113)

References in report,
pp. 35.



Photograph No. 24

From approximate location of English Redoubt No. 6, looking toward second parallel, containing one American and one French battery, and a combined redoubt. The latter was the dividing line between the American and French forces.

(CNHP #6133)

References in report,
pp. 37, 57, and 62.

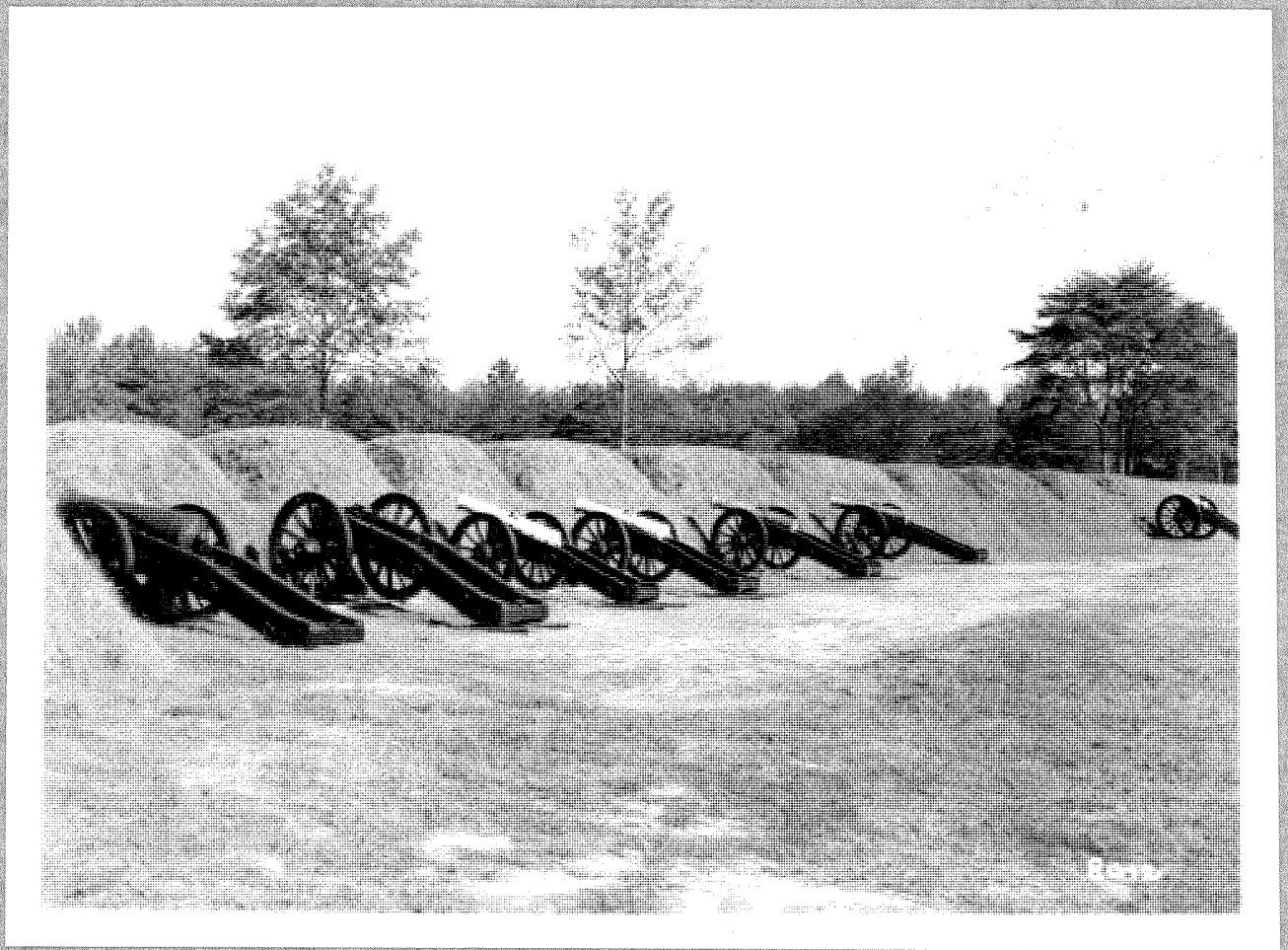


Photograph No. 25

Looking from the parapet of Redoubt No. 9 toward American Battery No. 1, first parallel. House in center background on approximate site.

(CHHP #8136)

References in report, pp. 39 and 57.

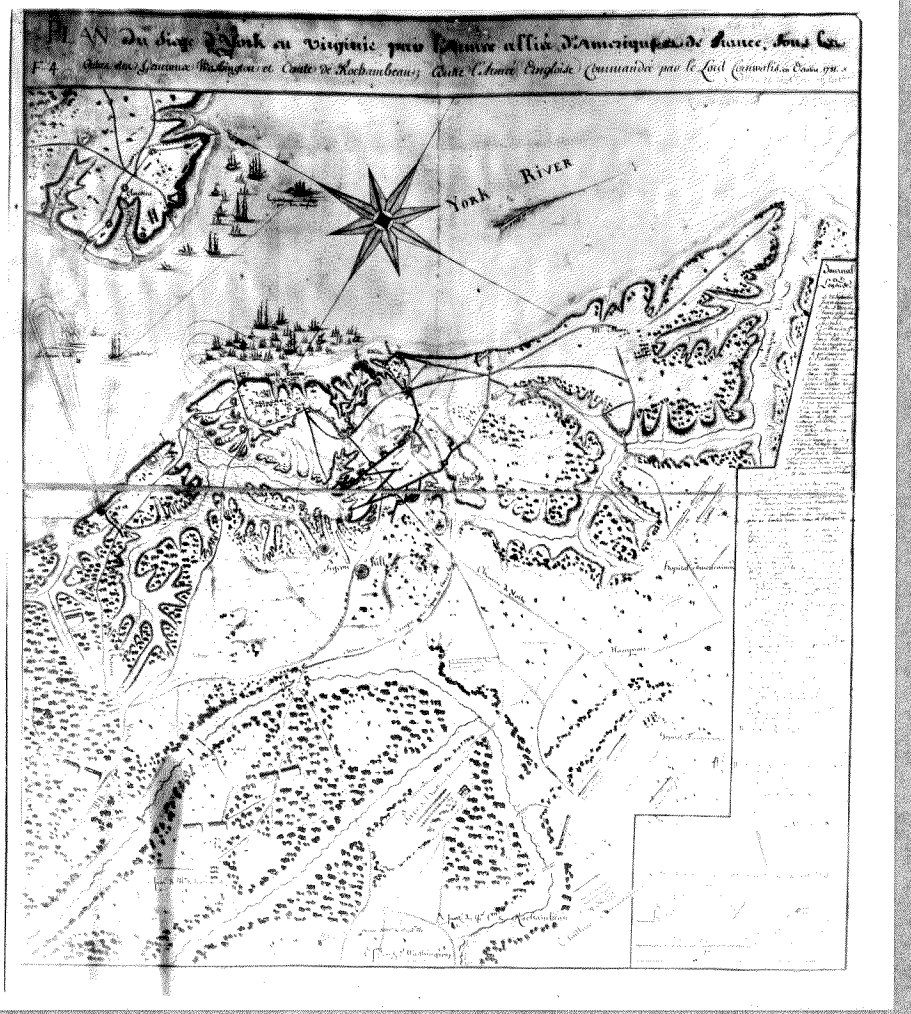


Photograph No. 25A

American Battery No. 2, second parallel; completed except for gun platforms.

(CWHP #2012)

References in report, p. 41.



Photograph No. 26

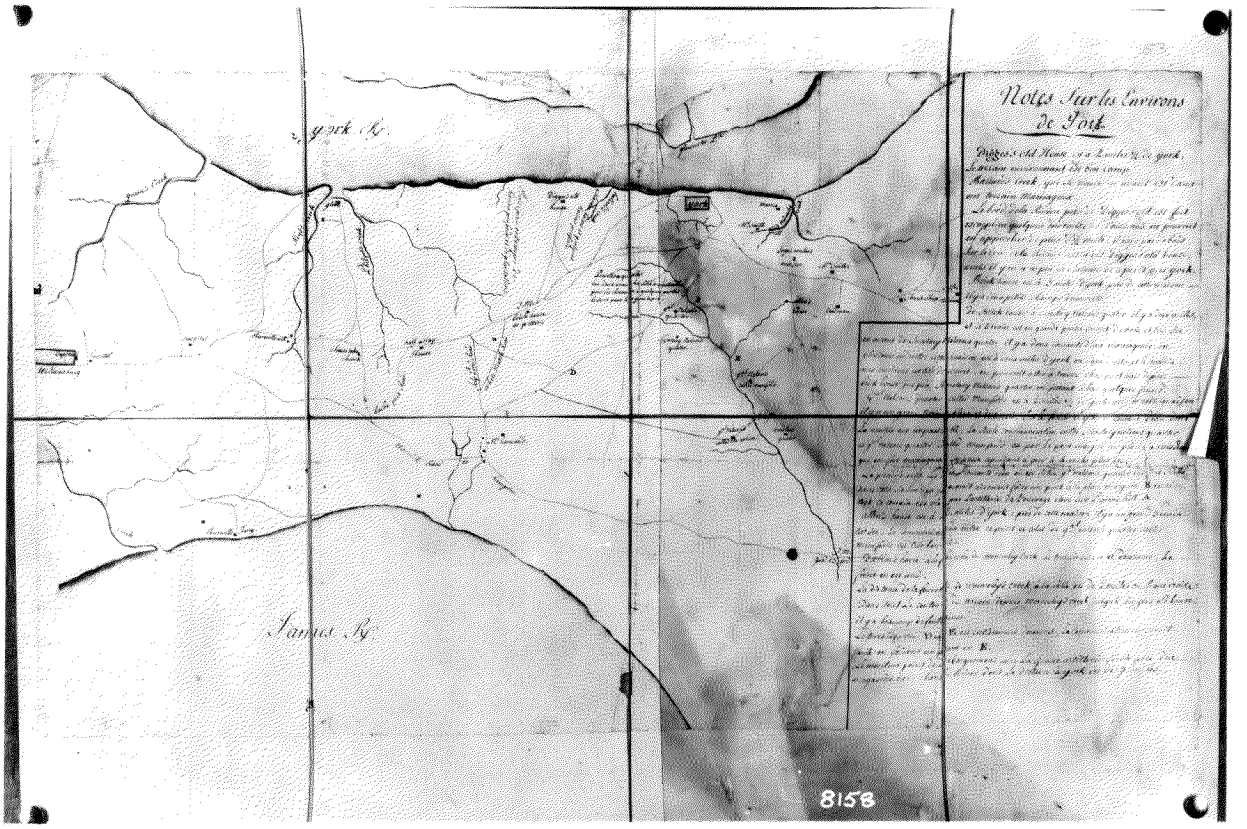
Copy of photostat at CNHP.

Labelled: "F-4".
Entitled: "Plan du siege d'York en Virginie par l'Armee allie d'Amerique et de France, Sous les Ordres des Generaux Washington et Comte de Rochambeau; Contre l'Armee Englaise Commandee par le Lord Cornwalis en October 1781".

(The same, except for minor points, as Map 52 [Photograph No. 8] and Map F-6 [Photograph No. 9].)

(CNHP #8036)

References in report, pp. 45 and 49.

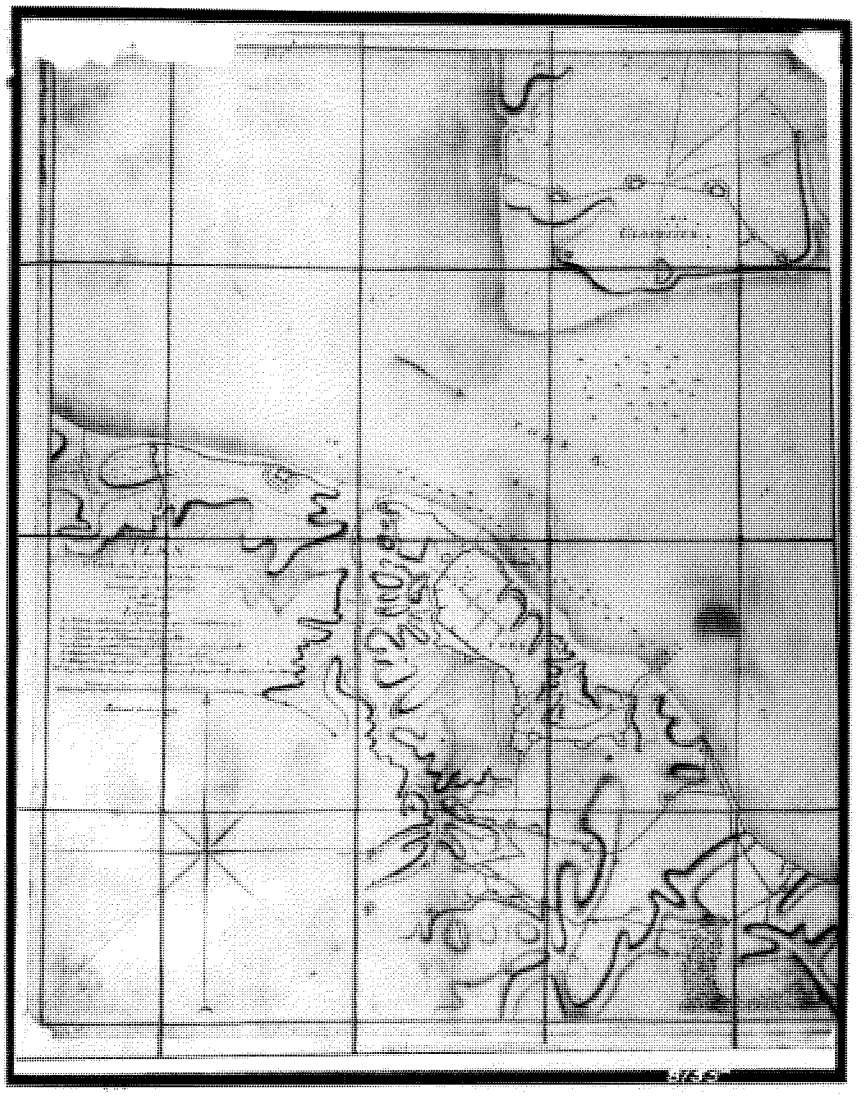


Photograph No. 27

Copy of photostat at CNHP.

Labelled: "M-2 (53)".
Entitled: "Notes Sur les Environs de York".
[While this map is not specifically referred to in the text of the report, it was consulted.]

(CNHP # 8158)



Photograph No. 28
Copy of photostat at CNHP.

Labelled: "F-1 (25)".
Entitled: "Plan D'York en Virginie avec les Attaques faites par les Armees francoise et Americaine en 8bre 1781. Querenet de la Combe".

(CNHP #8155)

References in report,
pp. 45 and 50.

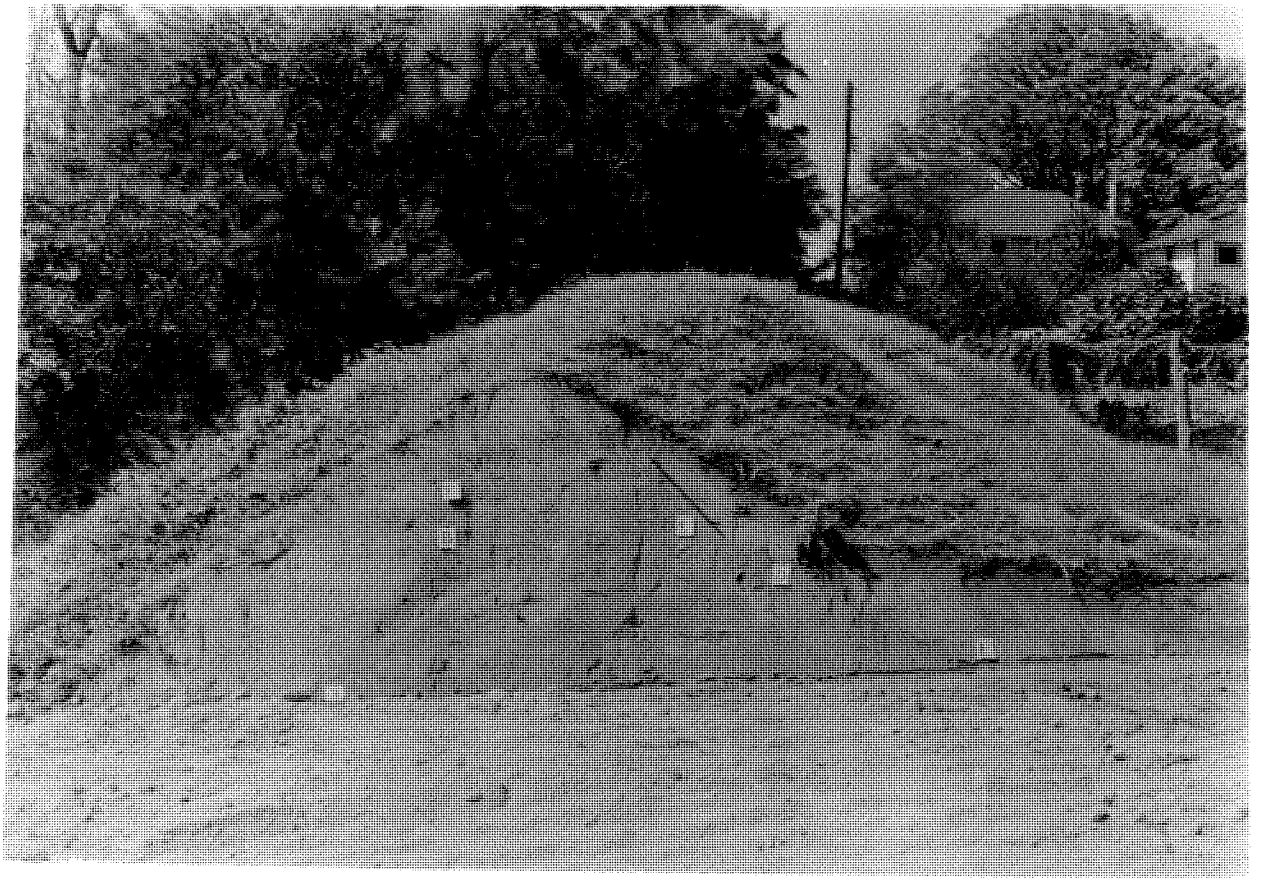


Photograph No. 29

Showing cut through Civil War parapet at Smith Street. Dark sandy soil between "A" and "B"; "F" another thin line of dark soil; "C", "D" and "E" are the dividing lines between the dark sandy soil and clay fill.

(CNHP #7915)

References in report,
p. 46.



Photograph No. 30

Same as No. 29, taken from the center of Smith Street.

(CMHP #7916) .

References in report,
p. 46.



Photograph No. 31

Showing houses erected between the present line of Civil War works and York Creek.

(CWHP #8146)

References in report,
pp. 54 and 63.



Photograph No. 32

Photograph taken from reconstructed parapet of Pigeon Hill Redoubt, facing approximate location of Pigeon Hill Redoubt north of Goosley Road, which lay about 200 yards to the rear and slightly to the left of the house.

(CHHP #8139)

References in report, p. 55.



Photograph No. 33

French sector, second parallel. Hampton Road, center of photograph; service station on approximate location of zig-zag trench from first parallel.

(CNMP #4826)

References in report, p. 56.



Photograph No. 34

Site of Redoubt No. 2, American, first parallel, facing Redoubt No. 9. To the left and right are seen parts of the first parallel.

(CNHP #8266)

References in report,
p. 56.



Photograph No. 25

Location of American Redoubt No. 1, first parallel. Trench in center is the redoubt ditch; to the left, the parapet; directly in back of the trench termination is the Navy Fuel Station Road; redoubt crossed this road.

(CNHP #4825)

References in report, p. 55.

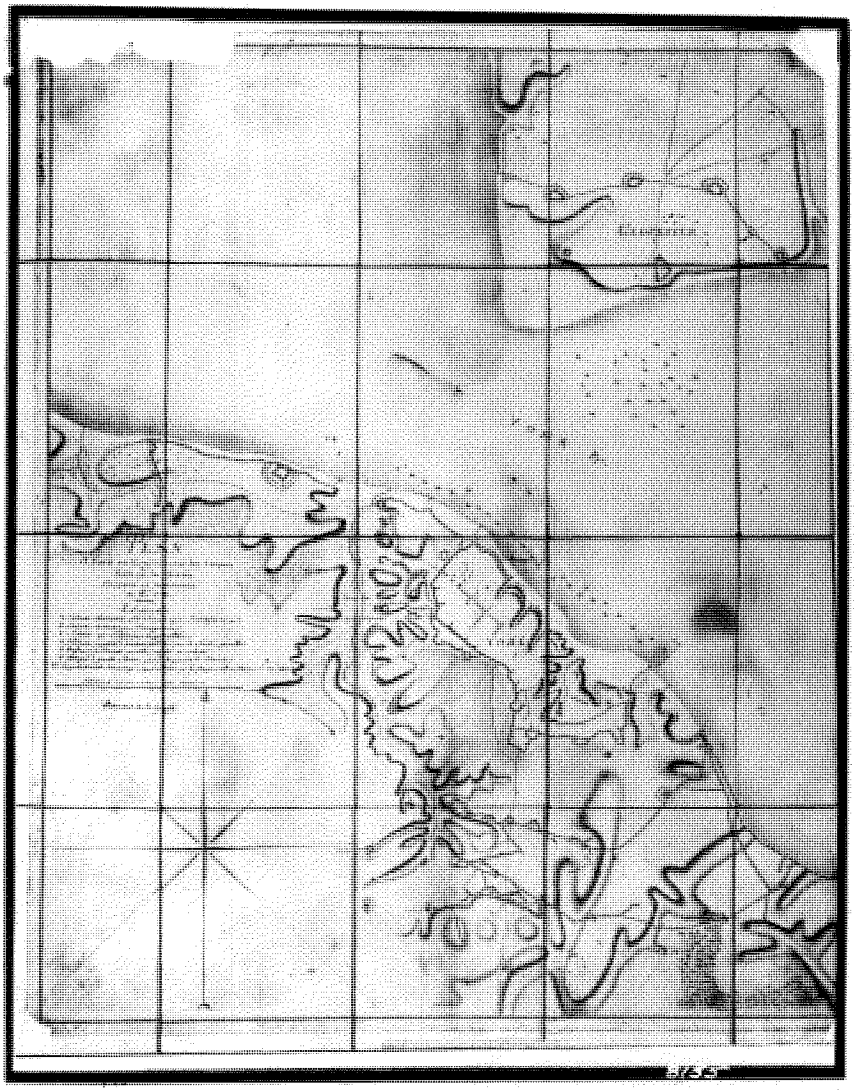


Photograph No. 29

Showing cut through Civil War parapet at Smith Street. Dark sandy soil between "A" and "B"; "F" another thin line of dark soil; "C", "D" and "E" are the dividing lines between the dark sandy soil and clay fill.

(CNHP #7915)

References in report,
p. 46.



Photograph No. 28

Copy of photostat at CNHP.

Labelled: "F-1 (25)".
Entitled: "Plan D'York en Virginie avec les Attaques faites par les Armees francoise et Americaine en 8bre 1781. Querenet de la Combe".

(CNHP #8155)

References in report,
pp. 45 and 50.



Photograph No. 35

Location of American Redoubt No. 1, first parallel. Arrow represents rear of redoubt, which extended approximately 160 feet toward front of picture. The Moore House Road crosses the picture in the foreground.

(CMNP #8137)

References in report,
p. 56.



Photograph No. 37

Looking from location of American Redoubt No. 1 toward approximate position of American Battery No. 1, first parallel, which lay between the large cedars, left background, and extreme left of picture.

(CNHP #8138)

References in report,
pp. 57 and 60.



Photograph No. 38

Interior of American Battery No. 4, second parallel, excavated but not yet reconstructed. Photograph taken from edge of ditch of French and American redoubt.

(CNHP #6794)

References in report,
pp. 57 and 62.

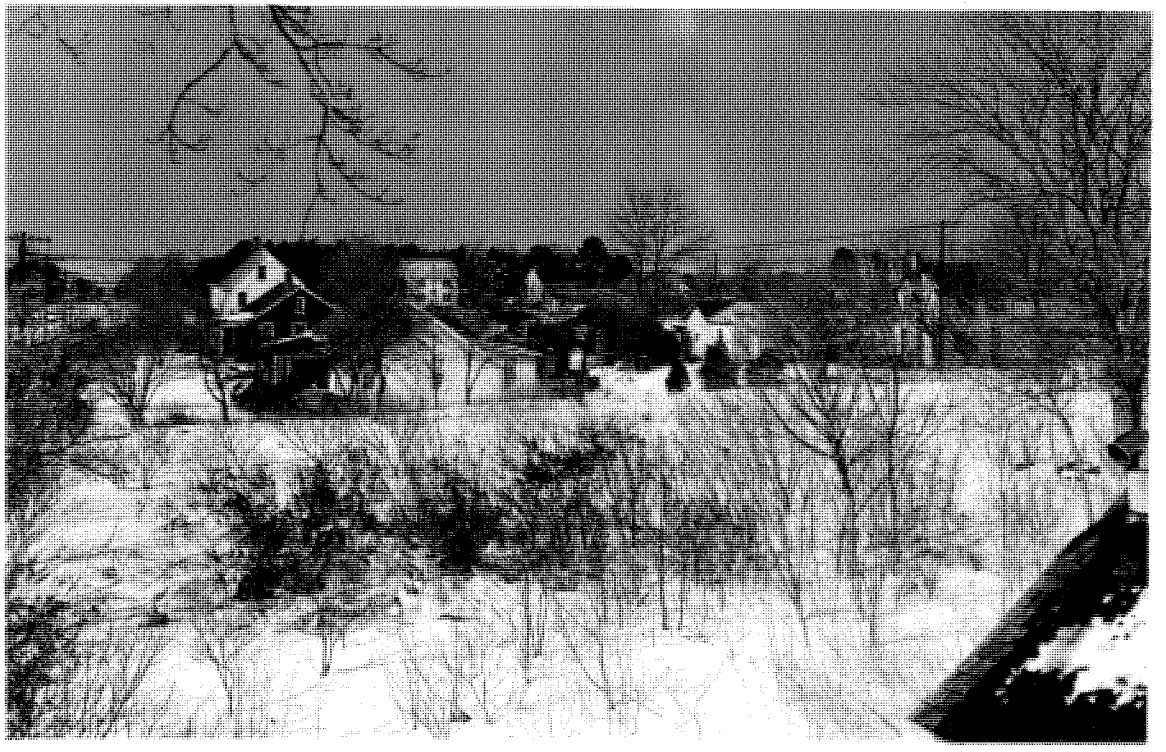


Photograph No. 39

View of American Battery No. 4, second parallel; exterior. See, also, No. 38.

(CWRP #6796)

References in report,
pp. 57 and 62.



Photograph No. 40

Location of British Redoubt No. 1. House on extreme right is standing on what was formerly a deep trench, probably ditch of redoubt.

(CNHP #8134)

References in report,
pp. 58 and 63.



Photograph No. 41

Photograph taken from parapet of Grand French Battery, looking toward Yorktown. National Cemetery in background. Colored Masonic Lodge burial grounds on extreme right.

(CNHP #8135)

References in report,
p. 59.



Photograph No. 42

Reconstructed one-third of Grand French Battery; white house on site of remaining two-thirds of this battery. (See photograph No. 20.)

(CNHP #6778)

References in report, p. 59.



Photograph No. 43

Line of second parallel. The houses, right of Hampton Road, are on ground where formerly was located French second parallel. Figure in center of road is on approximate location of one French redoubt which closed Hampton Road. Picture taken looking from Yorktown.

(CNHP #8140)

References in report,
p. 62.



Photograph No. 44

Same location shown in Photograph No. 43. Picture taken looking toward Yorktown.

(CNHP #8147)

References in report,
p. 62.

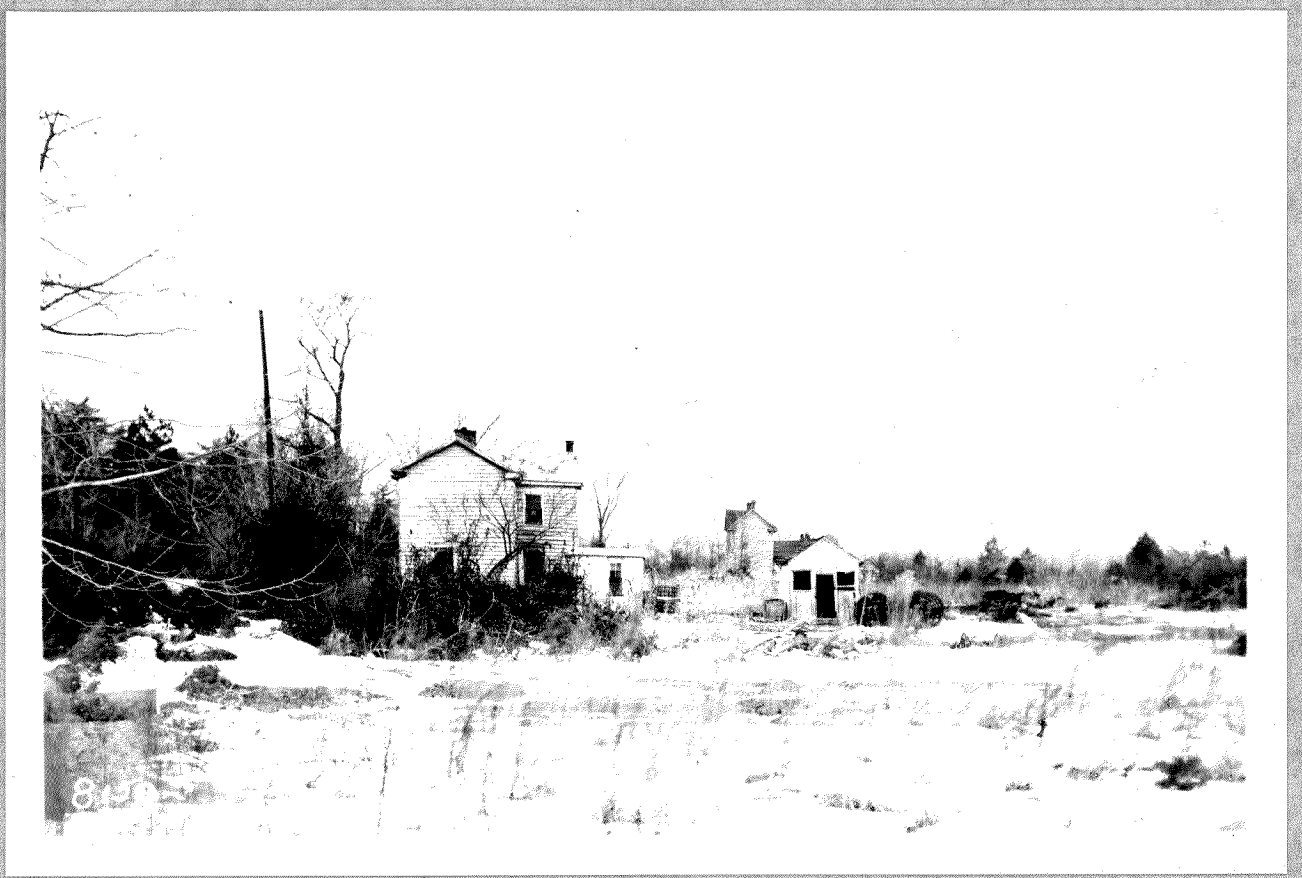


Photograph No. 45

Section of road leading to Surrender field, showing non-descript buildings of all types along it.

(CNHP #8149)

References in report,
p. 64.



Photograph No. 46

View taken along road leading to Surrender Field.

(CNHP #8150)

References in report,
p. 64.



Photograph No. 47

Looking from Civil War parapet toward Redoubt No. 9; approximate location of English Redoubt No. 7.

(CNHP #8127)

References in report,
p. 65



Photograph No. 48

Looking from parapet of Redoubt No. 9 toward English Redoubt No. 7. Building in background is Yorktown Country Club.

(CNNP #8129)

References in report,
p. 65.

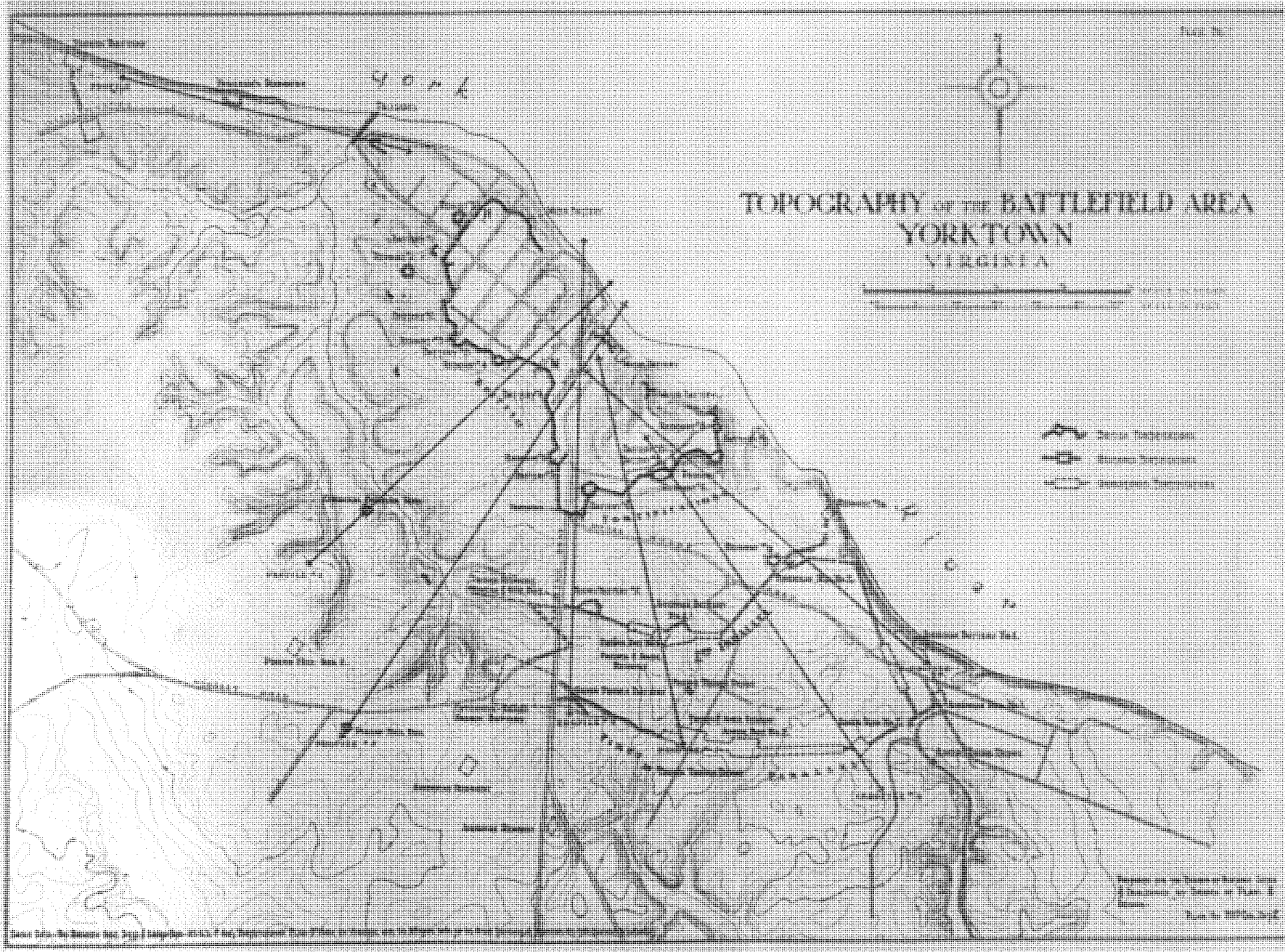
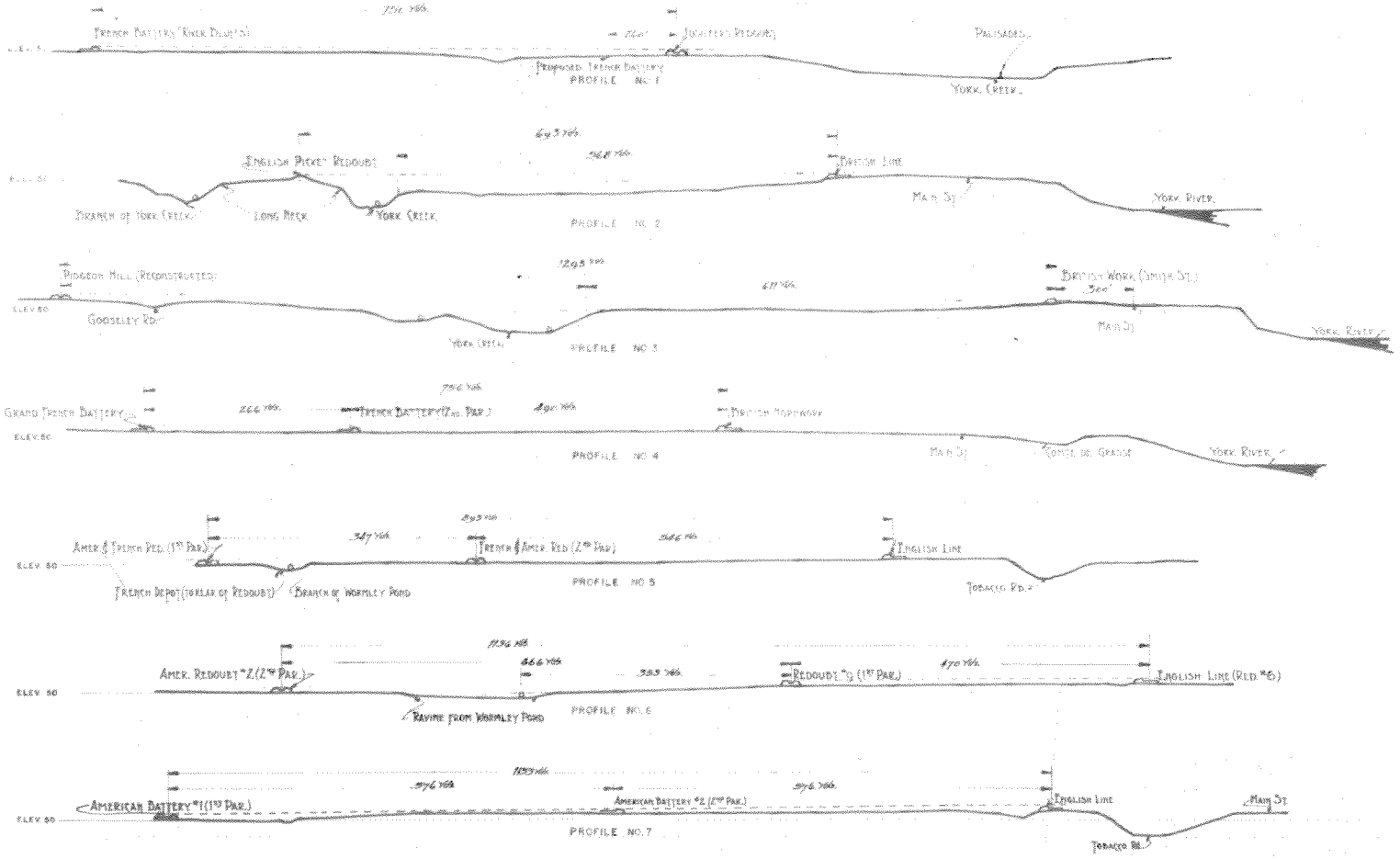

TOPOGRAPHY OF THE BATTLEFIELD AREA
YORKTOWN
VIRGINIA

PLATE NO. I



o Each symbol represents the height of a man or 5'-8".

Dotted line represents Angle of Vision; also line of Point Blank Fire.

Each parapet represented a height of 7'6".

Horizontal scale 1" = 200'
Vertical scale 1" = 100'

Profiles as shown on Plan No. HHP(Col. 207)2.

T.B. 1-18-40

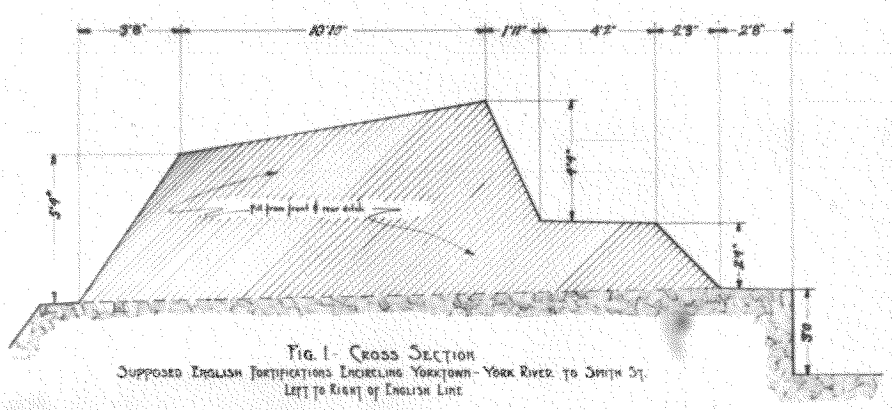


FIG. 1 - CROSS SECTION
SUPPOSED ENGLISH FORTIFICATIONS ENCIRCLING YORKTOWN - YORK RIVER TO SMITH ST.
LEFT TO RIGHT OF ENGLISH LINE

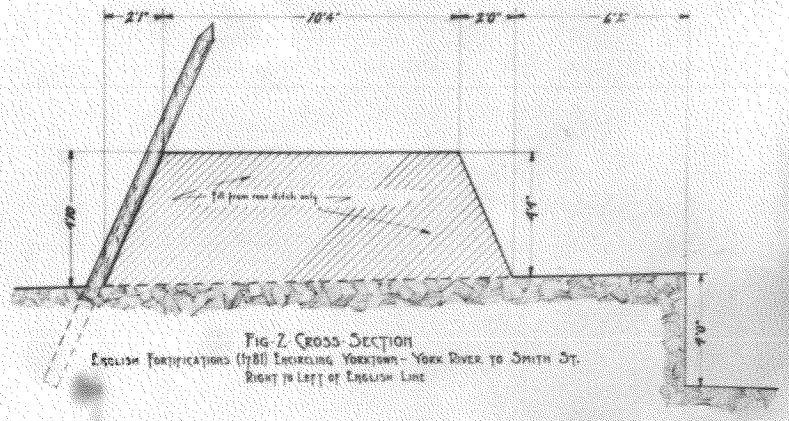


FIG. 2 CROSS-SECTION
ENGLISH FORTIFICATIONS (1781) ENCIRCLING YORKTOWN - YORK RIVER TO SMITH ST.
RIGHT TO LEFT OF ENGLISH LINE

Proper Data: For above cross-sections — Maps P 4,7-5, & No 52. on file at Col. Nat'l Hist. Pk. as titled "Plan du Siege D'York en Virginie par L'Armees Alliee D'Amerique et de France, Sous les ordres des Gen.ux Washington et Cte de Rochambeau Contre L'Armee Angloise, Commandee par le Lord Cornwallis en Octobre 1781.

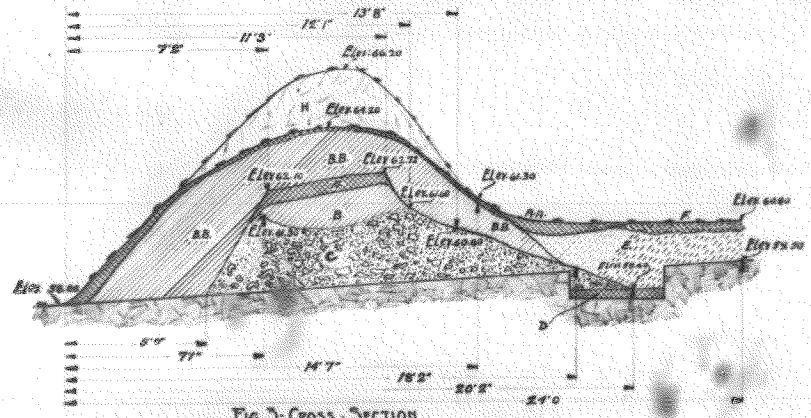


FIG. 3 - CROSS - SECTION.
CIVIL WAR FORTIFICATIONS AT SMITH ST., SHOWING VARIOUS SOIL FORMATIONS FORMING THE PARAPET.
(By Archeological Research.)

Top Surface or Sodded Areas.
Top and original Surface which has been cultivated.
Fill & mixture of Red Clay & Loam.
Fill. Admixture of Black, Gray Sand & Loam or Cultivated Soil
Limit of Excavation (Old Virgin Soil)
Red Clay Fill.
Fill. Admixture of Marl, Loam & Clay.
Outline of supposed English Works, Fig. 2.

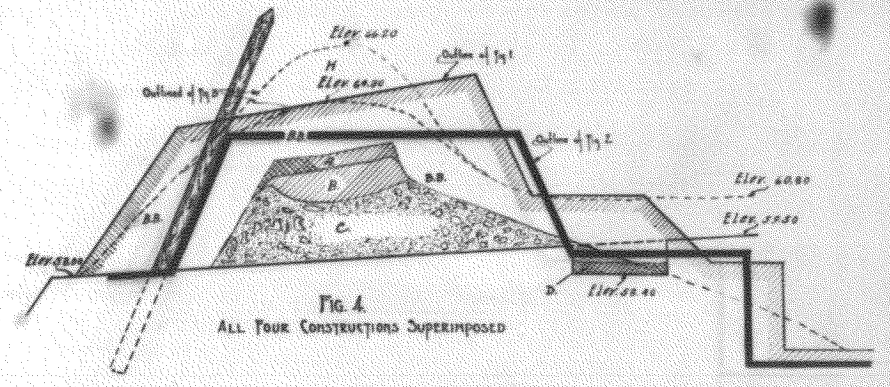


FIG. 4.
ALL FOUR CONSTRUCTIONS SUPERIMPOSED

SCALE 1/2" = 1'-0"

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

PLATE No. 1

TOPOGRAPHY OF THE BATTLEFIELD AREA YORKTOWN VIRGINIA

N

0 1/8 1/4 3/8 1/2 SCALE IN MILES

400 0 400 800 1200 1600 2000 SCALE IN FEET

BRITISH FORTIFICATIONS

RESTORED FORTIFICATIONS

UNRESTORED FORTIFICATIONS

FRENCH BATTERY

PROFILE #1

FUSILEER'S REDOUBT

WILLIAMSBURG ROAD

YORK

PALISADES

REDOUBT #10

WATER BATTERY

BATTERY #1

REDOUBT #2

BATTERY #2

REDOUBT #3

BATTERY #5

REDOUBT #4

BRITISH

BATTERY #4

WATER BATTERY

WATER BATTERY

REDOUBT #8

BATTERY #10

BATTERY #8

BATTERY #7

REDOUBT #7

REDOUBT #6

REDOUBT #5

BATTERY #5

ORIGINAL BRITISH RED.

HORNWORK

BATTERY #6

FORTIFICATIONS

MOORE HOUSE

REDOUBT #9

REDOUBT #10.

PROFILE #2

FRENCH REDOUBT, MORTAR & GUN BAT.

HAMPTON ROAD

FRENCH BATTERY #2

AMERICAN BATTERY No.2

AMERICAN BATTERY No.1.

PIGEON HILL RED. 2.

NATIONAL CEM.

FRENCH BAT. No.1

FRENCH & AMER. REDOUBT

2ND PARALLEL

GOOSLEY ROAD

GRAND FRENCH BATTERY

FRENCH TRENCH DEPOT

PROFILE #7

AMERICAN RED. No.1.

EXTENSION GRAND FRENCH BATTERY

PIGEON HILL RED.

PROFILE #3

PROFILE #4

FRENCH & AMER. REDOUBT

AMER. BAT. No.2.

AMER. RED. No.2.

FIRST PARALLEL

FRENCH TRENCH DEPOT

AMER. TRENCH DEPOT.

PROFILE #5

PROFILE #6

AMERICAN REDOUBT

AMERICAN REDOUBT

PREPARED FOR THE BRANCH OF HISTORIC SITES & BUILDINGS BY BRANCH OF PLANS & DESIGN -

PLAN NO NHPCOL 2072

BASIC DATA BY BRANCH HIST. SITES & BLDGS TOPO U.S.G.S. 1:400' FORTIFICATIONS PLAN D'YORK en VIRGINIE avec les Attaques faites par les Armées françoise et Americans Oct 1781 Querenet de la Combe

DESIGNED BY TBorresen RWilhelm DATE 1/4/69

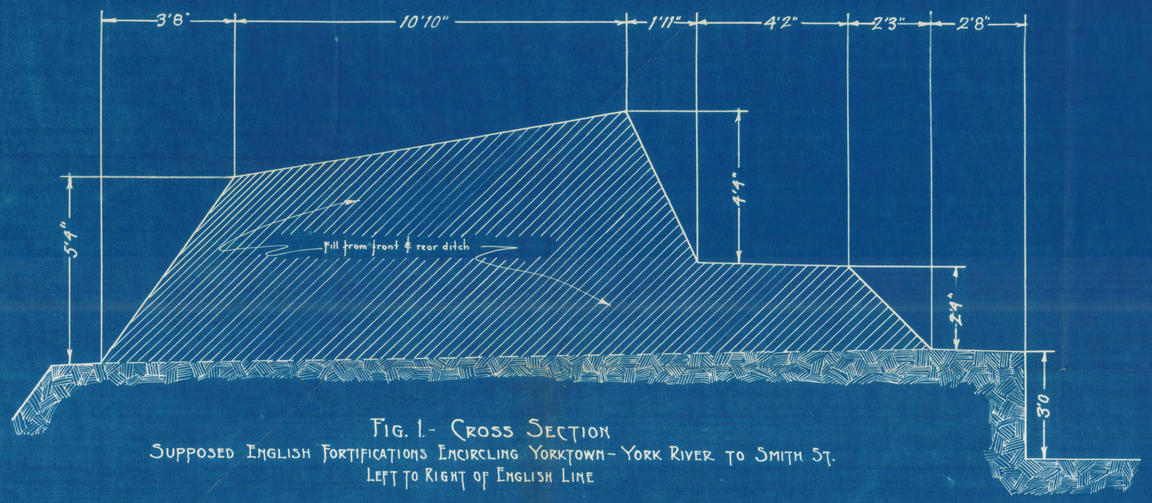


FIG. 1.- CROSS SECTION
SUPPOSED ENGLISH FORTIFICATIONS ENCIRCLING YORKTOWN- YORK RIVER TO SMITH ST.
LEFT TO RIGHT OF ENGLISH LINE

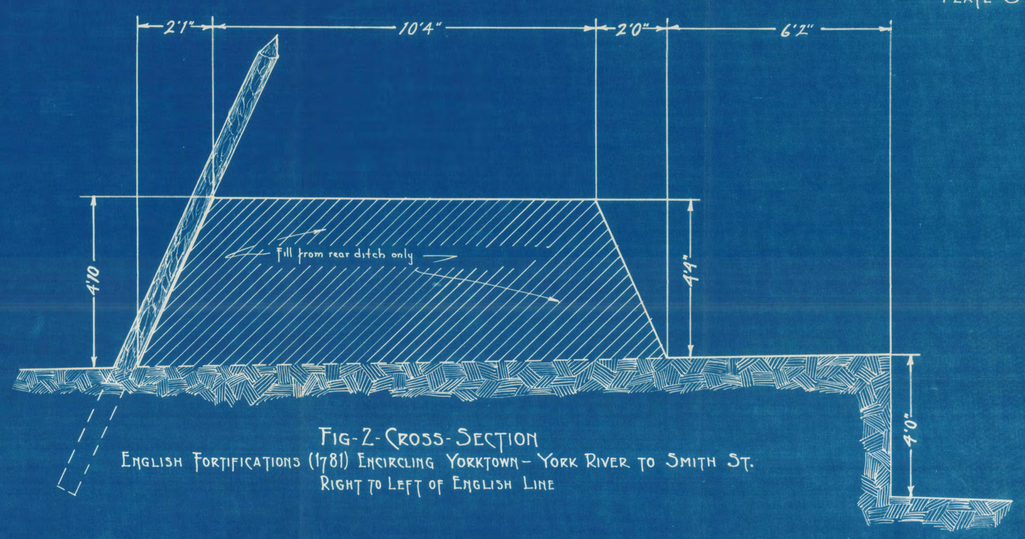


FIG. 2.- CROSS-SECTION
ENGLISH FORTIFICATIONS (1781) ENCIRCLING YORKTOWN- YORK RIVER TO SMITH ST.
RIGHT TO LEFT OF ENGLISH LINE

BASIC DATA: For above cross-sections— Maps T-4, T-6, & No. 52 on file at Col. Nat'l Hist. Pk all titled- "Plan du Siege D'York en Virginie par L'Armees Alliee D'Amerique et de France, Sous les ordres des Gen.[aux] Washington en C[te] de Rochambeau Contre L'Armee Angloise, Commandee par le lord Cornwallis en Octobre 1781.

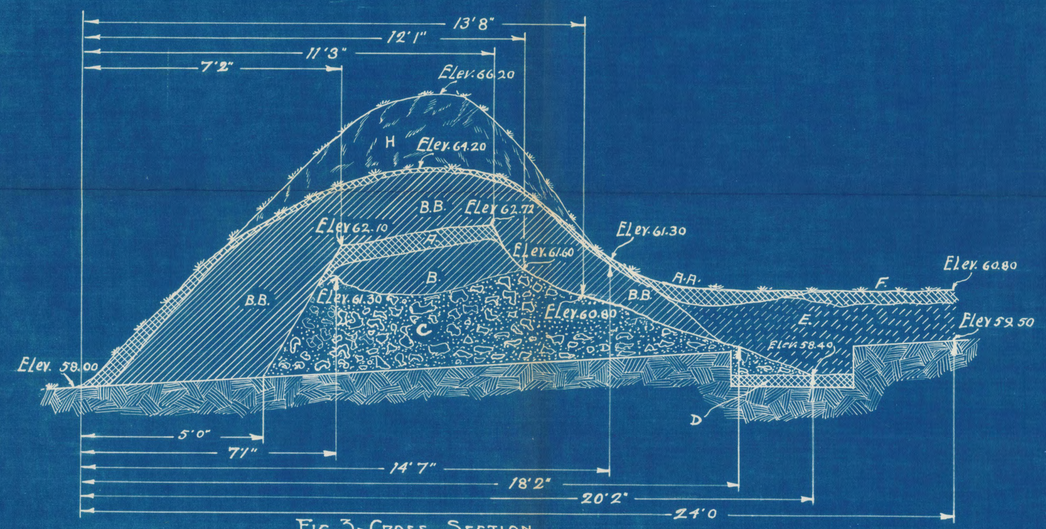


FIG. 3- CROSS-SECTION.
CIVIL WAR FORTIFICATIONS AT SMITH ST, SHOWING VARIOUS SOIL FORMATIONS FORMING THE PARAPET.
(By Archeological Research.)

Top Surface or Sodded Areas.
Top soil or Soil which has been cultivated.
Fill-A mixture of Red Clay & Loam.
Fill-A mixture of Black, Gray Sand & Loam or Cultivated Soil.
Limit of Excavation (Not Virgin Soil)
Red Clay Fill.
Fill-A mixture of Marl, Loam & Clay.
Outline of Supposed English Works, Fig 1-2.

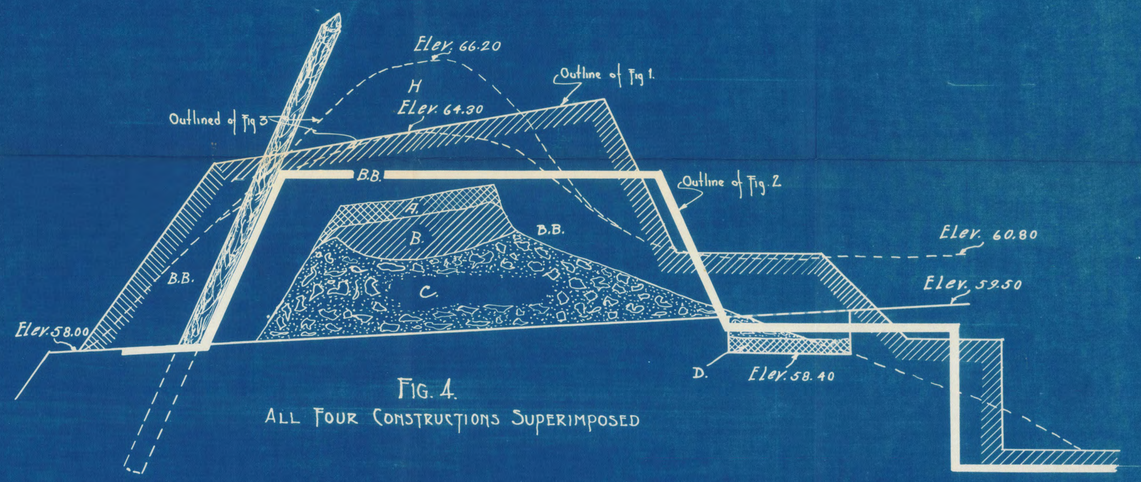


FIG. 4.
ALL FOUR CONSTRUCTIONS SUPERIMPOSED

SCALE 1/2" - 1'-0"

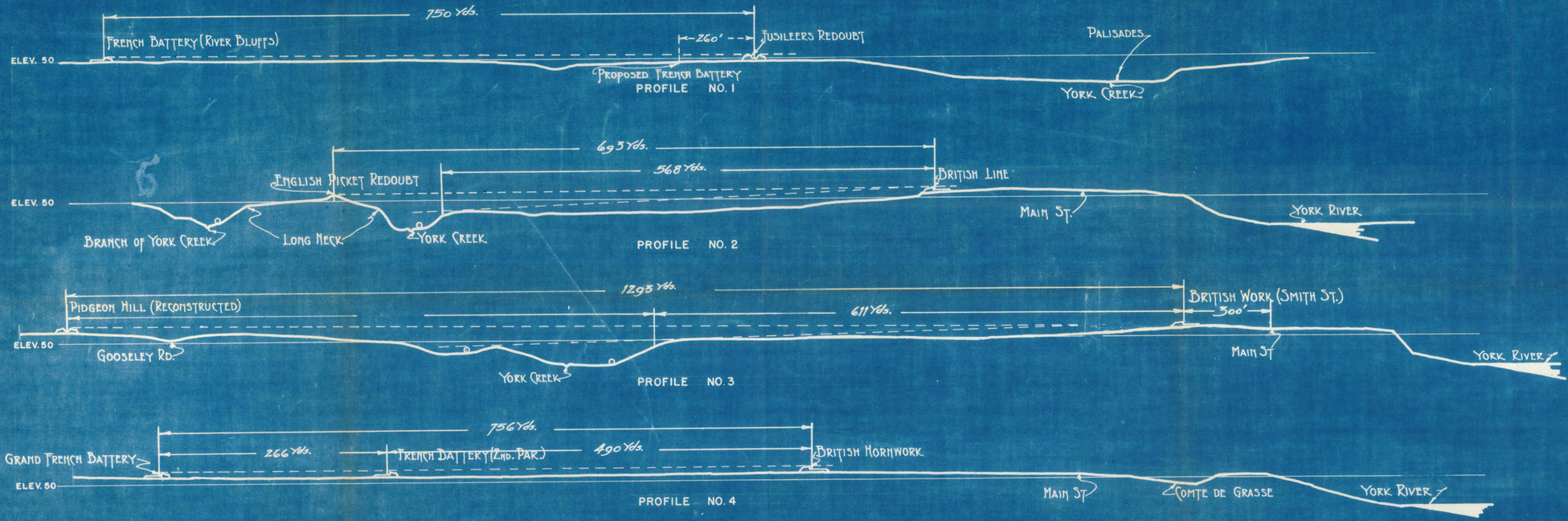
RECOMMENDED _____ DATE _____	UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE
CONCURRED _____ DATE _____	PREPARED BY _____ OFFICE _____
APPROVED _____ DATE _____	NAME OF JOB _____ LOCATION _____ NAME OF PARK OR MONUMENT _____
	REGION _____ SHEET OF _____ DRAWING NO. _____

DESIGNED BY Barnes 3.20.
DRAWN BY
CHECKED BY 1/18/40

REVIEWED
RESEARCH AND EDUCATION — ARCHITECTURE
FORESTRY — HISTORY
PLANS AND DESIGN — ENGINEERING

CLEARED
REGIONAL DIRECTOR
RECREATIONAL PLANNING AND STATE COOPERATION


FEB 1940
RECEIVED
Colonial National Park
Historical
Yorktown,
Virginia.



o EACH SYMBAL REPRESENTS THE HEIGHT OF A MAN OR 5'-8".

DOTTED LINE REPRESENTS ANGLE OF VISION; ALSO LINE OF POINT BLANK FIRE.

EACH PARAPET REPRESENTS A HEIGHT OF 7'-6".

HORIZONTAL SCALE 1" = 200'
VERTICAL SCALE 1" = 100'

PROFILES AS SHOWN ON PLAN No. NHP COL. 2072.

T.B. 1-10-40

REG. DIR. ☐ PL. & DEV. ☐
CH. CLERK ☐ FI[illegible] ADM. ☐
PERSONNEL ☐ FI[illegible] ACC. ☐
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FISCAL DIV. ☐ [illegible] ☐
PROC. OFF. ☐ LEGAL ☐
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