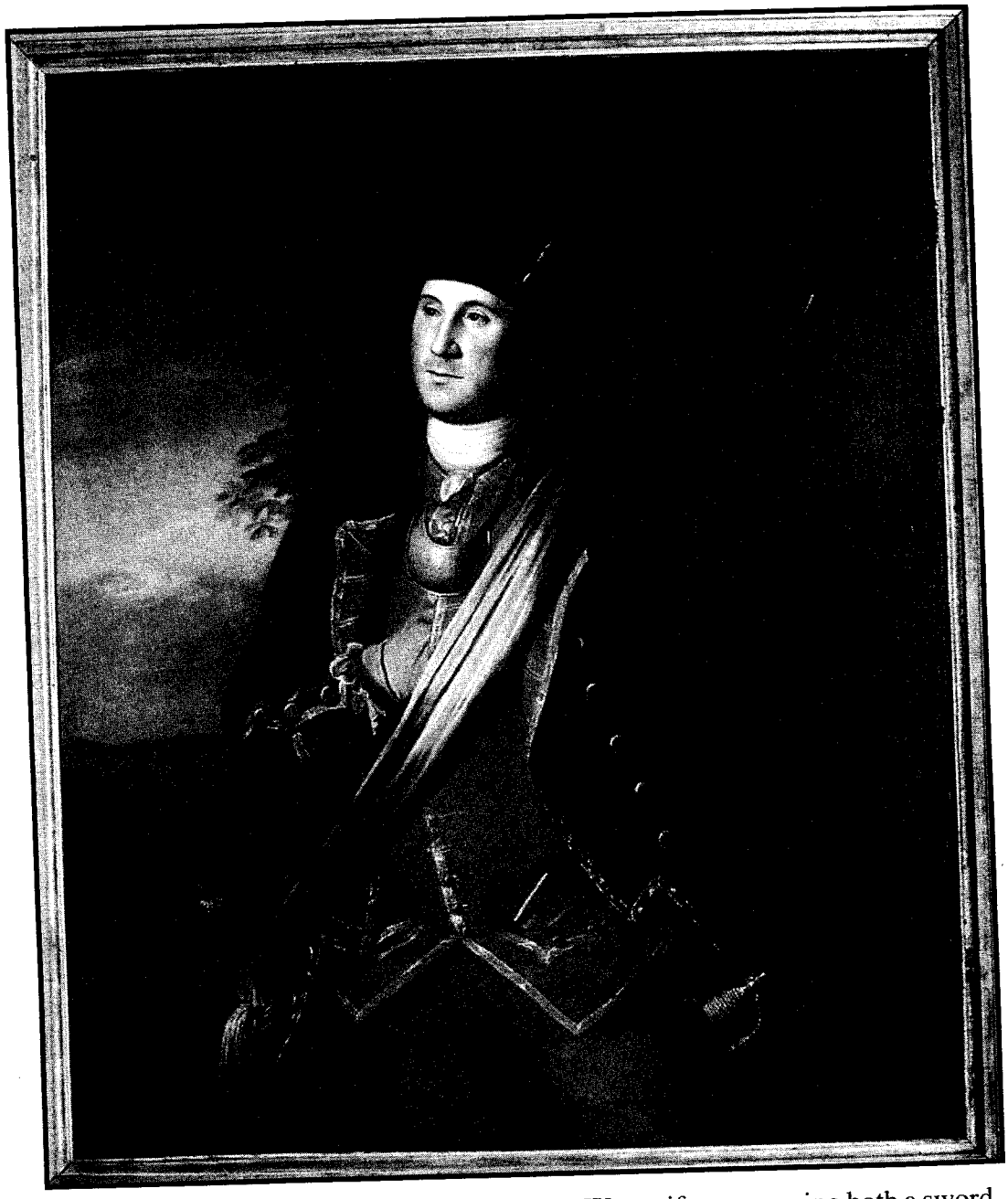

"George Washington in his French and Indian War uniform, carrying both a sword and a rifle. The gilt, crescent-shaped badge suspended around his neck is a gorget, indicating that he is an officer. This, the only portrait of Washington executed before the Revolution, was done by Charles Willson Peale at Mount Vernon in 1772" (James Thomas Flexner, *George Washington: The Forge of Experience (1732-1775)*. Little, Brown and Company, Boston, opposite p. 247). Photograph courtesy of Washington and Lee University.

ARCHAEOLOGICAL INVESTIGATIONS AT FORT LOUDOUN (44FK593): A FRENCH AND INDIAN WAR PERIOD FORTIFICATION, WINCHESTER, VIRGINIA

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Abstract

Historical and archaeological investigations were conducted at Fort Loudoun (44FK593), Virginia. The site was designed and constructed by Colonel George Washington to serve as the command center and supply depot for Virginia troops during the French and Indian War (1756-1763). Research questions concerning the design and construction of the fort, material culture, subsistence, refuse disposal practices, social stratification, and interaction with Native Americans and local townspeople are addressed.

Introduction

Fort Loudoun is the site of a French and Indian War military fortification located in Winchester, Virginia. Historical and archaeological investigations were conducted at the site to assess the site's integrity, to address research questions and to raise community awareness of this largely forgotten but important historical site.

The investigations were conducted by the Winchester Regional Preservation Office (WRPO) of the Department of Historic Resources (DHR), with the support of Tom Klatka of the Roanoke Regional Preservation Office (RRPO) and the Northern Shenandoah Valley Chapter (NSVC) of the Archaeological Society of Virginia (ASV). Members of the ASV and other volunteers made this project possible by volunteering over 300 hours of their time. The investigations took place in October 2002 and April 2003 with a total of 12 days spent in the field.

Historical Background

Fort Loudoun

Fort Loudoun, Virginia, is one in a series of forts constructed in the backcountry of Virginia during the French and Indian War (1754-1763). The fort, constructed under the command of Colonel George Washington in 1756-1758, served as the command center and supply depot for Virginia troops during the war. The fort is one of three French and Indian War period forts named after Lord Loudoun, who was appointed commander of British troops in North America. The fort was never attacked, but troops that garrisoned the fort participated in General Forbes' 1758 Fort Duquesne expedition and in an unsuccessful 1760 expedition to relieve the Cherokee siege of Fort Loudoun, Tennessee. George Washington commanded the fort from 1756-1758, and William Byrd III commanded the fort after Washington resigned his commission.

The French and their Indian allies had been conducting raids in the Virginia backcountry as early as 1754 (Ward 1992:108). The raids conducted in the Virginia backcountry during the war were well planned and often led by French or French provincial officers (Ward 1992:106). Many originated from Fort Duquesne, located at the forks of the Ohio, the present day location of Pittsburgh. They were designed to cut lines of supply and communication, and destroy isolated frontier posts (Ward 1992:5).

In March 1756 the Virginia House of Burgesses authorized construction of the fort "for the protection of the adjacent inhabitants against the barbarities daily committed by the French and Indian allies" (Hening 1819:33). Colonel Washington had previously argued in a letter to Robert

Dinwiddie, Lieutenant Governor of Virginia, that a fort at this location would serve "as a receptacle for all our stores etc. and a place of refugee for the women and children in times of danger" (Abbot 1984a:60). He justifies the fort's location at Winchester based on its proximity to the closest French fort (Fort Duquesne) and the convenience to its commander (himself), who is stationed at Winchester (Abbot 1984a:60). The location chosen for the fort was the immediate high ground north of Winchester.

On May 18, 1756, Washington informs Dinwiddie that he has begun construction of the fort (Abbot 1984a:173). In a previous letter written a few days earlier (May 20, 1756) to Colonel Adam Stephen, he requests 50 men for carpentry and all the men skilled in masonry for the fort's construction (Abbot 1984a:157). All available men are put to work on fort construction. Joseph Stevens of the Carolina militia arrived on May 10 and was made an overseer of work at the fort (Abbot 1984a:199). On June 1, 1756, orders are issued stating, "The company of artificers being intended to assist in building a fort at this place are to do no duty of soldiers. They are to get their tools and to work tomorrow morning" (Abbot 1984a:188). A number of 1st Virginia Regiment officers were involved in the fort's construction but the officer who was most involved was Charles Smith. Washington recommends that Smith be appointed commander of Fort Loudoun in his absence, because he "has been overlooking the works for nearly two years" (Abbot 1984a:202).

Fort Loudoun was the first formal fort designed by George Washington. There are two sets of plans for the fort, both of which were drawn in

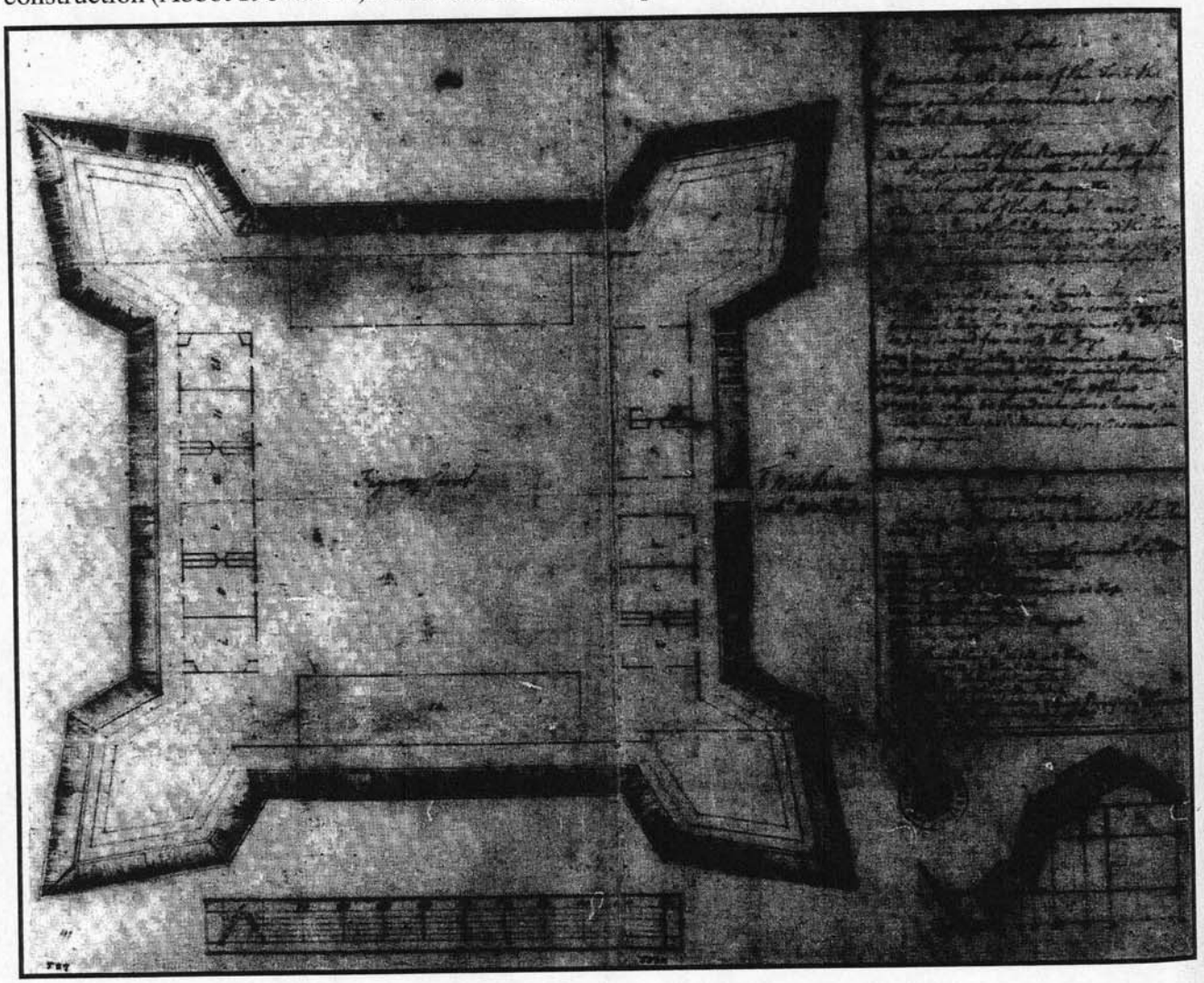

Figure 1. Washington's Design Plan for Fort Loudoun.

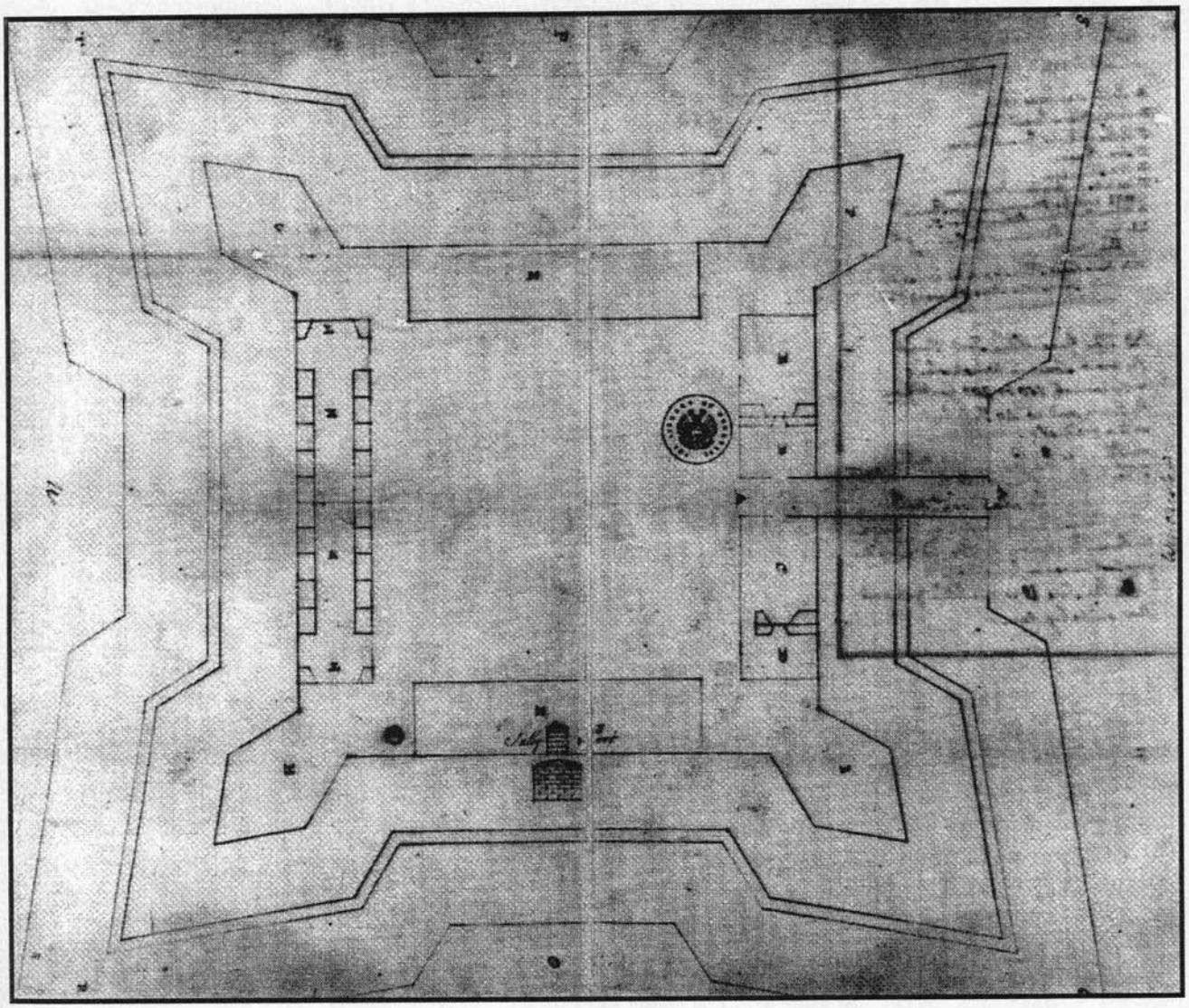

Figure 2. Washington's Second Design Plan for Fort Loudoun.

his hand. There are minor differences in the two plans, and both depict a four-bastion square fort with structures located along each curtain and a gate facing the town of Winchester. The first plan designates buildings to be used for officers' apartments, a dining room, a bed chamber, a convenience room, an office, store rooms, a hospital, a chapel, and barracks or "as the occasion may require" (Figure 1). The second plan is more detailed and uses military terminology. In this plan he designates the buildings that are to be used for the officers' guard room, the soldiers' room, the prison kitchen, the powder magazine, magazines for provisions, a two tiered soldiers barracks with large fireplaces for cooking, the well, a sally port, and two large houses to be converted into barracks or store houses "as occasion shall require" (Figure 2).

Colonel Washington was an inexperienced officer with no formal military training, yet the fort plans, drawn in his own hand, indicate that he designed the fort himself. He may have used information contained in formal military manuals. The design of the fort is similar to Fort LeBoeuf, which he had previously visited in 1753 and described in his diary (Fitzpatrick 1925:59).Washington selected a practical plan similar to other frontier forts constructed in Pennsylvania by the French and British during this period of time (cf. Waddell and Bomberger 1996). Since Washington sent plans of the fort for William Fairfax to review, he appears to have been looking for advice from others more experienced in military matters.

The additional detail and military formality of the second plan (see Figure 2) suggest that it was the plan used. This is supported by a letter written by William Fairfax to George Washington on July 10, 1756 (Abbot 1984a:247). Fairfax comments that both plans are "well designed," but suggests construction of a sally port, which is depicted in the second set of plans. The second set of plans also depicts the location of the extant well.

The completion of the fort, under construction for over two years (spring 1756- fall 1758), was a constant concern of Washington. On October 26, 1756, orders are issued for "the workmen on the fort to continue henceforth, till retreat being beat every night" (Abbot 1984a:443). In a letter written by Washington to William Fairfax on June 25, 1757, he states, "Our soldiers labor on the public works with great spirit and constancy from Monday morning till Sunday night" (Abbot 1984a:244). Washington complains about the slow progress of the fort's construction on several occasions. On May 30, 1757, Washington writes Dinwiddie, "The works at Ft. Loudoun go on so slowly with the small number of men employed that I despise of getting them finished in time" (Abbot 1984b:173). The following month, on June 27, 1757, Washington informs Dinwiddie that work on Fort Loudoun takes place every day of the week with only one hour in the day allowed for eating and that 300 men could not finish the fort by next October (Abbot 1984b:264). After fort construction has proceeded for over a year, Washington informs Dinwiddie on September 24, 1757 that illness and the need to dispatch troops from the fort for other duties "so greatly retard the works, that finishing even the principal parts of them before winter sets in will prove impracticable" (Abbot 1984b:420).

Construction of the fort is also a priority of the lieutenant governor of Virginia, Robert Dinwiddie. On December 27, 1756, Dinwiddie instructs Washington to "continue the constructing of Ft. Loudoun and that with all possible expedition" (Abbot 1984b:72). On July 13, 1757, he writes Washington that he is "surprised at the long time the fort has been a building and hope you will with all possible dispatch complete it" (Abbot 1984b:304). When Washington planned to be elsewhere in the fall of 1757, Dinwiddie informs him, "You know the fort is to be finished and I fear in your absence little will be done" (Abbot 1988a:21).

After two years of construction, the fort is not finished and questions arise as to whether it will be completed. On May 10, 1758, Washington informs John Blair that an additional number of men from the militia are needed "if the works are to be completed" (Abbot 1988a:157-158), and on May 28, 1758, Washington asks John St. Clair, "Are the works at Ft. Loudoun to go on?" (Abbot 1988a:201). In June 1758 the construction of the fort is postponed by the Council of Colonial Virginia due to "want of money" (Hillman 1966:98). The fort remains incomplete on December 12, 1758, as indicated by a letter written to George Washington by Robert Stewart informing him that there is no material to finish the barracks (Abbot 1988b:167).

Problems with fort construction mentioned in the correspondence provide information on the sequence of fort construction, the structures that were erected, and the materials used in construction. The most informative account is contained in a letter written by Charles Smith to George Washington dated February 23, 1758:

> Concerning the work at Fort Loudoun has gone on tolerable well in your absence, the third barrack is intirely covered in, and the last one now aframing in order to raise, the parapet on the last curtains up, the last Bastin is lay'd over with logs and two of the ambuziers [embrasures] done and now is about the other four, we have done all the joyner's work in the second barrack, we are in great want of a barrel of double tens for the last barrack, we not having one, our stone masons has been sick ever since you have been away and our stone work is much behind hand. The well has been almost full of water but is now cleared and they are at work in it again and there is near 90 foot deep. I cant say there is any likelihood of any spring. We are almost out of iron and plank and am afraid I shall find it very difficult to be sup-

> plied without a small quantity of money to pay them of the old arrears I have advanced money I can possibly spare [Abbot 1988a:97].

Information contained in this letter indicates that four "barracks" were constructed and that stone was used in the fort's construction. In a letter written by Washington to Adam Stephen on May 24, 1758, he orders him to cover in the new barracks and lay in rough floors (Abbot 1988a:191). Although Smith mentions the use of logs in the construction of the bastions, later correspondence indicates that stone was used in the construction of the southeast bastion. On September 7, 1758, Charles Smith informs Washington, "The stone work on the southeast bastion is intirely dropping out, the whole wall will fall before winter, I have stone and lime if you think it proper I will employ a mason" (Abbot 1988b:3), and on October 12, 1759, he informs Washington, "I have employed two very good masons to assist in underpinning the bastion which we have laboured at this ten days past" (Abbot 1988b:75).

Other repairs had to be made while the fort was being constructed. Charles Smith informs Washington in July 1758, "the magazine has sprung a great many leaks which keeps every man in Garrison that is fitt to move besides myself constantly employed, to make it tight" (Abbot 1988a). The powder magazine was located in the southeast bastion where other repairs had to be made. This area of the fort has sloping topography which may account for some of the construction problems.

The aforementioned accounts and other records suggest that the fort may have deviated from Washington's design plans. The inexperience of the officers constructing the fort, Washington's frequent absences from the fort, the number of different officers involved in overseeing construction, and construction problems may have been contributing factors. On January 12, 1757, when Washington is at Fort Cumberland, he writes Dinwiddie that Captain Mercer "informs me, that they are at a great loss in respect to the manner of making the Ambrozores thro' the parapet, altho' I gave directions in person before I came away on this head, they propose a method that will spoil the whole work" (Abbot 1984b:94). The presence of limestone rock at the site created construction problems. Washington's account books have numerous entries over a one year period (April 1757-April 1758) for payments to John Christian Heintz for digging the well through limestone and "for working in barracks yard 16 days in blowing rock" (Quarles 1974:37).

A description of the fort made in the spring of 1760 by an English clergyman, Reverend Andrew Burnaby, provides details on the fort that was constructed:

> It is a regular square fortification, with four bastions, mounting twenty-four cannon; the length of each curtain, if I am not mistaken, is about eighty yards. Within, there are barracks for 450 men. The materials of which it is constructed, are logs filled up with earth: the soldiers attempted to surround it with a dry ditch; but the rock was so extremely hard and impenetrable, that they were obliged to desist. It is still unfinished; and, I fear, going to ruin; for the assembly, who seldom look a great way before them, after having spent about 9000 l. currency upon it, cannot be prevailed upon to give another thousand towards finishing it, because we are in possession of Pittsburg; and, as they suppose, quite secure on this account [Burnaby n.d.:41].

Burnaby's account describes how the walls of the fort were constructed. He also indicates that the dry ditch was not completed due to construction problems encountered with bedrock.

Burnaby's account also indicates that the 24 guns that Washington wanted for the fort were finally obtained. On June 27, 1757, Washington tells Dinwiddie that the fort will need 24 guns and indicates that he currently has four twelve-pound and 10 four-pound cannon, adding that six more cannon "would do tolerably well" (Abbot 1984b:266). Dinwiddie responds to his request for additional cannon by saying "14 great guns mounted at Ft. Loudoun I think will make a good defense–other guns cannot be spared" (Abbot

1984b:304). William Fairfax writes Washington on July 17, 1757 to let him know that he will be furnished with "two good mortars, some coehorn's and Granado shells" (Abbot 1984b:309). Washington persists in his request for more cannon. On September 24, 1757, he writes Dinwiddie that he has round and grape shot for six pounders, but no cannon to use them, and suggest "a few pieces of that size would be a great addition to our strength" (Abbot 1984b:420).

Washington originally proposed a 100-man garrison for Fort Loudoun (Abbot 1984b:10), a number consistent with the orders given Washington by Dinwiddie in a letter dated May 17, 1757 (Brock 1883:622). The number of men garrisoned at Fort Loudoun fluctuated greatly. One hundred forty-one are present on January 1, 1757 (Abbot 1984b:76-77), 100 are fit for duty on June 16, 1757 (Abbot 1984b:221), and 54 are present with only 24 fit for duty on October 27, 1758 (Abbot 1988b:135). A total of 268 men are listed at Winchester in May 28, 1760, when the fort was under the command of William Byrd III (Byrd 1760). Troops garrisoned at the fort were the 1st and 2nd Virginia Regiments and on occasion "Rangers" and "Carolina" troops.

Some of the company muster rolls provide detailed information on the soldiers. One dated August 28, 1757 provides data on the soldiers' age, height, trade, country of origin, and a brief physical description (Abbot 1984b:389). The age of the soldiers varied from 18 to 49 and their height from 5' 1" to 5' 11- 3/4". The countries of origin include Virginia, New York, Scotland, New Jersey, England, Ireland, Pennsylvania, Germany, Maryland, Holland, and Wales, with the majority coming from Virginia. Over 25 trades are listed for the 86 men on this muster roll, with the majority being planters and carpenters. Examples of other trades include joiner, tanner, bricklayer, butcher, sawyer, baker, cooper, blacksmith, tailor, weaver, bookbinder, shoemaker, silversmith, coachmaker, and barber. The soldiers may have practiced their trades while at Fort Loudoun in an official or unofficial capacity.

The fort served as a supply magazine. When Washington writes Dinwiddie on April 27, 1756 outlining the need for a fort at Winchester, he states the need for having "one large magazine to supply the different forts" (Abbot 1984a:61). Dinwiddie refers to the fort as a "fortified magazine" in October of 1756 (Abbot 1984a:443). When Dinwiddie orders Washington to Fort Cumberland, Washington informs him on Nov, 24, 1756 that he will be leaving the public stores unprotected (Abbot 1984b:32). In early June, 1757, Dinwiddie mentions the transfer from Fort Loudoun of 100 barrels of gunpowder, three tons of lead, 100 six-pound shot, and 1200 gunflints to Colonel Stanwix (Abbot 1984b:184). Thirty barrels of powder and 150 boxes of bullets are sent from the fort to Pennsylvania in June 1758 (Stevens et al. 1951:83). When Virginia troops are sent to join Forbes' expedition in the campaign against Fort Duquesne, the fort continues to serve as a repository for regimental stores and baggage (Abbot 1988a:202).

The fort also served as a hospital. On June 24, 1758, Washington orders the current hospital located at a private residence to be vacated and the conversion of "a room in one of the barracks in the fort" to be used as a hospital (Abbot 1988a:238). Virginia troops left at the fort during Forbes' expedition to Fort Duquesne were mainly troops that were ill. On July 28, 1758, Charles Smith informs Washington that 28 men of the new 2nd Virginia Regiment left at the fort are "very sick" (Abbot 1988a:253), and on August 5, 1758, Charles Smith pays a doctor for tending the sick at the fort (Abbot 1988a:373).

Although the fort served as a supply depot for Virginia troops and others in the region, there were problems with supplying the troops with basic items, including clothing. A variety of clothing styles in various states of repair were worn by the soldiers. Throughout the year of 1756, Virginia made no effort to supply clothing or shoes (Anderson 2000:159). Washington writes Dinwiddie on December 10, 1756 stating that "we long for the arrival of the soldiers clothing" and indicates that the men are "naked" (Abbot 1984b:49). Dinwiddie writes to Washington later in the month that he hopes that the "first vessel from London will bring them" (Abbot 1984b:72). William Fairfax writes Washington in January of 1757 that he has sent

his regiment's clothing to a Mr. Carlye and "think them well chosen and made" (Abbot 1984b:99). In the spring of 1758, Washington orders his troops to mend "their own clothes if they cannot get tailors to do it fast enough" (Abbot 1988a:191). In the summer of 1758, Washington informs Colonel Bouquet that his men are "very bare of cloaths" and suggests that his men adopt the "Indian dress," including the officers (Stevens et al. 1951:159). When Colonel William Byrd arrives in Winchester to take command of the 2nd Virginia Regiment, he informs General Forbes, "If you have no objection, I propose to dress my soldiers after the Indian fashion" (Forbes 1758:287).

There were also problems with supplying troops with arms. There were constant equipment shortages and a wide variety of arms (many of which were obsolete) used and repaired by the Fort Loudoun garrison. In July 1757, Washington informs Dinwiddie that there is a shortage of arms and he is repairing the old ones in store (Abbot 1988b:292). Dinwiddie responds within a few days by stating, "I now send you 400 arms" (Abott 1984b:304). Approximately a year later, John St. Clair, the Deputy Quartermaster General (temporarily based in Winchester), informs General Forbes that he received 17 light arms from Fort Cumberland, but found them incapable of being repaired (Forbes 1758:209). Colonel Byrd informs Dinwiddie in June of 1758 that none of the 320 guns received from Williamsburg are fit for service, "for they had been in the magazine since the reign of King William" (Forbes 1758:327). A report on arms at Fort Loudoun, dated July 30, 1758, indicates that military equipment was under repair. One hundred sixty muskets and 290 bayonets were repaired, but a large number of arms (440 muskets, 170 musket barrels, and 250 bayonets) had not been repaired (Abbot 1988a:352). Virginia troops that participate in the 1758 Fort Duquesne expedition are not equipped with bayonets due to equipment shortages (Stevens et al. 1972:403). On July 30, 1758, Charles Smith writes Washington that none of the 25 Carolinians at the fort have guns (Abbot 1988a:351). Arms that were returned to the Fort Loudoun garrison in 1759 after the Fort Duquesne campaign are described as cut down carbines and swords, several of which were broken (Kent et al. 1976:523).

Troops were equipped with powder horns and pouches due to the absence of cartridge paper (Abbot 1984b:327-328). John St. Clair ordered 4,000 powder horns to be made in June 3, 1758. He indicates that men would rather pay for a powder horn and comments on the waste of powder when cartridges are used (Forbes 1758:290). Some troops may also have been equipped with hatchets. In a letter dated June 13, 1758, Washington mentions the possible distribution of 200 hatchets to his men (Abbot 1988a:207). When Virginia troops arrive in Pennsylvania in 1758, Colonel Bouquet provides them with tomahawks and canteens (Stevens et al. 1951:17).

Other necessities were in short supply. In the spring of 1758, both the 1st and the 2nd Virginia Regiments were in need of blankets (Forbes 1758:232). They also needed tents and entrenching tools for the planned expedition to Fort Duquesne (Forbes 1758:234).

Unlike other French and Indian War period forts located in the backcountry, Fort Loudoun is located adjacent to a town. The proximity of the town of Winchester allows for interaction between the fort's garrison and the local townspeople. As early as November 1756, Washington complains about the number of "tippling-houses...by which our men are debauched and rendered unfit for duty" (Abbot 1984b:16). When Washington is ordered to Fort Cumberland in November 1756, he informs Dinwiddie there will not be enough men to garrison Fort Loudoun and that fort construction materials will be "pillaged and destroyed by the inhabitants of the town" (Abbot 1984b:32). Almost a year later, in October 1757, Washington continues to complain about the "tipling-house keepers in Winchester," as they are giving the soldiers too much credit and "we have reason to suspect that they have received and concealed some of the stores and arms belonging to the regiment" (Abbot 1988a10-11). Although not stated in his letter to Dinwiddie, property of the Virginia Regiment, including military equipment, clothing, and other provisions, had been recovered from local houses the previous month (Abbot 1984b:424-426).

Indian allies, such as the Cherokee, Catawba, Tuscarora, Nottaway, and Saponi, operated out of Fort Loudoun. Cherokees and Catawbas are at Fort Loudoun as early as December 1756 (Abbot 1984b:50). In May 1757, Dinwiddie reports to Lord Loudoun that almost 400 Indians from the Catawba, Cherokee, Tuscarora, and "some small tribes" are at Fort Loudoun participating in "scalping parties" (Brock 1883:616). In the same month, Dinwiddie indicates, "we have about 148 Cherokee, 124 Catawbas and about 60 tributary Indians being Tuscaroroas, Nottawas and Saponies at Fort Loudoun" (Brock 1883:633). In July 1757, Dinwiddie indicates that there are around 200 Cherokee at Fort Loudoun and that 14 scalps and two French prisoners have been brought to the fort by them (Brock 1883:663).

Large numbers of Indian allies recruited to serve in Forbes' Fort Duquesne expedition are at Fort Loudoun in 1758. In March of 1758, 400 Indians are at Fort Loudoun, with 1,000 more expected (Forbes 1758:99). As many as 700 Cherokee had arrived by May of 1758, but most had left before the end of summer (Anderson 2000:268). During the period of November 16, 1757 to April 21, 1758, 414 Cherokee and Catawba had marched from Winchester and 188 were currently at Winchester (Forbes 1758:133). In May 1758, Byrd informs Forbes that 200 Indians are present (Forbes 1758:273). In July, Christopher Gist indicates there are 129 Catawba, Tuscarora, and Nottaways at Winchester that will be marching to Fort Cumberland and that they are waiting for the Cherokees (Forbes 1758:347). One reference indicates that some of the large numbers of Indians in Winchester were staying at Fort Loudoun. Byrd writes Forbes in June 1758, "My room, according to custom, is crowded with savages, some drunk some sober, which causes me a great deal of confusion as you will judge from my letter" (Forbes 1758:287).

Providing Indian allies with equipment proved to be as difficult as supplying the soldiers, yet Indian allies expected goods in return for their support. Washington informs Dinwiddie in December 1756 that the Catawbas expect to receive clothing, wampum, pipes, tomahawks, and silver trinkets and that he has purchased wampum and tomahawks for them (Abbot 1984b:35). Washington's account books for the year of 1756 indicate that he paid for buckskins given to the Cherokee (Quarles 1974:37). In March 1758, Thomas Bullit at Fort Loudoun indicates that 300 Cherokee have been equipped and "sent out against the enemy," but that "light firearms" and match coats are needed for another 100 Indians (Forbes 1758:99). In April of 1758, John St. Clair, Deputy Quartermaster, writes, "I received an order to purchase match coats and all the light arms I could get at this place to equip the Indians at Winchester. Nothing in our power shall be wanting to accommodate them" (Abbot 1988a:127). In May 1758, Washington states that he is expecting 1,000 Indian leggings (Abbot 1988a:193). Also in May 1758, John St. Clair writes to Forbes about the Indian allies and states, "All I know is the more presents they get, the more unruly they become" (Forbes 1758:262).

The rations of soldiers are mentioned in a letter dated June of 1758 written by Henry Bouquet to George Washington. The "Kings allowance per week" consists of seven pounds flour, seven pounds beef (or in lieu four pounds of pork), three pints of peas, 1/2 ounce of butter, 1/2 pint of rice or in lieu thereof one pound flour, and one pound of pork (Abbot 1988a:209). However, in the same letter he states that the allowance for Fort Cumberland will be eight pounds of flour, eight pounds of beef or five pounds of pork per week until further notice, indicating flexibility in the rations. The proximity of the town of Winchester suggests that soldiers may have supplemented their diet with provisions obtained from town markets.

The French and Indian raids in the Virginia and Pennsylvania backcountry devastated the region. During the period 1754-1758, over 2,000 settlers and soldiers were killed and 1,000 captured (Ward 1992:351-353). Fort Loudoun was never attacked, but hostile encounters occurred in proximity to Fort Loudoun. Three Indian raids in Frederick County, Virginia have been documented during the period 1754-1756 (Ward 1992). Washington writes Dinwiddie in June 1757 informing him that the enemy had captured three children 12 miles from Fort Loudoun (Abbot 1984a:264).

Quarles (1974:29) and Norris (1996:112) state that the fort was reconnoitered by French officers and found to be impregnable, but they provide no historic documentation to substantiate this account.

Virginia troops garrisoned at Fort Loudoun participated in the 1758 Fort Duquesne expedition and convoys from Winchester provisioned the troops (Stevens 1951:319). The Virginia troops included Washington's 1st Virginia Regiment and a newly raised regiment, the 2nd Virginia, commanded by William Byrd III.

After the site of Fort Duquesne was occupied by the British in November of 1758, there was no need to complete construction of Fort Loudoun. Washington returns to Winchester after leaving some of his men at the site of Fort Duquesne (Quarles 1974:42). He resigns his commission as Colonel of the 1st Virginia Regiment before the end of the year (Anderson 2000:289). Francis Fauquier, who replaced Robert Dinwiddie as lieutenant governor of Virginia in 1758 (Reese 1980:14), offers Washington's command to William Byrd III in January of 1759 (Byrd 1735-72).

Little information about Fort Loudoun, Virginia is contained in the correspondence of British and American military leaders and officials during the later part of the French and Indian War. The correspondence of the two commanders of the Virginia Regiment after Washington resigned, William Byrd III (Byrd 1760, 1735-72; Tinling 1977) and later Adam Stephen (Stephen 1749-1849; Keesecker and Keesecker 1972-82) make only occasional reference to the post(s) at Winchester. The records and correspondence reference Winchester rather than Fort Loudoun, possibly to avoid confusion with the two Fort Loudouns in Pennsylvania and the Overhill Cherokee country (present day Tennessee).

One historian suggests that a token force is kept at Fort Loudoun, Virginia during the later part of the French and Indian War (Ward 1989:67). This suggestion is supported by documents indicating that large numbers of Virginia troops are located in western Pennsylvania and southwest Virginia during this period of time. On the other hand, the only Virginia Regiment muster roll found for this period of time, dated May 1760 (Byrd 1760), lists 268 men at Winchester, a number that exceeds the number of men stationed at Winchester during Washington's command.

In 1759, four hundred Virginia troops are garrisoned in western Pennsylvania at Pittsburgh and Fort Ligonier (Kent et al. 1976:275). Winchester continues to supply provisions such as cattle, sheep, horses, forage, pork, salt, Indian corn, and flour to western Pennsylvania garrisons during this period of time (Kent et al. 1976:594; Waddell et al. 1978). In November 1759, Stanwix sends the Virginia Regiment back to Winchester and informs Fauquier that they will not be needed until the spring of 1760 (Waddell et al. 1978:353).

In February 1760, Cherokee uprisings in the western part of South Carolina spurned the lieutenant governor of the colony to request Virginia troops relieve the siege of another fort named after Lord Loudoun located in the upper Cherokee country of present day Tennessee. William Byrd III, the commander of Virginia troops at Fort Loudoun, Virginia, receives orders from Fauquier to march to the relief of this distant fort in May 1760 (Reese 1980:361). In a letter dated July 16, 1760, Byrd complains to Fauquier during his relief march from a camp on the Roanoke that "Two thirds of the mob I command (I can call them nothing else) are new raised men, who at this moment are neither cloathed or armed & God knows when they will. Yet I am ordered to march without delay to the relief of Fort Loudoun" (Byrd 1760). Byrd's relief expedition never reaches Fort Loudoun: The fort is surrendered to the Cherokee on August 7, 1760 (Anderson 2000:463).

Fort Loudoun, Virginia, remains garrisoned by Virginia troops in the spring of 1761 (Byrd 1735-72). In February 1761, Fauquier orders Virginia troops that have returned from Fort Pitt and "the other posts at Winchester" to march southwards (Reese 1981:476). In 1761 Virginia troops under the command of William Byrd III are engaged in constructing 80 miles of road from Fort Chiswell to the Holston River in North Carolina (Anderson 2000:467). Byrd resigns his command in August 1761 and command of the Virginia Regiment is transferred to Adam Stephen (Ward 1989:71). In early 1762, Fauquier orders the disbanding of the

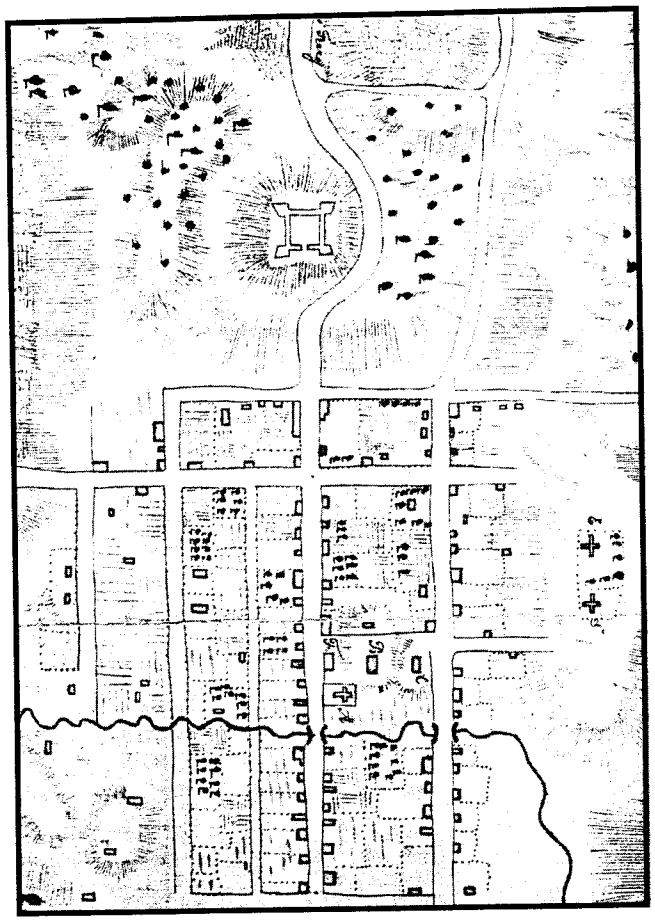

Figure 3. Map of Winchester Depicting Fort Loudoun Dated 1777.

Virginia Regiment (Reese 1981:667,671), but after news of Britain declaring war on Spain, the decision is reversed and the Virginia Regiment is retained until disbanded for the final time in December 1762 (Ward 1989:76,79). On November 3, 1762, preliminary articles of the Treaty of Paris were signed and on February 10, 1763 they were implemented, bringing an end to the French and Indian War (Anderson 2000:505).

Fort Loudoun may have been garrisoned by Virginia militia units during Pontiac's War. In 1763 Fauquier gives Adam Stephen command of 500 men to defend the backcountry (Reese 1981:1005). Stephens is based at Fort Cumberland (Reese 1981:1005), but writes several letters dated September 1763-July 1764 from Winchester (Keesecker and Keesecker 1972-82). In April 1764 Fauquier mentions that Stephens has 250 men in various posts in Frederick and Hampshire counties (Reese 1983:1095). Since Fort Loudoun is located in Frederick County, it may have been one of the posts to which he refers. In 1764, 500 Virginia troops are requested to participate in a punitive expedition against the Indians, but the Virginia House of Burgesses refuses to authorize funding for a new Virginia regiment (Anderson 2000:619).

A map of Winchester drawn by Andreas Weiderhold dated 1777 (Figure 3) depicts Fort Loudoun as an intact rectangular fort with four bastions. The fort may have been used to quarter British prisoners of war during the American Revolution. A young British officer indicates that approximately 1000 British soldiers were temporarily quartered at the fort in November 1780 (Anburey 1791). Miles (1988:33), who has conducted extensive research on American Revolutionary War prisoner of war camps, suggests that Anburey's account may be unreliable.

The fort is recognized in several nineteenth-century records and accounts. The 1809 Varle map

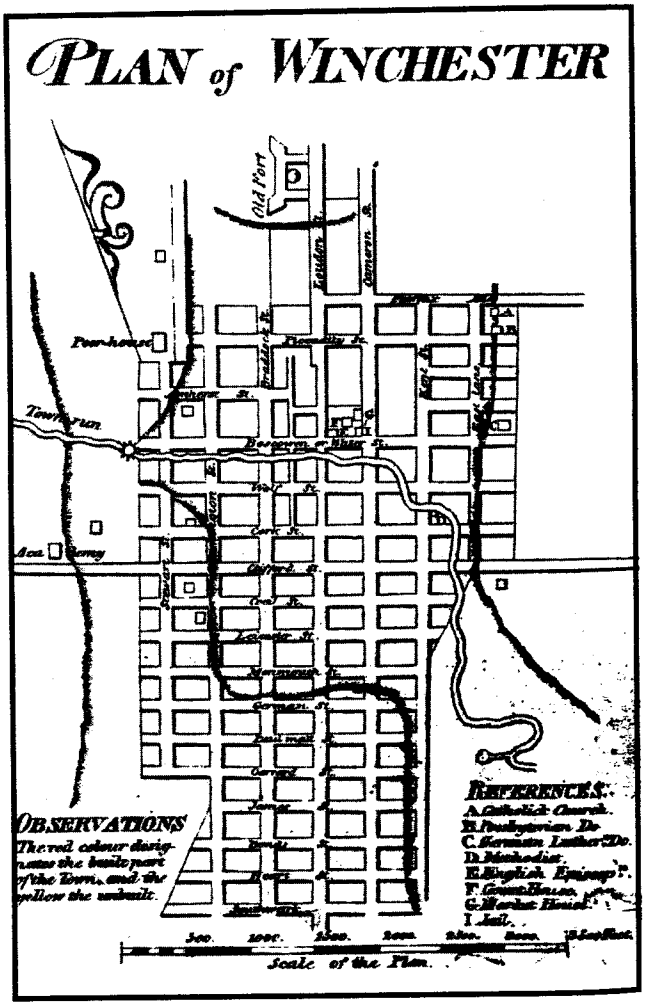

Figure 4. Map of Winchester Depicting Fort Loudoun Dated 1809.

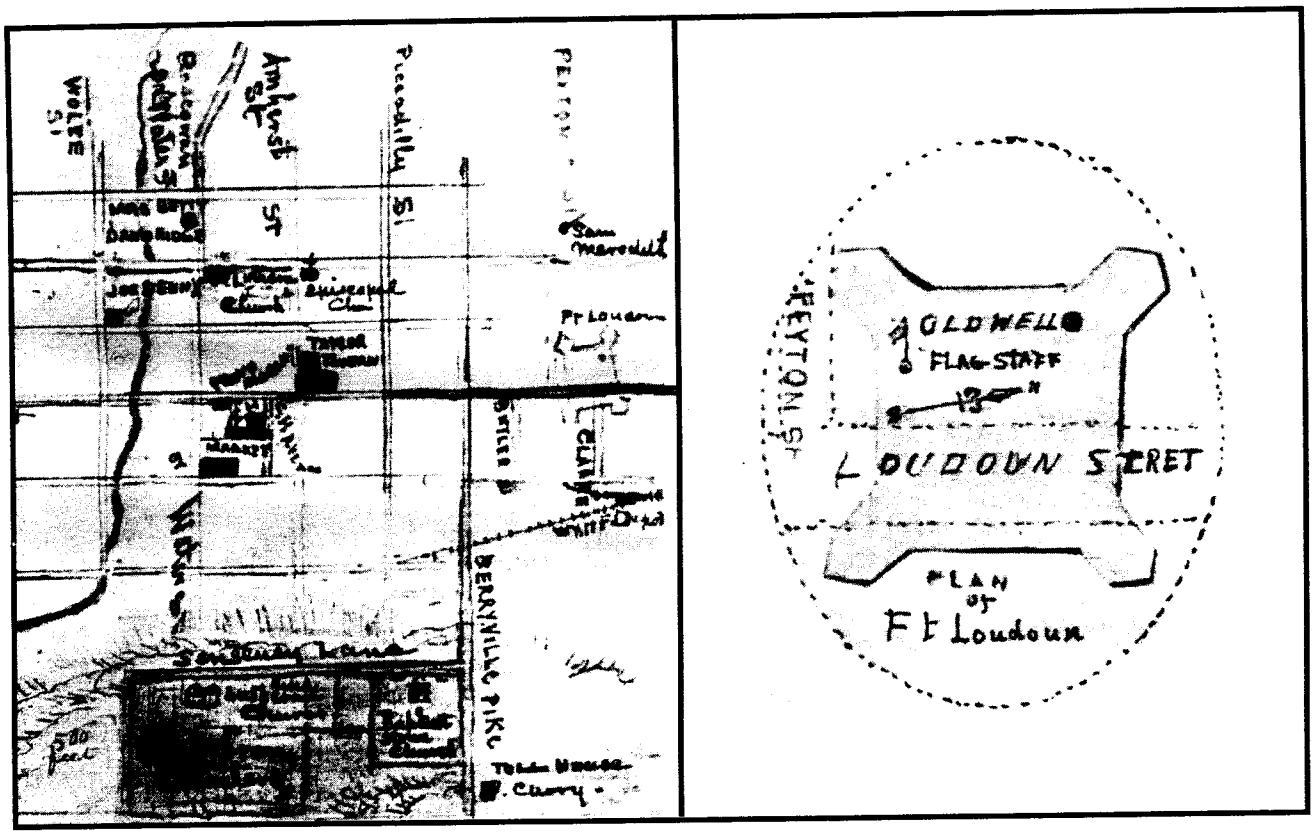

Figure 5. Two Maps of Fort Loudoun Dating to the Civil War.

(Figure 4) depicts the western two thirds of the fort as intact, with a road running through the eastern one third of it. In 1824 a six-pound cannon that had been brought to the fort in 1812 was fired during a new year's celebration (Quarles and Barton 1984:80). In 1864 James Taylor depicts the remains of Fort Loudoun and provides sketches of the well and the southwest bastion (Taylor 1989:566). He also provides two sketches of the fort, one indicating an alignment with the Winchester street grid and another suggesting a north compass alignment (Figure 5).

There were several major battles fought in and around Winchester during the Civil War. During the First Battle of Winchester, Federal troops retreating through the center of town were pursued by the Confederates. Fort Loudoun, situated on the high ground on the north side of town, is strategically located. A note card with the history of Fort Loudoun found at the Darlington-Hardy House site and a newspaper account (*Winchester Star* 1987) indicate that Civil War military artifacts have been found at the site. These accounts suggest Civil War activity associated with one of the battles of Winchester and/or encampment activity.

The fort was recognized as a historic landmark throughout the twentieth century. A large model of the fort was constructed in the 1920s. In 1936 the WPA recorded the fort as a historic site and documented a well preserved southwest corner bastion. This bastion was depicted on linen postcards dating to the 1940s and was bulldozed for a parking lot in the 1950s. Two historical works, one exclusively on the fort (Powell 1990) and the other containing historical information about the fort (Quarles 1974), were published during the second half of the twentieth century.

Today the site of Fort Loudoun is located in a residential neighborhood consisting of structures dating from the mid-nineteenth through the twentieth century. Extant remains include the well and the northeast bastion. The site has been extensively compromised by development and continues to be threatened by additional development.

Darlington-Hardy House

The portion of Fort Loudoun that was investigated

is the northwest portion located on the Darlington-Hardy House lot. Deed records indicate that the house was constructed between 1837 and 1860 (Quarles 1993:188). The house is constructed in the Greek Revival style, which dates to the late 1840-1850s for this part of Virginia (David Edwards 2003, personal communication). The lot was purchased by Reverend Joseph Baker in 1837 and sold by his widow in 1860 (Quarles 1993:188). Deed transactions associated with this property state that it was located on "Fort Hill" (Frederick County Deed Books 11:171, 11:398, 15:433). The house was owned by Hugh C. Malory in 1863 (FCDB 11:171). A sketch of the house depicting General Sheridan returning to Winchester was made by James Taylor in 1864 (Taylor 1989:372). Taylor's notes accompanying his sketch state that three belles of the house welcomed the return of Union troops, suggesting that the house was occupied by Union sympathizers. The house was sold to Flora Darlington in 1886, and it remained in the Darlington family until it was sold to a descendant, Ann Hardy, in 1954 (Quarles 1993:189).

Previous Archaeological Work

Archaeological investigations were conducted at Fort Loudoun in 1992 by Bill Gardner of Thunderbird Archeological Associates (TAA). No formal report of investigations has been completed, but field notes from the excavations were provided by Kimberly Snyder (2002) of TAA. Information provided by Snyder indicate that intact deposits were found in the front and side yards of the house. An archaeological site inventory form was completed in 2002 by the author, and a site number (44FK593) was assigned based on the information provided by TAA.

Other archaeological investigations in Virginia on French and Indian War military sites include testing at the presumed site of Fort Dinwiddie (MacCord 1973) and Fort Chiswell (Hazzard and McCartney n.d.). These reports describe the excavations but do not include detailed information on the artifacts.

Recent investigations in West Virginia include work at Fort Edwards (McBride 2001) and Fort Ashby (Adamson n.d.:35). The primary goal of these investigations was to strip areas of the site to obtain information on fort architecture.

Three French and Indian War period military sites that have been extensively excavated and published are Fort Michilimackinac, Michigan (Cleland 1970; Miller and Stone 1970; Brown 1971; Stone 1974; Hamilton 1976), Fort Ligonier, Pennsylvania (Grimm 1970), and Fort Stanwix, New York (Hanson and Hsu 1975). Reports of investigations on these three sites provide the main comparative body of information for military sites dating to this time period.

Other sites in the gray literature include work at Fort Loudoun, Pennsylvania (Denton 1980), Fort Frederick, Maryland (Boyd 2001), and Fort Bedford, Pennsylvania (Kennedy 2004). Popular works include two published volumes by David Starbuck (1999, 2002) which are based on extensive excavations of French and Indian War military sites in the Hudson River Valley of New York.

Research Questions

The fieldwork was designed to address research questions relating to: (1) the construction of the fort wall/ditch, (2) the construction/function of two structures within the fort, and (3) the material culture of French and Indian War soldiers living on the Virginia frontier. The limited excavations may also yield information that will address research questions relating to social stratification (officers versus soldiers material culture), refuse disposal patterns, subsistence, and interaction/trade with Native Americans and local townspeople.

Field Strategy and Methods

The field strategy was established after several factors had been considered. These factors include: (1) existing site conditions, (2) previous archaeological work conducted by TAA, (3) Washington's design plans for the fort, (4) anticipated locations of nineteenth- and twentieth-century disturbances, and (5) the research design. The area of the Darlington-Hardy tract subject to investigation is limited due to extensive on-site landscaping.

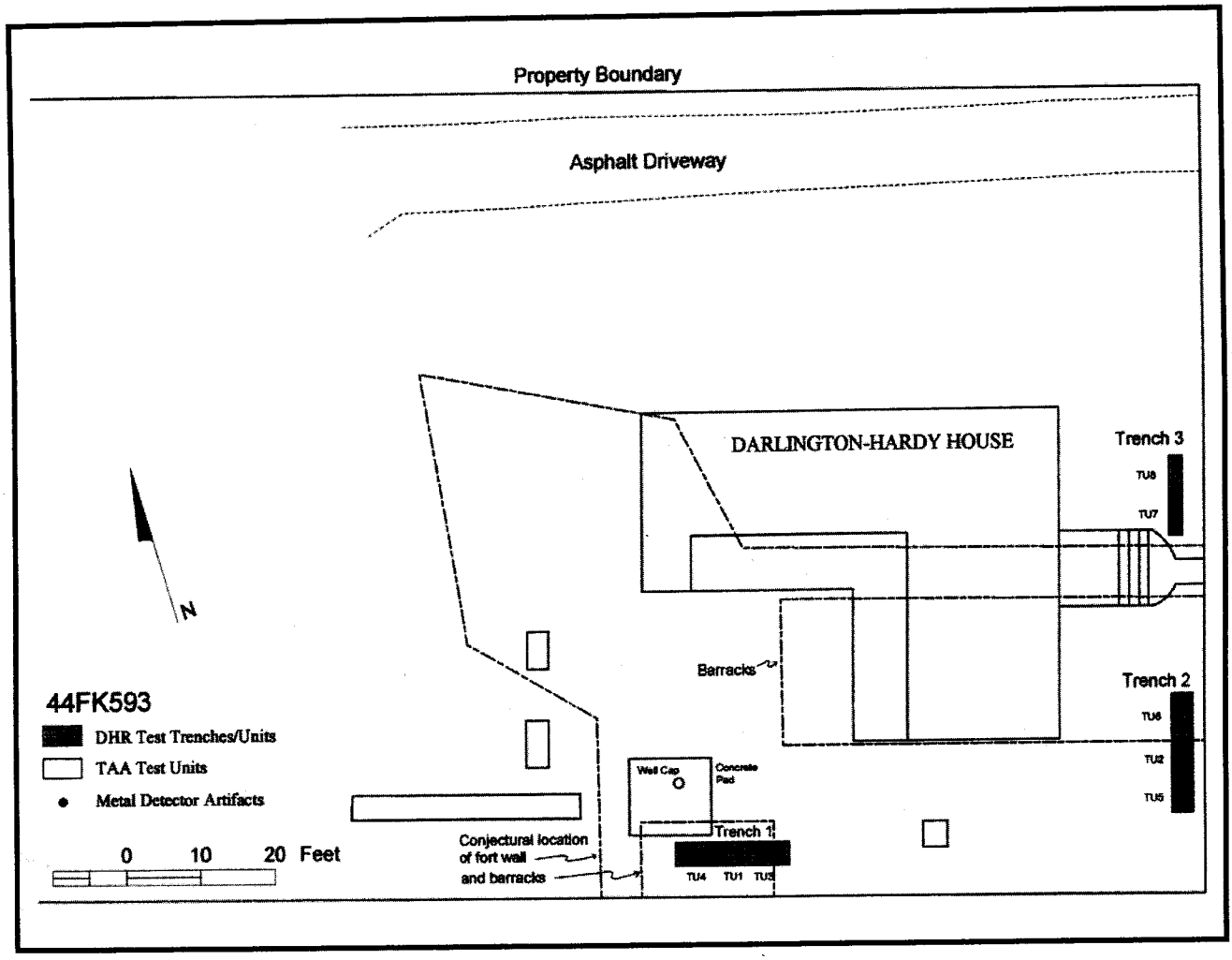

Figure 6. Location of Archaeological Excavations and Conjectural Location of Fort Loudoun.

Shrubs and sidewalks are present in the front and side lots. Archaeological investigations did not focus on the rear lot because previous work conducted by TAA suggested that deposits located in the rear lot had poor integrity. Another reason this area was not examined was that nineteenth- and twentieth-century disturbances (outbuildings, features, and deposits) associated with the house are present in the rear lot. Washington's plan map depicting the location of the well was used to place test units to intersect other fort structures and features on his design plans. Three structures/features of the fort were targeted: (1) the west barracks, (2) the north barracks, and (3) the fort wall and ditch.

To accomplish these goals, exploratory trenches were excavated. The trenches were placed to intersect two structures and the fort wall/ditch. The trenches were excavated in five-foot segments to maintain horizontal control. After the initial test unit had been excavated and integrity determined, the remainder of the proposed trench was excavated. Three test trenches were excavated: Test Trench 1, a 3 x 15' trench consisting of three 3 x 5' test units (1, 3, and 4); Test Trench 2, a 3 x 15' trench consisting of three 3 x 5' test units (2, 5, and 6); and Test Trench 3, a 2 x 10' trench consisting of two 2 x 5' test units (7 and 8).

Figure 6 shows the location of the test units on a surveyor's plan of the Darlington-Hardy House. The conjectural location of the fort wall and two structures is depicted on this map. The conjectural location is based on extrapolations made from Washington's two plans, one depicting the well and the other containing a scale. The orientation of the fort is not known. The orientation used for this conjectural map is consistent with the Winchester street grid as depicted on the 1777 Weiderhold and 1809 Varle maps.

A surveyor's plat of the house site was used to establish a grid based on the orientation of the house (17 degrees east of north). The English system of measurement was used to expedite the fieldwork. The surveyor's plat used for the grid was in the English system and the fort and nineteenth-century domestic site were constructed using the English system. Any regularity in the spacing or patterning of archaeological features or structures at the site would conform to this system of measurement.

All test units were excavated according to natural stratigraphy. The fill from all fort period deposits and features was screened through 1/4-inch hardware cloth. Standard 10-liter soil samples were obtained from those areas of the site that had intact fort period deposits. These samples were water screened through 1/16-inch hardware cloth to recover small artifacts (shot, pins, beads, etc.) and small faunal elements. Forms were completed for each level of each test unit along with plan views and representative profiles. Notes were made on the soils and artifacts recovered from each layer.

A metal detector survey for the fort component of the site was not part of the initial field strategy due to previous reports of heavy metal detecting and the prevalence of nineteenth- and twentieth-century material culture in the upper deposits. After a Civil War period military artifact was found in the upper deposits of Test Unit 2, a metal detector survey was conducted to assess the Civil War military component of the site. The front and side lots were intensively examined by three individuals using their personal metal detectors. Two different types of metal detectors, a Fisher 1266X and a Whites Spectrum XLT, were used.

Test units excavated by TAA were mapped based on the TAA field notes and existing depressions.

Results of the Investigations

Three exploratory trenches encompassing 110 square feet of the site were excavated. Intact Fort Loudoun period deposits were found in two of the test trenches. One structure, four features, and four postholes were found. The structure, four of the features, and one of the post holes date to the Fort

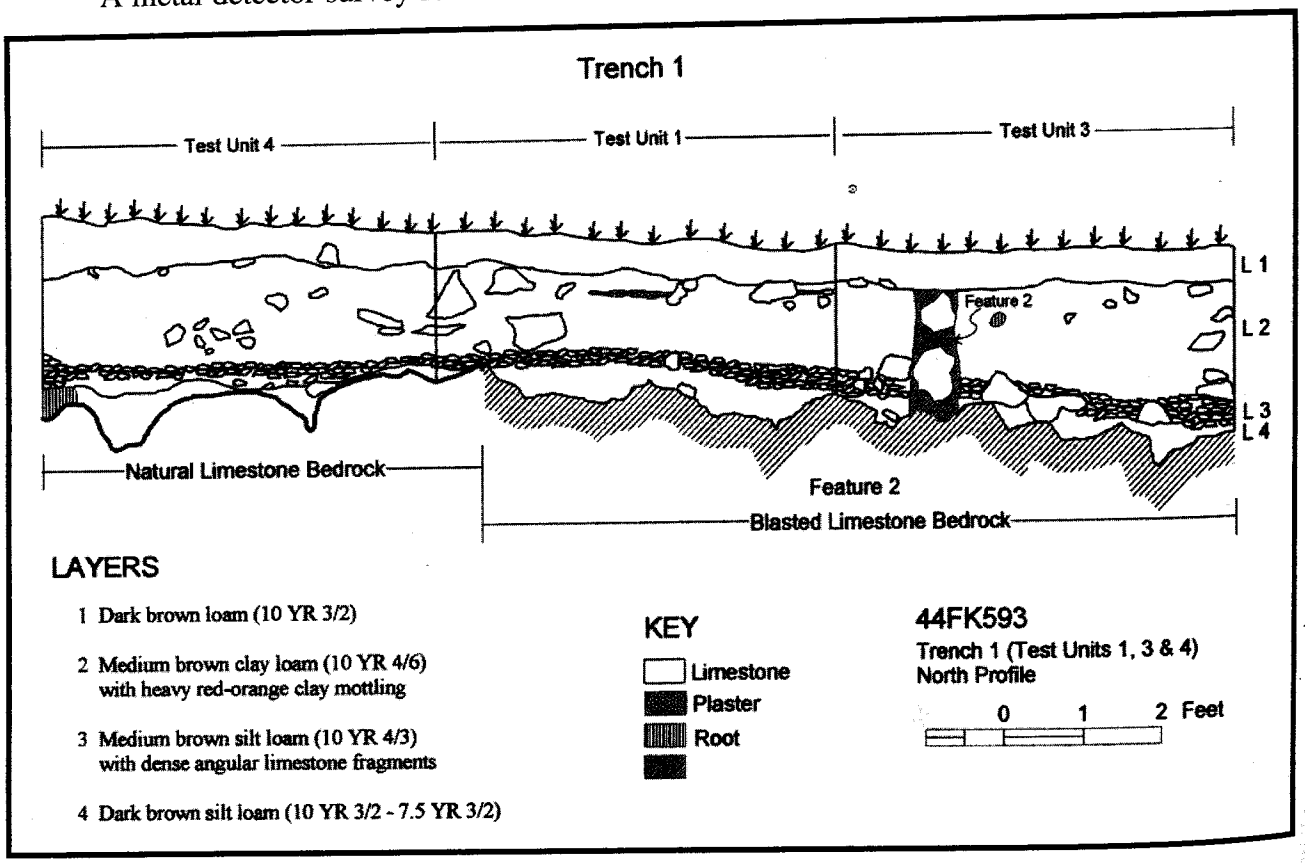

Figure 7. Test Trench 1, North Profile, at Fort Loudoun.

Loudoun period.

Test Trenches

Test Trench 1 (Test units 1, 3, and 4)

Test Unit 1 was the first unit of Test Trench 1 excavated. After intact fort period deposits were found, two additional test units (3 and 4) were placed on either side of Test Unit 1 to form a continuous 3 x 15' trench. The trench was excavated to intersect the west barracks depicted on Washington's plans for the fort. The test trench is located seven feet to the south of the fort's well. Four layers were encountered in Test Trench 1 (Figure 7).

Layer 1 was a 0.4-0.8' deposit of dark brown loam (10YR3/2) containing primarily nineteenth- and twentieth-century artifacts. The fill from all three test units in Trench 1 was screened through 1/4-inch hardware cloth. Although this layer was known to contain post Fort Loudoun period deposits, this recovery method was used to obtain a representative sample of Darlington-Hardy period material culture and to obtain more information on the Civil War military component of the site.

Layer 2 measured 1.1-1.4' in thickness and consisted of medium brown clay loam (10YR4/6) with heavy red-orange clay mottling. This layer of redeposited fill was possibly deposited when the basement of the house was excavated. Artifacts from this layer date from the eighteenth through the twentieth centuries. There is a moderate amount of limestone rock in the layer. The fill from Test Unit 1 was screened thorough 1/4-inch hardware cloth, but after it was realized this layer was redeposited fill, only fort period artifacts were retrieved from Test Units 3 and 4.

Layer 3 consists of a dense layer of angular limestone rocks with medium brown silt loam (10YR4/3) matrix. The angular limestone is rock blasted during construction of the well and barracks of Fort Loudoun. Layer 3 is 0.1-0.5' thick and 98% of the artifacts date to the Fort Loudoun period. The fill from this layer was screened through 1/4-inch hardware cloth, and a ten-liter sample was obtained for 1/16-inch water screening. The layer of blasted limestone rock is level in the western one-half of the unit and dips 0.5' in the eastern half of the unit. This layer consists of blasting debris that was uniformly spread out to form a level surface.

Layer 4 is a 0.1-0.6' dark brown silt loam (10YR3/2), with the western one-third of the unit having a slightly lighter color (7.5YR3/2). Most of the artifacts (99%) recovered from this layer date to the Fort Loudoun occupation. All fill from this layer was screened through 1/4-inch hardware cloth, and a 10 liter sample was obtained for 1/16-inch water screening. Layer 4 is underlain by limestone bedrock. The limestone bedrock in the western portion of the unit is natural bedrock, but the bedrock in the eastern portion of the unit has been blasted. The blasted bedrock was designated Feature 1 and is more fully discussed in the feature section of the report.

Test Trench 2 (Test units 2, 5, and 6)

Test Unit 2 (3 x 5') was the first unit of Test Trench 2 excavated. Three layers and one feature containing fort period artifacts were encountered in this test unit (Figure 8). Two additional test units were excavated forming a continuous 3 x 15' trench. The test unit was placed to intersect the wall of the north barracks depicted on Washington's design plans.

Layer 1 was a dark brown loam (7.5YR3/2) measuring 0.3 x 0.6' in thickness. Nineteenth- and twentieth-century artifacts were recovered from this layer. The fill from Test Unit 2 was screened through 1/4-inch hardware cloth. The fill from Layer 1 of the other two test units was not screened because the layer was found to contain deposits that postdated the occupation of the fort.

Layer 2 was a medium brown silt clay (7.5YR4/4) measuring 0.3 x 0.5' in thickness. The layer had a dense amount of handmade brick rubble dating to the nineteenth century. The fill from Test Unit 1 was screened through 1/4-inch hardware cloth. The fill from the remainder of the trench was not screened because the layer was found to contain deposits that postdated the occupation of the fort.

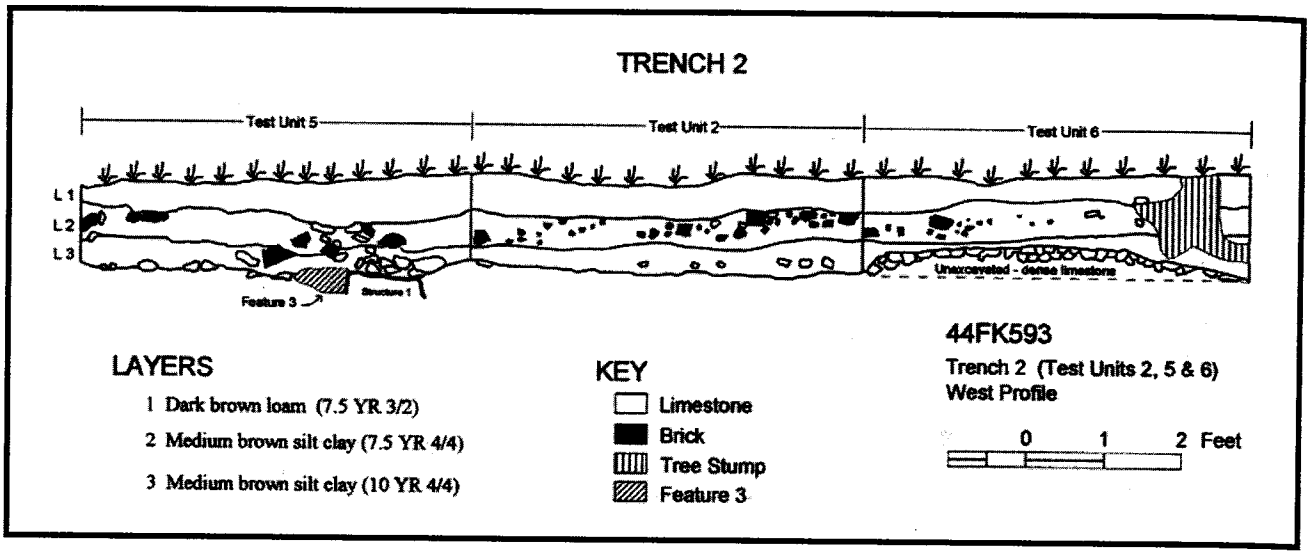

Figure 8. Test Trench 2, West Profile, at Fort Loudoun.

Layer 3 was a medium brown silt clay (10YR4/4) 0.2-0.5' thick. This contains a dense amount of limestone. The density of limestone was so great in the northern portion of the unit that it was not excavated. A mixture of eighteenth- through twentieth-century artifacts was recovered from this layer. The fill from Test Unit 1 was screened through 1/4-inch hardware cloth, and the fill from the remainder of the trench was trowel sorted for artifacts. At the base of Layer 3, one structure, three features, and one posthole dating to the Fort Loudoun period were defined in the yellow clay subsoil (Figure 9).

Test Trench 3 (Test units 7 and 8)

Test Trench 3 was the last trench excavated. It consisted of two separate 2 x 5' units that formed a 2 x 10" trench (Figure 10). A larger size trench could not be excavated at this location due to landscaping (brick walkway and shrubbery). The trench was excavated to locate the fort wall/ditch, as these features were located in this vicinity on Washington's design plans. A decision was made to trowel sort the artifacts recovered in the upper layers of the trench and to screen any intact fort period deposits through 1/4-inch hardware cloth if they were encountered. Few artifacts were found. Since artifacts in this trench predominantly dated to the nineteenth and twentieth century and no intact fort period deposits were encountered, all layers in this test trench

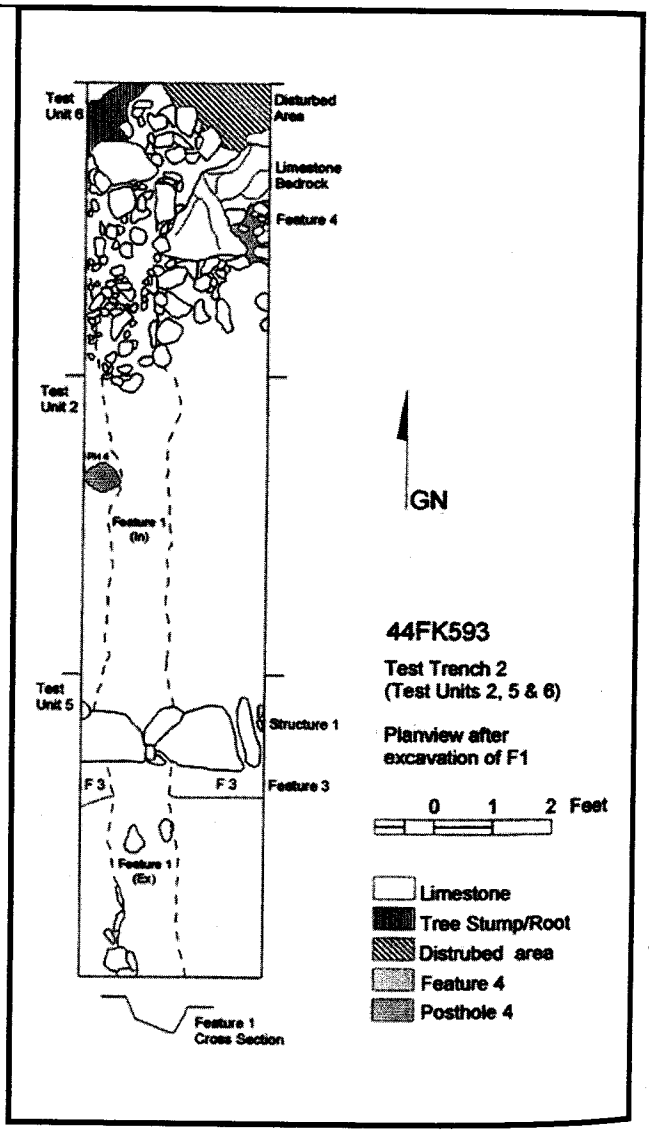

Figure 9. Test Trench 2, Plan View after Excavation, at Fort Loudoun.

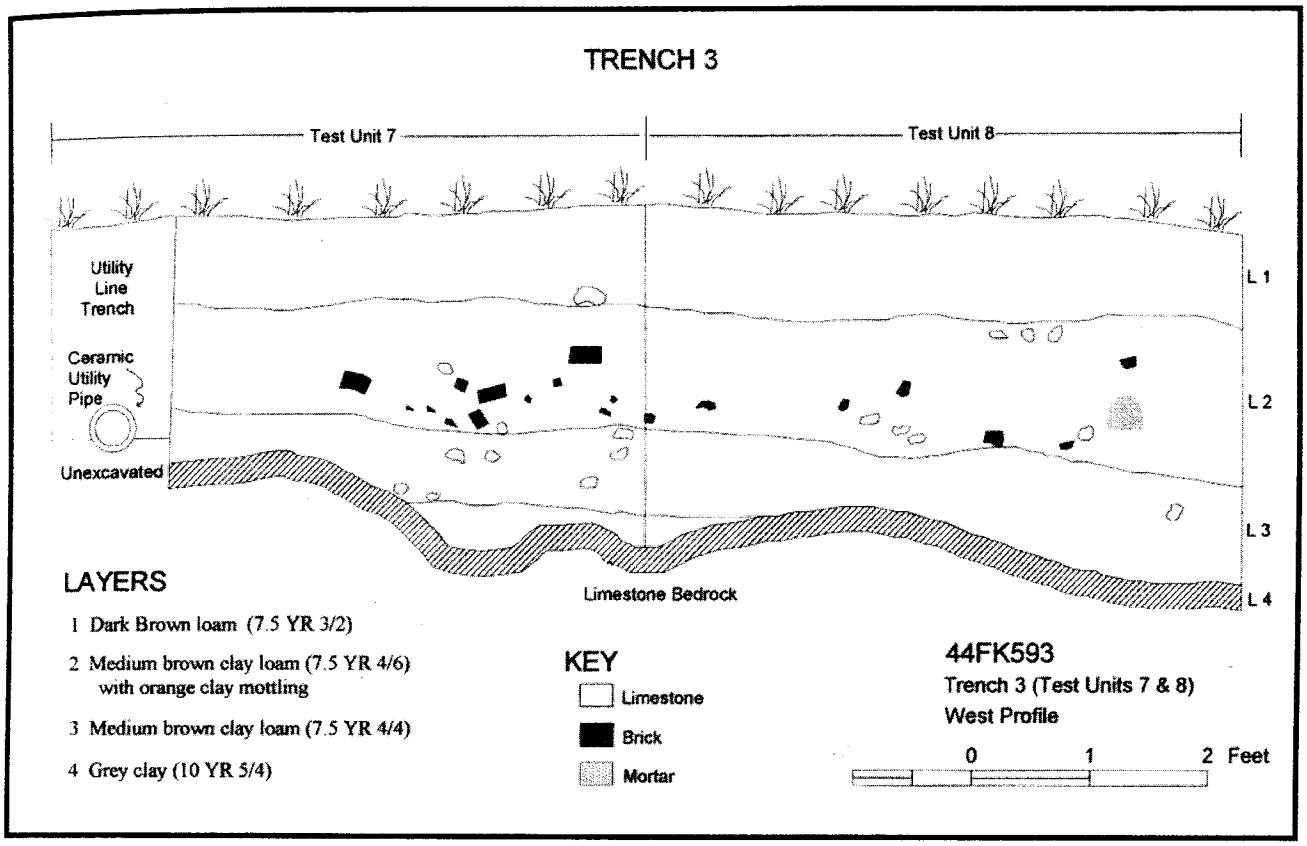

Figure 10. Test Trench 3, West Profile, at Fort Loudoun.

were trowel sorted for artifacts.

Layer 1 consists of dark brown loam (7.5YR3/2) 0.7-0.8' thick. A few artifacts, mostly dating to the nineteenth and twentieth century, were found in this level. Layer 2 was a medium brown clay loam (7.5YR4/6) with orange clay mottling 0.8-1.3' thick. A few artifacts dating predominantly to the nineteenth and twentieth century, along with brick rubble and mortar, were recovered from this disturbed layer. Layer 3 was a medium brown clay loam (7.5YR4/4) 0.4-0.9' thick. A ceramic utility line was discovered in the southern portion of the trench. Natural limestone bedrock was encountered in part of the trench. One artifact, a handwrought nail, and a bone were recovered from this layer. After encountering natural limestone bedrock in part of the unit, a one-foot wide trench along the length of the west profile was excavated. Natural limestone bedrock was encountered at the base of Layer 3 in most of the test trench. Layer 4 extended for three feet in the central portion of the trench in an area where bedrock was located further beneath the surface. Layer 4 was gray clay 0.1-0.4' thick. No artifacts were found in Layer 4.

No intact fort period deposits were encountered in Test Trench 3. The paucity of fort period artifacts and absence of fort period features/deposits suggests that this unit is located outside the fort wall in the area of the planned ditch. The presence of natural limestone bedrock at this location is consistent with the 1760 account of Burnaby (n.d:41), whose description of the fort states "the soldiers attempted to surround it with a dry ditch; but the rock was so extremely hard and impenetrable, that they were obliged to desist."

Consideration was given to extending this test unit to the south to try to locate the fort wall, but extensive landscaping at this location (boxwoods and sidewalk) precluded this possibility.

Features

Feature 1

Feature 1 is a linear trench measuring 0.8-1.4' wide and 0.5' deep, which runs the length of Test Trench

2 (see Figure 9). The feature fill is a medium brown clay loam (10YR4/6) and contains a dense quantity of limestone rock. Limestone rock lines the sides (but not the bottom) of the feature. The limestone rocks vary in length from 0.2-0.5'. A 10-foot section of the feature encompassing Test Units 2 and 5 was excavated. The portion of the feature contained in the northern portion of Test Trench 2 had a heavy concentration of limestone rock and was not excavated. The floor of the excavated feature has a 0.3' slope to the south. All fill from the feature was screened through 1/4-inch hardware cloth, and a 10-liter sample of fill was water screened through 1/16-inch hardware cloth. The artifacts recovered date to the Fort Loudoun occupation and include a wide variety of artifact types. The feature is associated with Structure 1 and Feature 3, the builder's trench for Structure 1. The feature cuts through Feature 3, the builder's trench, as evidenced by the presence of limestone rock lining the feature within the builder's trench.

Feature 1 was most likely a drainage ditch dug to keep the barracks dry. A similar feature (sloping trench with rock lining the sides) excavated at Fort Loudoun, Pennsylvania, was interpreted as a drainage ditch (Denton 1980:67). The intrusion of this feature into the foundation wall of the barracks suggests that additional drainage was needed for this structure.

Feature 2

Feature 2 is a 9.5' length of blasted limestone bedrock with auger holes. The blasted bedrock is distinguished from the smooth weathered natural bedrock by its fractured, angular surface. Two *in situ* auger holes are present. The auger holes have a 1 to 1-1/8" diameter. Washington's account books have an entry dated April 22, 1758 paying John Christopher Heintz for working in the barracks yard 16 days blowing rock (Quarles 1974:37).

Feature 3

Feature 3 is a builder's trench associated with Structure 1. The feature measures 0.5-0.7' in width, is 0.3' deep, and is located on the south side of Structure 1. The soil was a medium brown clay loam (10YR3/2). All fill was screened through 1/4-inch hardware cloth. Artifacts recovered include ceramics, glass, nails, white clay pipe fragments, one button, and faunal remains. The profile of Feature 3 is shown in Figure 8. Feature 1 intrudes into this feature.

Feature 4

Feature 4 is a concentration of fort period artifacts encountered in Layer 3 of Test Unit 6 of Test Trench 2. The feature measures 0.6 x 1.0' and extends into the east balk of the unit. The feature is located in the crevice of a bedrock boulder. The feature could not be defined by distinctions in the soil. The artifacts include a high percentage of Clothing Group artifacts (three buckles and one button) along with one ceramic, nails, white clay pipe fragments, musket balls, one iron shot, and one fragment of bone. This feature may be the location where artifacts were deposited after the fort grounds were policed.

Structures

Structure 1

Structure 1 is located in Test Unit 5 of Test Trench 2. It is a well-defined limestone wall measuring 1.0-1.1' wide. The wall is made of large limestone blocks. The blocks extend to a depth exceeding 0.5' into the yellow clay subsoil. An auger hole with a 1" diameter similar to those auger holes associated with Feature 1 is evident on the largest limestone rock in the foundation. Structure 1 has an associated builder's trench (Feature 3). This wall is in the vicinity of the north barracks depicted on Washington's design plans for the fort. This wall is likely the south wall of the barracks.

Postholes

Four postholes were identified. Postholes 1-3 were found in Trench 1. Two were excavated and the fill screened through 1/4-inch hardware cloth. The other posthole was defined in the profile. The lev-

el of definition for the three postholes and the artifacts in the fill indicate a twentieth-century date. These posts likely represent fence posts along the property line.

Posthole 4 is located in Test Trench 2 and was defined at the base of Layer 3. The origin of definition suggests that it dates to the Fort Loudoun period. It was found in association with Feature 1. This posthole was not excavated.

Artifacts Recovered

South's (1977:90-102) classificatory scheme for historic artifacts was used. Although this investigator (Jolley 2002) has found Stone's (1974) classificatory scheme better suited for nineteenth- and twentieth-century sites, South's scheme is well suited for eighteenth-century historic artifact assemblages. Since most historic archaeologists use South's classificatory scheme, this allows for comparative analyses between sites. Modifications to South's scheme include consolidation of his bottle classes into one glass container category (due to the fragmentary nature of the assemblage), with distinctions based on color. An unclassified category was established to accommodate those artifacts that could not be identified or did not comfortably fit into South's categories.

None of the known date ranges for various artifacts are as tightly bracketed as the known date for the Fort Loudoun occupation derived from historic documentation (1756-1762). An important aspect of the site is that all fort period artifacts were deposited within a six-year time frame.

Artifact measurements are provided in the metric system with consideration given to the English system for certain artifact types (tobacco pipes and some arms/military artifacts) for comparative purposes.

Fort Loudoun Component

The artifact discussion of the Fort Loudoun component is divided into two sections. The first section discusses the artifacts recovered from traditional recovery methods, and the following section discusses the artifacts recovered from the 10-liter soil samples water screened through 1/16-inch hardware cloth. The Fort Loudoun artifact component assemblage is listed in Table 1.

Kitchen Group

Ceramic containers

A total of 220 ceramics dating to the Fort Loudoun component was found. The ceramics in order of greatest number are: coarse earthenware (56.3%), white salt-glazed stoneware (17.3%), tin-glazed earthenware (16.8%), Rhenish stoneware (4.1%), Chinese porcelain (3.2%), English porcelain (1.8%), and Whieldon (0.5%). The majority (74.5%) of ceramics were recovered from Test Trench 1. Selected ceramics are depicted in Figure 11.

Seven fragments of Chinese porcelain are represented. Four are undecorated and three have blue underglaze decorations. The fragments are small, but the two rim sherds likely represent teacups or saucers. Four fragments of English porcelain, all decorated with underglaze blue, representing a minimum of one vessel (teacup or saucer) are represented. English porcelain was, for the most part, made into tea wares that date from 1755 to 1775 (Nöel Hume 1969:137). All of the English porcelain and most of the Chinese porcelain was recovered from Test Trench 1.

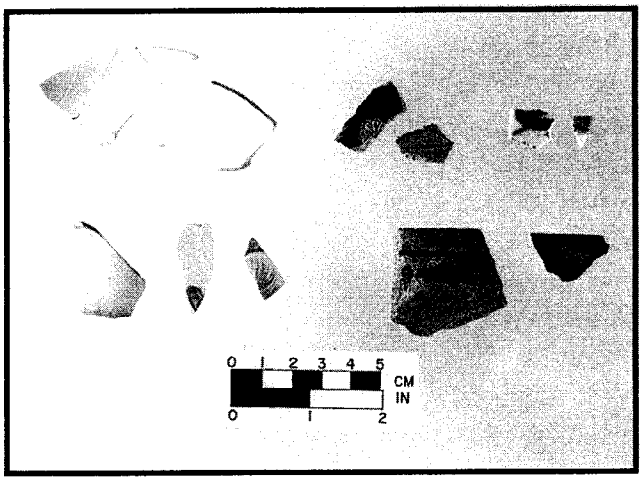

Figure 11. Selected Ceramics. Top row: white salt-glazed stoneware, Rhenish stoneware, and Chinese porcelain; bottom row: tin-glazed earthenware and redware.

Table 1. Fort Loudoun Component Artifact Assemblage.

	Test Trench 1 Layers			Test Trench 2 Layers		Test Trench 3 Layers			Features			Postholes	Total
	1 & 2	3	4	1 & 2	3	1 & 2	3	4	1	3	4		
Kitchen													
Ceramic Containers													
Porcelain													
Chinese		4			1				1		1		7
English	1	2	1										4
Stoneware													
White salt-glazed	6	10	14		4	2			2				38
Renish	1	3			2				3				9
Earthenware													
Tin-glazed	6	6	7		8	1			8	1			37
Whieldon			1										1
Coarse	3	46	53		8				13	1			124
Glass containers													
Olive-green	22	23	12		7				5	43		1	113
Green		2	3										5
Blue-green		4											4
Clear			2		2				2	1			7
Stemmed ware		4	1										5
Architectural													
Window glass		2	1		1								4
Handwrought nails	16	68	52		57	2	1		36	8	3	1	244
Corroded nails		24	35		28				12				99
Arms													
Musket balls		1			3				6		2		12
Shot			1		3				2				6
Melted lead									1				1
Gunflints		1	1		1				1				4
Gun parts					1				1				2
Clothing													
Buttons	1	5	2		3	1			1	1	1		15
Buckles		1	1								3		5
Hook/eye fasteners	1	1							1				3
Personal													
Jewelry		2							1				3
Writing implements		1											1

Table 1 (continued).

	Test Trench 1 Layers			Test Trench 2 Layers		Test Trench 3 Layers			Features			Postholes	Total
	1 & 2	3	4	1 & 2	3	1 & 2	3	4	1	3	4		
Tobacco Pipes													
White clay	1	16	19		4				5	2	7		54
Activities													
Military													
Iron shot	1	11	1		30				16		1		60
Mortar shells	1	1											2
Bayonet					1								1
Dagger					1								1
Recreation													
Toys					1								1
Stable and Barn													
Hardware					1								1
Unclassified		6	4		5				2				17
Total	60	244	211	0	172	6	1	0	119	57	18	2	890

Thirty-eight fragments of white salt-glazed stoneware were recovered. Thirty-six fragments are undecorated and two have scratch blue decorations. A minimum of one tea saucer is represented. There are no decorative treatments on the rim sherds. White salt-glazed stoneware was the typical English tableware of the mid-eighteenth century (Nöel Hume 1969:115) and the most commonly used tableware on British military sites in 1760 (Sussman 1978:96).

Nine fragments of Rhenish stoneware were found. This ceramic type is also referred to as Westerwald, as most of the wares were produced in the Westerwald district of the Rhineland (Nöel Hume 1969:280). Five sherds are decorated with cobalt blue (one with a floral stamp and two with incised lines), and one is decorated with purple manganese and a molded relief. Two mugs or tankards are represented. Nöel Hume (1969:283) suggests that this ceramic type lost popularity in England and America in the 1760s.

Tin-glazed earthenware, commonly called delftware, is represented by 37 sherds (21 undecorated, 11 blue, one purple, and four polychrome). Tin-glazed earthenware was manufactured throughout Europe in the eighteenth century (Miller and Stone 1970:26), but most of the wares found in America are likely of English, French, or Dutch origin. Most of these ceramics were decorated blue in imitation of Chinese porcelain (Hanson and Hsu 1975:122). A minimum of three vessels are represented: one large bowl with polychrome design, one lid fragment from a tea pot or covered bowl, and one small jar. The small jar is similar to pharmaceutical jars depicted by Nöel Hume (1969:205).

The majority of ceramics (56.3%) consist of coarse earthenwares used mostly for utilitarian purposes. The sample consists of 77 lead glazed, five slip decorated, two unglazed, and 40 residual sherds (i.e., sherds with eroded surfaces). There are two tribeaded pans/dishes and one crock with a square-everted folded rim represented.

One sherd of Whieldon or Clouded ware was recovered. Nöel Hume (1969:124) loosely classifies this ware as "Whieldon ware," South (1977:211) refers to it as Clouded ware, and Smith (1993:192) describes it as glazed cream-bodied refined earthenware. Sherds were glazed purple, blue, brown, yellow, green, and gray over a cream body (Nöel Hume 1969:123). The sherd recovered from Fort Loudoun was glazed brown and gray. Nöel Hume (1969:124) places the date of manufacture of this ware at 1750-1775 and South (1977:211) dates it from 1740 to 1770.

The types of ceramics recovered from Fort Loudoun are similar to those recovered from other contemporaneous French and Indian War period fortification sites at Fort Michilimackinac (Stone 1974), Fort Stanwix (Hanson and Hsu 1975), Fort Ligonier (Grimm 1970), and Fort Frederick (Boyd 2001). The ceramics used at these frontier sites were similar to those used in other areas of the colonies (Stone and Miller 1970:94).

South's (1977:210-212) date range for 87 recovered ceramics (Chinese porcelain, English porcelain, white salt-glazed stoneware, Rhenish stoneware, tin-glazed earthenware, and Whieldon ware) was used to calculate a mean ceramic date. The date derived is 1747.96, which is approximately 10 years earlier than the mean date of Fort Loudoun. The early date derived from the mean ceramic formula may reflect sample size or time lag between when the ceramics were manufactured versus when they were deposited in the archaeological record (cf. Adams and Gaw 1977:228).

Glass containers

Archaeologists analyzing assemblages from eighteenth-century fort sites have attempted to classify glass according to the type of containers identified by South (1977), but this has resulted in large percentages of unidentified glass (Smith 1993:213; Smith and Nance 2000:171). This approach is compounded by differences between how investigators classify some container types (Smith 1993:219) and the inherent problem of not knowing how some eighteenth-century commercial products were bottled (Jones and Smith 1985:60). The assemblage of glass recovered from Fort Loudoun (n=134) was analyzed according to color and type of container. Selected glass artifacts are depicted in Figure 12.

The majority of glass (84%) is olive-green in color. This color was used primarily for alcoholic beverage containers, specifically wine and case bottles, and to a lesser extent for pharmaceutical and commercial sauce glass containers (Jones and Smith 1985). Four fragments of "wine" bottles, representing a minimum of three different vessels, were identified based on necks and base fragments. The 43 fragments recovered from Feature 3 appear to represent the remains of a complete wine bottle that was discarded in the builder's trench. The neck of this bottle has a downtooled V-shaped rim.

Most of the olive-green glass containers identified according to the type of vessel were recovered from Test Trench 1. Two fragments of olive-green colored case bottles representing a minimum of one container were recovered. South (1977:171) suggests that case bottles should be found in greater frequencies at frontier and military sites since they may have been easier to transport, but his suggestion is not supported by the large percentage of "wine bottles" identified at Fort Stanwix (Hanson and Hsu 1975:128).

Five fragments of stemmed ware representing a minimum of one wine glass were recovered. Three foot fragments and two stems were recovered. The two stems have an elaborate opaque spiral air twist with five thin lines on the outside. This type of stemmed ware dates from 1750 to 1780 (Brown 1971:120). The length of the stem recov-

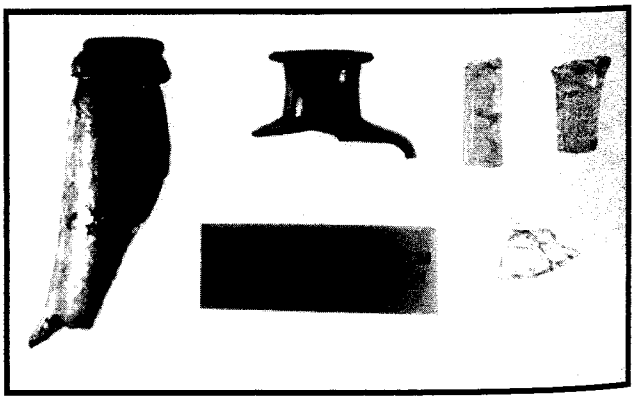

Figure 12. Selected Glass: Wine Bottle Neck, Case Bottle Neck, and Stemmed Ware.

ered places it in Brown's (1971:119) long-stemmed vessel category. The social use and cost of stemmed wares suggest that it was owned by an officer (Brown 1971:107).

Other glass recovered from the excavations includes five green, seven clear, and four blue-green fragments. One of the clear container fragments is represented by a base with a high kick. The four blue-green glass fragments may be of French origin (Brown 1971:105; Hanson and Hsu 1975:130). Blue-green glass has been previously found on British military sites dating from the 1750s and 1760s (Jones and Smith 1985:63).

Architectural Group

The Architectural Group consists of 347 artifacts. Most of the artifacts in this category (98.8%) are nails, and the remainder is window glass (1.2%).

Four fragments of window glass were found. Most (n=3) were recovered from Test Trench 1. Window panes were used in the construction at Fort Loudoun. Washington requests 200 panes of window glass measuring 8 x 10" in a letter written in 1757 (Abbot et al. 1984b:165).

The research potential of nails has been previously demonstrated by several investigators (cf. Inashima 1994:46), but the Fort Loudoun nail assemblage is not well suited for detailed analysis. Nails are not well preserved: 34.6% are too corroded to positively identify as to type. The context of the artifacts suggests that they are likely handwrought, and 244 were positively identified as handwrought.

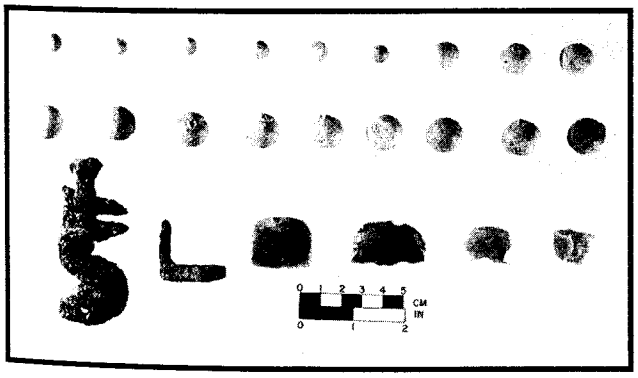

Figure 13. Selected Arms Group Artifacts. Top and center rows: shot and musket balls; bottom row: gun cock, sear, and gunflints.

Given the poor state of nail preservation, the nails were not measured to determine pennyweight, but most complete specimens appear to be greater than 8d in size. Historic documentation indicates that Washington ordered 4d nails and brads for Fort Loudoun in 1757 (Abbot 1984b:165), but this was likely an order for finishing nails. A variety of nail sizes (2d, 4d, 6d, 8d, flooring brads, and spikes) were stored at Fort Loudoun when it was constructed (Washington 1741-99:827)

Arms Group

This group consists of musket balls, gunflints, and gun parts. Selected artifacts are depicted in Figure 13.

Twelve lead musket balls were recovered. Most of the musket balls (n=11) were recovered from Test Trench 2 and associated Features 1 and 4. The caliber of the balls was determined by using the maximum measurement derived from a pair of calipers. Seven different calibers are represented: .58 (n=1), .62 (n=1), .65 (n=1), .69 (n=3), .70 (n=4), .72 (n=1), and .74 (n=1). The caliber of the English Brown Bess and other English guns was .75, and the caliber for the French Infantry musket was .69 (Hamilton 1976:33). Balls were intentionally manufactured smaller than the bore diameter. Hamilton (1976:33) suggests that balls with diameters .69-.73 were used in English muskets, and balls with diameters of .63-.67 were used in French muskets. Other investigators (Hanson and Hsu 1975:80) suggest that balls with a .66-.72 caliber were used in .75 caliber weapons. Most of the musket balls (n=9) recovered from Fort Loudoun fall within the caliber range (.69-.74) of English muskets. The musket ball recovered with a .62 caliber falls within the caliber range for a French musket (Hanson and Hsu 1975:80; Hamilton 1976:33).

Three of the musket balls have prominent seam marks and are uneven, suggesting they were cast in the field rather than manufactured in a production mold (Hamilton 1980:28). Such casting methods reflect frontier conditions where lead from imported pigs or local mines were used for musket ball manufacture (Hamilton 1980:28). The three

field cast musket balls measure .58, .72, and .74 caliber. These dimensions represent the maximum diameter of uneven balls.

Four of the musket balls display cut marks: one has been extensively mutilated with cut marks and three have minor cut marks. Two are partially deformed and may have been fired.

Hamilton (1976:35) classifies lead shot measuring between .45 and .247 as buck and swan shot. Six lead shot measuring between .36-.41 calibers were recovered from Fort Loudoun. The distribution of the shot is similar to that of the musket balls with the majority (n=5) recovered from Test Trench 2 and associated Feature 1.

One small fragment of molten lead, likely the result of on site manufacture of musket balls, was recovered.

Four gunflints were recovered. Much has been written by archaeologists on gunflints (Witthoft 1966; Stone 1974: Hanson and Hsu 1975; Hamilton 1980; Kent 1983). The two major schemes used to classify gunflints are based on method of manufacture and origin. Two gunflints made on spalls of dark gray-black flint are likely of English manufacture. These two specimens are intact and measure 26 x 32 x 7 mm and 37 x 23 x 10 mm. One shows signs of having been used/ resharpened. The other two gunflints were made on blades of grayish honey colored flint and are likely of French manufacture. Both specimens show signs of heavy use/resharpening. They measure 22 x 25 x 9 mm and 21 x 17 x 10 mm. Gunflints were used and stored at Fort Loudoun and on one occasion 1200 gunflints were shipped from Fort Loudoun to Colonel Stanwix (Abbot 1984b:184).

Two gun parts were found. One gun cock with an attached flint screw and upper jaw was recovered from Feature 1. A sear was recovered from Test Trench 2. Guns were repaired at Fort Loudoun. A 1758 report on the arms at Fort Loudoun indicates that 160 muskets had been repaired (Abbot 1988a:352).

Clothing Group

This group consists of buttons, buckles, and hook and eye fasteners. Selected artifacts are depicted in Figure 14.

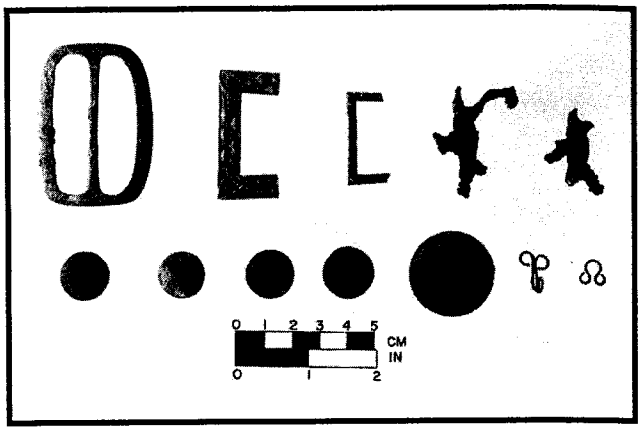

Figure 14. Selected Clothing Group Artifacts. Top row: buckles; bottom row: buttons and hook and eye fasteners.

Buttons

Fifteen buttons were recovered from the site, the majority (53%) of which were from Test Trench 1. There are several different button typologies that have been established for eighteenth-century buttons (Olsen 1963; South 1964; Stone 1974). South's (1964) typology was found to best fit the sample of buttons recovered from Fort Loudoun.

The greatest number of buttons (n=5) conform to South's Type 7. These buttons are cast with the eye in place and have casting spurs and a spun back (South 1964:117). Four of the buttons are made of white soft metal and one is brass. The diameters range from 17-28 mm. South has established a date range of 1726-1776 for this button type. Stone's (1974:53) analysis of buttons recovered from Fort Michilimackinac suggests that these buttons date from 1750-1780 and were used by civilians. If Stone's assessment of these buttons is correct, this suggests that the prevalent button type at Fort Loudoun reflects soldiers garbed in civilian attire.

The second most prevalent button type is buttons with corroded backs that are either South's Type 7 or 8. Three buttons are represented, all of which are made of brass. The diameter ranges from 12-19 mm. One Type 8 button was recovered. This button type has a mold seam, is made of brass, and measures 19 mm in diameter.

Two examples of South's Type 11 are represented. These are flat buttons made of white soft metal that are cast with the eye and disc as one piece. The diameter range is 16-19 mm. Two examples of South's Type 3 were found. These are domed buttons of embossed brass with various designs. The front is crimped over a domed bone or wooden back with four holes (South 1964:115). Type 3 buttons are represented by one brass button with a corroded indistinct design and a wooden back (16 mm diameter). The other specimen is a button back made of bone (with a thin rim brass groove and a 15 mm diameter) with four drilled holes.

There are two other button types represented by one example each. One button conforms to South's Type 6. This button is made of cast brass, measures 22 mm and has a corroded and fragmentary face with an indeterminate design. The other button conforms to South's Type 9. This is a large disc-shaped button (31 mm diameter) with a hand-stamped face design. The face of the button depicts a "sunburst" pattern surrounded by circles.

Hanson and Hsu's (1975:82) analysis of buttons recovered from Fort Stanwix (1758-1781) found that there were two size ranges (11-20 mm and 18-25 mm) that fit the soldier's needs. The smaller specimens were used on waistcoats and as substitutes for knee buckles. The larger ones were used on coats and the waist band of pants. The soldier's at Fort Loudoun probably used buttons in a similar way.

Few generalizations can be made about the sample of buttons recovered from Fort Loudoun. A diversity of types (n=6) is represented, which is consistent with the assemblages recovered from other contemporaneous forts. South (1964) assigns a date range of 1726-1776 to button types 3, 6, 7, 8, and 9 and a 1726-1865 date range for Type 11.

Buckles

Five buckles were recovered from the excavations. Two buckles were recovered from Test Trench 1 and three from Feature 4.

Several descriptive typologies for eighteenth-century buckles have been established (Grim 1970; Abbit 1973; Stone 1974; Hanson and Hsu 1975). Eighteenth-century buckles may have served several specific functions (e.g., Hanson and Hsu 1975:91). Nöel Hume (1969:84) divides buckle types into dress and harness categories, with the former category consisting of shoe, spur, belt, baldric, stock, knee, and hat.

Three buckles fall within the size range established by Grimm (1970:56) for shoe buckles. Two examples are fragmentary and made of iron. Iron shoe buckles have been recovered from Fort Michilimackinac (Stone 1974:26) and Colonial Williamsburg (Abbit 1973:30). Iron shoe buckles were inexpensive and reflect the low socio-economic status of the enlisted men garrisoned at Fort Loudoun. One partial rectangular buckle frame made of soft white metal with a 48 mm width was recovered. The buckle has relief molding and is decorated with diamond, flower, and ropelike patterns similar to buckles described by Grimm (1970:57) from Fort Ligonier.

One double frame brass buckle with rounded corners measuring 42 x 60 mm was recovered. This was most likely a belt or shoulder buckle used for military purposes. Nöel Hume (1969:84) and Hanson and Hsu (1975:94) suggest that these may have been sword buckles, but Nöel Hume (1969:88) cautions that these types of buckles are sometimes indistinguishable from horse harness buckles.

One partial buckle within the size range (35 mm width) established by Grimm (1970:59) for a knee buckle was found. The buckle is made of

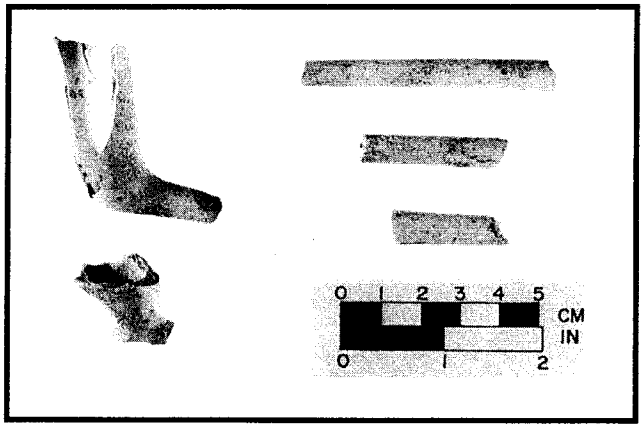

Figure 15. Selected Tobacco Group Artifacts: White Clay Pipe Bowls and Stems.

white soft metal and has a rectangular frame decorated with linear designs

Hook and eye fasteners

One brass hook and two brass eyes were recovered. One of the eyes and the hook were from Test Trench 1. Hooks and eyes were used as fasteners to secure parts of clothing, such as collars and dress seams (Stone 1974:81).

Personal Group

Jewelry

Three artifacts were assigned to this category. One brass cuff link with a black glass inset was recovered from Feature 1. The diameter of the cuff link is 11 mm. Two cut triangular sheets of silver (one complete and one partial) were recovered from Test Trench 3. The complete specimen of silver measures 15 x 17 mm. These may have been ornamental silver items that were traded to Native Americans. A search of the literature on archaeological investigations at French and Indian War forts could not locate any comparable artifact types.

Writing implements

One lead pencil with a rounded profile was recovered. The artifact measures 109 mm long and has a 5 mm diameter, with a point that tapers to 4 mm.

Tobacco Pipe Group

Fifty-four fragments of long stemmed white clay "kaolin" pipes were found. Thirty-three bowl and 21 stem fragments are represented. Most of the pipes were recovered from Test Trench 1 (66.6%). A distributional study of white clay pipes at Fort Michilimackinac led Stone (1974:151) to conclude that pipes "are an excellent indicator of trash deposit locations." Selected pipe fragments are depicted in Figure 15.

Archaeological studies have demonstrated that the bore diameter of white clay pipes becomes smaller through time (Nöel Hume 1969:297). Eighteen of the stem bore diameters were measurable. Five stems measure 4/64" and 13 measure 5/64". The mean bore diameter is 4.72/64". Pipes with a 5/64" bore diameter date from 1710-1750 and those with a 4/64" diameter date from 1750-1800 (Nöel Hume 1969:298). The mean bore diameter of pipe stems (n=235) recovered from Fort Ligonier, a contemporaneous French and Indian War fortification, was 4.61/64", with the greatest number of bore sizes being 5/64" (Grimm 1970). Archaeologists have proposed different formula for pipe stem dating based on the mean bore diameter (Binford 1972; Heighton and Deagan 1972). These formulas were not applied to this study, as the sample size is small and previous applications of these formulas have produced date ranges that vary from the known historic dates of the sites.

Most of the pipe remains are fragmentary: The form could be determined for only two pipes. One conforms to Nöel Hume's (1969:303) Type 16 (ca. 1730-1790) and the other to Type 18 (ca. 1720-1820). The study of Fort Michilimackinac white clay pipes suggests that the Type 16 pipe in Nöel Hume's classificatory scheme, a flat heel style, has a more tightly bracketed date of 1730-1760 (Stone 1974:151). Both pipe styles were manufactured in England (Nöel Hume 1969:302).

Two pipes have stamped maker's marks, both of which are "T D." The letters T D enclosed within a circle are located on the back of a bowl on the pipe identified as Nöel Hume's Type 18. The same letters are located on the back of the bowl and on the sides of the heel on a pipe identified as Nöel Hume's Type 16. Pipes with this maker's mark have been previously recovered from Fort Ligonier (Grimm 1970:112) and Fort Stanwix (Hanson and Hsu 1975). Despite extensive research, the maker of this pipe remains unidentified: several different makers used the T D stamp (Grimm 1970:112-116).

Activities Group

Military

This class consists of iron shot, mortar shells, and other associated military artifacts. Selected artifacts are depicted in Figure 16.

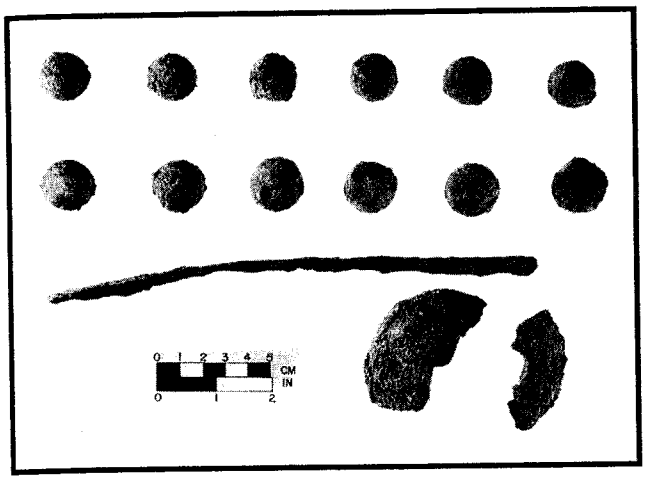

Figure 16. Selected Military Class Artifacts: Top two rows: iron shot; third row: bayonet; bottom row: mortar shell fragments.

Sixty iron balls representing either canister or grapeshot were recovered from the excavations. Whether these artifacts were used as canister or grapeshot depended on how they were loaded into the cannon (Hanson and Hsu 1975:76). The iron shot measure 20-28 mm and average 22.63 mm in size. The size of the iron shot is consistent with the shot recovered from two other contemporaneous French and Indian War period forts: Fort Ligonier (Grimm 1970:76) and Fort Stanwix (Hanson and Hsu 1975:78). This type of shot was mainly used for defense at a range of up to 300 yards (Rogers 1975:72).

The percentage of iron shot recovered from the limited testing at Fort Loudoun is high when compared to the iron shot recovered from the extensive excavations at Fort Ligonier (n=17) and Fort Stanwix (n=609). There are several possible explanations to account for the large number of iron shot. Fort Loudoun had a large number of cannon: In 1757 Washington indicates that he has 14 cannon (Abbot 1984b:266), and in 1760 Burnaby (n.d.:41) indicates that 24 cannon are present. Washington also indicates that he has grapeshot for six-pound cannon, but no six-pound cannon to use them in (Abbot 1984b:420). The six-pound grapeshot may have been expendable, since there were no cannon to use them in.

The distribution of the iron shot at Fort Loudoun indicates that this military artifact was deposited in the barracks. Most (78.3%) of the iron shot was recovered from Test Trench 2 and associated Features 1 and 4. This area of the site corresponds to a barracks location on Washington's plan map: The powder magazine is located in the southeast corner of the fort. The greatest concentration of iron shot at Fort Stanwix was also located in one of the barracks (Hanson and Hsu 1975:76). The concentration of this artifact type in barracks suggests two possibilities: Iron shot may have been used for other purposes or the barracks were used to store munitions.

Two fragments of mortar shells were recovered from the excavations. The two fragments have a three-inch diameter and one has a fuse hole that measures 5/8". Mortar shells 4.5" and 5.5" inch in diameter were recovered from Fort Ligonier (Grimm 1970:76). A letter written to Washington from William Fairfax in 1757 indicates that "two good mortars" will be sent to Fort Loudoun (Abbot 1984b:309).

No round solid shot was recovered from the excavations, albeit it constituted the greatest percentage of artillery ammunition used by the British in the eighteenth century (Rogers 1975:72). The large size of this ammunition minimized its incidental loss, but it has been recovered at other French and Indian War period military sites (Grimm 1970:76; Hanson and Hsu 1975:76).

One bent bayonet blade measuring 22.2 cm was found in Test Trench 2. The bayonet blade is incomplete and has a maximum width of 17 mm. This incomplete specimen could not be identified to any specific type (cf. McNulty 1973). A 1758 report on the arms at Fort Loudoun indicates that there are 540 bayonets on hand, 290 of which had been repaired (Abbot 1988a:352).

One other military artifact was recovered from the excavations: a brass scabbard throat for a dagger. This artifact was recovered from Test Trench 2.

Recreation

One limestone marble measuring 17 mm in diameter was recovered from Test Trench 2. Stone marbles have been previously found at other eighteenth-century military fort sites (Stone 1974:154;

Smith and Nance 2000:260). South (1977:182) has also reported on the occurrence of marbles on eighteenth-century military sites and suggests that their presence may reflect the youth of the soldiers or the practice of the game of marbles by adults in the eighteenth century.

Stable and Barn

One decorative brass ornament for horse leather measuring 56 x 45 mm was recovered from Test Trench 2. No comparable specimens could be found in the literature on previous eighteenth-century fort investigations; however, it is similar in some respects to a horse leather ornament depicted in Sprouse (1988:102).

Unclassified

This category consists of 17 metal artifacts that could not be assigned to one of the above categories.

Other

Construction debris was not included in the artifact analysis. Construction debris consisted of limestone rock used in the construction of Structure 1 and Feature 1 and blast rock from the well. No brick was found in any fort period deposits.

Artifacts Recovered from Water Screening

Ten-liter samples of soil were obtained from Layers 3 and 4 of Test Trench 1 and Feature 1. The fill was water screened through 1/16-inch hardware cloth. The samples were processed to obtain small artifacts that would not be recovered from 1/4-inch hardware cloth. These samples were analyzed separately and the results are provided in Table 2.

Artifacts recovered from the 1/16-inch water screening that were not recovered from the 1/4-inch hardware cloth include straight pins, small shot, gunflint use/resharpening flakes, and one bead.

Artifacts from the Kitchen Group include small fragments of ceramic (n=20) and glass containers (n=36). Most of the ceramics are tin-glazed and coarse earthenwares. The glass container fragments are mostly olive-green in color which is consistent with the findings from the 1/4" recovery process.

Artifacts from the Architectural Group include 73 window glass and 2 corroded nail fragments. The large number of fragmentary window glass stands in contrast to the small number (n=4) recovered from the 1/4" recovery process.

The Arms Group is represented by six small shot and six gunflint use/resharpening flakes. The six shot measure .10 (n=2), .13 (n=1), and .18 (n=3) caliber. Small shot of this caliber were used for hunting small game (Hamilton 1976:35) and are often referred to as birdshot (Hanson and Hsu 1975:80). The six gunflint use/resharpening flakes represent use wear or resharpening of the gunflints. All six flakes are made of grayish honey colored flint, which are most likely of French origin. This finding is consistent with the recovery of two gunflints of this type of flint from 1/4" recovery that show signs of heavy use/resharpening.

Artifacts from the Clothing Group include six straight pins and one bead. One complete straight pin and five fragments were recovered. The complete specimen measures 23 mm long. One black glass bead, ellipsoid in shape, measuring 7 mm long (maximum width is 3 mm), was recovered.

Other artifacts include four white clay pipe fragments and 22 artifacts (mostly iron fragments) too fragmented to classify.

Small fragments of mortar were recovered from Layers 3 and 4 of Test Trench 1. A greater amount of mortar was recovered from Layer 3 (402 fragments weighing 10.0 g) than Layer 4 (70 fragments weighing 2.7 g).

Artifact Patterns

The Fort Loudoun artifact pattern and other previously compiled artifact patterns from other French and Indian War period military sites (South 1977:111; Boyd 2001:50) are presented in Table 3. There are several variables that affect the reliability of making comparisons between sites using

Table 2. Artifacts Recovered from Water Screening (1/16-inch Hardware Cloth).

	Test Trench 1			
	Layer 3	Layer 4	Feature 1	Total
Kitchen Group				
Ceramic Containers	9	3	8	20
Glass Containers	17	13	6	36
Architectural Group				
Window Glass	54	12	7	73
Nails	2	0	0	2
Arms Group				
Shot	2	2	2	6
Gunflint Flakes	4		2	6
Clothing Group				
Straight Pins	3	2	1	6
Beads		1		1
Tobacco Pipe Group				
White Clay	4			4
Unclassified	13	6	3	22
Mortar	402 (10.0g)	70 (2.5g)		472 (12.5g)
Faunal Remains	3.1g	3.5g	1.6g	8.2g

these statistics. These variables include sample size and differential recovery methods. Other factors include the presence of post French and Indian War historic occupations at some of these sites and differences in the way investigators have modified South's classificatory scheme. For example, military artifacts are included in the arms group at Fort Frederick, and the Fort Loudoun, Virginia, scheme uses an unclassified category. Nonetheless, the Fort Loudoun assemblage fits into the predicted range of the Frontier Artifact Pattern established by South (1977:145). Fort Loudoun has the highest percentage of Kitchen Group artifacts, which may be the result of trade, barter, or other interaction with the local townspeople in Winchester.

The presence of two distinct Fort Loudoun period deposits, Layers 3 and 4 from Test Trench 1, is of interest, since the fort was only occupied for six years. The artifact patterns for the two layers recovered from the 1/4" mesh recovery process were calculated to determine if there were any differences between the two assemblages (Table 4). The percentages of artifacts groups recovered from the two layers were similar, but Layer 3 had a greater percentage of personal, clothing, and military artifacts.

A comparison of artifacts recovered from the 1/16" recovery method indicates differences between the two deposits. There is a greater amount of architectural remains (window glass and mortar) in Layer 3. There are also artifacts in Layer 3 (gunflint use/resharpening flakes) that are not present in Layer 4. The combined data from both recovery processes suggest differences in the nature of the deposits. The artifacts recovered from Layer 3 suggest a living area. Layer 4, an earlier fort period deposit, may represent midden that was deposited in the blasted bedrock crevices during fort construction.

Faunal Remains

Faunal remains recovered from Fort Loudoun period deposits (Layers 3 and 4 of Test Trench 1 and Features 1, 3, and 4) were analyzed by David Clark (2003). The faunal analysis included species identification, calculation of MNI (minimum number of individuals), and calculation of MNP (minimum

Table 3. South's Artifact Pattern Percentages for French and Indian War Sites.

Artifact Group	Fort Loudoun Virginia	Fort Ligonier	Fort Prince George	Fort Frederick
Kitchen	39.8	25.6	22.7	28.5
Architecture	39.0	55.6	57.5	53.4
Furniture	0	.2	.1	.1
Arms	2.8	8.4	6.4	.7
Clothing	2.6	3.8	1.0	1.4
Personal	.4	.4	.1	.1
Tobacco Pipes	6.1	1.9	11.5	1.6
Activities	9.3	4.1	.7	14.2
Unclassified	1.9	—	—	—

number of portions). The sample recovered from the 1/4" recovery consists of 891 remains weighing 3,741.3 grams. Approximately 33% of the bone recovered from the 1/4-inch hardware mesh was identified to species.

Cattle followed by pig were the two mammals that provided the greatest meat yield. Other supplemental sources of meat include sheep/goat, deer, turkey, chicken, and turtle (river cooter). The faunal remains recovered from Fort Loudoun, Virginia, are similar in many respects to faunal assemblages recovered from other French and Indian War period military sites. Cow was the animal that was relied on most heavily followed by other large mammals (pig, deer, and sheep) with smaller wild and domestic animals providing diversity to the diet (Parmalee 1960; Cleland 1970; Guilday 1970; Barber 1977).

The absence of burned bone indicates that meat portions were boiled rather than roasted. The butchering patterns for cow and pig indicate extensive hacking with heavy duty tools, such as axes or cleavers, to produce portions for communal soups or stews. The butchering pattern is similar to that found at Fort Ligonier, another French and Indian War period military site, where axes were used for butchering (Guilday 1970)

The samples recovered and processed through 1/16-inch hardware cloth yielded 8.1 grams of bone, all of which were unidentified to species and assigned to large mammal, small mammal, and *Aves* categories. Eggshell and fish scales are represented. The presence of fish scales from two different species (yellow perch and sucker) indicates that fish, which is not represented in the 1/4" recovery process, was consumed.

The sample suggests that cattle and pig were the most important sources of protein in the diet of the soldiers. Other supplemental sources of protein included sheep/goat, turkey, chicken, deer, turtle, and fish. The presence of wild game and fish indicate that hunting and fishing were practiced by the soldiers.

Table 4. Artifact Pattern Percentages from Layers 3 and 4, Test Trench 1 (1/4-inch Mesh Recovery).

Artifact Group	Layer 3	Layer 4
Kitchen	42.6	44.6
Architectural	38.5	41.7
Arms	.8	.9
Clothing	2.9	1.4
Personal	1.2	0
Activities		
Military	4.9	.5
Other	0	0
Unclassified	2.5	1.9

Civil War Military Component

Five military artifacts dating to the Civil War were recovered (Figure 17). The artifacts include two

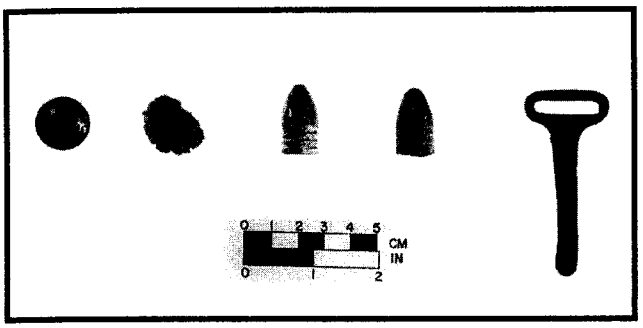

Figure 17. Civil War Artifacts: Eagle I Button, Fired Pistol Bullet, .58 Caliber Minie Balls, and Sword Hanger.

.58 caliber three ring Minie balls, one U.S. regulation eagle infantry button, one sword hanger, and one fired pistol bullet. The eagle infantry button has an "I" in the shield of the eagle and a Scovill Manufacturing Company maker's mark. One of the .58 caliber three ring Minie balls was recovered from Test Trench 2, the button was recovered from Test Trench 3, and the other three artifacts were recovered from the metal detector survey. The Civil War military artifacts were distributed in the front and north side of the house.

James Taylor sketched a Union soldier standing next to the well of the site in 1864, and his accounts of the site suggest the occupants were Union sympathizers (Taylor 1989). There are previous accounts of the Hardy family (Hardy 2002) and neighbors (*Winchester Star* 1987) finding Civil War artifacts at the site. The site occupies the immediate high ground overlooking Winchester and may have been used as an encampment for Union troops. Union troops were positioned in close proximity to this area during the Second Battle of Winchester in 1863, and Union troops retreated through this area in the First Battle of Winchester in 1862. The recovery of artillery shells underneath the porch of the house and bullet and shot in the north wall when the house was renovated in the 1950s suggest that Civil War skirmishing took place here (Hardy 2002).

Darlington-Hardy House Component

A total of 815 artifacts were recovered from the mid-nineteenth- and twentieth-century domestic component of the site. Most of the artifacts were recovered from mixed and disturbed contexts from the upper layers of the site, with the majority (77.9%) recovered from Test Trench 1 situated at the side of the house. The following part of this section of the report will present a summary of this component.

The following artifact groupings are present: kitchen (42.0%), architecture (49.6%), clothing (1.2%), personal (0.4%), activities (0.6%), and unclassified (6.2%). Artifacts in the Kitchen Group consist of ceramic containers, glass containers, and one item of tableware (a bone handle to a knife or fork).

The ceramic assemblage consists of 255 artifacts and includes creamware (1.6%), pearlware (7.8%), whiteware (63.9%), pearlware/whiteware (0.8%), porcelain (6.3%), redware (10.6%), yellowware (5.1%), and miscellaneous (3.9%). All the creamware was undecorated. Pearlware was undecorated, handpainted, transferprinted, edge-decorated, and annular. Whiteware was mostly undecorated (70.6%), but annular, edge-decorated, handpainted, transferprinted, and molded designs are present. Redware consists of lead-glazed utilitarian vessels and unglazed flower pots. No stoneware ceramics were recovered.

Eighty-six glass container fragments were recovered. Most of the fragments (70%) are clear or aqua in color and were likely used to store food and beverages. The olive-green colored glass (16.3%) likely held alcoholic beverages.

The Architectural Group consists of 404 artifacts. The artifacts in this group include 118 fragments of window glass, 242 machine-cut nails, 14 wire nails, and 30 corroded nails.

The Clothing Group consists of 10 buttons: four-hole porcelain buttons (n=3), four-hole bone buttons (n=3), a five-hole bone button, a four-hole iron button, an ornamental black glass button, and a ceramic button. The four-hole bone buttons are consistent with South's (1964) Type 20 with a date range of 1800-1865. All the other buttons are similar to types previously recovered from nineteenth- and twentieth-century domestic sites.

Three artifacts were classified in the Personal Group: Two of the artifacts are lead pencils and one is a rubber tooth from a comb. Five arti-

facts were placed in the Activities Group, all of which fit into the toy category. These artifacts are three marbles (two limestone and one clay), one bone domino, and a ceramic foot fragment of an animal.

Fifty-one artifacts were placed in an unclassified category as they did not fit into any particular category, were too fragmented to identify, or could have fit into multiple categories. This category consists mainly of metal artifacts, such as screws and fragments of sheet iron.

Interpretations and Conclusions

Historical and archaeological investigations were conducted at the site of Fort Loudoun located in the city of Winchester, Virginia. The site is a French and Indian War period military fortification constructed by Colonel George Washington and occupied by Virginia regimental troops from 1756-1762. The fortification served as the command center and supply depot for Virginia troops. Troops, provisions, and Indian allies from the fort supported General Forbes' Fort Duquesne expedition. Virginia troops were later sent to garrison forts in Pennsylvania and to relieve the siege of Fort Loudoun located in the Overhill Cherokee country.

Fort Loudoun is the best documented fort under Washington's chain of command. There are two design plans for the fort, extensive correspondence relating to fort construction, and a 1760 description of the fort by a civilian. The archaeological deposits dating to the fort are buried beneath nineteenth- and twentieth-century fill, possess a high degree of integrity, and have not been disturbed by agricultural practices or relic hunters.

Research questions concerning: (1) the design and construction of the fort, (2) the material culture of Virginia regimental troops living on the frontier, (3) subsistence, (4) status, (5) refuse disposal patterns, (6) interaction with Native Americans, and (7) interaction with local townspeople were established. Although the fieldwork was limited in scope, preliminary statements regarding each research question can be made.

The research questions were addressed by employing a field strategy using Washington's design plans and two different recovery methods. All fill from fort period deposits and features was screened through 1/4-inch hardware cloth, and standard 10-liter samples from selected deposits were waterscreened through 1/16-inch hardware cloth. The waterscreened samples were especially helpful in addressing two of the research questions (subsistence and Native American interaction) and in interpreting different fort period deposits (Layers 3 and 4 in Test Trench 1).

Both design plans depict a four-bastion square fort, with structures located along each curtain and a gate facing the town of Winchester. The location of the well on one of the design plans was used to place test trenches to intersect two structures depicted within the fort and the fort wall/ditch. Intact fort period deposits and features were found, including the remains of one structure, four features, and one posthole. The remains of one well-defined limestone foundation wall and a uniform limestone rubble surface were found in the vicinity of the two barracks depicted on Washington's plans. The fort wall was not found and is likely located under the front sidewalk flanked by boxwoods. Two distinct fort period deposits, one representing a living floor, were found in Test Trench 1.

The excavations provide limited insight into how the fort was designed. Since Washington produced two different plans for the fort and correspondence between him and others suggest problems with its construction, the constructed fort may have deviated from the design plans. The limestone foundation wall encountered in Test Trench 2 is in the vicinity of one of the structures depicted on Washington's design plans. Burnaby's (n.d.:41) 1760 description of the fort suggests that the fort was square-shaped with four bastions. He indicates that the construction of a dry moat was attempted, but discontinued due to impenetrable rock. His observation of the aborted dry moat appears to be confirmed by the results of Test Trench 3. Other construction problems with bedrock are evidenced by the presence of dense quantities of blasted limestone, some of which display auger holes. Problems with drainage at the fort are indicated in the historic documentation (Abbot 1988a:307) and the

archaeological record (construction of a drainage ditch across a dry laid foundation).

Previous archaeological investigations conducted at other French and Indian War forts indicate that most forts were constructed of a single row of upright logs. A secondary reference stating that the walls at Fort Loudoun were made of "upright logs" (Ansel 1984:122) is a misquote of other sources (Quarles 1974:29; Burnaby n.d.:41). Since earth was used in the construction of Fort Loudoun, the fort was most likely constructed of two rows of horizontal logs filled with earth. The use of horizontal logs filled with earth was a method used to construct part of the fort wall at Fort Ligonier, a contemporaneous French and Indian War period fort (Waddell and Bomberger 1996:90). A rendering of Fort Loudoun drawn by artist Richard Schlect for the Winchester-Frederick County Historical Society (n.d.) depicts this construction method (Figure 18). Historic documentation also indicates that stone was used in the construction of the southeast bastion of Fort Loudoun (Abbot 1988b:3). Such construction may have taken longer to complete and may account for some of the construction problems associated with Fort Loudoun.

A total of 890 artifacts from the occupation of the fort were recovered. The artifacts include ceramics, glass container fragments, window glass, nails, musket balls, lead shot, gunflints, gun parts, buttons, jewelry, tobacco pipes, mortar shells, iron shot (either canister or grapeshot), and other mid-eighteenth-century artifacts. The artifacts are similar to other artifacts recovered from French and Indian War military sites and domestic sites dating to the mid-eighteenth century.

Historic documentation indicates that quantities of weapons, including muskets and bayonets, were stored and repaired at Fort Loudoun (Abbot 1988a:352). The recovery of gun parts and a bent bayonet at the fort likely reflects these activities. The presence of a large percentage of iron shot at the site may reflect the expendability of 6 lb grapeshot shells at the fort, since there were no 6 lb cannon to use them in (Abbot 1984b:420).

The investigations provided information on the soldiers' diet. Historic documentation indicates that the rations consisted of flour, beef or pork, peas, butter, and rice (Abbot 1988a:209). The faunal remains indicate that cattle was the primary source of meat, but pig, sheep/goat, chicken, turkey, deer, turtle, and fish were also consumed. The presence of wild game and fish indicate that hunting and fishing were practiced by the soldiers to supplement the daily rations they were provided. The absence of burned bone and expedient butchering

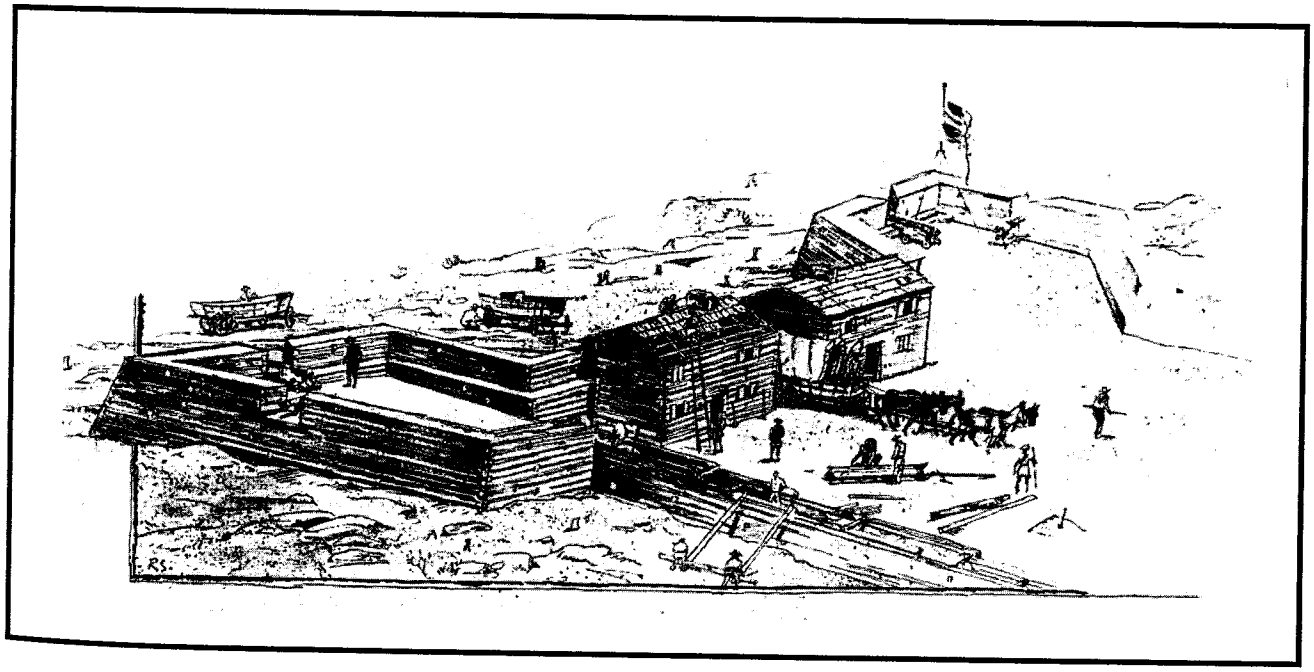

Figure 18. Rendering of Fort Loudoun During Construction.

practices (hacking with heavy duty tools) suggest the preparation of small bulk meats for communal meals, such as stews and soups (Clark 2003). The faunal assemblage is similar in many respects to other French and Indian War period military sites in that cow was relied upon as the primary source of meat, with other large mammals (pig, deer, and sheep) and smaller wild and domestic animals providing diversity to the diet (Parmalee 1960; Cleland 1970; Guilday 1970; Barber 1977).

The investigations provided insight into social stratification between officers and enlisted men. Previous archaeological studies at French and Indian War period sites have found status differences in the artifacts and types of materials used in the construction of living quarters (Feister 1984; Fisher 1995). Status differences should also be reflected in the diet (Officers should have a more diverse diet and consume better cuts of meat). At Fort Loudoun, some artifacts, such as the inexpensive iron shoe buckles, reflect the low status of the enlisted men. Other artifacts, especially fine ceramics and glassware, were the individual property of officers or the officers' mess. The greatest percentage of ceramics associated with high status (porcelain, tea wares, and stemmed glassware) were recovered from Layer 3 of Test Trench 1 (see Table 1), a possible living floor associated with one of the barracks. The location next to the water supply for the fort (i.e., the well) and away from the main gate strengthens the status association, but this suggestion is not supported when the faunal remains are considered. The remains from Layer 3 of Test Trench 1 indicate the predominant use of bulk meats for the preparation of communal stews/ soups, which was found elsewhere at the fort (Clark 2003).

The presence of tea wares at the site indicates that officers of the Virginia regiments participated in the tea ceremony (Roth 1961). Similar findings have been made at other contemporaneous French and Indian War period military sites (Grimm 1970; Miller and Stone 1970; Hanson and Hsu 1975).

The investigations provided information on refuse disposal patterns. A considerable amount of kitchen refuse (ceramics, glass containers, and faunal remains) was found in Test Trench 1, the location of one of the barracks depicted on Washington's plans. Some of the refuse may have been deposited along the walls of the barracks, a pattern previous documented at eighteenth-century colonial sites (South 1977:47). Feature 4 may represent a discrete concentration of artifacts policed from the site and deposited at one location. The extensive excavations at Fort Ligonier indicate that refuse was deposited along fort walls, on the perimeter of the fort, and in an adjacent streambed (Grimm 1970). Similar patterns of refuse may be expected at Fort Loudoun.

Historic documentation indicates interaction with Native American allies at Fort Loudoun, but little archaeological evidence of this interaction was found. Several hundred Native American Indians (Cherokee, Catawba, Tuscarora and Nottaway, and Saponi) were at Winchester, and some were staying at Fort Loudoun (Forbes 1758:99, 287). Trade goods purchased for the Native Americans allies include wampum and possibly silver trinkets (Abbot 1984b:35). There were no Native American artifacts recovered from the site. Three artifacts (one bead and two silver artifacts) recovered from the excavations may be Native American trade goods. Interaction with Native Americans at Fort Loudoun, Virginia, was ephemeral and unlike that evidenced at Fort Loudoun, Tennessee, where Cherokee pottery, including imitations of Euroamerican vessel forms, from neighboring Cherokee villages were found within the fort (Carl Kuttruff 2004, personal communication).

Fort Loudoun is located adjacent to an eighteenth-century town. Interaction with local townspeople may have resulted in the trade/barter of goods and services. Washington suspects that the local tippling-house keepers may be receiving and concealing arms and stores obtained from soldiers at the fort (Abbot 1988a:10-11). Illegally obtained military equipment, clothing, and other provisions were recovered from local Winchester residences in 1757 (Abbot 1984b:424-426). The high percentage of kitchen group artifacts at Fort Loudoun may reflect the fort's proximity to the town of Winchester and the exchange of goods between the garri-

son and local townspeople.

A Civil War military component was found at the site. There is no historic documentation in the Official Records of the Union and Confederate Armies (U.S. GPO 1880-1901), the Official Military Atlas of the Civil War (Davis 1983), or other first hand historic accounts indicating a Civil War military use of the site (Joseph Whitehorne 2003, personal communication). Fort Loudoun is located on the high ground to the immediate north of Winchester and may have been occupied by Federal troops or has been the site of skirmishing during one of the battles fought in Winchester.

In summary, intact deposits dating to the mid-eighteenth century, with a high degree of integrity, were found at Fort Loudoun. The information recovered is part of a growing body of comparative data on French and Indian War military sites. Given the rarity, importance, and fragility of this resource, any additional archaeological work conducted at Fort Loudoun (or for that matter, other similar site types) should be limited in scope and focus on addressing specific research questions. Sensitive areas of the site should be preserved indefinitely in anticipation of advances in archaeological field recovery methods and analytical techniques that will allow the recovery of new information. Currently the site remains unprotected and only remnants survive. Recent construction activities on lots adjacent to the Darlington-Hardy House have resulted in further damage to the site. These include extensive excavations to expand a parking lot for an apartment complex and landscaping of the existing remnant of the northwest bastion. An effort to preserve the site by the French and Indian War Foundation is underway that will hopefully result in the protection of part of this important historic site.

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