

ENVIRONMENTAL ASSESSMENT OF ALTERNATIVES
FOR THE REPLACEMENT OF THE COMFORT FACILITY
AT THE NORTH BRIDGE
MINUTE MAN NATIONAL HISTORICAL PARK

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National Park Service
Department of the Interior
May, 1983

TABLE OF CONTENTS

I.	NEED FOR ACTION	page 2
II.	ALTERNATIVES	page 2
III.	IMPACTS	page 12
IV.	SUMMARY OF EARLY PUBLIC COMMENTS	page 16
V.	SUMMARY OF ALTERNATIVES	page 17
	References	page 20
	Agencies and Individuals Consulted	page 22
	Preparers and Principal Contributors	page 23

APPENDICES

APPENDIX A:	Cooperative Agreement	page 24
APPENDIX B:	Percolation Tests	page 29
APPENDIX C:	Structure Design	page 31

FIGURES

FIGURE 1:	Locations	page 3
FIGURE 2:	Alternative Sites	page 6
FIGURE 3:	Wetlands and Flood Plain	page 8

I. NEED FOR ACTION

Minute Man National Historical Park was authorized by Congress on September 21, 1959 "...in order to preserve for the benefit of the American people certain historic structures and properties of outstanding national significance associated with the opening of The War of the American Revolution...." The Park is located 20 miles northwest of Boston, Massachusetts, within the Towns of Lexington, Lincoln and Concord in a semi-rural suburban area.

The North Bridge Unit, one of three sections of the Park, is located entirely within the Town of Concord and includes the site of the road and bridge where the first fighting of the American Revolution occurred. The entrance of the area is that of a memorial and includes a reconstruction of "The Old North Bridge," and "The Minuteman," the heroic statue by Daniel Chester French. Because of the symbolic value of the bridge and the statue, the area is frequently chosen as a site for special events and historic commemorations. The unit is also the most heavily visited area of the Park and receives nearly three quarters of a million visitors each year.

The present comfort station was built in 1955 and consists of a six-stall pit toilet located over concrete vaults. There is no running water for washing hands, and the structure is inaccessible to handicapped persons. This primitive facility presents a very unsanitary and unsuitable appearance, in light of the character of the area and the heavy visitation it receives. It is unpleasant, unhealthy and inadequate, especially during periods of peak visitation, and the Park has received numerous complaints about it from visitors. It must be replaced.

The environmental assessment will focus on several alternative methods of providing an adequate replacement facility for the North Bridge comfort station. These alternatives will be considered in light of the historic and cultural character of the North Bridge Unit.

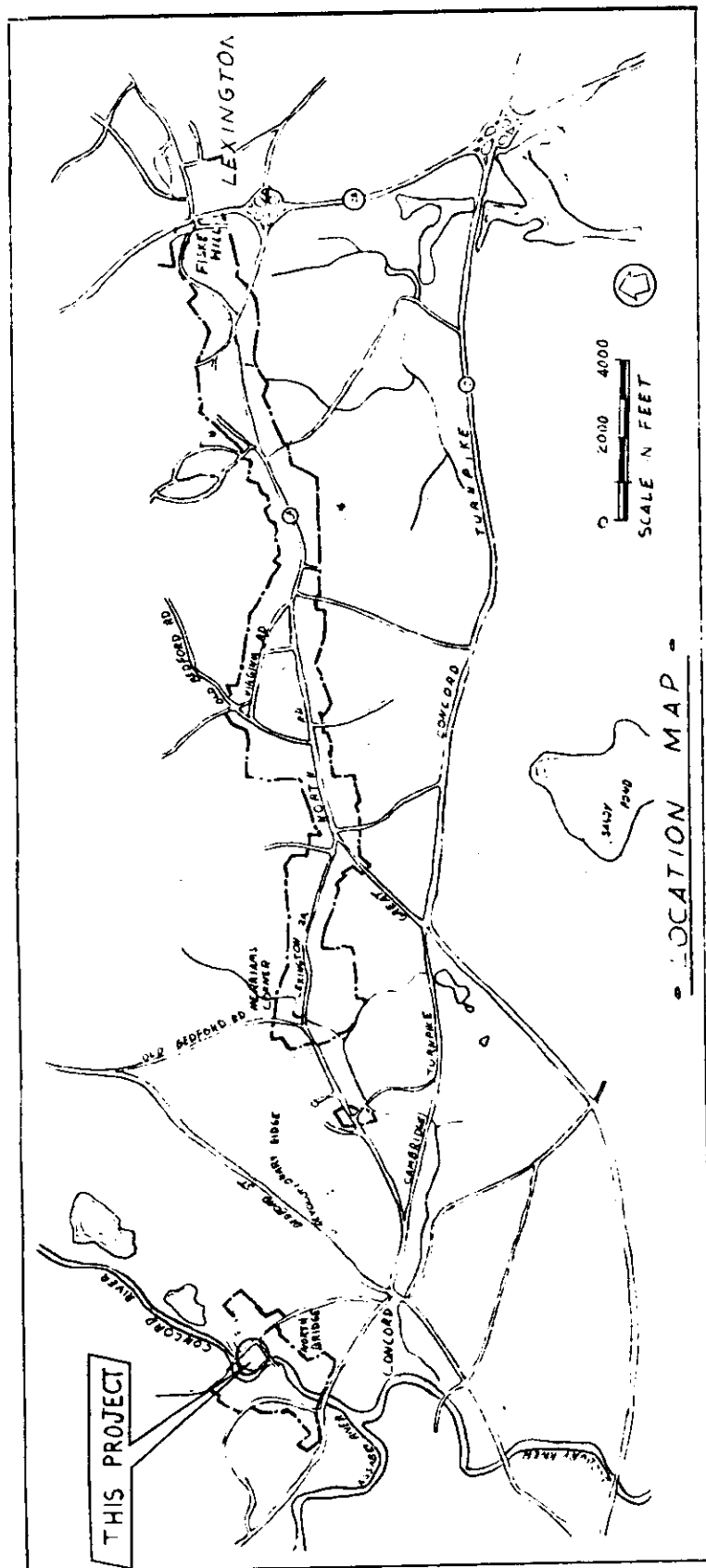
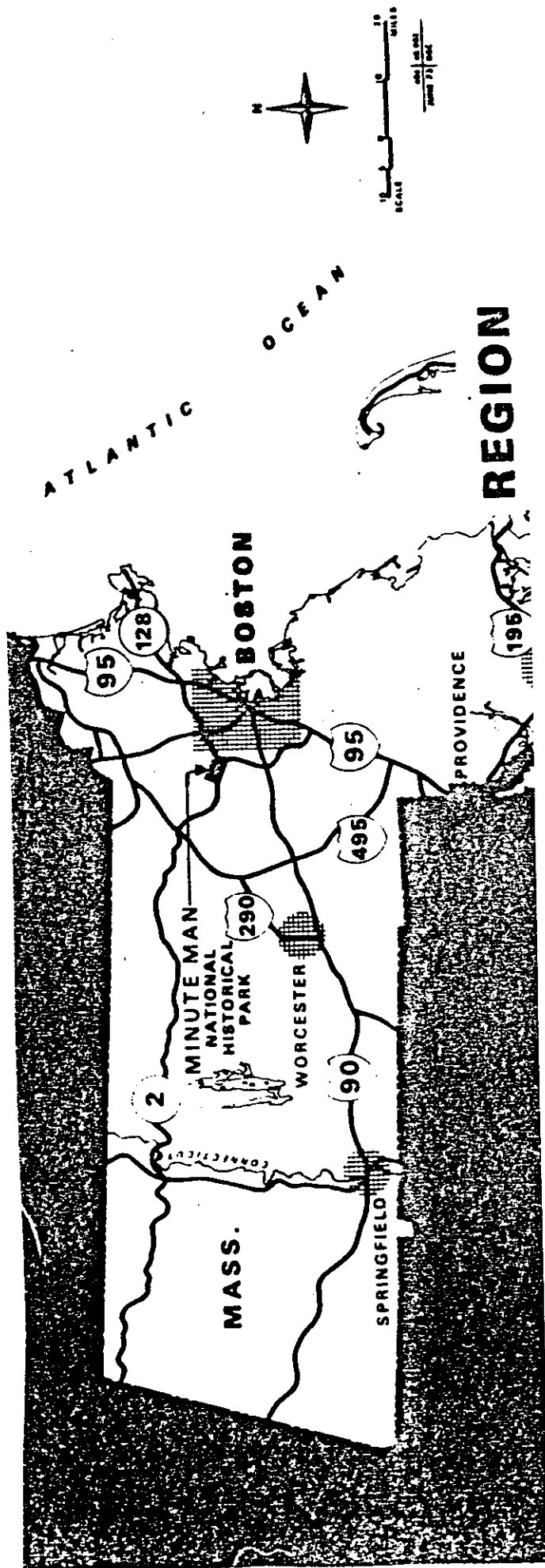
II. ALTERNATIVES

A. Existing Situation

The present comfort station, the land it occupies, and the adjacent parking area are owned by the Town of Concord and maintained by the National Park Service under the Cooperative Agreement of June 6, 1963 (see Appendix A). These

FIGURE 1

LOCATION



facilities are located in the North Bridge Unit at the western end of the Park, north of Concord, Massachusetts.

The North Bridge Unit is a primary visitor contact area. Park visitation, and subsequent use of the comfort station which is open from May to October, has steadily increased since 1955. During the summer of 1981, visitation to the North Bridge area during the peak months was approximately 80,000 per month with daily peaks of up to 5,000.

Due to the primitive waste disposal system, the comfort station is inadequate. To reduce health hazards, it frequently has to be thoroughly hosed down and the sewage pumped at least six times during the season. In addition, it is often unavailable for use for short periods each day due to the constant maintenance required to keep it operable.

Rest rooms are located at the North Bridge Visitor Center, approximately three-tenths of a mile from the North Bridge comfort station, but this is farther than most visitors have time to walk while visiting the North Bridge. The walk to the Visitor Center is also somewhat difficult due to the long upgrade and loose gravel surface.

The area ranges in elevation from 133' down to 110' at the river and consists of two topographic zones. One zone is low lying alluvial flats reaching down to the river; the other is a gently sloping outwash plain lying above the alluvium. Most of the lower zone lies within the 100- and 500-year flood levels at 120' and 123.25' respectively and much of the zone is designated wetland. The area is covered for the most part by mixed hardwood vegetation. Considerable human activity over the last 350 years have altered the site with roads, pavement, stone walls, foundations and wells.

All land within the boundaries of Minute Man National Historical Park is classified as a historic zone and is on the National Register of Historic Places. The Park is managed to protect and restore the various sites and structures it contains and to interpret them to Park visitors.

B. Alternatives Considered

Two types of alternatives were considered for an adequate replacement for the present comfort facility. The first set of alternatives considered were potential locations for the proposed facility. The second set were alternative methods of treating the sewage. The various alternatives were developed to consider the following park management objectives:

1. To preserve the aesthetic and memorial character of the area.
2. To enhance public accessibility to the facility.
3. To eliminate/minimize potential health hazards.
4. To minimize the adverse impacts that the facility would have on the environment.
5. To enhance the visitor's enjoyment of the Park.
6. To abide by management constraints on maintenance and funding.

The above objectives had to be met within the context of each alternative. In considering the possibilities, the Park Service determined that a "No Action" alternative would not alleviate present health hazards and the general inadequacy of the present comfort facility.

The existing comfort station must be removed. If the Park Service chose not to replace it, the many visitors viewing the North Bridge area would be subjected to great inconvenience. Therefore, neither of these alternatives is acceptable and no further discussion of them will be presented in this assessment.

Construction of a replacement facility would be in compliance with Title V of the State of Massachusetts Environmental Code and applicable federal regulations and local building codes.

In addition to toilet stalls, new public rest rooms are required to provide hand washing facilities. All faucets and flush facilities would be designed to keep water usage to a minimum. The building would be designed in compliance with the Architectural Barriers Act of 1968 (Public Law 90-480) and would be accessible to the handicapped.

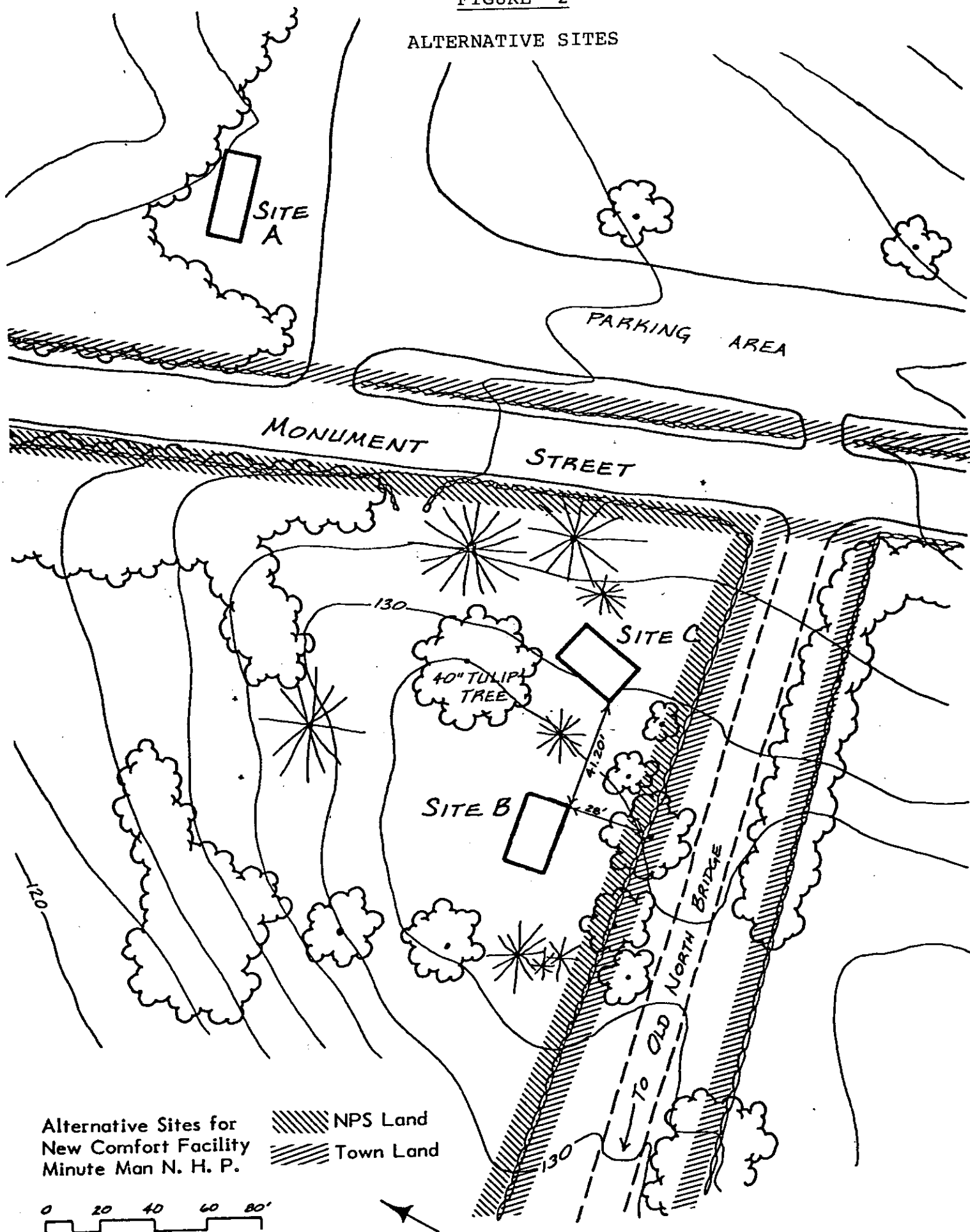
1. Site Alternatives

Three potential locations for the proposed comfort facility have been determined:

- A. adjacent to the parking area--the present site
- B. along the road to the bridge
- C. at the beginning of the road to the bridge

FIGURE 2

ALTERNATIVE SITES



Site Alternative A: Adjacent to the Parking Area

This site is located on level cleared ground. It has the lowest elevation of the three sites and is shown on the Town wetland map (figure 3) as being within the 500-year flood plan and adjacent to the designated wetlands. This low elevation would impede any major subsurface construction at this site. In addition, any subterranean tank at this site would have to be anchored down to prevent hydrolic pressure from lifting it out of the ground when it was empty.

It is the farthest site from the North Bridge and statue and is separated from the memorial area by Monument Street. In addition, it is the most convenient site to the public, as it is adjacent to the parking area and visitors would not have to cross the street to use it.

The site is on land owned by the Town of Concord and maintained by the National Park Service through a Cooperative Agreement. Current management policies of the National Park Service prohibit making capital investments on property not owned by the federal government. The Park could remove the existing structure and replace it with a new comfort station on Site A only if the Town of Concord transferred the land to the Park. In 1981, the Park approached Town officials regarding the possibility of transferring title of this land to the National Park Service and received a negative response.

Site Alternative B: Mid-way to the Bridge

This site is located on the former Sawyer (Chase) property at approximately the site of the former dwelling. It is level and cleared and would require the construction of only a short path to make it accessible to visitors walking to the bridge.

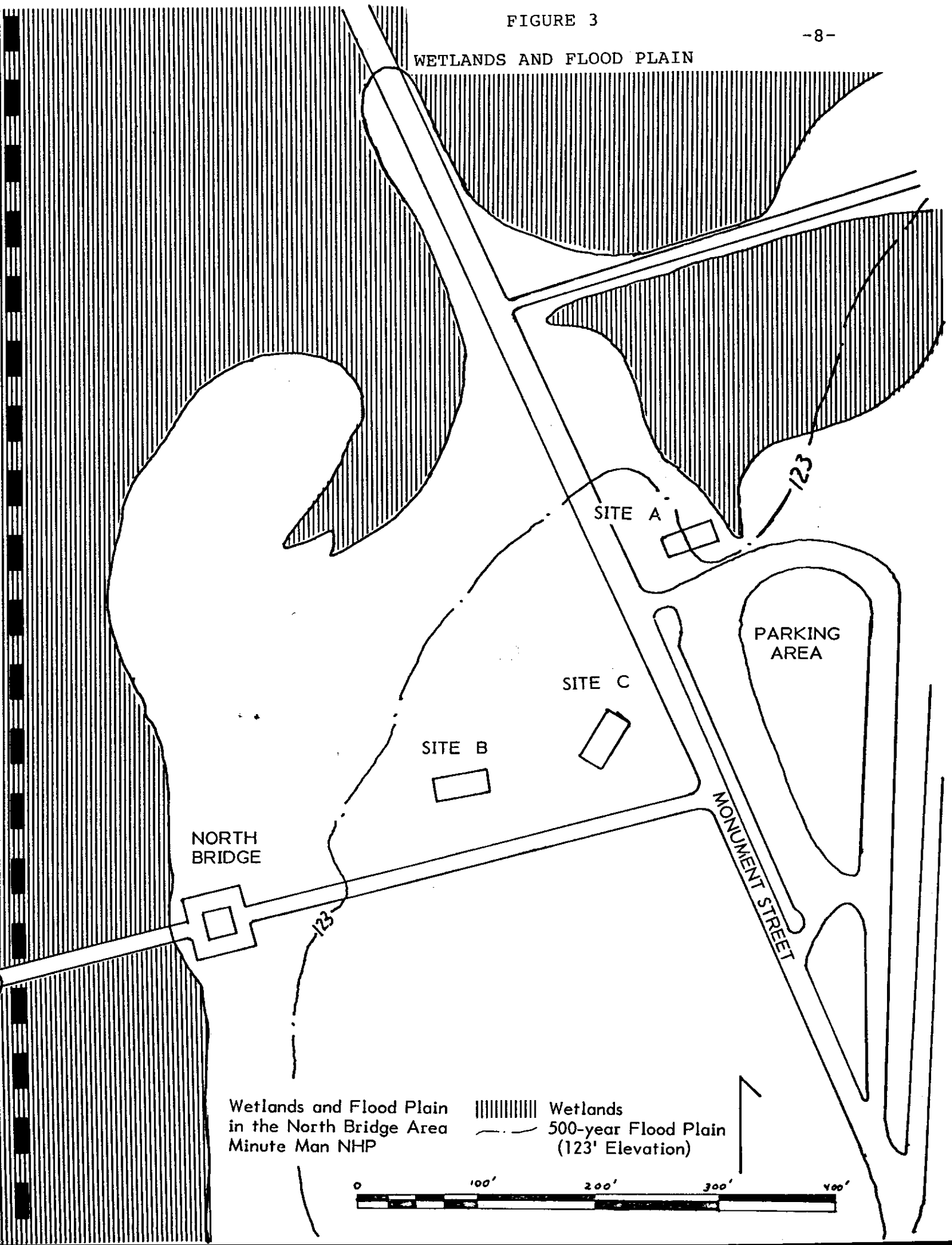
As this is the highest of the three sites, it can most easily accommodate the need for subsurface construction and for gravity-flow drain lines. On the other hand, its elevation and its proximity to the memorial area make it the most intrusive of the sites from the aesthetic point of view.

Site Alternative C: Beginning of the Road

This site is also located on the former Sawyer (Chase) property, but closer to the street than Site B. It is located on the slope of the rise on cleared ground, and would require the construction of a path to make it

FIGURE 3

WETLANDS AND FLOOD PLAIN



accessible. Although lower than Site B, it is still sufficiently elevated to permit subsurface construction and gravity drain lines.

This site was suggested by the Historic Districts Commission of the Town of Concord during a public meeting held in December, 1982. It was their feeling that by locating the structure nearer to the street, it would be less intrusive on the memorial area and the road to the bridge.

2. Treatment Alternatives

Four potential methods for treatment of the sewage from the comfort facility have been considered:

- I. flush toilets with sewage holding tank
- II. flush toilets with hookup to local sewer system
- III. flush toilets with septic tank/leaching field system
- IV. composting toilet system

Treatment Alternative I: Flush Toilet - Holding Tank

A holding tank, consisting of a large sealed receptacle with a capacity of at least 5,000 gallons, would be installed near the comfort station. The tank could be installed either above or below the ground. An alarm system would be necessary to indicate when the system is full. A service fee would be charged to empty the tank when necessary. A 5,000-gallon tank installed in conjunction with conventional low-flow toilets (3.4 gallons of water per flush) at the North Bridge area would require pumping after approximately 1,500 uses. However, low-flow toilets requiring only .8 gallon per flush are also available commercially and would greatly reduce the frequency of pumping.

This alternative could be accommodated at Sites B and C.

Treatment Alternative II: Flush Toilet - Municipal Sewer

The Town of Concord's central sewer system is located downstream from the North Bridge at Great Meadows. An additional 1,000 feet of sewer line would be needed to extend the current town sewer lines to the replacement comfort station. Extension of the sewer line would require digging and trenching approximately an 800-foot section of Monument Street and an additional 200 feet of Park land. Construction of a pumping station would also be required. An initial fee for hooking into the town sewer system as well as annual user

fees would be charged to the federal government under this alternative.

This alternative could be accommodated at all sites.

Treatment Alternative III: Flush Toilet - Septic System

Waste treatment by septic tank and leach field is a proven, effective, low-cost technique. Basically a watertight underground vat, the septic tank removes large particles, precipitates and decomposes the solids. Clarified waste water exits from septic tank and is distributed by the leaching field. Septic tanks are generally designed for cross-flow operation with an inlet from the toilets at one end and outlet on the other; in between, one or more baffles serve to slow water flow, and therefore, improve the overall effectiveness of the system.

Percolation testing reduces leaching field problems and the selection of appropriate septic tank capacity ensures that bacterial action proceeds thoroughly, which reduces the frequency of pumping the solids from the tank.

Waste water from the septic tank is distributed by the leaching field. This liquid is sometimes dark and odorous. It passes through porous sections of the leaching field where further bacterial action by soil microorganisms clarify and deactivate most pathogenic organisms. Nitrates, phosphates and other chemicals are removed by plants. In addition, clay minerals electrically attract metallic salts and remove them from the waste water. The remaining water eventually reaches the water table.

This alternative is widely used and has a proven record of dependability and cost-effectiveness. It is relatively vandal resistant and low maintenance. With water conservation devices such as low-flow toilets, it should be even more efficient.

This alternative is restricted to Sites B and C. Percolation tests taken in June, 1980, revealed two areas out of four near these sites that are acceptable for a septic system. Area #4 is located approximately 155 feet from the North Bridge and the Concord River. Area #3 is approximately 155 feet from the North Bridge and the Concord River. Area #3 is approximately 60 feet northwest of Area #4 (see Appendix B).

Treatment Alternative IV: Compost Toilet

A composting toilet is a "waterless" system wherein human waste and cellulose material (such as straw, peat moss, clippings, saw dust), combined in a collection container, are digested by micro-organisms. The micro-organisms, in the presence of air and heat, perform a process known as aerobic decomposition. A tropical-like temperature and constant air circulation is maintained within the container, decomposing the organic solids and exhausting liquid in the form of water vapor. In essence, a self-sustained micro-habitat is created with a dense population of micro-organisms continually breaking down the wastes which are eventually converted into humus. Composting toilets require that a minimum average temperature of approximately 70 degrees be maintained within the container in order for decomposition to continue. If necessary, heat can be supplied directly to the air in the container either with a solar collector or with an electrical heating unit.

There are three different versions of dry composting systems suitable for use in a public facility: 1) batch composting; 2) continuous composting; and 3) combination batch/continuous composting. These methods rely on physical and biological degradation to reduce wastes to humus. All of the composting systems are capable of handling overloading. In periods of peak usage, the overloading would require additional maintenance in order to add extra portions of cellulose material and possibly to remove excess liquids from the compost box.

These three variations on composting toilets differ in relatively minor ways. Both continuous and combination composting systems accomplish the treatment on site, while with the batch process, waste is collected and then transported to another site where treatment occurs.

To work effectively, it is important that composting systems be sized correctly so that the bacterial action is sufficient to take care of the load. In this location, a capacity of 300 - 450 uses per day is necessary. This would require three receptacles for the continuous or batch processes and six for the combination system.

The composting systems operate "dry" and, therefore, gray water from the sinks would have to be handled by a separate system. That system would be either similar to the leach-field used in Alternative III or a holding tank such as in Alternative I, but it could be smaller because of the lower volume of water being handled.

This alternative could be constructed at all three sites.

III. IMPACTS

A. Site Impacts

Building a new comfort facility at any of the proposed sites will involve minor short-term noise disturbances and some minor disruption of vegetation, soil, and wildlife during construction. Construction of Site A could cause disruption in the flow of traffic in the parking area, while construction noise at Site B would have the greatest impact upon the visitors at the North Bridge, as it is the closest site to that area. As Site A is the location of the present facility, choice of that site would preclude use of the present facility during construction.

Construction and operating costs of the facility at any of the sites would be roughly the same. Each of the sites is easily accessible to motorized equipment, and water and electricity are readily available. The electric service would be brought underground to Sites B and C to lessen its visual impact.

Heavy use of the area surrounding a new comfort station could result in soil compaction and suppression of existing vegetation in the vicinity of the building. This can be minimized by clearly marked access routes. The new facility will meet all standards for accessibility by handicapped persons, and each of the sites is compatible with such access as long as the entrance of the structure is at ground level.

Site A is located within 100' of a designated wetland, and within the 500-year flood plain. The Massachusetts Environmental Protection Act considers land within 100' of wetland to be sensitive, and requires special filings, procedures and restrictions on proposed construction projects on such lands. Sites B and C lie above and outside the wetland protection zone and both the 100- and 500-year flood levels. Both sites are accessible to suitable leaching fields for septic systems.

No threatened or endangered species would be affected by the selection of any of the alternative sites.

Each proposed site would involve some ground disturbance that could potentially destroy archeological resources. However, all of the sites have been disturbed in the recent past by modern construction--Site A by the present facility, and Sites B and C by the private residence which was located there prior to Park Service acquisition. An archaeological survey will be conducted prior to any construction.

The Park Service will comply with the Procedures of the Advisory Council on Historic Preservation, National Park Service Management Policies, and other historic preservation policies and procedures at whichever site is selected.

The historical and memorial character of the North Bridge makes it necessary to consider the impact of the facility upon the aesthetics of the area. The site chosen should minimize the visual impact of the structure upon the area and, if possible, should not be seen from the North Bridge itself.

In addition to the North Bridge, the character of the approach walk is significantly evocative, so that it should not be disturbed. At a series of public meetings held in December and January with the Concord Board of Selectmen and the Historic Districts Commission, this consideration was brought forth very strongly. Both boards felt that Site B would negatively impact the ambiance of this walk. It was, in fact, the Historic Districts Commission which proposed Site C as a preferable alternative--a suggestion which was endorsed by the Slectmen.

B. Treatment Impacts

All of the alternatives would require a water source. Alternative IV, Composting System, would require water only for hand washing facilities. Water can be obtained from the Town of Concord's municipal supply which originates from wells located in the southern part of town. Water piped from the town wells, if discharged in the vicinity of the comfort station would act as an artificial recharge to the ground water table underlying the immediate area.

Any alternative chosen will be constructed using an architectural design that is compatible and visually harmonious with the natural landscape, and historical character of the area. The same design could be used with each of the alternatives although Alternative IV would require vents rising above its roofline which could create a greater visual intrusion upon the scene. In addition, if the composting tanks were located directly below the facility, it could mean that the facility itself would have to be raised creating difficulties with handicapped access as well as increased visual impacts.

Subsurface construction could be required under all of the alternatives, either for a holding tank, sewer line, septic tank of composting tank, as well as for the water lines. While the holding tank or composting tank could be

constructed above ground, this would create a visual impact which would offset the reduced excavation.

Each of the alternatives discussed would also have some impact upon National Park Service management of Minute Man National Historical Park. Major impacts on management would involve funding and additional maintenance requirements.

All of the alternatives would require initial funding. There would be continued annual costs in the form of user fees and sewage disposal fees in most of the alternatives. Alternative IV would not require sewage disposal fees, but would require additional maintenance labor and time. All of the alternatives would require annual user fees for use of the town's municipal water supply.

The specific impacts of the sewage for each system are described below:

Alternative I - Flush Toilet - Holding Tank

This system requires the handling and transportation of untreated sewage. The sewage must be pumped out of the holding tank periodically and transported to a disposal/treatment site, the closest of which is in North Andover, approximately 30 miles away.

The tank must be carefully monitored to ensure that it does not fill up and overflow. The potential environmental hazards resulting from overflow include contamination of surface water and soil with pathogenic organisms, odor and health risks.

The tank would have to be emptied periodically depending upon the amount of use the comfort station received, and frequent truck access to the holding tank would be required. This need for access might require the construction of a driveway from the street to holding tank.

Alternative II - Flush Toilet - Municipal Sewer

This system requires construction of a sewer line from the present town sewer to the location of the comfort station, a distance of approximately 1,000 feet, and the construction of a pumping station. The Town of Concord has no available sewage treatment capacity and must build a new treatment facility before adding any further demand. Construction of the new treatment facility is currently in the design plan, and it will be at least three years before it will be on line.

This system would require less maintenance than any of the others, and would present less health/environmental risk. The chief risk would be that of a sewer backup or blockage resulting in spillage at the comfort station.

Alternative III - Flush Toilet - Septic System

This system would require a more extensive leaching field than the others because all of the water would be treated. The leachate of a properly operating septic system contains relatively high amounts of nitrates, phosphates and chlorides which are plant nutrients. Thus, leachate stimulates plant growth and increases the biological oxygen demand. This is not in itself an adverse effect. However, if the nutrient enriched leachate water reaches the surface water supply, it can stimulate algal growth resulting in stream eutrophication. Low-water-use plumbing fixtures will minimize this problem.

Leachate is considered a contaminant when it enters the drinking water supply. However, there are no wells in the vicinity of the leaching field or comfort station.

Alternative IV - Composting System

This system requires the careful regulation of moisture in the decomposing mass of waste material. Too little moisture and the mass dries and "fissures"--cracking which allows moisture to pass quickly through without moistening the waste material. Too much moisture and the aerobic bacteria die and are replaced by anaerobic bacteria resulting in greatly increased odor and an increased health hazard.

Cellulose material (straw, leaves, peat moss, etc.) must be added regularly to balance the carbon:nitrogen (C:N) ration. If the C:N gets out of balance, the decomposition slows or stops with similar results as above.

It is possible to introduce foreign (non-biodegradable) material into the composting chamber. This material would have to be removed by hand. An additional unpleasant task is "stirring" or "turning" the pile to improve the aeration and speed decomposition.

The product of properly run composting systems is a dark humus-like compost material which may be used as a soil conditioner for ornamental plants. Most composting systems also produce a liquid by-product similar to highly concentrated leachate. This liquid must be disposed of carefully, but it is produced in relatively small quantities.

In addition to the sewage itself, this type of treatment often produces "earthy odors" which could have a negative impact upon visitors to the area. On the other hand, there could be some value in interpreting the facility and the process to Park visitors.

IV. SUMMARY OF EARLY PUBLIC COMMENTS

On December 16, 1982, Park officials met with the Historic Districts Commission of the Town of Concord and discussed constructing a new comfort facility. Discussion centered on the location and appearance of the facility, and it was at this meeting that Site C was suggested by the Commission. The Commission felt that by locating the facility at Site C and having access to it from the intersection of Monument Street and the road to the bridge, its impact upon both the bridge and the road would be minimized.

On January 4, at a public meeting, Park officials met with the Selectmen of the Town, where a similar discussion was held. At that time, strong support was voiced for construction of the facility by the National Park Service and for locating it at Site C. This meeting was reported in the Middlesex News on January 5 and the Concord Journal on January 6. The same issue of the Concord Journal carried notice of an additional public hearing with the Historic Districts Commission on January 20.

At the meeting with the Historic Commission on January 20, plans for the comfort station were again discussed. Questions were raised as to the appearance of the structure, but support was given to the general design and concept.

V. SUMMARY OF ALTERNATIVES

A. Site Alternatives

<u>Impact</u>	<u>Site A</u> (<u>Parking Area</u>)		<u>Site B</u> (<u>Mid-Way to Bridge</u>)		<u>Site B</u> (<u>Beginning of Road</u>)	
	Town of Concord	N.P.S.	N.P.S.	N.P.S.	N.P.S.	N.P.S.
Land Ownership	Level, Low	Level, High	Level, High	Level, High	Level, High	Level, High
Topography	No Facility Available	Noise at Bridge	Noise at Bridge	Noise at Bridge	Noise at Bridge	Noise at Bridge
Impacts on Visitors During Construction	Yes	No	No	No	No	No
Impacts on Wetlands and Flood Plain	No	Yes	Yes	Yes	Yes	Yes
Impact Upon Memorial Area						

B. Treatment Alternatives

	<u>Treatment I Holding Tank</u>	<u>Treatment II Municipal Sewer</u>	<u>Treatment III Septic Tank</u>	<u>Treatment IV Composting</u>
Trucking of Sewage	All	None	Occasional	Possible
Potential Backup/ Leakage	Yes	Yes	Yes	Yes
Vehicle Access	Frequent	Occasional	Occasional	Moderate
Leachfield	Desirable for Gray Water	None	Complete	Desirable for Gray Water
Maintenance Costs	Moderate	Low	Moderate	High
Treatment Costs	High	High	Moderate	Low
Visual Impact	Moderate	Moderate	Moderate	High, Especially if Structure is Elevated
Odors	Possible	None	Possible During Pumping	Strong

C. Possible Combinations

	<u>Site A</u> (Parking Area)	<u>Site B</u> (Mid-Way to Bridge)	<u>Site C</u> (Beginning of Road)
Treatment I Holding Tank	No	Yes	Yes
Treatment II Municipal Sewer	Yes	Yes	Yes
Treatment III Septic Tank	No	Yes	Yes
Treatment IV Composting	Yes	Yes	Yes

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Agencies and Individuals Consulted

Appalachian Mountain Club, Doroth Taylor, Director of Research, Boston, Mass.

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APPENDIX A

COOPERATIVE AGREEMENT BETWEEN THE TOWN OF CONCORD, MASSACHUSETTS,
AND THE NATIONAL PARK SERVICE RELATING TO THE TOWN PROPERTY
KNOWN AS THE BATTLE GROUND AREA

THIS AGREEMENT, made and entered into this 6th day of June 1963,
by and between the United States of America, acting in this behalf by
Conrad L. Worth, Director of the National Park Service, party of the
first part, and the Town of Concord, Commonwealth of Massachusetts,
hereinafter referred to as the "Town," party of the second part,

WITNESSETH:

WHEREAS, the Minute Man Statue, Old North Bridge, and associated
historic structures and objects, located in the Town on land bounded
northerly by land now or formerly of Tanner, easterly by Monument Street,
southerly by land of the Trustees of Reservations, and westerly by land
now or formerly of Buttrick, hereinafter referred to as the "Battle
Ground area," which reference shall include the parking lot adjacent
thereto bounded northerly by Simmons Landing Lane and easterly by Great
Meadows Road, are recognized as possessing national significance as
associated with the American Revolution; and

WHEREAS, the Act of Congress approved September 21, 1959,
(73 Stat. 590-591) has provided for the establishment of the Minute Man
National Historical Park for the purpose of preserving for the benefit
of the American people the above-named and other nationally important
historic lands and structures in the Town associated with the American
Revolution and the founding and growth of the United States; and

WHEREAS, the Town by vote of its Annual Town Meeting held March 11,
1963, has authorized the Selectmen and Town Manager to execute and deliver
this agreement on behalf of the Town; and

WHEREAS, the United States in all matters hereinafter referred to
will act through the National Park Service or such other body as may be
legally substituted therefor; and

WHEREAS, it is the desire of the Town to bring about the preservation of the said historic structures, objects, and grounds in the Battle Ground area as a national historical park that they may be devoted to public use and to the perpetuation of the greatest traditions of the United States of America; and

WHEREAS, it is the desire of the United States to cooperate with the Town in preserving the integrity of the above-mentioned historic structures, objects, and area, and to interpret them to the American people as a great national heritage.

NOW THEREFORE, in consideration of the foregoing and pursuant to the authority contained in the act of Congress approved August 21, 1935 (49 Stat. 666), entitled "An Act to Provide for the Preservation of Historic American Buildings, Objects, and Antiquities of National Significance, and for Other Purposes," and the act of Congress approved September 21, 1959 (73 Stat. 590-591), entitled "An Act to Provide for the Establishment of the Minute Man National Park, and for Other Purposes," the said parties have covenanted and agreed, and by these presents do covenant and agree to and with each other and in consideration of the mutual promises herein expressed, as follows:

ARTICLE I. The Town will retain ownership of the said historic structures, objects, and grounds in the Battle Ground area but hereby agrees:

(a) To permit the United States to occupy them exclusively, except as otherwise provided herein, during the term of this agreement for the purpose of preserving, exhibiting, and interpreting them to the American people and otherwise utilizing them for national historical park purposes.

(b) To permit the United States to have curatorial responsibility for the care and display of such exhibits of historical interest as may be available in the Battle Ground area for exhibit and interpretive purposes.

(c) To supply customary municipal services, including police and fire protection and water facilities without charge therefore.

ARTICLE II. The Director hereby agrees, on behalf of the United States:

(a) That he will occupy the grounds and associated structures for the purposes set forth in Article I of this agreement, and for no other purposes, and that he will not sublet or assign to another person or organization any part of the structures, objects, or grounds without prior approval in writing by the Town; that he will (as funds become available through appropriations by Congress) operate and maintain the structures, objects, and grounds and make all repairs thereto; remedy all defects in the structures and objects which may arise from any cause whatsoever, including ordinary wear and tear; and undertake such work of restoration or major alteration as may be mutually agreed upon under the provisions of Article III (b).

The Director may apply such reasonable rules and regulations therein as may be necessary properly to perform his functions.

(b) That he will exercise reasonable care to prevent damage to, or destruction of, any part of the structures, objects, or grounds.

(c) That he will provide public access to the area at all reasonable times, and will provide the services of a competent person, or persons, to furnish information to the visiting public.

(d) That he will encourage and cooperate with the Town, Civic groups, and patriotic societies in the annual observance of Patriots' Day and other celebrations in which the area and its facilities may be appropriately used which have the approval of the Selectmen.

ARTICLE III. It is mutually understood and agreed:

(a) That nothing herein contained shall be construed as binding the United States to expend in any one fiscal year any sum in excess of appropriations made by Congress for that fiscal year, or to involve the United States in any contract or other obligation for the future expenditure of money in excess of such appropriations.

(b) That any work of restoration or any alterations or major repairs in the area shall not be undertaken until the plans for such work shall have been mutually agreed upon with the Selectmen.

(c) That neither of the parties to this agreement will erect or place, or permit the erection or emplacement of any monument, marker, tablet, or other memorial in the area without the written consent of

the other. This section shall not be construed as prohibiting the placing of signs within the area for the information and direction of the public. The design and location of any signs within the area to indicate that it is occupied and operated by the National Park Service acting in cooperation with the Town, shall be subject to the approval of the Selectmen.

(d) That it is the purpose of both parties to this agreement to develop a unified, long-range program of preservation, development, protection, and interpretation for the area for the inspiration and benefit of the people of the United States, and, to secure this result, a high degree of cooperation is necessary with each other, and the parties hereto pledge themselves to consult on all matters of importance to the program.

(e) That nothing herein contained shall be held to deprive the Commonwealth of Massachusetts or the Town of their civil and criminal jurisdiction in and over the said structures, objects, and grounds.

(f) That wherever in this agreement the Director is referred to, the term shall include his duly authorized representative or representatives.

(g) No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise therefrom, but this restriction shall not be construed to extend to this agreement if made with a corporation or company for its general benefit.

(h) This agreement shall become effective upon its execution, but occupation, operation, and maintenance by the United States in accordance with Article II shall begin on July 1, 1963, or as soon thereafter as practicable. It shall continue in effect until such time as Congress enacts legislation inconsistent with its continuance or expressly providing for its termination, or until terminated by the Director, National Park Service, who shall give six months' notice to the Town of such intention, or if the Town at an annual or special town meeting, held after January 1, 1968, shall vote to terminate this agreement, it shall terminate not less than six months from the date on which such vote is taken by the town meeting.

IN WITNESS WHEREOF, the parties hereto have subscribed their names and affixed their seals (in quintuple) the day, month, and year aforesaid.

UNITED STATES OF AMERICA

By /s/ Conrad L. Worth

TOWN OF CONCORD

By /s/ John B. Finigan, Chairman

Robert E. Sheehan

Herbert P. Wilkins

Frederick J. Robbins

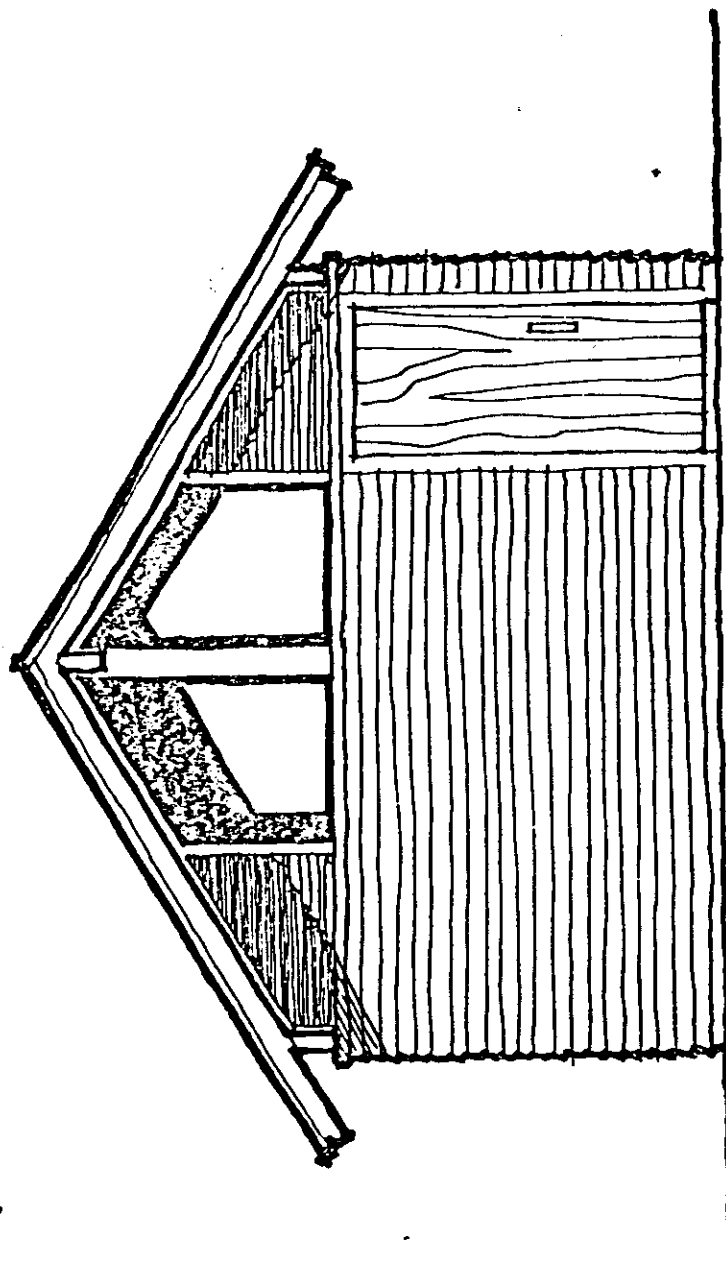
Robert J. Rodday
Board of Selectmen

Theodore M. Nelson
Town Manager

81. KALAMAZOO NORTH BRIDGE AREA, CONCORD NEARBY PERCOLATION TEST AND SOIL ANALYSIS Hole #3		MINUTEMAN M.H.P. NORTH BRIDGE AREA, CONCORD NEARBY PERCOLATION TEST AND SOIL ANALYSIS Hole #3		JUNE 10, 1950 Mild w/light Rain		LOCATION OF TEST HOLES AND TEST PITTS Kalamazoo at NW corner of proposed Comfort Station sighting on NE corner B.M. - ground elevation base of N.W. corner. HI = 4.9 above base				JULY 11, 1950 Weather Clear in very warm	
PERCOLATION TEST DATA		PERCOLATION TEST DATA		TEST TRENCH #3		TEST TRENCH #3		TEST TRENCH #3		TEST TRENCH #3	
Hole #3		Hole #3		TEST TRENCH #3		TEST TRENCH #3		TEST TRENCH #3		TEST TRENCH #3	
DISTANCE FROM ESTABLISHED LEVEL TO WATER LEVEL		DISTANCE FROM ESTABLISHED LEVEL TO WATER LEVEL		TEST TRENCH #3		TEST TRENCH #3		TEST TRENCH #3		TEST TRENCH #3	
TIME OF DAY		TIME OF DAY		TEST TRENCH #3		TEST TRENCH #3		TEST TRENCH #3		TEST TRENCH #3	
2:20 PM	2:57 PM	2:57 PM	2:57 PM	2:57 PM	2:57 PM	2:57 PM	2:57 PM	2:57 PM	2:57 PM	2:57 PM	2:57 PM
2:57 PM	3:01 PM	3:01 PM	3:01 PM	3:01 PM	3:01 PM	3:01 PM	3:01 PM	3:01 PM	3:01 PM	3:01 PM	3:01 PM
3:01 PM	3:07 PM	3:07 PM	3:07 PM	3:07 PM	3:07 PM	3:07 PM	3:07 PM	3:07 PM	3:07 PM	3:07 PM	3:07 PM
3:07 PM											
									</		

APPENDIX C
STRUCTURE DESIGN

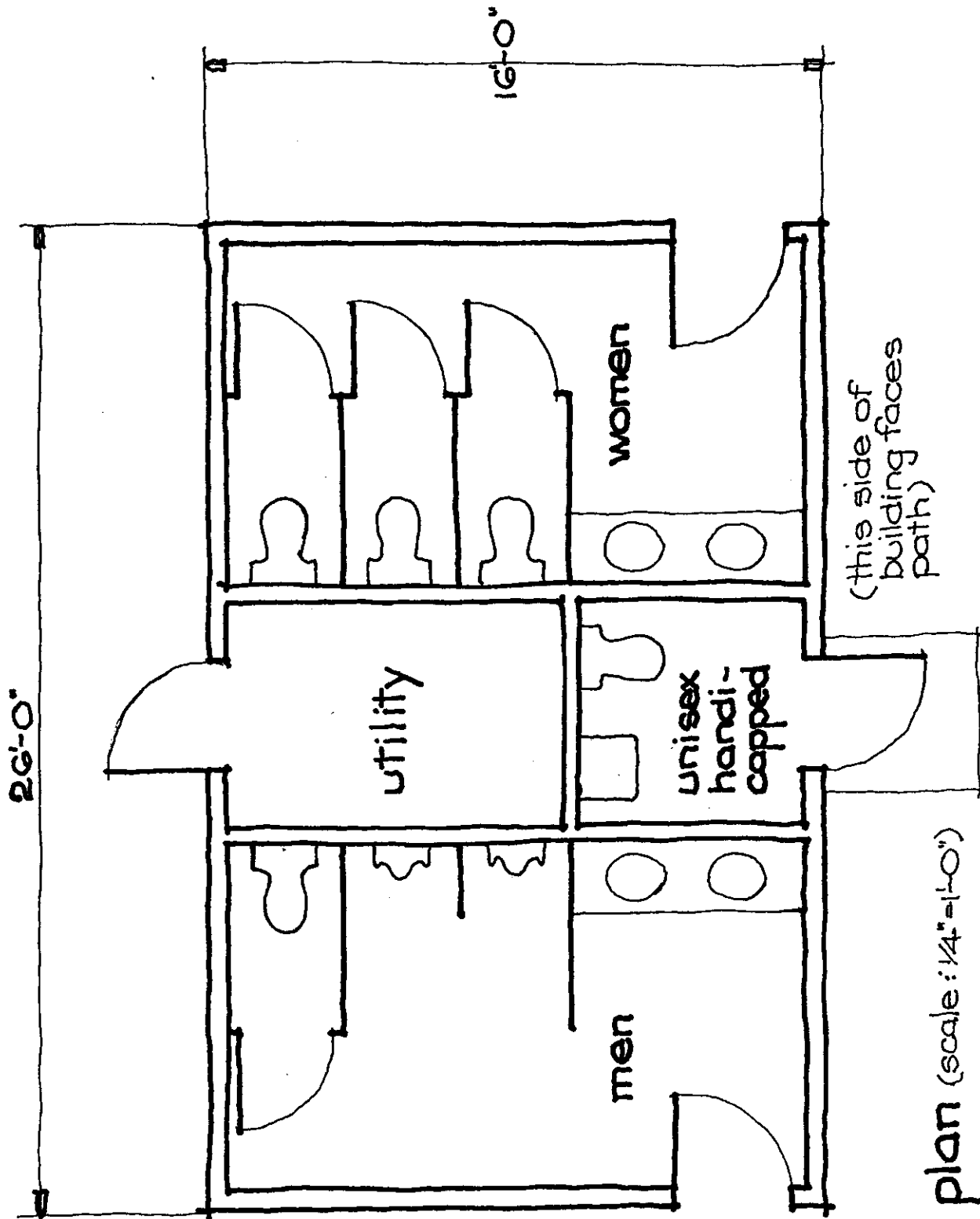
end elevation
(scale: 1/4"=1'-0")



PROPOSED COMFORT STATION -MINUTE MAN N.H.P.

g. stephen

n.p.s. n.a.o.



-32-

PROPOSED COMFORT STATION - MINUTE MAN N.H.P.

n.p.s. n.a.n.o

george stephen