U.S. ARMY MEDICAL DEPARTMENT CENTER AND SCHOOL
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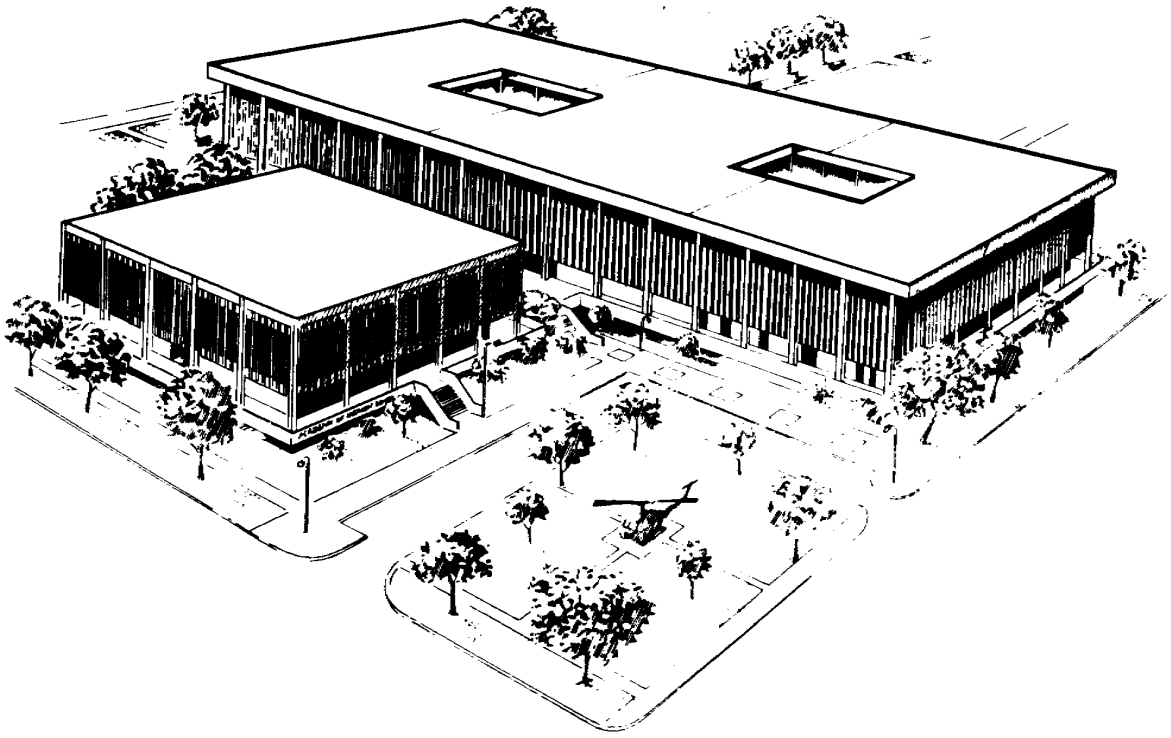

ENVIRONMENTAL HEALTH INSPECTIONS AND SURVEYS I

SUBCOURSE MD0164 **EDITION 100**

DEVELOPMENT

This subcourse is approved for resident and correspondence course instruction. It reflects the current thought of the Academy of Health Sciences and conforms to printed Department of the Army doctrine as closely as currently possible. Development and progress render such doctrine continuously subject to change.

When used in this publication, words such as "he," "him," "his," and "men" 'are intended to include both the masculine and feminine genders, unless specifically stated otherwise or when obvious in context.

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ADMINISTRATION

Students who desire credit hours for this correspondence subcourse must meet eligibility requirements and must enroll through the Nonresident Instruction Branch of the U.S. Army Medical Department Center and School (AMEDDC&S).

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CORRESPONDENCE COURSE OF
THE U.S. ARMY MEDICAL DEPARTMENT CENTER AND SCHOOL

SUBCOURSE MD0164

ENVIRONMENTAL HEALTH INSPECTIONS AND SURVEYS I

INTRODUCTION

Military personnel and their dependents use a variety of Army facilities. These facilities must meet Army sanitation standards and regulations. Sanitary inspections and surveys are powerful tools for determining that facilities are following the appropriate standards and regulations. The preventive medicine specialist is often charged with actually conducting the inspections. Since sanitary inspections are critical tools in disease prevention, the inspector must have a thorough knowledge of the standards and health issues of the various facilities. Subcourse MD0164 discusses sanitary inspections for troop housing, barber and beauty shops, and mobile home parks. This subcourse contains the standards from AR 40-5, a sample checklist; and a discussion of the major public health issues for each of these facilities. Additional facilities are discussed in Subcourse MD0166, Environmental Health Inspections and Surveys II.

This subcourse consists of four lessons and an examination. The lessons are:

Lesson 1. Introduction to Sanitary Surveys and Inspections.

Lesson 2. Inspect Troop Housing.

Lesson 3. Inspect Barber and Beauty Shops.

Lesson 4. Inspect Mobile Home Parks.

Credit Awarded:

Upon successful completion of this subcourse, you will be awarded 6 credit hours.

Materials Furnished:

Materials provided include this booklet, an examination answer sheet, and an envelope. Answer sheets are not provided for individual lessons in this subcourse because you are to grade your own lessons. Exercises and solutions for all lessons are contained in this booklet. *You must furnish a #2 pencil*.

Procedures for Subcourse Completion:

You are encouraged to complete the subcourse lesson by lesson. When you have completed all of the lessons to your satisfaction, fill out the examination answer sheet and mail it to the AMEDDC&S, along with the Student Comment Sheet, in the envelope provided. *Be sure that your social security number is on all correspondence sent to the AMEDDC&S*. You will be notified by return mail of the examination results. Your grade on the examination will be your rating for the subcourse.

Study Suggestions:

Here are some suggestions that may be helpful to you in completing this subcourse:

--Read and study each lesson carefully.

--Complete the subcourse lesson by lesson. After completing each lesson, work the exercises at the end of the lesson, marking your answers in this booklet.

--After completing each set of lesson exercises, compare your answers with those on the solution sheet, which follows the exercises. If you have answered an exercise incorrectly, check the reference cited after the answer on the solution sheet to determine why your response was not the correct one.

--As you successfully complete each lesson, go on to the next. When you have completed all of the lessons, complete the examination. Mark your answers in this booklet; then transfer your responses to the examination answer sheet using a #2 pencil and mail it to the AMEDDC&S for grading.

Student Comment Sheet:

Be sure to provide us with your suggestions and criticisms by filling out the Student Comment Sheet (found at the back of this booklet) and returning it to us with your examination answer sheet. Please review this comment sheet before studying this subcourse. In this way, you will help us to improve the quality of this subcourse.

LESSON ASSIGNMENT

LESSON 1	Introduction to Sanitary Surveys and Inspections.
LESSON ASSIGNMENT	Paragraphs 1-1 through 1-8.
LESSON OBJECTIVES	After completing this lesson, you should be able to:

1-1. State the basic purpose of sanitary surveys and inspections.

1-2. List the general areas covered by sanitary surveys and inspections.

1-3. Identify the sources of authority for sanitary surveys and inspections and the role of each authority.

1-4. Identify the role of the specialist in conducting sanitary surveys and inspections.

1-5. Identify the procedures involved in planninga sanitary survey or inspection.

1-6. Identify the basic procedure for conducting a sanitary survey or inspection.

1-7. Identify the qualities required of a competent sanitary inspector.

SUGGESTION After completing the assignment, complete the exercises of this lesson. These exercises will help you to achieve the lesson objectives.

LESSON1

INTRODUCTION TO SANITARY SURVEYS AND INSPECTIONS

1-1. INTRODUCTION

a. Sanitary surveys and inspections are effective tools for preventing disease and injury. However, to be effective, sanitary surveys and inspections must be planned properly and carried out by qualified personnel.

b. Subcourse MD0164 will provide you with information for conducting sanitary surveys of the following facilities:

(1) Troop housing.

(2) Barber and beauty shops.

(3) Mobile home parks.

c. Inspections of additional facilities are discussed in Subcourse MD0165.

1-2. PURPOSE OF SANITARY SURVEYS AND INSPECTIONS

a. The basic purpose of sanitary surveys and inspections is to collect and evaluate medical data on various Army facilities. Sanitary surveys are broad in scope; they are designed to evaluate a facility on all factors that could cause disease or injury.

b. There are three general areas covered by sanitary surveys and inspections: environmental factors, disease prevalence, and military requirements.

(1) Environmental factors include any conditions at the facility that are potential health hazards. Unsanitary and unsafe equipment, surroundings, and practices are prime examples of environmental factors uncovered during an inspection.

(2) Disease prevalence refers to the occurrence of disease among personnel at a facility. A thorough sanitary investigation should determine if anyone is ill at the facility and the factors relating to the illness.

(3) Military requirements are the regulations and specifications established by the Army for different facilities. Sanitary surveys and inspections should determine if these regulations are being followed.

c. In addition to detecting basic sanitary and safety defects, surveys and inspections can be used as educational instruments. Inspectors observe personnel as they perform their duties and note any defective practices. Personnel can then be instructed in correct and sanitary methods.

1-3. AUTHORITY FOR CONDUCTING SANITARY SURVEYS AND INSPECTIONS

a. **Command Authority**. The post commander is responsible for all aspects of sanitation at the post. The U.S. Army Medical Department (AMEDD) inspector conducts sanitary inspections and recommends corrections for any problems found during the inspection. The commander and the AMEDD inspector work together to ensure that post facilities meet sanitary standards. The AMEDD representative acts as the eyes of the commander by making the commander and his staff aware of sanitary defects. The commander then assigns various staff members the responsibility for carrying out corrections.

b. **Army Regulation 40-5**. Army Regulation (AR 40-5) is the basic reference for Army preventive medicine, including sanitary surveys and inspections. It outlines the chain of command for conducting inspections and sets basic standards for equipment and operations at various facilities. These standards serve as guidelines for items to be checked during sanitary surveys and inspections.

c. **Local Regulations, Standing Operating Procedures (SOP), Directives**. In addition to general Army Regulations, a post may have local directives or orders that prescribe certain sanitary and safety procedures. The inspector should be aware of these local regulations and, during the inspection, determine if they are being followed.

1-4. ROLE OF THE SPECIALIST IN SANITARY SURVEYS AND INSPECTIONS

The AMEDD, under the leadership of The Surgeon General (TSG), delegates authority to the personnel conducting a sanitary survey or inspection. The preventive medicine specialist (MOS 91S) participating in an inspection represents AMEDD and his performance reflects on the AMEDD. Because of this, the preventive medicine specialist must have comprehensive knowledge of regulations governing sanitation and

safety, potential health hazards at the various facilities, and procedures involved in a sanitary inspection. He should know the authorities responsible for the facility under inspection and be aware of any sanitary problems that could be encountered at the facility. He should be able to make sound recommendations for the correction of unsanitary conditions or problems that could be encountered at the facility. He should also be able to make sound recommendations for the correction of unsanitary conditions or practices noted during the inspections.

1-5. PLANNING SANITARY SURVEYS AND INSPECTIONS

a. **Importance of Planning Surveys and Inspections**. It is important to plan a survey or inspection before conducting it. Careful planning has several advantages. It simplifies and streamlines the actual process of carrying out the survey or inspection and, therefore, reduces lost or wasted time. Planning increases the thoroughness of the inspection by ensuring that important items are not overlooked. The overall result of careful planning is an effective and professionally conducted survey or inspection.

b. **Procedures for Planning Surveys and Inspections**. In most cases, there is no need to formally plan a survey or inspection. Instead, you can make a mental outline of the inspection procedure. However, certain basic questions should be asked when planning any sanitary survey or inspection. These questions are given below.

(1) Who is involved in the survey or inspection? This question includes both the inspectors and those who are points of contact at the facility undergoing the inspection. It is especially useful to be aware of the authorities and personnel who will accompany and work with you during the inspection.

(2) What type of facility is to be inspected? It is important to know the type of facility that you will survey or inspect. Items to be inspected and sanitary deficiencies vary with facilities. Advance knowledge helps you to foresee possible problems.

(3) What equipment and supplies are needed to perform the survey or inspection? This includes the type of transportation needed; the inspection or checklist and any equipment or supplies required during the inspection; previous inspection reports; and relevant regulations and references. Preliminary information in this area reduces wasted time and prevents you from forgetting necessary equipment or items. In addition, previous reports provide information on the facility and acquaint you with past defects and possible problem areas. Regulations and references inform you of the standards for the facility and indicate possible problems.

(4) When is the survey or inspection to occur? You should know the date and the time of day scheduled for conducting the survey or inspection. Some inspections are conducted during operating hours and others during non-operating hours. It is also a good idea to find out how frequently the inspection is conducted. Inspections generally occur as often as necessary to ensure that the facility meets

sanitary and safety standards. This gives you background information on the nature of the inspection and help you make firm arrangements for conducting it.

(5) What is the suspense date for the inspection or survey report? Reports may be written after a survey or inspection has been completed. It is helpful to know the suspense date for the report so that you can allow time to write it after returning from the inspection.

(6) Where is the facility located? This basic information aids you in making transportation arrangements.

(7) Why is the inspection being conducted? Surveys or inspections are conducted for several reasons. Knowing why an inspection is conducted helps you to anticipate and understand problems that may occur.

(a) The most common is the routine inspection, conducted monthly, quarterly, semiannually, or annually. This type of inspection can be announced or unannounced (a surprise inspection), but is usually unannounced. The surprise inspection has the advantage of allowing you to observe the typical functioning of a facility. The surprise inspection also permits a more flexible office schedule; you can arrange the inspection for a time when you are not extremely busy with office work and problems.

(b) A follow-up inspection or reinspection is performed to determine that the facility has corrected deficiencies noted in the first inspection.

(c) Emergencies can initiate a survey or inspection. For example, if an outbreak of food poisoning occurs at a post, inspections and surveys must be conducted to determine the cause.

(d) Surveys and inspections can be performed upon special request. A report of unsatisfactory, unhygienic, or unsafe conditions at a facility may lead to a special request inspection or survey.

1-6. CONDUCTING SANITARY SURVEYS AND INSPECTIONS

a. Inspections are both necessary and extremely useful in carrying out the Army Preventive Medicine Program. However, when undergoing an inspection, personnel at the facility naturally are somewhat uneasy. Therefore, as an inspector, you must be careful to conduct the inspection in a polite and professional manner. This eases any anxieties felt by personnel and helps you gather valid data.

b. The procedures for conducting a survey or inspection are:

(1) Report to the unit commander or the commander's representative (for example, the first sergeant or the dining facility manager). Introduce yourself and explain your mission.

(2) Conduct the inspection in a professional manner.

(3) Note all deficiencies on the inspection report form.

(4) After the inspection, review all times written on the inspection checklist.

(5) Discuss minor sanitation problems that can be easily corrected with the facility representative accompanying you.

(6) Bring major health hazards to the attention of the commander's representative for correction as soon as possible.

1-7. QUALITIES OF A GOOD INSPECTOR

As a representative of the U.S. Army Medical Department, an inspector must consistently carry out his duties in an efficient manner. A professional inspector possesses certain qualities that enable him to perform his job effectively.

a. **An Inspector Must Be Objective**. A good inspector evaluates facilities logically and consistently. The evaluation is based on set standards, regulations, and the inspector's knowledge of sanitation and safety.

b. **An Inspector Must Be Thorough**. A good inspector checks each facility completely and does not overlook seemingly small points. Sanitary and safety defects are dangerous regardless of how unimportant they may seem.

c. **An Inspector Must Be Fair**. This relates to the quality of being objective. A good inspector rates each facility according to objective health and safety standards. He should not be swayed by personal feelings forward a facility or toward personnel working at the facility.

d. **An Inspector Must Know Sanitary Standards and Regulations**. A good inspector must know thoroughly many standards and regulations. It is easy to forget certain standards or confuse requirements for different facilities. Because of this, it is essential that the inspector review relevant sanitary standards before conducting a specific inspection.

1-8. SUMMARY

a. The fundamental purpose of sanitary surveys and inspections is to collect and evaluate medical data on various Army facilities. Inspections and surveys are designed to evaluate these facilities on all factors that could cause disease or injury.

b. The three general areas covered in a sanitary inspection or survey are:

(1) Environmental factors.

(2) Disease prevalence.

(3) Military requirements.

c. Sanitary survey and inspection results can also be used as educational tools to correct unsanitary and unsafe practices.

d. The authority for conducting sanitary surveys and inspection is threefold.

(1) Command authority refers to the interaction between the post commander, who has authority over all sanitary and safety measures at his post, and the inspector, who represents the AMEDD while conducting the inspection.

(2) Army Regulation (AR) 40-5 outlines the chain of command for conducting surveys and inspections and established basic sanitary and safety standards.

(3) When conducting an inspection, local sanitary directives must be considered.

e. As an inspector, the specialist represents the AMEDD and his performance reflects on the AMEDD under the leadership of The Surgeon General.

f. A sanitary survey or inspection must be planned in order to be effective and professional. Although surveys and inspections vary with the type of facility undergoing the inspection, certain basic questions apply to the planning of all surveys and inspections. These questions are:

(1) Who is involved in the survey or inspection?

(2) What type of facility will be surveyed or inspected?

(3) What equipment and supplies are needed for the survey or inspection?

(4) When is the survey or inspection to occur?

(5) What is the suspense date for the report?

(6) Where is the facility located?

(7) Why is the survey or inspection being conducted?

g. It is important to conduct the survey or inspection in a polite and professional manner. There is a certain procedure for conducting an inspection; a competent inspector will be sure to follow this procedure.

h. An efficient inspector possesses certain qualities which enable him to perform his job effectively. These qualities are objectivity, thoroughness, and fairness. A good inspector is knowledgeable of sanitary standards and regulations.

Continue with Exercises

EXERCISES, LESSON 1

INSTRUCTIONS: The following exercises are to be answered by marking the lettered responses that best answers the question or best completes the incomplete statement or by writing the answer in the space provided.

After you have completed all the exercises, turn to "Solutions to Exercises" at the end of the lesson and check your answers.

1. The basic purpose of sanitary surveys is to _____

_____.

2. Name the three general areas covered by sanitary surveys.

SPECIAL INSTRUCTIONS FOR EXERCISES 3 THROUGH 6. Below is a list of authorities responsible for various aspects of sanitary surveys. Answer exercises 3 through 6 by writing the name of the responsible authority in the blank space. The authorities are:

- The post commander.
- The AMEDD inspector.
- AR 40-5.
- Local sanitary directives.

3. This authority consists of specific directives on sanitation or safety procedures and may vary from post to post. This authority is _____.

4. The authority that serves as the basic reference for Army sanitary surveys and sets the standards for equipment and operations in various facilities is _____.

5. _____ is responsible for conducting surveys and ensuring that various posts meet Army sanitary standards.

6. The authority responsible for overall sanitation at the post is _____.

7. A sanitary inspection is usually planned by:

a. Making a mental outline of the inspection procedure.
b. Writing a formal inspection plan according to local regulations.
c. Composing and sending a written plan through the chain of command to the chief of preventive medicine.

8. List the basic questions to ask when planning a sanitary survey or inspection.

9. The _____inspection is the most common inspection and can be either announced or unannounced.

10. A(n) _____ inspection may be conducted when a report is received of unsatisfactory, unsafe, or unhygienic conditions at a facility.

11. An inspector who checks each facility completely and examines even small points is demonstrating the quality of _____.

12. An inspector is swayed to overlook defects at a facility because some of the personnel working there are friends. This inspector has violated the quality(ies) of _____.

13. When performing a sanitary inspection, the specialist represents _____.

14. Sanitary inspections and surveys can serve as educational instruments primarily because:

a. Inspection results are passed around to other inspectors as a learning device.
b. Personnel at a facility can be taught how to correct deficiencies observed by the instructor.
c. Inspectors are required to submit inspection reports to instructors who use them in classes and for on-the-job training.

15. Inspectors follow a certain basic procedure when conducting an inspection. After completing the inspection, the inspector should discuss minor sanitation problems with _____ and major defects with the _____.

Check Your Answers on Next Page

SOLUTIONS TO EXERCISES, LESSON 1

1. Collect and evaluate medical data on various Army facilities (para 1-2a)

2. Environmental factors
   Disease prevalence
   Military requirements (para 1-2b)

3. Local sanitary directives (para 1-3c)

4. AR 40-5 (para 1-3b)

5. The AMEDD inspector (para 1-3a)

6 The post commander (para 1-3a)

7 a. (para 1-5b)

8 Who is involved in the survey or inspection?
   What type of facility is to be inspected?
   What equipment or supplies are needed to perform the survey or inspection?
   When is the survey or inspection to occur?
   When is the suspense date for the inspection or survey report?
   Where is the facility located?
   Why is the inspection being conducted? (paras 1-5b(1-7), 1-8f (1-7))

9. Routine (para 1-5b(7)(a))

10. Special request (para 1-5b(7)(d))

11. Thoroughness (para 1-7b)

12. Objectivity or fairness (paras 1-7a, c)

13. The Army Medical Department (AMEDD) (para 1-4)

14. b (para 1-2c)

15. Facility representative accompanying your commander's representative
    (paras 1-6b(5), (6))

End of Lesson 1

LESSON ASSIGNMENT

LESSON 2	Inspect Troop Housing.
LESSON ASSIGNMENT	Paragraphs 2-1 through 2-20.
LESSON OBJECTIVES	After completing this lesson, you should be able to:

2-1. Identify the sanitation standards for troop housing in AR 40-5.

2-2. State the purpose of an inspection checklist.

2-3. On a sample checklist, identify the items for troop housing inspections and record inspection observations.

2-4. Identify the organizations and persons responsible for various aspects of sanitation in troop housing.

2-5. Identify common communicable diseases infecting soldiers in troop housing and how these diseases spread.

2-6. Identify the primary controls against communicable diseases in troop housing.

SUGGESTION After completing the assignment, complete the exercises of this lesson. These exercises will help you to achieve the lesson objectives.

LESSON 2

INSPECT TROOP HOUSING

Section I. SANITATION STANDARDS FROM AR 40-5

2-1. INTRODUCTION

Chapter 5 of AR 40-5 discusses sanitary standards at various facilities, including troop housing. Certain sanitary standards are mandatory for Army troop housing and BOQ (Bachelor Officer Quarters). Local regulations, as well as inspections, are based on the requirements of AR 40-5. The paragraphs below present sections of AR 40-5 that deal with troop housing.

2-2. TROOP HOUSING SANITATION STANDARDS FROM AR 40-5

a. **General Requirements**.

(1) AR 40-5 specifies these general requirements:

> 5.17. Housing Sanitation. a. *General*. Important health and sanitation considerations concerning BOQ and troop housing include adequate floor space, temperature, heating, lighting, ventilation, latrine and handwashing facilities, humidity, and noise control. Location and construction of new installations and buildings provide a unique opportunity to provide a healthy and sanitary environment through proper facility design. Responsibilities, procedures, and considerations for peacetime investigation and selection of and proposed Army installation sites are contained in AR 210-30. Policies, responsibilities, and procedures for development and approval of permanent Army installation master plans are contained in AR 210-20. Responsibilities and procedures for selection of campsites are as identified in FM 21-10.

(2) Remember**,** the environmental health considerations for troop housing are:

(a) Floor space.

(b) Temperature.

(c) Heating.

(d) Lighting.

(e) Ventilation.

(f) Latrine and handwashing facilities.

(g) Humidity.

(h) Noise control.

b. **Space Allowances**.

(1) AR 40-5 specifies these standards for space allowances:

> *Space allowances.* Basic facilities and space allowances for Army installation peacetime mission are described in AR 210-11. Allowances for emergencies are described in AR 415-50.
>
> In order to minimize disease transmission, the normal sleeping space allowance for individuals in basic training is prescribed at not less than 72 square feet of floor space per man, exclusive of stairs, halls, latrines, utility rooms, recreation areas, storage rooms, or other administrative areas. All available billeting, including temporary facilities and tents when necessary, will be utilized to ensure this minimum space allowance. Commanders will schedule utilization of common use facilities such as mess halls, classrooms, theaters, and latrine facilities to avoid overcrowding.

(2) Remember, the space allowance for basic trainees is 72 square feet per individual. This does NOT include stairs, halls, latrines, administrative areas, recreation areas, and storage and utility rooms.

c. **Plumbing Fixtures**.

(1) AR 40-5 specifies these standards for plumbing fixtures:

> *Plumbing fixture requirements.* The number of plumbing fixtures installed will be based on maximum number of persons requiring accommodations, total number of persons for whom toilets and urinals are provided, or the total number of persons comprising the operating complement or staff required for normal facility functioning. Plumbing fixture requirements for various types of buildings are prescribed in TM 5-810-5.

(2) Remember, the number of plumbing fixtures installed in a facility depends on:

(a) The maximum number of people that need the plumbing fixtures.

(b) The total number of people for whom plumbing fixtures are provided.

(c) The total number of people who make up the staff required for normal facility functioning.

d. **Ventilation**.

(1) AR 40-5 specifies these standards for ventilation:

> *Ventilation*. Heating and ventilation influence troop health and comfort. Barracks are ventilated to dilute unpleasant body odors, tobacco smoke, airborne organisms, and dust and reduce the temperature and humidity during warm weather. No amount of over ventilation can compensate for overcrowding (may produce harmful chilling). Minimum outside air supply normally required during the heating season is 600 to 900 cubic feet per hour per man in the barracks. In non-mechanically ventilated quarters, windows should be partially opened (except during extremely cold weather) when individuals are sleeping. Local agreements should be reached between the installation engineer and Medical Authority to achieve maximum health benefits with minimum loss of heating equipment efficiency. Policies for installation and design of air conditioning, evaporative cooling, dehumidification, and mechanical ventilation equipment and systems are contained in AR 420-54.

(2) Remember, the barracks must be ventilated. However, ventilating CANNOT compensate for overcrowding. The minimum outside air supply during the heating season is 600 to 900 cubic feet per hour per person in the barrack.

e. **Bed Arrangements**.

(1) AR 40-5 specifies these requirements for bed arrangements:

> *Bed arrangements.* Beds will be arranged to place as much distance as possible between respiratory tracts of persons sleeping in adjacent bunks. One method is to have individuals sleep head to foot. Double bunking is permitted provided allotted space meets requirement of paragraph 5-17b.

(2) Remember, the beds are arranged to maximize distance among people sleeping side by side. This is done to keep as much space as possible between the respiratory tracts of adjacent sleepers.

Section II. INSPECTION CHECKLIST FOR TROOP HOUSING

2-3. GENERAL

The inspection checklist is extremely useful as it provides an outline of items to look for when you are conducting an inspection and a way to record your findings. Inspection checklists vary from installation to installation. Regardless of the format used, however, they contain certain items that must be inspected. To be an effective inspector, you should not depend entirely on the checklist. Your observations should be based on a wide knowledge of sanitation and safety and include items that may not be present on the checklist.

2-4 SAMPLE CHECKLIST

A sample checklist is shown in Figure 2-1.

Section III. PUBLIC HEALTH ASPECTS OF TROOP HOUSING

2-5. INTRODUCTION

Adequate housing conditions are important for the soldier's physical and mental health and relate directly to job efficiency. It is important that the preventive medicine specialist (MOS 91S) know basic construction standards, the relationship between housing and communicable disease, and preventive measures for controlling the spread of communicable diseases. As an inspector, the 91S must be able to determine when basic housing construction standards are substandard and to detect potential health hazards.

2-6. AUTHORITIES RESPONSIBLE FOR SANITATION IN TROOP HOUSING

a. The unit commander has ultimate responsibility for the appearance, utilization, and general sanitation of troop barracks. The commander is responsible for the health and welfare of all soldiers in the unit.

b. Responsibility for the construction, repair, maintenance, heating, and lighting of troop housing lies with the Corps of Engineers.

c. The U.S Army Medical Department has the responsibility of inspecting to find sanitary defects and recommending control measures.

d. The fourth area of responsibility is in the hands of the individual soldier living in the barracks. He must maintain personal cleanliness of himself as well as his billet and report all health hazards to superiors.

TROOP HOUSING SANITARY INSPECTION REPORT

FACILITY:	DATE:	TIME:	BLDG NO

Item Inspected	S	U
1. BAYS, CUBICLES & ROOMS		
A. FLOORS		
B. WALLS & CEILINGS		
C. WINDOWS/SCREENS		
D. DUST		
E. LIGHTING		
F. VENTILATION		
G. HEATING		
H. TRASH CANS		
I. SINKS & MEDICINE CABINETS		
J. DOORS		
K. DRINKING FOUNTAINS		
2. PERSONAL		
A. CLOTHING		
B. LAUNDRY		
3. BEDDING		
A. BLANKETS		
B. PILLOW CASES		
C. MATTRESS COVERS		
D. SHEETS		
E. ADEQUACY		
4. GENERAL		
A. SCREENING		
B. HOT WATER		
C. INSECTS		

Item Inspected	S	U
5. LATRINES		
A. FLOORS		
B. WALLS		
C. CEILINGS		
D. LAVATORIES		
E. MIRRORS		
F. URINALS		
G. COMMODES		
H. VENTILATION		
6. SHOWERS		
A. FLOORS		
B. DRAINAGE		
C. ALGAE GROWTH		
D. SHOWER HEADS		
E. ADEQUACY		
7. FLOOR SPACE/PERSON (Recommend 72 sq. ft/person		
A. AREA OF BARRACKS: A = LXW		
B. NUMBERS PERSONS RESIDING		
C. SQ FT PER PERSON		
D. ADEQUATE, IF NOT, WHY		
S - SATISFACTORY		
U - UNSATISFACTORY		

REMARKS OR DISCREPANCIES (REF: AR 40-3):

INSPECTOR	FACILITY REPRESENTATIVE

Figure 2-1. An example of a troop housing inspection checklist.

2-7. RESPIRATORY DISEASES AND TROOP HOUSING

a. **Common Respiratory Diseases**. Respiratory diseases are the most common disease threat in troop housing. Some of the respiratory diseases of concern are influenza, acute respiratory disease, pneumonia, meningitis, tuberculosis, whooping cough, and the common cold. This is not a complete list, but it gives a sampling of the various respiratory diseases transmitted from person to person.

b. **The Spread of Respiratory Diseases**. Respiratory diseases are spread in three basic ways.

(1) Direct contact between an infected person and a well person.

(2) Indirect contact with both living and nonliving things. Inanimate objects (such as cups, spoons, and towels) are called fomites; living things (such as houseflies and cockroaches) are termed vectors. Both can carry disease microbes. For example, drinking from a sick person's cup or smoking the same cigarette can infect a well person.

(3) Droplets from the respiratory tract of an infected person. Sneezing, coughing, laughing, and even the normal breathing of an infected person project disease-containing droplets (called droplet nuclei) into the air. Small droplet nuclei lose their water content and remain airborne for many hours. Large droplet nuclei settle and dry out, but the disease microbes do not die. Instead, they contaminate dust particles. Both airborne and dustborne droplet nuclei are a source of infection.

(a) In an enclosed area, the degree of contamination from coughing, sneezing, etc. is roughly proportional to the number of people in the room. A single cough or sneeze may contain 40,000 or more disease carrying droplets. A small number of sick persons could saturate the atmosphere of a closed room during an 8-hour sleeping period.

(b) Dry nuclei may survive in bedding and in dust for several weeks or months, particularly when the relative humidity is low. During sweeping, bedmaking, and other housekeeping activities, dustborne organisms rise into the air and are inhaled by the occupants of the room.

c. **Exposure of Personnel to Respiratory Diseases**.

(1) Respiratory diseases among recruits represent one of the most serious medical problems the Army faces today. The radical change of life and living conditions expose new soldiers to situations that challenge and lower their physiological defenses. Because of this, recruits are extremely susceptible to respiratory diseases. As time passes, they become "seasoned troops" and develop greater immunity against respiratory diseases.

(2) During daily training activities, the new soldier is subjected to a variety of exposures that may produce respiratory infections. Most of these respiratory infections are acquired while indoors in billets, classrooms, dayrooms, and recreation halls. While in training, the recruit spends the majority of his time within the billet in close association with others from all over the United States. Such an environment offers many opportunities for a susceptible individual to acquire infections.

(3) At the present time, there is no way to prevent all of the respiratory diseases among military personnel.

2-8. OTHER COMMUNICABLE DISEASES AND TROOP HOUSING

a. Other common diseases spread by poor housing conditions are gastrointestinal infections and skin diseases.

b. Overburdened latrine facilities and poor personal hygiene are the two basic reasons for the spread of intestinal diseases. These reasons are related. Too great a burden on latrine facilities makes careful personal hygiene difficult; this results in a higher rate of gastrointestinal diseases.

c. Skin infections (such as athlete's foot) and infestations (such as crab lice) are spread by poor personal hygiene and carelessness on the part of individual soldiers.

d. As with respiratory diseases, the occurrence of skin and gastrointestinal diseases can be reduced, but not completely eliminated, through control measures.

2-9. CONTROL OF COMMUNICABLE DISEASE IN TROOP-HOUSING

As discussed in paragraphs 2-7 and 2-8, the spread of communicable diseases among soldiers can be controlled. For this purpose, the Army has regulations governing the construction of troop billets. These regulations function to limit communicable disease outbreaks. An inspector must determine that a post is carrying out these controls. The primary controls are:

a. Avoidance of overcrowding.

b. Adequate ventilation.

c. Adequate dust control.

d. Adequate latrine facilities.

e. Cleanliness of clothing and bedding.

f. Adequate building repair.

g. Prevention of fungus infections.

h. Adequate lighting.

i. Temperature and humidity control.

j. General sanitation and safety measures.

2-10. AVOIDANCE OF OVERCROWDING

a. **Types of Troop Housing**.

(1) Troop barracks. Army engineers have designed troop barracks to be used for emergencies. During an emergency, troop barracks can accommodate many more people than they normally accommodate in peacetime. Due to this extra space, troop barracks are fully capable of providing adequate sleeping space per person (square feet per person) under peacetime conditions.

(2) Standard billets. Standard billets used to house enlisted personnel normally contain living quarters, the necessary kitchen and dining room facilities, dayroom, toilet facilities, laundry facilities, personal storage space, and administrative space. The most important category of space within troop billets is the living (sleeping) area per person. An overcrowded sleeping area is the primary factor in respiratory disease transmission among housed personnel. A sick person is much more likely to infect others in a crowded billet than in a billet with enough space per person to allow droplets to fall out of the air. The policy of the U.S. Army Medical Department, then, is to give at much sleeping area to each person as possible.

b. **Minimum Adequacy Standards**. The Army provides a sleeping area for each enlisted person at an installation. The minimum adequacy standards for the construction of sleeping areas in billets under ideal (peacetime) conditions are as follows.

(1) The troop sleeping area does not include:

(a) Unit administrative office space.

(b) Issue and storage space.

(c) Circulation space (stairways, elevators, hallways, etc.).

(d) Weapons and operational equipment storage rooms.

(e) Boiler and heating rooms.

(f) Mechanical equipment room.

(g) Any other room with a similar function

(2) The procedure for finding peacetime space requirements is quite simple--find the area (in square feet) of the actual sleeping space of the barracks and divide by the number of soldiers occupying it. This gives the square footage per person.

(a) For example: The sleeping space in a billet is 60 feet long and 20 feet wide; it houses 13 soldiers.

(b) Multiply the length by the width to determine the area. [Area = Length x Width; 60 feet x 20 feet = 1200 square feet. This is the total sleeping area of the barracks.]

(c) Divide total sleeping area by the number of occupants. [1200 square feet:/13 soldiers = approximately 92 square feet of floor space per person.]

(d) Ninety-two square feet is the space allotted to each person residing in the barracks.

(3) The normal sleeping space allowance for individuals in basic training is a minimum of 72 square feet of floor space per person. Troops that are not basic trainees may be billeted in less than 72 square feet of floor space. Efforts will be made to provide 72 square feet of floor space for each individual. However, when this cannot be achieved, the minimum per individual should not be less than 55 square feet. During emergencies and temporary peak billeting periods, troops may be billeted at 40 square feet of floor space per person. Commanders authorizing this reduced floor space must recognize and be prepared to accept a greater incidence of respiratory disease.

(4) When respiratory diseases are present and crowding cannot be avoided, the individual cubicle system (sneeze shelter) should be used. To make bed cubicles, convert each bed space into its own compartment with the use of screens (Figure 2-2). The common method is to attach a pole to the head of the bed and rig a shelter half, blanket, or sheet to extend above the head of the bed and fold the lower edge under the mattress.

Figure 2-2. Construction of a bed cubicle.

2-11. VENTILATION

Another important factor in the housing of soldiers is ventilation. Inadequate ventilation can result in health problems and can cause a great deal of discomfort and low morale among troops. Proper ventilation will dilute the number of bacteria in the atmosphere, thus reducing the number that can be inhaled.

a. Adequate ventilation implies a continuous flow of fresh air. For proper ventilation, 600 to 900 cubic feet of air per person per hour should be moving at a velocity of 45 to 50 feet per minute. Inlets and outlets, if properly used in troop barracks, will meet this requirement. The purpose of ventilation in barracks is to dilute unpleasant body odors, tobacco smoke, airborne organisms and dusts, and to keep down the temperature and humidity in warm weather.

b. Natural circulation occurs when warm air, which is lighter than cool air, rises. Natural circulation is obtained by allowing cool, fresh air to enter near the floor and warm air that has risen to escape near the ceiling. The inlets and outlets of air should be on opposite sides of the room. This permits better mixing of fresh air with stale air in the room. Properly opened windows serve this purpose very well. The windows on the windward side should be opened at least 6 inches from the bottom, allowing cool air to enter. Windows on the opposite or leeward side should be opened at least 6 inches from the top, allowing the warm air to escape. The rate of air change will vary with the wind velocity, temperature outside, and activity within the billet. The rate of air change can be regulated by the amount of open window space. For practical purposes, it is better to open several windows slightly than one widely.

c. The degree of activity in a room is an important consideration in determining the amount of ventilation required for good health. The greater the activity, the more ventilation is needed. For example, more ventilation is needed during the day than at night. During extremely cold weather at night, ventilation may be sufficient without opening windows. If the windows are opened, the result may be a loss of heat and a

lowering of the resistance to infection. Common sense is needed when providing ventilation. No amount of overventilation can compensate for overcrowding; furthermore, overventilation may cause chilling and do more harm than good.

d. Lack of adequate ventilation can result in some or all of the following undesirable conditions:

(1) An increase in carbon dioxide and a decrease in oxygen.

(2) Additional dust.

(3) Fumes, gases, and vapors.

(4) An increase in temperature.

(5) An increase or decrease in moisture.

e. Poor ventilation will result in stale, stagnant air. Simply stated, ventilation is important for the comfort and health of the troops.

2-12. DUST CONTROL

Dust particles carry some germs. Disease organisms from the nose and throat cling to the dust particles and may transmit infection by the airborne route if proper dust control measures are not carried out. To avoid raising dust, dry sweeping should be avoided; water, wet sawdust, or sweeping compound should be used. Mopping can be substituted for sweeping. Oiling of unfinished wood floors is an excellent means of dust control.

2-13. PROVISION OF ADEQUATE LATRINE FACILITIES

Proper latrine facilities are mandatory for the control and prevention of filthborne disease among troops. Adequate latrine facilities are necessary for the prompt disposal of disease-carrying discharges such as urine or feces.

a. **Requirements for the Construction of Latrine Facilities.** The requirements for the installation of latrine facilities in troop billets are listed in Figure 2-3. This table applies to the construction of the billets and is not necessarily related to the number of enlisted personnel actually utilizing the facilities.

Barracks	Commodes	Wash Basin	Urinals	Showers	Bathtubs	Drinking Fountains
Men	1/10	1/8	1/16	1/16	N/A	1/75
Women	1/6	1/6	N/A	1/10	1/30	1/75

Figure 2-3. Requirements for the construction of latrine facilities in troop billets.

(1) The figures in the chart indicate ratios. For example, Figure 2-3 specifies that commodes for men should be constructed at the ratio of 1/10. This means one commode for each group of 10 males. Fifty males require five commodes (50 x 1/10 = 5).

(2) There is no requirement for bathtubs for males or urinals for females (N/A).

b. **Other Sanitation Requirements for Latrine Facilities**.

(1) The toilet room should be light in color and made of easily cleanable materials. The room must be kept scrupulously clean at all times.

(2) A self-closing door and adequate ventilation are required. Handwashing and bathing facilities with hot and cold running water should be provided.

(3) All fixtures and floors should be washed daily with hot, soapy water.

2-14. CLOTHING AND BEDDING CARE

a. Clothing easily becomes contaminated with germs that may be present in the stool, urine, or in secretions of the nose and throat. Underclothing should be changed daily, if possible. Outer clothing should be washed or cleaned when it becomes soiled. Shaking clothing followed by a 2-hour airing and sunning will reduce disease germs. The shaking should always be done out of doors. Soiled clothing should be stored in a barracks bag or locker and not left scattered around the area to contaminate the atmosphere.

b. At least once a week, bed sheets should be cleaned and blankets, pillows, and mattresses should be sunned and aired.

2-15. BUILDING REPAIR

Proper building and ground maintenance can prevent several important pest problems. Drainage, filling, rodent proofing, and screening of all buildings with fine (18-mesh) screening on doors and windows are basic controls against fly and mosquito disease vectors. Screen doors should open outward and close automatically. They should be of sturdy construction so they do not warp or sag. They should be reinforced at hand and foot levels with cross-strips of wood or metal. Strips of wood or metal should block any spaces between the frame and the door where flies and mosquitoes might enter. In areas with a high rate of malaria, entrances should have a vestibule with double screen doors at least six feet apart and opening outward. All openings in screened buildings, such as cracks, knotholes, spaces in flooring, walls, or corner joints, should be closed with pieces of tin cans, shingles, or mastic. The mastic can be made by boiling shredded paper and flour into a doughy mass and adding sand and cement. Torn screening should be repaired promptly.

2-16. PREVENTION OF FUNGUS INFECTIONS

Fungus infections, such as dermatophytosis and athlete's foot, are diseases commonly associated with billets. Athlete's foot can almost always be prevented by good foot hygiene. Cleaning bathroom floors regularly with hot soap and water and providing adequate natural ventilation inhibit or destroy the organisms that cause this disease. When a special athlete's foot problem occurs, bathroom floors may be disinfected with a 50 parts per million (ppm) chlorine solution to control the growth of fungi. One 0.5 gram ampule of calcium hypochlorite added to 1.8 gallons of water should give approximately 50 ppm. Leftover chlorine solution should not be saved.

2-17. PROVISION OF ADEQUATE LIGHTING

a. Light is related to health in several ways. Direct sunlight can kill bacteria (is bactericidal). This reduces the likelihood and severity of infections. In addition, light is necessary for vision. Insufficient light results in eyestrain; too much light can produce glare and cause discomfort.

b. Artificial light, such as that from light bulbs, is measured in two units: candle power and foot-candles.

(1) Candlepower is the illuminating (ability to light) output of a light source. An ordinary candle, one inch in diameter, provides one candlepower of light in a horizontal direction.

(2) The foot-candle is the intensity of illumination. One foot-candle is the amount of illumination falling on any point of a surface located one foot from a light source of one candlepower.

c. Natural light within a billet depends upon three factors: the intensity of outdoor illumination, the amount of light permitted to pass into the billet, and the ability of the surfaces within the billet to reflect light. If the floor and other surfaces are clean and shiny, the light will be dispersed more evenly and the original intensity will be retained. If the interior of the billet is dull, a greater amount of light will be absorbed and not reflected.

d. The military service has certain guidelines for lighting in billets. These guidelines are:

(1) 1 foot-candle at the walking surface of corridors.

(2) 10 foot-candles in nonworking areas.

(3) 1.0 foot-candle in work areas.

(4) 50 foot-candles in reading areas.

e. The guidelines in "d" above are desirable. However; there is no regulation or written authority requiring that these foot-candle measurements of light be provided.

2-18. TEMPERATURE AND HUMIDITY CONTROL

a. The health and comfort of troops depends on temperature and humidity control. The Army has certain standards called comfort zone standards. The inner body temperature should range from 96.8^{o}to 100.4^{o}F while the exterior body skin should hold a temperature ranging between 80^{o} to 93^{o}F. For optimum conditions, the temperature in the billets should be between 68^{o} and 73^{o}F with the relative humidity at 30 to 70 percent.

b. Artificial dehumidification and humidification are not usually practical because of the extensive engineering measures required. There are, however, simple measures that can be used to add or subtract moisture in the immediate atmosphere. Measures to add moisture include such things as placing a pan of water in the room alongside the heating apparatus, hanging a wet blanket in the room, and spraying water or steam into the room. Opening the windows to allow good ventilation to remove moisture from the air is a simple dehumidification measure. The majority of these simple measures are designed to add moisture. This is because a relative humidity of less than 30 percent is far more dangerous, medically, than a relative humidity of more than 70 percent. Extremely dry air causes abnormal drying of the mucous membranes of the respiratory tract, which makes an individual vulnerable to respiratory tract infection.

2-19. GENERAL SANITATION AND SAFETY MEASURES

General sanitation and safety in billets are not just measures to please an inspector, but are important for the health and safety of occupants.

a. Pets should not be allowed in billets. In addition to the nuisance and odor problems they create, they can carry parasites which are harmful to man. Pets may also serve as a source of infection.

b. Carbon monoxide is a colorless, tasteless, and odorless gas produced by the incomplete combustion of hydrocarbon fuels. When sufficient amounts of the gas are inhaled, there can be severe, prolonged, and sometimes fatal results. This gas destroys the ability of the red blood cells to carry the needed oxygen to the body tissues. The symptoms of carbon monoxide poisoning come on rapidly and in quick succession. Dizziness, headache, noises in the ears, and throbbing in the temples are quickly followed by a feeling of sleepiness and weakness. Vomiting and convulsions may occur, followed by unconsciousness and death.

c. Building occupants should not tamper with, repair, or adjust equipment used for refrigeration, air conditioning, mechanical ventilation, or space heating or with electrical fixtures or appliances.

d. For the prevention of fires, material such as dirty or greasy rags and waste paper should not be allowed to accumulate in any building. Flammable liquids and poisons, regardless of quantity, should not be stored in billets.

2-20. SUMMARY

a. AR 40-5 sets the standards for troop housing. Inspectors must ensure that post and local regulations meet these standards.

b. Paragraph 5 of AR 40-5 describes the sanitary standards for troop housing. The major areas discussed are:

(1) General aspects of housing sanitation.

(2) Space allowances.

(3) Plumbing fixture requirements.

(4) Ventilation.

(5) Bed arrangements.

c. An inspection checklist is a useful tool since it gives the inspector an outline of items to look for when conducting the inspection and a way to record observations. Inspection checklist formats vary, but certain items are present on all checklists. A good inspector uses the checklist but does not rely on it entirely.

d. Responsibility for sanitation in troop housing is fourfold:

(1) The unit commander has ultimate responsibility for sanitation in troop housing.

(2) The Corps of Engineers is responsible for maintenance, construction, heating, and lighting.

(3) The U.S. Army Medical Department is responsible for inspections to determine that installations are following standards.

(4) The individual soldier is responsible for the basics of personal hygiene, billet cleanliness, and the reporting of health hazards.

e. Respiratory diseases are the most common health threat in troop housing due to the manner in which they are spread. Respiratory diseases are transmitted in three ways:

(1) Direct contact between an infected and a well person.

(2) Indirect contact with living and nonliving things.

(3) Disease-carrying droplets from the respiratory tract of an infected person.

f. Other diseases associated with troop housing are gastrointestinal infections and skin conditions.

g. The Army has established regulations governing the construction and maintenance of troop housing. These regulations act as controls against communicable diseases. The main control measures are:

(1) Avoidance of overcrowding.

(2) Adequate ventilation.

(3) Adequate dust control.

(4) Adequate latrine facilities.

(5) Cleanliness of clothing and bedding.

(6) Adequate building repair.

(7) Prevention of fungus infection.

(8) Adequate lighting.

(9) Temperature and humidity control.

(10) General sanitation and safety measures

h. As an inspector, you must ensure that installations are adequately carrying out these controls.

Continue with Exercises

EXERCISES, LESSON 2

INSTRUCTIONS: The following exercises are to be answered by marking the lettered responses that best answers the question or best completes the incomplete statement or by writing the answer in the space provided.

After you have completed all the exercises, turn to "Solutions to Exercises" at the end of the lesson and check your answers.

1. List the major areas of troop housing sanitation covered by the standards in AR 40-5.

2. Beds in troop housing should be arranged to:

   a. Place as much space as possible among people sleeping in adjacent bunks.
   b. Prevent double bunking.
   c. Place as little space as possible among people sleeping head to foot.

3. The minimum space allowance for basic trainees is _____ per individual. This does not include _____ _____.

4. Which one of the following statements is correct?

   a. Troops can receive less than the authorized space allowance provided the room is overventilated, either mechanically or nonmechanically.
   b. Overcrowding is permitted only when mechanical ventilation is used (air conditioning, dehumidification, etc.).
   c. Overventilation cannot make up for overcrowding.

5. During the heating season, the minimum outside air supply should be:

   a. 400 to 800 cubic feet per hour per person.
   b. 700 to 1100 cubic feet per hour per person.
   c. 600 to 900 cubic feet per hour per person.

6. An effective inspector relies not only on an inspection checklist but also on _____.

7. The two basic purposes of the inspection checklist are to:

8. Who is responsible for maintaining cleanliness in the billets and reporting all health hazards to the proper authorities?

9. The three basic ways in which respiratory diseases can spread are:

10. Respiratory disease is the primary threat to basic recruits in troop housing. Other common diseases associated with troop housing are _____ and _____.

11. Communicable diseases in troop housing can be controlled to a great degree. What are the basic controls?

12. What is the primary control against the spread of respiratory diseases in troop housing?

13. You are inspecting a billet that contains a sleeping area that is 55 feet long and 30 feet wide. It houses 21 recruits who are in basic training. Is the sleeping space within authorized limits for a normal peacetime situation?

14. You are checking a billet for the adequacy of its natural ventilation. How should the windows be opened to obtain the best circulation?

15. What are some of the ways for a facility to control dust?

a. _____

b. _____

c. _____

16. Why is dust a health hazard?

17. Using Figure 2-3, determine the number of shower facilities required for a billet that houses 30 female soldiers.

18. What are some items to check to determine if a troop housing facility is taking adequate steps against flies and mosquitoes?

19. A facility should provide routine protection against common fungus infections, such as athlete's foot. When inspecting troop housing, what are two basic anti-fungal measures that you should check for?

a. _____

b. _____

20. You observe that the floor and walls of a billet are painted with a dark and dull color. How does this present a health hazard?

21. Military guidelines for lighting in billets recommends _____ foot-candles of illumination in reading areas and 10 foot-candles in _____areas.

22. A troop billet has a temperature of 81° F and 78% relative humidity. Is the billet within satisfactory temperature and humidity ranges? If not, what is the optimum temperature and humidity range?

23. You are inspecting a billet located in a dry climate. What are some simple measures you can suggest that will add moisture to the air?

a. _____

b. _____

c. _____

24. You have observed dirty, greasy rags and a lot of unemptied waste paper in a troop housing facility. What hazard does this present?

25. You are checking a troop barracks and observe that soiled and dirty clothing is scattered over beds and on the floors. Refer to Figure 2-1. How would this situation be marked on the checklist? Indicate whether the situation would be rated as satisfactory or unsatisfactory and what item(s) on the checklist would be marked.

26. List the four major areas of responsibility for sanitary inspections in troop housing.

a. _____

b. _____

c. _____

d. _____

Check Your Answers on Next Page

SOLUTIONS TO EXERCISES, LESSON 2

1. General requirements
   Space allowances
   Plumbing fixtures
   Ventilation
   Bed arrangements (paras 2-2a, b, c, d, e)

2. a. (para 2-2e)

3. 72 square feet. Stairs, halls, latrines, administrative areas, and recreation, storage, and utility rooms. (paras 2-2b; 2-10b(1), (3))

4. c. (paras 2-2d; 2-11c)

5. c. (paras 2-2d; 2-11a)

6. Wide knowledge of sanitation and safety (para 2-3)

7. Provide an outline of items to check
   Provide a way to record inspection results (para 2-3)

8. The individual soldier (para 2-6d)

9. Direct contact between an infected and a well person.
   Indirect contact with both living and nonliving things.
   Droplets from the respiratory tract of an infected person. (paras 2-7b(1-3))

10. Gastrointestinal infections
    Skin diseases (para 2-8a)

11. Avoidance of overcrowding
    Adequate ventilation
    Adequate dust control
    Adequate latrine facilities
    Cleanliness of clothing and bedding
    Adequate building repair
    Prevention of fungus infections
    Adequate lighting
    Temperature and humidity control
    General sanitation and safety measures (para 2-9)

12. Avoidance of overcrowding in the sleeping area. (para 2-10a(2))

13. Yes. A = L x W; 55 feet x 30 feet = 1650 square feet. 1650 square feet divided by 21 persons = 78.5+ square feet per person. This exceeds the minimum of 72 square feet per person. (paras 2-10b(2), (3))

14. The windows on the windward side should be opened at least 6 inches from the bottom. Windows on the opposite side should be opened at least 6 inches from the top. (para 2-11b)

15. Avoid dry sweeping; instead use water, wet sawdust, or a sweeping compound.
Substitute mopping for sweeping.
Oil unfinished wood floors. (para 2-12)

16. Dust particles can carry germs. When a sick person sneezes, large droplets containing germs settle on dust particles where they dry out but do not die. They remain as a source of contamination. (paras 2-7b(3).; 2-12)

17. 3 1/10 x 30 = 30/10 = 3 (para 2-13a(1), Figure 2-3)

18. Drainage, filling, rodent proofing, and screening of buildings with fine (18-mesh) screening on doors and windows. (para 2-15)

19. Cleaning bathroom floors regularly with hot soap and water.
Provide adequate natural ventilation. (para 2-16)

20. Dull and dark colors allow more light to be absorbed and not reflected. This creates insufficient light and results in eyestrain. (paras 2-17a, c)

21. 50; nonworking. (paras 2-17d(2), (4))

22. No. The optimum temperature range is 68° to 73° F with the relative humidity at 30 to 70 percent. (para 2-18a)

23. a. Place a pan of water in the room alongside the heating apparatus.
b. Hang a wet blanket in the room.
c. Spray water or steam in the room. (para 2-18b)

24. A fire hazard. (para 2-19d)

25. As unsatisfactory. You would check items 2A and 2B. (Figure 2-1; para 2-14)

26. Unit commander.
Corps of Engineers
U.S. Army Medical Department
The individual soldier. (paras 2-6a, b, c, d; 2-20d)

End of Lesson 2

LESSON ASSIGNMENT

LESSON 3	Inspect Barber and Beauty Shops.
LESSON ASSIGNMENT	Paragraphs 3-1 through 3-9.
LESSON OBJECTIVES	After completing this lesson, you should be able to:

3-1. Identify the standards for barber and beauty shops in AR 40-5.

3-2. Identify the basic items found on an inspection checklist for barber and beauty shops and record inspection observations.

3-3. State the two types of barber and beauty shops.

3-4. Identify the diseases most closely associated with barber and beauty shops.

3-5. Identify the controls against health problems in barber and beauty shops.

SUGGESTION After completing the assignment, complete the exercises of this lesson. These exercises will help you to achieve the lesson objectives

LESSON 3

INSPECT BARBER AND BEAUTY SHOPS

Section I. SANITATION STANDARDS FROM AR 40-5

3-1 INTRODUCTION

Beauty and barbershops are a basic source for the spread of communicable diseases due to the many people who use their services. For this reason, beauty and barber shops must undergo frequent inspections to detect any unsafe or unsanitary practices and conditions. AR 40-5 states fundamental standards for maintaining barber and beauty shops in a sanitary condition. The job of the inspector is to determine that facilities fulfill these standards.

3-2. SANITARY STANDARDS FOR BARBER AND BEAUTY SHOPS FROM AR 40-5

The sections of AR 40-5 that discuss sanitary standards for barber and beauty shops are presented in this paragraph. As an inspector, you should be thoroughly familiar with these standards.

a. **General Information**.

(1) AR 40-5 states the following general information for barber and beauty shops:

> 5-18. *Barber and Beauty Shop Sanitation.* General. Skin disease may be transmitted either through direct contact or by formites, such as towels, combs, clippers, or razors. Skin diseases of concern include scalp ringworm (tinea capitis), ringworm of the beard (tinea barbae), impetigo, and staphylococcal infections.

(2) Remember, skin infections can be transmitted through items used in barber or beauty shop. Common infections are ringworm, impetigo, and other staphylococcal infections.

b. **Hygiene**.

(1) AR 40-5 states the following standards for barber and beauty shops:

> Employees of barber and beauty shops will adhere to the following requirements:

- Barber and beauticians will not work when ill with communicable disease or conditions, which might be transferred to a patron.

- Pre-employment physical examinations are required to ensure freedom from communicable disease. Examinations prior to work, return after illness, and special examinations may be required at discretion of the surgeon. Examination authority, including incident hospitalization, is contained in AR 40-3.

- Barber and beauticians must keep their person and clothing clean when attending patrons and will wear a washable outer coat or uniform.

- Employees will wash hands thoroughly with soap and warm water before attending each patron.

(2) Remember:

(a) Before working in a barber or beauty shop, personnel are required to take a physical examination. This is done to ensure they are free of communicable disease.

(b) Barber and beauticians must not work when they are sick with a communicable disease.

c. **Sanitary Facilities**.

(1) AR 40-5 states the following standards for barber and beauty shop facilities:

- Barber and beauty shops will not be located in food service or sleeping areas.

- Barber and beauty shops will be provided an adequate supply of hot and cold running water, proper plumbing fixtures, and adequate waste disposal. At fixed installations, a minimum of one lavatory will be provided for each two chairs located conveniently to both chairs served.

- Shop interiors will be adequately lighted and ventilated.

- Shops will be maintained in a sanitary condition at all times. Cut hair will be removed frequently from the floors using dustless methods.

(2) Remember:

(a) Barber and beauty shops will not be located in food service or sleeping areas.

(b) Barber and beauty shops will have hot and cold running water, proper plumbing facilities, and adequate waste disposal.

d. **Multiple Service and Disposable Articles**.

(1) AR 40-5 states the following standards for multiple service and disposable articles in barber and beauty shops:

- Barber chair headrests will be covered with a clean sheet of paper or clean towel for each patron.
- Freshly laundered towels or individual sanitary neck strips will be used for each patron.
- Reusable clean haircloths will be changed at least daily.
- Common brushes, neck dusters, shaving brushes, sponges, and powder puffs are prohibited. Automatic dispensers, brushless shaving cream, and clean towels in lieu of brushes or dusters are recommended.
- Closed sanitary receptacles will be provided for waste materials and soiled linens.

(2) Remember, common brushes, neck dusters, shaving brushes, sponges, and powder puffs are prohibited in barber and beauty shops.

e. **Sanitary Practices**.

(1) AR 40-5 states the following standards for barber and beauty shop practices:

- Without the written consent from a medical officer, patrons will not be served in barber or shops when face, neck, or scalp skin is inflamed, contains pus, or erupted. Lice infested personnel will be referred immediately to the responsible medical authority and not served.
- Therapeutic practices such as treating blackheads, infected hairs, sores, or lesions are prohibited. Pulling of hairs from ears, nostrils, eyebrows, and mustaches is also prohibited.

- Material used to stop blood flow will be in powder or liquid form, and should be applied with a freshly laundered towel or sterile absorbent cotton. Such material must be approved by medical authority. The use of lump alum and styptic pencils is prohibited.

- Caution should be exercised in the purchase and use of cosmetics, tonics, lotions, hair dyes, and bleaches. Some preparations have been implicated in skin and eye irritation and hair loss.

(2) Remember:

(a) Barbers and beauticians will not serve patrons who appear to have skin inflammations or infections.

(b) Patrons with lice infestations will be referred immediately to the responsible medical authority. They are not to be served.

f. **Sanitation of Instruments**.

(1) AR 40-5 states the following standards for barber and beauty shop instruments:

- Barbers and beauticians will scrupulously clean all barbering instruments immediately after use of each patron. Razors, scissors, combs, clipper blades, and tools will be thoroughly washed with soap and hot water to remove all film, oil, and debris, and then dried with a clean towel or clean disposable tissue. Routine disinfecting of barbering instruments between patrons is not required.

- Hair and debris may be removed from the exterior clipper surfaces with a stiff bristle brush used only for this purpose.

- If, in the course of barbering process, it is suspected that a patron has a communicable disease or infection, the barbering instruments will be immediately washed and disinfected after use.

- Disinfection will be accomplished using any liquid chemical disinfectant specifically formulated for barbering tools use and carrying a label registered by the Department of Agriculture or Environmental Protection Agency. Disinfectant will be used in accordance with label instructions. Other disinfectants may be used upon medical authority approval. Disinfecting solutions will be prepared frequently enough to ensure bactericidal effectiveness when used or at least once daily.

- Containers for disinfecting instruments will be provided with covers and of sufficient size as to accommodate all instruments.

- At the close of each day's operation, all barbering tools used will be washed and disinfected.

- All barbering instruments disinfected in a chemical solution will be rinsed in running water to remove chemicals prior to patron use.

(2) Remember:

(a) Barbers and beauticians must thoroughly clean instruments after use on each patron.

(b) The disinfectant used on barber and beauty shop instruments must be approved by the Department of Agriculture or the Environmental Protection Agency or appropriate medical authorities.

(c) Instruments must be cleaned and disinfected at the end of each working day.

g. **Posting of Regulations**.

(1) AR 40-5 states the following standards for the posting of barber and beauty shop regulations:

> An extract of paragraph 5-18 will be posted in a conspicuous location in each barber and beauty shop.

(2) Remember, a copy of the standards in AR 40-5 must be posted in each barber and beauty shop. It should be posted in an obvious place.

Section II. INSPECTION CHECKLISTFOR BARBER AND BEAUTY SHOPS

3-3. INTRODUCTION

As with the troop housing inspection checklist, you should use the barber and beauty shop inspection checklist as a guideline and an instrument to record your observations. To conduct an effective inspection, you must also rely on your knowledge of sanitation as well as the inspection checklist.

3-4. THE SANITARY INSPECTION CHECKLIST

Figure 3-1 shows a sample inspection checklist for barber and beauty shops. Inspection checklist formats may vary but the basic items that you inspect remain the same.

Section III. PUBLIC HEALTH ASPECTS OF BARBER AND BEAUTY SHOPS

3-5. TYPES OF BARBER AND BEAUTY SHOPS

There are two types of barber and beauty shops that will concern the 91S during inspections.

a. **The Unit Barber Shop**. You will normally see this type of shop only while on field exercises, in oversea areas, or in isolated areas. Unit shops have minimal or no equipment and are frequently operated with little regard to sanitation or Army regulations. The unit commander usually authorizes this type of shop and appoints someone from the unit to run the shop. The operator is often a person with barbering experience but with little awareness of how barbershops can spread disease.

(1) There are many problems in these shops, and the inspector's main job will be to educate personnel in the operation of these shops and to make the unit commander aware of current directives.

(2) This type of shop should be required to have at least the minimum types of equipment. This includes clean linens, closed storage cabinets for clean linens, closed waste containers, lavatories with hot and cold running water, approved disinfectant, and containers for using the disinfectant. Unit shops should not be located in squad rooms, sleeping quarters, or food service facilities.

(3) In certain oversea areas, the problems posed by unit-type barbershops are much harder to solve than to find, especially under combat conditions.

b. **The Concession or Post Exchange Operated Shop**. Shops of this type are usually found on all posts, camps, and stations located in CONUS and major oversea installations. Normally, these shops have adequate equipment and facilities for the sanitary operation of a barber or beauty shop. However, the equipment and facilities are only as good as the personnel operating them . Quite often, personnel are not aware of how unsanitary practices can spread disease.

BARBER AND BEAUTY SHOP SANITARY INSPECTION CHECKLIST

DATE: _____ FACILITY: _____
INSPECTOR: _____ OPERATOR: _____
ACCOMPANIED BY: _____ RATING: _____

A sanitary inspection was conducted of the facility and on the date noted above. The following is a report of this inspection.

		Satisfactory	Unsatisfactory
N-1.	BUILDING: (Condition, air Conditioned)		
N-2.	LIGHT AND VENTILATION		
N-3.	CLEANLINESS OF SHOP: (Floors, Walls, Wl,ndows, etc.)		
N-4.	HEALTH CERTIFICATES		
N-5.	PERSONAL CLEANLINESS: (outer coats or uniforms)		
N-6.	PRACTICES: (Cleaning of instruments, washing of hands after each patron, etc.)		
N-7.	BARBER CHAIRS; (Clean headrest with changeable covers where applicable)		
N-8.	LAVATORIES: (Adequate, clean hot and cold running water)		
N-9.	APPROVED DISINFECTANTS: (Present, with covered containers)		
N-10.	NECK STRIPS WITH DISPENSER, OR CLEAN TOWEL USED ON EACH PATRON		
N-11.	CLEAN OUTER DRAPE CLOTH		
N-12.	CLOSED LINEN AND EQUIPMENT CABINETS		
N-13.	COVERED METAL WASTE CONTAINER		
N-14.	CLOSED SOILED LINEN CONTAINERS		
N-15.	STORAGE SPACE FOR CUSTODIAL SUPPLIES AND EQUIPMENT		
N-16.	PROHIBITED ITEMS		

REMARKS (use reverse side of this format for additional remarks):

_____
_____
_____
_____

Figure 3-1. An example of an inspection checklist for barber and beauty shops.

3-6. AUTHORITIES RESPONSIBLE FOR SANITATION IN BARBER AND BEAUTY SHOPS

The following authorities have responsibility for ensuring sanitation in barber and beauty shops.

a. The post commander is responsible for all aspects of sanitation at the post, including sanitation in barber and beauty shops.

b. The U.S. Army Medical Department has responsibility for conducting sanitary inspections and making recommendations to the post commander.

c. The preventive medicine specialist actually conducts the inspections of barber and beauty shops and should have thorough knowledge of the issues and procedures involved in the inspection.

d. For concession-type shops, the Post Exchange officer is next to the post commander in the chain of responsibility for barber and beauty shop sanitation.

3-7. HEALTH PROBLEMS IN BARBER AND BEAUTY SHOPS

Diseases most closely associated with barber and beauty shops are the dermatophytoses and staphylococcal skin infections.

a. Dermatophytoses refers to a group of skin diseases caused by fungi (microscopic molds) which attack the outer layer of the skin and may involve the hair. The organisms grow best under conditions of warmth and moisture. Cases are more common in summer months and in tropical and subtropical regions. These diseases are spread by direct skin-to-skin contact or through contact with contaminated clothing and fomites (towels, barbering tools, etc.). The dermatophytoses involved most often in barber and beauty shop sanitation are ringworm of the scalp (tinea capitis) and ringworm of the beard (tinea barbae).

(1) Ringworm of the scalp (tinea capitis) begins as a small papule (pimple-like sore) and spreads outward from the edges of the sore. It leaves scaly bald patches. Infected hairs become brittle and break off easily.

(a) The mode of transmission can be direct or indirect. People contact the disease from backs of theater seats, barber clippers, toilet articles, or cloth contaminated with hair from an infected person.

(b) The period of communicability lasts as long as lesions are present. Viable spores can persist on contaminated materials.

(2) Ringworm of the beard (tinea barbae) is a mycotic (fungus) infection of the bearded area. It is not as common as other ringworm infections. Infections in this area usually are caused by bacteria, but fungi may be the cause in some cases.

b. Staphylococcal diseases are many and varied. Staphylococci are bacteria and produce the common skin lesions of impetigo, boils, carbuncles, abscesses, and infected lacerations. They are spread in the same manner as the dermatophytdoses and are highly contagious.

3-8. CONTROLS FOR HEALTH PROBLEMS IN BARBER AND BEAUTY SHOPS

The controls against health hazards in barber and beauty shops are essentially regulations against unsafe and unsanitary practices and conditions. The basics for these regulations are presented in AR 40-5 (see paragraph 3-2); they will be further discussed and elaborated in this paragraph. The controls should be copied or included in an SOP and posted in each barber and beauty shop. Common sense is important in writing an SOP. If an SOP does not exist, the inspector should consult with the installation surgeon or the preventive medicine officer.

a. **Operators**. Employee hygiene is an important consideration in controlling disease or infection. Barber and beauty shop operators, due to their close association with the customer, are usually a primary source of disease. The following is a discussion of the sanitary regulations governing barber and beauty shop operators. An inspector should check to see that the following requirements are being followed.

(1) Each employee of a barber or beauty shop is required to undergo a complete physical examination before beginning work. Upon successful completion of this examination, the employee is issued a health certificate stating that the individual was examined on a certain date and found to be free of all communicable diseases. The responsible installation surgeon usually issues and signs this card.

(2) The frequency of physical examinations, as well as the type of tests to be conducted, is left to the discretion of the surgeon. Usually, a local SOP written by the surgeon or the preventive medicine officer states this information.

(3) Barbers and beauticians should not work when ill with a communicable disease or any condition which might be transferred to a patron.

(4) Epidemics or unusual disease outbreaks can lead to special medical examinations. Special examinations also occur when epidemiological evidence points to the barber or beauty shop operator as the immediate source of a disease.

(5) Before a barber or beautician returns to work after an illness, the responsible surgeon may require an examination. This is done to determine that the employee is no longer able to transmit the illness.

(6) Barber and beauty shop operators should keep themselves and their clothing clean and should wear clean washable outer garments while attending patrons. Before servicing each patron, the attendant or employee must wash his hands thoroughly with soap and water.

b. **Patrons**. The patron is a constant source of disease. He can infect the barber or beautician directly or infect other customers indirectly via the barber's or beautician's instruments.

(1) No person should be served in the barber or beauty shop when the skin of the face, neck, or scalp is inflamed, contains pus, or is erupted. Before receiving service, the person must submit a signed statement from a medical officer that the condition or eruption is not contagious. If a person with such a skin condition requests service at a beauty or barbershop without the required statement, the person should be directed to the nearest medical treatment facility.

(2) Persons with lice or any other arthropod infestation should not be serviced at barber or beauty shops. These individuals should be directed to a medical treatment facility.

c. **Animals**. Pets, such as dogs or cats, may be a source of infection or may carry parasites (fleas, mites, or ticks) that transmit disease. Whether property of the employees or customers, these animals are health hazards and should not be allowed in barber or beauty shops at any time.

d. **Equipment**. Barber and beauty shops should contain the following equipment:

(1) A minimum of one lavatory with hot and cold running potable water for each two chairs. The lavatory should be located conveniently to both chairs. The inspector should be particularly observant for back siphonage and cross-connections in these lavatories.

(2) Closed cabinets are required for storing supplies, clean linens, and other materials.

(3) Separate storage space should be available for custodial equipment and supplies. A sufficient amount of these supplies should be available to meet the needs of the shop. It is unrealistic to assume that a particular shop is performing required cleaning procedures when necessary equipment or supplies are unavailable in the shop.

(4) Separate covered metal containers should be available for soiled linens and waste paper. These containers serve to confine germs and keep them out of the shop atmosphere.

(5) Minimum equipment for each barber or beauty chair at fixed installations includes a barber chair having a headrest with a changeable cover, at least one covered container for disinfecting solutions, a closed cabinet for tools and clean linen, a closed container for soiled linens, and another container for waste papers.

e. **Practices**. In years past, many barbers and beauticians provided services not necessarily associated with their trade but which were pleasing to the customer or thought to be useful by the practitioner. Some of these are health hazards and are strictly prohibited from use in military controlled shops.

(1) Common brushes (with the exception of plastic hairbrushes that have plastic projections instead of bristles), neck dusters, shaving mugs and brushes, sponges, and powder puffs can transfer germs from one customer to another. Their assumed usefulness to the trade is greatly overshadowed by their health hazard potential. They are now prohibited in military barber and beauty shops.

(2) Barbers and beauty shop operators are no longer authorized to practice medicine. They may stem the flow of blood, but the material they use should be a powder or liquid only and should be applied with a freshly laundered towel or sterile absorbent cotton. This material must always be approved by the responsible surgeon. Styptic pencils and lump alum should not be used for stopping the flow of blood or for any other purpose. Operators, employees, or attendants of barber and beauty shops should never attempt to treat pimples, moles, or warts or to engage in any other therapeutic practices. Pulling hairs from the eyebrows, mustache, nose, or ears is dangerous and should be prohibited; rather, hairs should be clipped or cut.

(3) A barber or beauty shop operator should be cautious when purchasing and using cosmetic preparations such as lotions, tonics, hair dyes, bleaches, and astringents. Certain of these preparations are dangerous and have been implicated in irritation to the skin and eyes, loss of hair, and, occasionally, severe injury. In addition, Army beauty shops in the United States should be guided by civilian health and safety regulations in the use of hair dryers, ultraviolet and infrared lamps, and other equipment and materiels.

(4) A freshly laundered towel will be used on each patron, and the headrest of the chair will be covered with a clean towel or sheet of paper for each patron. Individual sanitary paper neck strips or a freshly laundered towel will be placed around the neck of each patron under the outside covering cloth. The outer covering cloths should be changed at least daily.

(5) Shaving cream from a tube or automatic dispenser should be used and applied with a small piece of tissue or other single-use applicator. Powder or lotion should be applied to a patron with a clean towel or a single-use applicator.

f. **Sanitization of Instruments**. Sanitization of instruments is essential for prevention of disease or infection. Barbers and beauticians should ensure that instruments are cleaned immediately after use on each patron. Routine disinfecting of barbering instruments between patrons is not required. The cleaning and disinfecting procedures below should be followed:

(1) Razors, scissors, combs, clipper blades, and other tools should be washed with soap and hot water to remove all film, oil, and debris. Then they should be dried with a clean towel or clean disposable tissue.

(2) Hair and debris should be removed from the exterior surfaces of clippers with a stiff bristle brush used only for this purpose.

(3) During a barber or beauty shop treatment, a patron may appear to have a communicable disease. Instruments used on such a patron should be washed and disinfected immediately after use.

(4) Barber and beauty shop personnel may disinfect instruments with any chemical disinfectant specifically developed for barbering tools. Disinfectants must carry a label registered by the Department of Agriculture or the Environmental Protection Agency. All disinfectants should be used according to the instructions on the label.

(a) Disinfectants other than the type mentioned above may be used only upon approval of the surgeon.

(b) Disinfecting solutions should be prepared often enough to kill bacteria when used and at least once daily.

(5) Containers used for disinfecting barbering instruments should be large enough to accommodate all instruments to be disinfected. In addition, they should have covers that fit properly.

(6) At the end of each working day, all barbering tools should be washed and disinfected.

(7) Barbering instruments that have been disinfected in a chemical solution should be rinsed in running water before use on a patron.

3-9. SUMMARY

a. Barber and beauty shops can be involved in the spread of communicable diseases. Inspections are important for detecting any unsafe or unsanitary conditions at these facilities.

b. AR 40-5 establishes standards for the environment, facilities, and practices of barber and beauty shops. An inspector should know these standards thoroughly. The standards and information in AR 40-5 cover the areas of:

(1) Diseases transmitted through barber and beauty shops.

(2) Employee hygiene.

(3) Facilities.

(4) Multiple service and disposable articles.

(5) Sanitary practices.

(6) Sanitation of instruments.

(7) Posting of regulations.

c. The inspection checklist for barber and beauty shops contains basic items that must be examined. A good inspector uses the checklist as an outline and also depends upon his knowledge of sanitation when performing the inspection.

d. There are two types of barber and beauty shops: the unit barber shop and the concession or post exchange-operated shop. Each has its own sanitary problems.

e. The principal authorities responsible for barber and beauty shop sanitation are:

(1) The post commander, who has overall responsibility for maintaining sanitary facilities at the post, including barber and beauty shops.

(2) The U.S. Army Medical Department, which must conduct inspections and make recommendations.

(3) The preventive medicine specialist that actually conducts the inspections.

(4) The Post Exchange officer, who is next to the post commander in the chain of responsibility for barber and beauty shops operated on a concession basis.

f. The communicable diseases most closely associated with barber and beauty shops are the dermatophytoses, especially ringworm of the scalp and beard, and the staphylococci diseases such as boils, impetigo, and abscesses.

g. The controls against the spread of communicable diseases by barber and beauty shores are based on the standards in AR 40-5. Controls focus on:

(1) Maintaining employee hygiene and health.

(2) Protection against infected patrons.

(3) Sanitary use and care of equipment.

(4) Sanitary and safe practices by barbers or beauticians.

(5) Adequate and safe cleaning and disinfecting of instruments.

Continue with Exercises

EXERCISES, LESSON 3

INSTRUCTIONS: The following exercises are to be answered by marking the lettered response that best answers the question; or by completing the incomplete statement; or by writing the answer in the space provided at the end of the question.

After you have completed all the exercises, turn to Solutions to Exercises at the end of the lesson and check your answers with the approved solutions.

1. According to AR 40-5, before working in a barber or beauty shop, an individual must _____.

2. Barber and beauty shops cannot be located in:

   a. _____

   b. _____

SPECIAL INSTRUCTIONS FOR EXERCISES 3 THROUGH 6. A list of items that could be used in barber or beauty shops is presented below (exercises 3-6). Indicate whether the item is acceptable according to AR 40-5 by writing "allowed" or "not allowed" in the space by each item.

3. Individual sanitary neck strip _____

4. Common neck dusters _____

5. Automatic dispensers for shaving cream _____

6. Commonly used powder puff _____

7. When must barber and beauty shop instruments be washed and disinfected?

8. Disinfectants used in barber or beauty shops must be approved by:

a. The post commander and the chief of environmental health.

b. The Department of Agriculture or the Environmental Protection Agency.

c. The post surgeon.

9. You observe that a patron comes into a barbershop with sores on the scalp and face. What must the barber do in order to comply with AR 40-5?

a. Serve the patron and then discard the instruments.

b. Ask the barber shop supervisor to approve serving the patron.

c. Do not serve the patron unless there is a written consent from a medical officer.

10. What are the two-types of barber and beauty shops?

a. _____

b. _____

11. **SPECIAL INSTRUCTIONS.** Which of the following diseases are most likely to be contacted in barber and beauty shops. Circle your responses.

a. Influenza.

b. Septic sore throat.

c. Ringworm (tinea capitis)

d. Meningitis.

e. Impetigo.

f. Boils.

12. A minimum of one lavatory with hot and cold running potable water should be provided for every:

a. 5 customers.

b. 3 employees.

c. 2 chairs.

13. Why must you check to be sure that barber and beauty shop operators are cautious when using cosmetic preparations (lotions, tonics, hair dyes)?

14. You are observing the operations of a barbershop. You note the following. Which, if any, is in violation of standards?

a. The operators wash the razors, scissors, and clippers with soap and hot water after use on each patron.

b. An operator clips a patron's hair, removes the hair from the clippers with a brush, and then uses the brush on the patron's hair.

c. A patron has a small cut on the neck that is bleeding lightly. The operator stops the blood flow with sterile absorbent cotton.

d. a, b, and c are all in violation of standards.

e. Neither a, b, nor c is in violation of standards.

15. A barbershop that you are inspecting has clean linen stacked in a closet that contains brooms and mops. Refer to figure 3-1. You would rate this situation as _____ under item(s) _____.

16. Who is second to the commander as the authority responsible for sanitation in concession-type barber and beauty shops?

Check Your Answers on Next Page

SOLUTIONS TO EXERCISES, LESSON 3

1. Take a physical examination to certify freedom from communicable disease. (para 3-2b; 3-8a(1))

2. Food service areas.
   Sleeping areas. (para 3-2c)

3. Allowed. (paras 3-2d; 3-8e(4))

4. Not allowed. (paras 3-2d; 3-8e(1))

5. Allowed. (paras 3-2d; 3-8e(5))

6. Not allowed. (paras 3-2d; 3-8e(1))

7. At the end of each working day. (paras 3-2f; 3-8f(6))

8. b (paras 3-2f; 3-8f(4))

9. c (paras 3-2e; 3-8b(1))

10. The unit barber shop.
    The concession or Post Exchange operated shop. (paras 3-5a, b)

11. c Ringworm (tinea capitis)
    e Impetigo
    f Boils. (paras 3-7a, b)

12. c (paras 3-2c; 3-8d(1))

13. They can be dangerous and have been implicated in irritation to the skin and eyes, loss of hair, and severe injury. (para 3-8e(3))

14. b (paras 3-2f, 3-8f(2))

15. Unsatisfactory
    N-12 and N-15 (Figure 3-1; paras 3-8d(2), (3))

16. The Post Exchange officer. (para 3-6d)

End of Lesson 3

LESSON ASSIGNMENT

LESSON 4	Inspect Mobile Home Parks.
LESSON ASSIGNMENT	Paragraphs 4-1 through 4-13.
LESSON OBJECTIVES	After completing this lesson, you should be able to:

4-1. Identify the sanitation standards for mobile home parks from AR 40-5.

4-2. Using a sample checklist, identify the items for inspecting mobile home parks and record inspection observations.

4-3. Identify the organizations and persons responsible for sanitation in mobile home parks.

4-4. Identify the health problems associated with mobile home parks and the controls for these problems.

SUGGESTION After completing the assignment, complete the exercises of this lesson. These exercises will help you to achieve the lesson objectives

LESSON 4

INSPECT MOBILE HOME PARKS

Section I. SANITATION STANDARDS FROM AR 40-5

4-1. INTRODUCTION

The mobile home industry experienced its first major growth in the mid 1940s. Since then the production of mobile homes has steadily increased. AR 40-5 presents health standards for mobile home parks. These standards serve as a control against possible health hazards. As an inspector, you must know these standards thoroughly.

4-2. SANITATION STANDARDS FOR MOBILE HOME PARKS FROM AR 40-5

Following are sections from AR 40-5 that concern mobile home parks.

a. **Location**.

(1) AR 40-5 states these standards for the location of mobile homes:

> Mobile Home Parks. *Location.* Mobile home parks will be located in level, well-drained areas accessible to good roads and convenient utilities. Lean-tos, sheds, or additional rooms will not be attached to mobile homes. Open porches and awnings are authorized. If locally authorized, centralized or individual storage sheds may be erected provided they are equipped with suitable foundations and flooring and not for human habitation.

(2) Remember:

(a) Mobile homes must be located in level, well-drained areas and have easy access to roads and utilities.

(b) Lean-tos, sheds, and additional rooms are not to be attached to mobile homes.

b. **Space Allowance**.

(1) AR 40-5 states these standards for space allowances of mobile homes:

Individual parking areas. Each area be at least 45 by 70 feet and surfaced to provide a level, well-drained space under and adjacent to the mobile home.

(2) Remember:

(a) The area for each mobile home must be at least 45 by 70 feet.

(b) The area must be surfaced and provide good drainage.

c. **Construction**.

(1) AR 40-5 states these standards for mobile home construction.

Mobile home. The mobile home will be of substantial construction and designed and constructed in accordance with standards of commercial type trailers. At least 35 square feet of floor space per occupant will be provided.

(2) Remember: A mobile home must provide at least 35 square feet for each occupant.

d. **Water Supply**.

(1) AR 40-5 states these standards for the water supply to mobile homes:

Water supply. Potable water will be provided at each mobile home space by means of suitable sanitary connections.

(2) Remember: Each mobile home must be supplied with portable water through sanitary connections.

e. **Liquid Waste and Wash Water Disposal**.

(1) AR 40-5 states these standards for liquid waste and wash water disposable in mobile parks:

Liquid waste and wash water disposal. A vertical drainpipe equipped with a suitable trap and connected to a sanitary sewer will be provided at each mobile home space. The connection between the drainage system of the mobile home and the vertical drain will be made to

exclude insects and rodents, prevent leakage and escaping odors, and otherwise prevent health hazards.

(2) Remember, each mobile home space must have a vertical drainpipe equipped with a suitable trap. The pipe must be connected to a sanitary sewer.

f. **Human Waste Disposal**.

(1) AR 40-5 states these standards for human waste disposal in mobile home parks:

Human waste disposal. The mobile home water closet connection will only be made by the facility engineer personnel and then only when:

- Mobile home plumbing fixtures and systems are approved by the facility engineer and the medical authority.

- The mobile home park sewer system is designed, installed, and operated in accordance with Army standards. Liquid wastes will drain into an approved sewer system and/or treatment and disposal facility. Request to HQDA, (SGPS-PSP), 5109 Leesburg Pike, Falls Church, VA 22041-3258.

(2) Remember:

(a) Only facility engineering personnel can make the water closet connection of a mobile home.

(b) The facility engineer can make the water closet connection of a mobile home.

(c) The facility engineer and the medical authority must approve the plumbing systems for mobile homes.

(d) The sewer system of a mobile home park must be in agreement with Army standards.

g. **Service Buildings**.

(1) AR 40-5 states these standards for service buildings in mobile home parks:

Service building. Each mobile home park will have at least one service building to provide necessary sanitation and laundry facilities.

- Heating facilities will be capable of maintaining a temperature of 65° F in cold weather.

- Adequate lighting will be provided inside and outside buildings.

- Service buildings will be conveniently located within 100 yards of the most remote mobile home space.

- Every mobile home park will provide adequate toilet and laundry facilities as indicated in TM 5-810-5/AFM 88-8. These fixtures are necessary to provide adequate facilities when mobile homes are repaired, connected, disconnected, and/or for other emergency use, even though the mobile home park may accommodate only independent coaches.

(2) Remember:

(a) Every mobile home park will have at least one service building that provides residents with toilet and laundry facilities.

(b) The service building must be located within 100 yards of the most remote mobile home space.

(c) The service building must have adequate lighting and maintain a temperature of 65° F in cold weather.

h. **Ground Sanitation**.

(1) AR 40-5 states these standards for ground sanitation in mobile home parks:

> *Area sanitation.* Roads, car parks, sidewalks, and other areas will be provided with surfacing to control dust and mire. Adequate drainage will be provided to prevent accumulations of water. Occupants of mobile home parks will be encouraged to improve and maintain the individual areas.

(2) Remember:

(a) Areas within mobile home parks should have surfacing to control dust and mud.

(b) Areas within mobile home parks must have adequate drainage.

i. **Illumination and Fire Protection**.

(1) AR 40-5 states these standards for illumination and fire protection in mobile home parks:

> *Illumination and fire protection.* Adequate area illumination and fire protection will be provided to include a suitable electrical outlet at each mobile home space. Area illumination should be arranged to avoid mobile home occupant annoyance.

(2) Remember, mobile home parks must provide sufficient illumination and fire protection. This includes an electrical outlet at each mobile home space.

j. **Protection of Utility Connections**.

(1) AR 40-5 states these standards for the protection of mobile home utility connections:

> *Protection of utility connections.* Mobile home utility terminals will be adequately secured. Terminal will be located to assure protection from tampering, breakage, or contamination.

(2) Remember, mobile home utility terminals must be protected against tampering, breaking, and contamination.

Section II. INSPECTION CHECKLIST FOR MOBLE HOME PARKS

4-3. SAMPLE CHECKLIST

Figure 4-1 shows a sample checklist for mobile home parks. Again, do not depend exclusively on the checklist. Base your observations on your knowledge of sanitation as well as on the checklist.

MOBILE HOME PARK INSPECTION REPORT

Facility: _____ Date _____

Location: _____

Manager: _____ Rating: _____

Item Inspected	S	U	Comments
1. Location			
a. Level, well-drained area			
b. Accessible to roads			
c. Accessible to utilities.....			
2. Water Supply			
a. Individual connections of the approved type.....			
b. Community or private supply_____			
c. Source _____			
d. FAC _____ TAC _____			
e. Presence of cross connections			
f. Complies with water supply standards.....			
g. Sample taken for lab analysis			
3. Sewer Disposal			
a. Individual connections of the approved type.....			
b. Community sewage plant or private disposal facility _____			
c. Minimizes pollution and health problems			
d. Complies with pollution control standards.....			
4. Solid Waste			
a. Individual collection containers in good repair			
b. Tight-fitting lids on containers			
c. Frequency of collection adequate			
d. Disposal complies with standards.....			
5. Other			
a. Insect/rodent infestations.....			
b. Adequate space for individual lots and units.....			
c. Service building adequate.....			
d. Accident/safety hazards.....			

Inspector _____

Figure 4-1. An example of a mobile home inspection checklist.

Section III. PUBLIC HEALTH ASPECTS OF MOBILE HOME PARKS

4-4. INTRODUCTION

Few Army posts have mobile home parks. However, during an emergency or during mobilization, posts may have to set up mobile home parks. There also may be occasions when preventive medicine personnel are requested to inspect off post mobile home parks. Therefore, inspectors need to know about the public health aspects of mobile home parks.

4-5. GROWTH OF THE MOBILE HOME INDUSTRY

a. The mobile home industry experienced its first major growth due to the housing shortage of the mid-1940s. In 1947, 60,000 mobile homes were produced. These units were small with an average size of 8 feet wide by 20 feet long. This is comparable to the size of present day travel trailers.

b. The first 10-foot-wide units were produced in 1954. Since then, both length and width have steadily increased. In 1973, 12-foot wides accounted for 59% of all mobile homes produced. In mid-1973, 12-foot wides were down to 48%. Fourteen-foot-wides had increased to 29% of all production while double wides and expandables accounted for the remaining 23%. The production of double wides will most likely increase as more favorable legislation is passed and as the cost of fixed homes increases.

c. To protect health and to ensure quality construction, most manufacturers now build their mobile homes in accordance with the requirements of the American National Standards Institute (ANSI) Standard for Mobile Homes, A 119.1. This is the same as the Standard 5018 of the National Fire Protection Association. These standards are reviewed annually.

4-6. AUTHORITIES RESPONSIBLE FOR SANITATION IN MOBILE HOME PARKS

a. The post commander is responsible for health and safety at the post, including mobile home parks, when they are present.

b. The post surgeon assists the commander in carrying out mobile home sanitation. He initiates the inspections to ensure that sanitary standards are maintained.

c. The surgeon has special assistants (medical department staff) in epidemiology, sanitation, malaria and vector control, nutrition, medical entomology, health education, and nursing.

(1) The community health nurse may enter homes and provide counseling, teaching, and nursing services for individuals and families. The nurse assists in the prevention, control, and rehabilitation aspects of disease and injury for the military and their dependents in mobile home parks.

(2) The entomologist gives advice on insect and rodent problems, including those found in mobile home parks.

(3) The preventive medicine specialist should have a general knowledge of regulations governing mobile home sanitation, health problems, mobile home park layout, and the method for conducting a sanitary inspection. The 91S also should know the authorities responsible for sanitation in mobile home parks. A competent preventive medicine specialist can provide most of the data and recommendations for mobile home parks.

d. The installation engineer is responsible for the physical layout of mobile home spaces and parking areas, utilities installation and maintenance, insect and rodent control, and various other services .

4-7. HEALTH PROBLEMS AND CONTROLS IN MOBILE HOME PARKS

a. The basic health problems in mobile home parks concern the transmission of communicable diseases. These diseases are capable of being spread through contaminated water, faulty and unsanitary utilities, human waste, and animal and insect vectors.

b. Controls against communicable disease focus on the areas listed below. A competent inspector must ensure that these controls have been carried out.

(1) Adequate site selection.

(2) Sanitary water supply.

(3) Sanitary sewage disposal.

(4) Sanitary handling of solid waste.

(5) Insect and rodent control.

4-8. MOBILE HOME PARK SITES

Several factors should be taken into consideration when selecting a mobile home park site. They are:

a. **Site Level and Drainage**. The site should be level and well dried, easily accessible to good roads, and convenient to utilities.

b. **Undesirable Areas.** A site should never be selected which is next to swamps, marshes, or other insect breeding plates, such as animal pens, dog pounds, riding stables, and sanitary fills.

c. **Child Safety**. Each mobile home park should have a sufficient play area for children. This area should be fenced.

4-9. WATER SUPPLY

a. **Water provision for mobile park buildings.** An adequate and safe supply of pressurized water should be provided for each mobile home space. The source and distribution system should be satisfactorily constructed, and then approved by the medical authority. A sufficient amount of hot and cold water should be available at all times in the service building.

b. **Connections**.

(1) Connections should be made to the public or community water supply when available. When no public supply is available, a private supply should be developed and constructed in accordance with plans approved by the medical authority.

(2) Wells should be properly constructed. The drilled or driven type is preferred. Springs should be used only if they are determined to be bacteriologically satisfactory, and then should be protected from any possible contamination. All surface supplies should receive sufficient treatment to make them safe for drinking.

(3) Individual connections to a water system must exclude cross-connections. In some locations, it may be necessary to provide insulation and heating tape to prevent freezing. Details of a typical water connection are shown in Figure 4-2.

c. **Testing the Water Supply.**

(1) Samples of the water should be collected periodically and tested for bacteria of the coliform group. The local medical authority is responsible for testing the water obtained from a public system. If the water supply is obtained from a private source, the medical authority should be contacted for guidance in periodic sampling of the water. A sampling frequency of at least once a month is recommended.

(2) Bacteriological testing may indicate that continuous chlorination is necessary. The chlorination procedures should conform to regulations or to the requirement established by the medical authority. Detailed and accurate records of the chlorination procedure should be maintained.

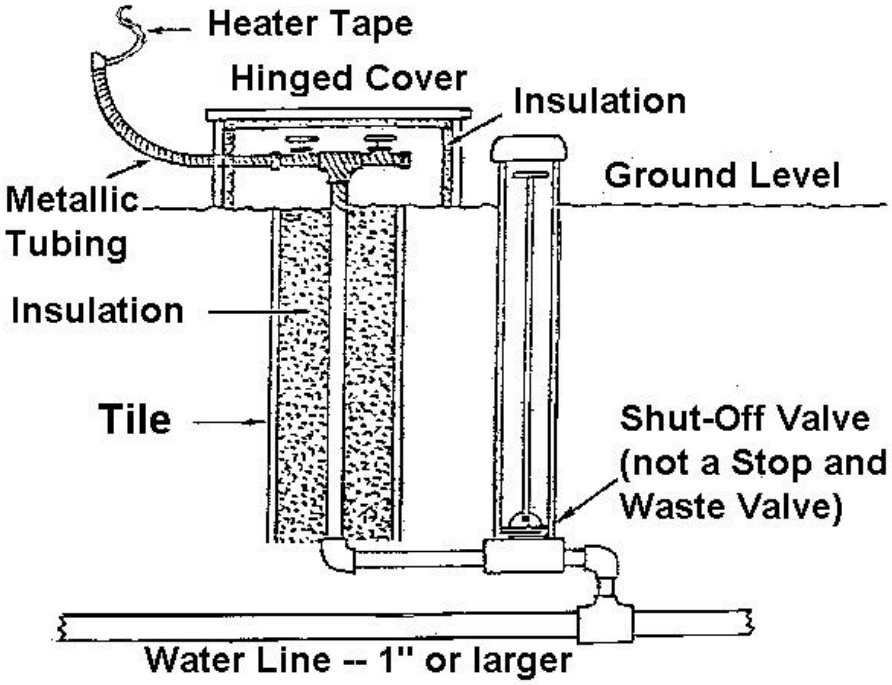

Figure 4-2. Detail of a water connection showing protection against freezing.

d. **Drinking Fountains.** Mobile home parks can provide drinking fountains at swimming pools, recreation buildings, and other areas to meet the needs of inhabitants. When provided, drinking fountains should:

(1) Be constructed of impervious substances (porcelain, stainless steel) to prevent water from soaking into the material.

(2) Have an angle jet with the nozzle above the overflow rim of the bowl.

(3) Have a nonoxidizing mouth guard to protect the nozzle.

(4) Have a bowl made of easily cleanable materials, without corners, and with a strainer for the bowl opening.

(5) Have no direct connection between a waste pipe and the fountain drain unless the drain is trapped.

(6) Have a flow pressure of at least 15 pounds per square inch.

4-10. SEWAGE DISPOSAL

a. **General.** An adequate and safe sewage system should be provided in all mobile home parks for conveying and disposing of sewage from the mobile homes, service buildings, and other facilities. The sewage system should be designed, constructed, and maintained in accordance with regulations. It is advisable for mobile

home owners to keep a record of where water and sewage lines are buried. If the mobile home park is on post, the preventive medicine activity should also keep these records, which can be obtained from the post engineers.

b. **Sewage Treatment**.

(1) If possible, the sewage system of a mobile home park should be corrected to a public sewage system. If public sewers are not available within a reasonable distance, adequate treatment facilities must be installed to dispose of the sewage. Sewage disposal facilities should be approved by the medical authority or other regulatory agencies before construction. The effluent (outgoing sewage) from such treatment facilities should be discharged only as permitted by these agencies.

(2) The sewage treatment installation should be located where it will not create a health hazard or odor nuisance to the occupants of the mobile home park or to occupants of neighboring property. The geographic layout of the area often dictates the location of the treatment facilities since gravity drainage of the sewage system is preferred.

c. **Sewage Systems.** Sewage systems must have sufficient capacity to serve the needs of the community. They must also be economical to construct, operate, and maintain. The design of sewage treatment facilities for a mobile home should be based on the maximum number of mobile home lots and the water usage estimated when designing the water system. The use of garbage grinders and automatic laundry equipment can significantly increase sewage flow. For this reason, it may be desirable to determine how extensive the use of these devices will be before designing the sewage system.

d. **Sewage lines.** The lines in a sewage system should meet the following basic requirements:

(l) All sewer lines should be laid in trenches.

(2) All sewer lines should be separated at least 10 feet horizontally from any pressurized drinking water supply line.

(3) All sewer connections and manholes should be constructed to prevent surface water from entering the sanitary sewers.

e. **Sewer Service Connections**. Each mobile home space should have a sewer service connection. Figure 4-3 shows a suggested design of a sewer service connection for a mobile home.

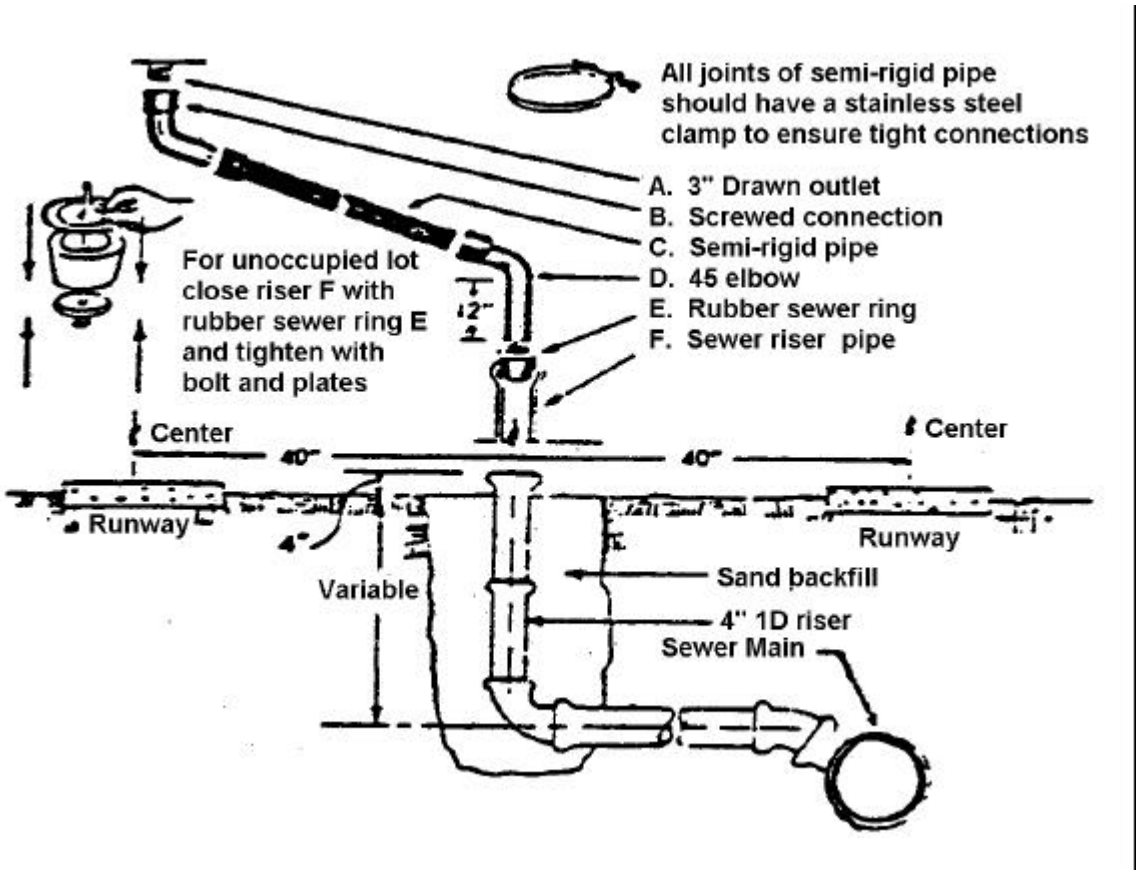

Figure 4-3. Sewer service connection for a mobile home.

f. **Plumbing.** All plumbing in a mobile home park must be constructed, installed, and maintained in accordance with state, local, and Army requirements. The plumbing facilities must not create cross-connections or back siphonage. Any fixture in a mobile home that creates a cross-connection or a backflow connection cannot be attached to the potable water system. The defect must first be corrected. In addition, all plumbing must be protected against freezing; sewers should be installed below the frost penetration depth of the area in which the mobile home park is located.

4-11. SOLID WASTE HANDLING

Public health problems are often associated with improper storage, collection, and disposal of solid waste. There are significant relationships between the incidence of certain diseases in humans and animals and the improper handling of solid waste. It is also common knowledge that many hazards and nuisances, such as fire, smoke, odors, and unsightliness, are created by inadequate handling of solid waste. Experience has shown that applying basic principles of sanitation to the handling of solid wait greatly reduces insects, rodents, and related health problems. Solid waste includes garbage and rubbish. Garbage refers to solid waste that contains food items; rubbish refers to solid waste without food items.

a. **Containers.** All solid waste must be stored in containers that are durable, rust-resistant, nonabsorbent, water tight, and rodent proof. These containers should have close-fitting lids and suitable handles and should be kept clean and in good repair. They should also be of sufficient capacity to prevent overflowing between collections. Generally, each mobile home will require from 5 to 10 gallons of storage capacity per day for solid waste.

(1) Plastic containers specifically designed for storage of solid waste may be used unless there is evidence of attack by rodents. Plastic containers should comply with the National Sanitation Foundation standards for thermoplastic refuse containers.

(2) Paper or plastic sacks designed specifically for storage of solid waste may be used at individual mobile home sites. These sacks are required to be properly attached to a holder that keeps them off the ground, and must be covered with a flytight lid. All filled sacks should be stored in rodent-proof areas and, preferably, deposited immediately into a large rodent-proof container. Otherwise, collection should be frequent enough to prevent the accumulation of filled bags.

(3) When combined solid waste (rubbish and garbage) or rubbish alone is collected, containers with a capacity of approximately 30 gallons are recommended. They provide adequate capacity and yet are small enough for collectors to handle easily. If garbage is collected separately, a container of approximately a 10-gallon capacity will suffice.

(4) Lining containers with disposable paper or plastic bags is advisable. This extends the life of the container and keeps it sanitary longer since the lining protects against soiling and rusting.

b. **Container Storage**.

(1) Preferably, each mobile home space should have its own solid waste storage facilities; however, the same storage facilities can be used for neighboring lots as long as sufficient capacity is provided. It is also possible to use bulk containers to serve several mobile homes and thus reduce the storage area required for solid waste.

(2) Bulk containers used to service several homes should have lids that are easily opened and that automatically return to a closed position. They should be watertight and rodent proof and should be installed so as not to be a safety hazard, especially for children.

(3) The location of refuse containers on the mobile home space can vary, but it is important that the locations are permanent and satisfactory racks or stands are provided. This is done to minimize spillage and container damage and deterioration. Containers should have at least 12 inches of clear space beneath them to facilitate cleaning and to prevent rodent infestation.

c. **Collection**. All solid waste that contains garbage should be collected at least twice weekly. Frequent collection service requires less storage capacity. Collection services provided by municipal or private agencies should be utilized whenever possible to ensure regular removal of the solid waste. In areas where solid waste collection and disposal services are not available, the owner or operator of the mobile home development must provide this service.

4-12. INSECT AND RODENT CONTROL

a. Insect and rodent control in mobile home parks is necessary to protect the health and property of the residents. Insects and rodents are capable of transmitting diseases to man and other animals by bites or by indirect contact. They also may cause property damage by gnawing or chewing.

b. The owner or operator of a mobile home park can usually control small, localized insect or rodent infestations. However, a competent professional pest control operator should handle widespread infestation, particularly if large-scale chemical treatment procedures are used.

4-13. SUMMARY

a. Mobile home production has increased steadily since the mid-1940s. Although few Army posts have mobile home parks, the preventive medicine specialist does inspect off post parks and needs to know relevant health problems. In addition, during emergencies or mobilization, Army posts may set up mobile home parks which must maintain sanitation standards.

b. AR 40-5 states the sanitation standards for mobile home parks. The major areas discussed are:

(1) Location.

(2) Space allowances.

(3) Construction.

(4) Water supply.

(5) Disposal of liquid and wash water.

(6) Human waste disposal.

(7) Service buildings.

(8) Ground sanitation.

(9) Area illumination and fire protection.

(10) Protection of utility connections.

c. As with other sanitation inspections, an efficient inspector does not rely entirely on the checklist, but also utilizes personal knowledge of the design and sanitary requirements of mobile home parks. A competent 91S can provide most of the data and recommendations for mobile home parks.

d. The authorities responsible for mobile home park inspections are:

(1) The post commander.

(2) The post surgeon.

(3) Members of the medical department staff (community health nurse, etc.).

(4) Entomologist and the preventive medicine specialist.

(5) The installation engineer.

e. The basic health problem associated with mobile home parks is the spread of communicable diseases. Contaminated water, faulty and unsanitary utilities, human waste, and insect and rodent vectors can all serve to spread diseases.

f. Controls against the spread of communicable diseases in mobile home parks focus on:

(1) Adequate site selection.

(2) Provision of a sanitary water supply.

(3) Sanitary sewage disposal.

(4) Sanitary handling of solid waste.

(5) Insect and rodent control.

Continue with Exercises

EXERCISES, LESSON 4

INSTRUCTIONS: The following exercises are to be answered by marking the lettered response that best answers the question; or by completing the incomplete statement; or by writing the answer in the space provided at the end or the question.

After you have completed all the exercises, turn to "Solutions to Exercises" at the end of the lesson and check your answers with the approved solutions.

1. List the major areas of mobile home park sanitation covered by the standards in AR 40-5.

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

g. _____

h. _____

i. _____

j. _____

2. To protect the health of mobile home owners, most manufacturers now build mobile homes in accordance with what requirements?

SPECIAL INSTRUCTIONS FOR EXERCISES 3 THROUGH 6. Column I lists authorities responsible for mobile home park sanitation. Column II contains a list of duties. Match the authority in Column I with the letter of the appropriate duty in Column II. Each response in Column II is to be used only once.

Column I	Column II
3. ____ post commander	a. Can provide most of the data and recommendations for mobile home park sanitation.
4. ____ community health nurse	b. Responsible for the overall health and safety of mobile home parks at a specific post.
5. ____ post surgeon	c. Provides counseling, teaching, and health care for individuals and families living in mobile home parks.
6. ____ preventive medicine specialist	d. Initiates inspections of mobile home parks.

7. What are the main ways by which diseases are spread in mobile home parks?

   a. _____

   b. _____

   c. _____

   d. _____

8. Which of the following does NOT apply to the water system for mobile home parks?

   a. The medical authority must approve the water source and distribution system.
   b. Surface water supplies must receive treatment to make them safe for drinking.
   c. Whenever possible, spring water should be used since it is usually free of bacteriological contamination.
   d. Individual connections to a water system must exclude cross-connections.

9. You are taking water samples from a mobile home park. What type of bacteria will be tested for? What is the recommended sampling frequency?

a. _____

b. _____

10. When a mobile home park is on base, who should keep a record of where the water and sewage lines are buried?

a. _____

b. _____

11. You are inspecting the sewage system of a mobile home park and observe the following:

- The sewer connections and manholes are constructed so that surface water does not enter the sewers.
- The sewer lines are laid flat on the ground.
- The sewer lines are separated 10 feet horizontally from drinking water supply lines.
- There is a sewer service connection for each mobile home space.

Do these sewage lines meet requirements? If not, what is the defect and what is its correction?

12. A plumbing fixture in a mobile home has been found to create back siphonage. Because of this, it cannot be attached to _____.

13. Below is a list of possible characteristics of solid waste containers. Indicate which are appropriate specifications for solid waste containers by writing "appropriate" or "not appropriate" after each item.

a. Rust-resistant _____

b. Absorbent _____

c. Water tight _____

d. Large enough to prevent overflow _____

e. Loose-fitting lids _____

14. You are checking a mobile home site and observe that bulk containers for solid waste are being used to service several mobile homes. What are the specifications that you should check to determine that these containers meet standards?

a. _____

b. _____

c. _____

d. _____

15. You are checking the location of bulk containers for solid waste at a mobile home site and observe the following:

- The containers are in permanent locations.
- They are mounted on racks.
- They have 8 inches of clear space beneath them.

Do the containers meet standards? If not, what is the problem and its correction?

16. For combined solid waste (rubbish and garbage) and rubbish alone, _____ gallon containers are recommended. If garbage is in a separate container, a _____ gallon container is sufficient.

17. A mobile home park has drinking fountains at the recreation building. When checking the connections, you should be sure that there is no _____ _____.

18. In cases of widespread rodent infestation, who should perform control procedures?

a. The preventive medicine specialist.
b. The mobile home park owner.
c. A professional pest control operator.
d. The post medical authority.

19. A mobile home parking area must be at least _____ by _____ feet .

20. A mobile home must provide at least _____ square feet of floor space per occupant.

Check Your Answers on Next Page

SOLUTIONS TO EXERCISES, LESSON 4

1. Location
   Space allowance
   Construction
   Water supply
   Liquid waste and wash water disposal
   Human waste disposal
   Service buildings
   Ground sanitation
   Illumination and fire protection
   Protection of utility connections (paras 4-2a, b, c, d, e, f, g, h, i, j)

2. The requirements of the American National Standards Institute (ANSI), Standard for Mobile Homes, A 119.1. (Same as the Standard 501B of the National Fire Protection Association. (para 4-5c)

3. b (para 4-6a)

4. c (para 4-6c(1))

5. d (para 4-6b)

6. a (para 4-6c(3))

7. Contaminated water
   Faulty and unsanitary utilities
   Human waste
   Animal and insect vectors (para 4-7a)

8. c (para 4-9b(2))

9a. Coliform bacteria
 b. At least once a month (para 4-9c(1))

10a. Mobile home owners
 b. Preventive medicine activity, obtained from post engineers) (para 4-10a)

11. No. The second item is at fault. Sewer lines should not be laid flat on the ground. Instead, trenches must be dug and the sewer lines laid in the trenches. (para 4-10d(1))

12. The potable water system (para 4-10f)

13a. Appropriate
b. Not appropriate
c. Appropriate
d. Appropriate
e. Not appropriate (para 4-11a)

14. Lids that are easily opened and automatically close
Watertight
Rodent proof
Installed so as not to be a safety hazard (para 4-11b(2))

15. No. There is not enough clearance under the containers. The containers should be raised so that there is at least 12 inches of space beneath them. (para 4-11b(3))

16. 30
10 (para 4-11a(3))

17. direct connection between a waste pipe and the fountain drain unless the drain is tapped. (para 4-9d(5))

18. c. (para 4-12b)

19. 45 by 70 (para 4-2b)

20. 35 (para 4-2c)

End of Lesson 4

COMMENT SHEET

SUBCOURSE MD0164 Environmental Health Inspections and Surveys I EDITION 100

Your comments about this subcourse are valuable and aid the writers in refining the subcourse and making it more usable. Please enter your comments in the space provided. ENCLOSE THIS FORM (OR A COPY) WITH YOUR ANSWER SHEET **ONLY** IF YOU HAVE COMMENTS ABOUT THIS SUBCOURSE..

FOR A WRITTEN REPLY, WRITE A SEPARATE LETTER AND INCLUDE SOCIAL SECURITY NUMBER, RETURN ADDRESS (and e-mail address, if possible), SUBCOURSE NUMBER AND EDITION, AND PARAGRAPH/EXERCISE/EXAMINATION ITEM NUMBER.

PLEASE COMPLETE THE FOLLOWING ITEMS:

(Use the reverse side of this sheet, if necessary.)

1. List any terms that were not defined properly.

2. List any errors.

paragraph	error	correction

3. List any suggestions you have to improve this subcourse.

4. Student Information (optional)

Name/Rank _____
SSN _____
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_____
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Telephone number (DSN) _____
MOS/AOC _____

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