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REPLY TO
ATTN OF: LEEE

SUBJECT: Engineering Technical Letter (ETL) 86-9:
Lodging Facility Design Guide

TO: ALMAJCOM/DEE AFRCE-WR AFRCE-ER AFRCE-CR AFRCE-BMS AFRCE-SAC
AFIT/DET/DEM HQ AFCC/DEO ANG/DE AFRES/DE HQ USAFE/DER

1. Purpose. This ETL transmits the latest revised draft of the Temporary Lodging Facility Design Guide. The Lodging Facility Design Guide will be published as a numbered Air Force Pamphlet. Publication is expected by August 1986.
2. Effective Date - May 1986
3. Referenced Publication. This draft guide supersedes the August 1983 issue of the Lodging Facility Design Guide.
4. Implementation. The attached revised guide is to be used as the basis for design for future projects by all Air Force organizations involved with programming and design of Lodging Facilities.

FOR THE CHIEF OF STAFF

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Chief, Engineering Division
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1. Temporary Lodging Facility
Design Guide May 1986
2. Current Index of ETL's

cc: AFESC/DEM
OASD(I&L)

86-9

AIR FORCE TEMPORARY LODGING FACILITY DESIGN GUIDE

Directorate of Engineering and Services
Engineering Division
Architecture and Engineering Branch
May 1986

86-9

TLF DESIGN GUIDE

CONTENTS

1. INTRODUCTION
2. SITE PLANNING
3. ARCHITECTURAL
4. STRUCTURAL
5. ELECTRICAL
6. MECHANICAL
7. MECHANICAL VENTILATION DESIGN AND EVAPORATIVE COOLING
8. INTERIOR DESIGN
9. COST GUIDANCE
10. DEFINITIVE DRAWINGS

TLF DESIGN GUIDE

1. INTRODUCTION

1.1 This guide contains design criteria and guidance for temporary lodging facilities (TLFs). Requests for waivers to these criteria and or guidance must be submitted in writing to HQ USAF/LEEES.

1.2 The basic structure of temporary lodging facilities is to be designed to residential (i.e. Air Force family housing) construction standards, and be architecturally compatible with the base environment. Finishes, hardware and equipment, as described in Chapter 3, are to be of a better, more durable nature than standard residential quality. Pre-fabricated modules or local typical construction may be used where cost effective and there is no compromise of life safety requirements.

1.3 Attractive design can be achieved through careful study and selection of materials, colors, equipment and structure. The existing base architectural character and prevalent construction materials shall be considered when designing these facilities.

1.4 Temporary lodging facilities are primarily used by families during stressful periods of relocation between bases. A comfortable, convenient, attractive, well designed TLF can make family relocation pleasant. The facility must provide maximum livability,

privacy, storage, and control of room temperature. These facilities will be in continuous and intense use, and must be capable of being easily maintained by the occupants and the Air Force.

1.5 TLFs are to be designed and furnished to provide sleeping accommodations for five adults. Each unit is to be arranged and furnished so that two parents with three teenage children will have comfortable living and sleeping accommodations. In addition, each unit should be planned to accommodate a crib when needed. Connecting doors are to be provided in 20% of the units to give flexibility in assigning adjacent units to families that require more than one unit.

1.6 Design reviews will be accomplished, as a minimum, at the completion of 30 and 90 percent design phases. Complete sets of plans and specifications, color boards, design analysis and cost estimates, shall be forwarded to AFESC/DEH, AF/LEEES, AFRCE, Major Command and Base.

TLF DESIGN GUIDE

2. SITE PLANNING

2.1 General: Together, site planning and architectural design must satisfy the facility functional requirements in a orderly comfortable, attractive and functional setting. Site planning is to consider roads, parking, walks, utilities, signage, access to community facilities, service access, planting, lighting, climate, topography and existing vegetation.

2.2 Roads: Roads should be designed for the convenience of occupants and employees. Roads should be planned with consideration for signage, site furnishings, safety, appearance and maintenance and must provide for access to the lodging facility by delivery, maintenance and emergency vehicles. Roads should be planned so they eliminate, or at least minimize the adverse impact of noise and headlights shining into windows. Additions to existing roads should try to improve and enhance the existing roads as well as serve the new facility. New roads should aid in orienting newcomers and provide an attractive approach to the facility. The roads should relate to the natural contours to minimize grading and disruption to vegetation. Screening, setbacks and other techniques should be used to tie the roads to the facilities they support.

2.3 Parking: Parking is to be planned for convenience of the occupants. Allocate 1.5 cars per unit for continental U.S. locations, and no more than 1 car per unit overseas. Take advantage of existing parking in siting the facility. Space for recreational vehicles, trailers, boats, etc. is to be provided by the base in a separate area. For further information on parking design, see AFM 88-43, Installation Design.

2.4 Walks: Pedestrian-oriented site planning and design contributes to the convenience, comfort and enjoyment of daily activities and can encourage walking and less dependence on cars. Walks should be convenient, safe, and attractive. Provide curb cuts for handicapped accessibility, for movement of maids carts and for convenience of occupants rolling luggage carts.

2.5 Planting: The design of the facility is to include complete landscape design.

2.5.1 Landscape planting adds greatly to the appearance and operation of a facility. Planting can be used to visually screen unattractive features such as dumpsters, utility equipment transformers and also improve energy efficiency of the facility by providing shade or windbreaks. Berms and massed plantings can be used to screen the glare from headlights, to control or reduce noise from traffic or equipment and also affect wind patterns. Well design planting can reduce maintenance cost and enhance the facility and site.

2.5.2 If the construction budget cannot cover the complete cost of landscaping, indicate which parts of the landscape plan will be part of construction and which plant materials are to be added by the base at a later time. Planting material required to screen dumpsters and transformers etc., is to be a part of the construction contract.

2.6 Signing: Signing should be attractive and harmonious with the surroundings. Clear directional signs, information signs, room numbers, etc., help newcomers find their way easily and locate support facilities such as laundry, vending, bus stops or other base functions. Signage should be coordinated with the base signage program and should be in accordance with AFP 88-40, Sign Standards.

2.7 Lighting: Exterior lighting should be designed to provide security, safety, pathfinding, and enhancing the facility. All exterior lighting should be designed as a coordinated effort so that it adds to the overall appearance of the facility while providing the necessary illumination for roads, parking areas, walkways and building. Ease of Maintenance is also a major concern when selecting fixtures, their location, and the method of installation. When the lighting the building insure sufficient light is available to locate room numbers and door locks without creating glare in the rooms.

2.8 Site Furnishings: Furnishings which may be provided by the

base after construction is completed, such as trash receptacles, benches, mail boxes, bus shelters, and picnic tables should be a part of the site planning design. The placement, color, and shape of these items should be coordinated to obtaining an attractive, uncluttered facility.

2.9 Playground: A playground can be a great asset. A playground should be located near the facility and may be included as part of the project. Playgrounds can reduce the problems associated with children using transformers, dumpsters and trees for play, and provide a safe place for children to meet and play. It can also reduce wear and tear on landscaping thereby reducing maintenance cost. If a playground is not part of the construction contract, the playground location should be a part of the overall site plan.

2.10 Picnic Area: Picnic areas adds to the enjoyment and comfort of occupants. Picnic areas are to be identified on the site plan even if they are not a part of the construction contract.

2.11 Kennel: Air Force regulations do not allow pets to be kept in TLFs. However, a small kennel that could be added by the base should be identified on the site plan.

TLF DESIGN GUIDE

3. ARCHITECTURAL

3.1 General: TLFs provide economical housing for Air Force families transiting between bases. Due to space limitations, close attention must be paid to maximizing the livability of this space.

3.2 Net Area Limitation: The net area is the clear, usable space measured from the face of the enclosing walls of a unit. The space occupied by interior partitions and any mechanical equipment is to be deducted in calculating the net usable space. The attached design for a TLF has interior dimensions of 19 by 25 feet which provide 475 square feet. Partitions and fan coil or heat pump equipment (if used) is estimated to occupy approximately 25 square feet. The actual dimensions for a project must be based on the building materials and structural system selected to provide an efficient, cost effective facility. If any adjustments are made to the interior dimensions, the resulting room sizes must be checked to insure that the standard furnishing required for each unit will easily fit in the resulting spaces.

3.3 Gross Area: The gross area for each project will vary based on number of units, support area requirements and type of wall systems used. For initial planning, a gross area of 540 square feet per living unit should be used. Support areas that are required for a complete facility include; maids room, janitors' closet, laundry room, mechanical equipment room, electric closet, communication equipment closet, vending area, clean linen storage

room and bulk storage room. At some locations a dirty linen storage closet may be required. Existing billeting offices will be used to support new lodging facilities unless approval to construct a new office is obtained from AFESC/DEH.

3.4 Maids Room: Plan one full time maid for each 12 lodging units. A minimum area of 150 square feet will support 3 maids. Add 12 square feet for each additional full time maid or equivalent part time help. A basic maids room contains toilet facilities, a break area, locker or closet space, cart storage area and cleaning and paper supply storage area. A small area may be required for a desk and time clock to support administrative functions. In two story designs, only the basic cart storage and cleaning and paper supply function should be duplicated on the second floor.

3.5 Janitors Closet: A janitors closet with a slop sink and space for cleaning equipment storage should be located adjacent to the maids room. In two story designs a janitors closet must be provided on each floor.

3.6 Linen Storage Room: A room for storage of clean linen with a minimum size of 70 square feet is required adjacent to the maids room. Over all linen storage requirements should be based on 4.2 square feet per guest room. The clean linen storage room should be conveniently located for delivery of linen. The linen room should be equipped with some 24 inch deep shelves for storage of blankets, bed spreads, pillows and other bulky items as well as narrower

shelves for folded towels, kitchen and bed linens. In some locations where dirty linen is not picked up each day, it will be necessary to construct a dirty linen storage closet. The closet size should be based on the frequency of linen pickup and the method of handling that is used. If large hampers are used to store and transport dirty linen, the closet and door(s) should be sized accordingly.

3.7 Laundry Room: The laundry room should be sized to hold a minimum of two washers and two dryers for each 12 units plus space for a table for folding clothes and for a chair. The basic room will require 130 feet. Increase the area as requirements for more equipment dictate. Total equipment requirement can be modified based on the availability of commercial laundry facilities and any other factors that would reduce or increase the need for equipment in the lodging facility. The room is to be equipped with a rod for hanging clothes on hangers, a vending machine for washing products, and a floor drain. The door to the laundry shall be equipped with a lock that can be opened by room occupants with their room key.

3.8 Vending Area: Provide a vending area sized based upon the type and size of machines to be supplied by others. Provide space for pay phones. The vending area should be centrally located for the convenience of the occupants and for ease and convenience of servicing the equipment.

3.9 Ice Machine: Locate an ice machine in a locked closet adjacent to the vending area. The door to the ice machine closet is to have a lock that is to be keyed so that the lodging facility occupants door key will provide access.

3.10 Storage: Provide a room for storage of portable equipment such as cribs, highchairs, ironing boards, roll away beds and other such items that occasionally are required by occupants. The size is to be based on the size and quantity of items that are to be stored.

3.11 Mechanical Equipment Rooms: The size for the equipment room is to be determined by the type of mechanical equipment used in the facility. Also provide an electric closet and a telephone closet sized according to need. The electrical closet is to be located so that if a grade mounted transformer is to installed nearby, the transformer can be effectively screened from the living units and from all public areas.

3.12 Materials:

a. TLFs are subject to heavy wear and tear. Movable furniture and equipment necessary to make maximum use of the limited space can increase damage to the interior of the units. All interior materials, finishes, fixtures and equipment are to be designed and selected to provide low maintenance. Consider materials such as quarry tile flooring at the entrance to each unit, high strength skim coat plaster on gypsum board walls, heavy duty vinyl wall

coverings, natural finish wood chair rails and rub rails on luggage racks. Heavy duty type hardware should be used throughout the facility. The recommended lock set for the entrance door is Federal specification type 161-T. The typical lockset used in hotels and motels that is always locked on the exterior in order to provide maximum security is not appropriate since there is no front desk conveniently located to assist accidental lockouts. Provide a peephole in the entrance door to all units. Hooks, hanging racks, closet bars and shelves, sliding drawer hardware, and doorstops should be manufacturers' heavy duty lines and not typical residential or builder grade. All knobs, pulls and handles are to be designed for permanent installation so that they can not be easily loosened or removed. The finishes should be durable and resistant to tampering.

b. All interior doors are to be solid core wood doors. The doors that connect adjacent units are to be gasketed and have a sweep strip or drop type sill gasket to insure acoustical privacy between the units.

c. Painted wall surfaces are to be painted with semi gloss paint for maintainability. Surfaces in heavy wear areas such as halls, or exposed exterior corners should be protected with a durable wall covering. Selective use of better quality, durable finishes on limited surfaces can greatly improve maintainability with limited increase in construction cost.

d. The following criteria are the minimum acceptable for carpet:

Construction: Woven or tufted level loop or cut & loop.

Density factor: 4000 (heavy wear)

Face weight: Minimum 28 oz for nylon

Minimum 32 oz for acrylic

Pile height: Maximum .25 in.

Tuft bind: 20# min.

Flammability: UL 992 flame propagation index of 4.0 or less, or ASTM E 648 (Radiant Panel) with minimum average critical radiant flux of .50 watts CM².

Fiber: 100% continuous filament nylon or 100% acrylic (can be acrylic/modacrylic blend)

Pattern carpet may be used if the pattern is small, inconspicuous and medium to darker values. Tweeds are acceptable and preferred. Color should be kept in the neutral range.

Carpet will be installed by the direct glue-down method. No pad will be used. Manufactures recommended adhesive and installation instructions must be used.

3.13 Acoustics: Wall systems between units and between units and corridors are to provide a minimum Sound Transmission Class (STC) rating of 45. Floor and ceiling systems in two story buildings should provide a minimum STC of 50 and a minimum Impact Insulation Class (IIC) of 55. Where public spaces abut units, every effort should be made to increase the STC and IIC ratings by five points.

Special effort must be made in two story designs to insure that the non-carpeted areas do not adversely affect the acoustical separation of units.

3.13.2 Noise can be an irritant to occupants of TLFs. With the use of radios and TVs in each unit, the requirement to acoustically separate units increases. Care must be taken in the selection of materials, equipment and systems to provide the best possible acoustical environment. The design must provide a quiet environment in which to live comfortably.

3.13.3 Orient the building on the site to minimize probable external noise sources. Locate and size windows to minimize external noise.

3.13.4 Mechanical equipment must have vibration isolation to prevent the transmittal of equipment generated noise into a slab or other part of the structure. All plumbing, electrical distribution and communication systems should perform their intended function without excessive noise generation. The connecting doors between units, as well as the telephone, TV antenna outlets and electrical receptacles should not reduce the acoustical integrity of wall systems.

3.14 Energy Conservation: All TLFs are to include full consideration for energy conservation. All energy conservation features

that are designed into a project are to be a part of the basic bid and not bid as an additive. Some energy conservation features that are to be considered include building orientation, window size, type, glazing and shading, lighting, roof, wall, slab insulation, doors, vestibules and weather stripping.

3.15 Provisions for Handicapped: Each TLF project is to be designed with one unit located on the ground floor and equipped to be accessible to a handicapped person. This unit is to have barrier free access from the parking area. The bathroom is to be sized and equipped in accordance with the requirements of Chapter 18 of DOD 4270.1-M, and the Uniform Federal Accessibility Standard. All public support areas located on the ground floor should also be designed to be accessible to the handicapped.

3.16 Number of Stories: TLFs may be designed as one or two story structures, depending on the number of units, availability of land, site conditions and structural consideration. Any project of 30 or more units should investigate the use of a two story design in order to reduce costs.

3.17 Mechanical Equipment: The type of mechanical system that is selected to heat and cool the lodging facility must have minimum impact on the limited floor space. The equipment must not interfere with furniture placement.

TLF DESIGN GUIDE

4. STRUCTURAL

4.1 General Requirements. The structural systems is to be capable of carrying the required loads, and be compatible with fire protection, and architectural and functional requirements. In selecting a structural system, the total cost of the facility must be considered since the choice will influence the cost of other features such as heating, ventilation and/or air conditioning, lighting, utilities, finish materials and other architectural requirements.

4.2 Structure: In choosing structural materials for a project, consideration shall be given to the site environment, including climate, subsurface conditions, accessibility, wind velocity and seismic ratings, skill and experience of prospective contractors, the design life of the facility, maintenance costs, availability of labor and materials, and the feasibility of preassembling or pre-casting major structural elements. Where pre-fabricated units are economically feasible, insure requirements of this design guide are included. Insure that the floor system has sufficient stiffness to resist excessive deflection and vibration and that the units provide sufficient acoustical properties.

4.3 Design Loads: The design live load are as listed below.

Area	Live loads in #/sq ft
Bedrooms and Bathrooms	40
Corridors and Balconies	60
Public Rooms	100
Stairs	100

4.4 Railings: Railing on stairs and balconies shall be designed to resist a lateral thrust at the top of the railing of 50 pounds per lineal foot and be configured to comply with all applicable codes.

4.5 Design Considerations: Pitched roofs are to be use for TLFs unless a wavier is granted by AF/LEEE. Interior partitions are to be designed to resist vibration caused by closing doors and to withstand hard use. Additional studs or bracing should be specified for areas that are subject to impact.

TLF DESIGN GUIDE

5. ELECTRICAL

5.1 General Requirements: The selection and location of light fixtures and receptacles must be appropriate for residential occupancy and be of a quality and durability that will stand up to hard use. Fixtures in public areas should be selected and installed to enhance the interior and provide appropriate lighting levels. All lighting fixtures must be durable, low maintenance, enhance the architectural character of the facility, and compliment the furnishings. Fixtures that are expected to be within reach of the occupants must be highly durable and preferably have no easily removeable parts.

5.2 Lighting Design: Light fixtures in projects with corridors should enhance the appearance and accent certain areas instead of providing a uniform wash of light over all surface of the corridor. Light fixtures in units with exterior entrances should be selected and located to provide glare free light on balconies and entrance doors.

5.3 Interior Lighting: All lighting design is to be coordinated with the interior design so that fixtures, finishes, and location of lights are compatible with all finishes and furnishings.

5.4 Lighting Levels: The Illuminating Engineering Society (IES) Lighting Handbook recommendations for hotels will be used as a

guide for designing lighting levels. Consideration must be given to energy conservation in all lighting designs.

5.5 Ceiling Fixtures: Ceiling mounted light fixtures are appropriate for the kitchen, dining area and adjacent to closets. General lighting in the living area and the bedrooms is to be provided by lamps. Provide a switched light that illuminates the entryway of the living area, and bedrooms and also lights the closets. Do not provide switched receptacles in these areas.

5.6 Kitchen Lighting: Provide fluorescent fixtures under the kitchen wall cabinet to provide task lighting on the counters, range and sink. Do not rely on the ceiling light fixture to provide illumination for all of the kitchen.

5.7 Exit Lighting: Exit lighting shall conform to the National Fire Protection Association Life Safety Code.

5.8 Telephone Systems: If telephone service is to be provided in the TLF all units are to be pre-wired. The surface mounting of exposed telephone wire and accessories after the building is occupied will detract from the appearance of the facility and increase the rate of deterioration of wall surfaces.

5.9 TV Antenna Systems: A master TV antenna system shall be installed with an outlet in each unit. In areas where cable TV is

available, provisions should be made to bring the service into the facility.

5.10 Heat and Smoke Detectors: All units are to be equipped with smoke and heat detectors. Battery operated detectors are not acceptable. Use smoke detectors which only sound an alarm in the unit where it is installed. Use heat detectors which are wired to the building system to alert all occupants and which are wired to the fire department if the base is equipped with the necessary system. Each room used for sleeping is to be equipped with a detector. Maids rooms, janitors closets, storage rooms, mechanical equipment rooms, vending and laundry rooms and unoccupied enclosed spaces are to be equipped with heat detectors. A combined unit that provide both heat and smoke detection, but that can have each detector wired separately is preferred rather than two separate units in each room.

5.11 Electric Panel: Locate the electric panel so it is accessible to the occupants but not visible from the living room, kitchen or dining area. Recommended location is adjacent to the extra lavatory in the wall that backs up to the kitchen.

TLF Design Guide

6. MECHANICAL

6.1 Life Cycle Cost: The basic objective is to insure an adequate level of building environmental conditioning at the least life cycle cost (LCC). All practical architectural and mechanical component alternatives, and particularly those surfaced through value engineering studies and associated maintenance and operational costs, should be studied. Base the LCC analysis on methodology described in the latest revision of the National Bureau of Standards Handbook (NBS)-135: "Life Cycle Cost Manual of the Federal Agency Energy Management Program."

6.2 Energy Consumption: Select, design, and install air conditioning, evaporative cooling, dehumidification, mechanical ventilation, and refrigeration in accordance with the requirements for energy conservation. Where a history of air temperature, prevailing wind speed and direction are such that a detailed engineering analysis shows that reasonable comfort conditions can be maintained without air conditioning, then natural or mechanical ventilation may be provided.

6.3 AIR CONDITIONING DESIGN:

6.3.1 Design Basis:

- a. ASHRAE Handbook of Fundamentals: Heat gain calculations

shall be in accordance with the current edition of the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) Handbook of Fundamentals.

b. Comfort Cooling: The air conditioning inside temperature for personnel comfort shall be 15F less than the 2-1/2 percent outside dry bulb (DB) weather condition, but will not exceed 78F DB or be less than 75F DB. The design relative humidity will be 45 to 55 percent maximum or the design temperature equal to the outside air dewpoint design temperature, or whichever is less.

c. Heating: The winter inside comfort design temperature shall be 70F DB unless otherwise indicated.

d. Outside Design Temperatures: Use weather data obtained from the current edition of AFM 88-29, Engineering Weather Data. Revised weather data or weather for new installations shall be supplied by HQ AFLC/ETAC. Air conditioning for all facilities shall be designed on the basis of a 2.5 percent dry bulb temperature and corresponding 2.5 percent mean coincident wet bulb temperature as specified in AFM 88-29.

6.3.2 Mechanical Equipment Design: A central mechanical system shall normally be provided unless specific engineering cost analyses indicate subcentral mechanical systems to be more economical on a life cycle cost basis.

6.3.3 Combined Summer and Winter Air Conditioning Loads:

a. Equipment Sizes and Zoning: In buildings where there is a combination of normal summer air conditioning loads and year-round air conditioning loads, consideration shall be given to the sizing of equipment and zoning so that the central mechanical system can support the entire building load during warm weather and a portion of the central mechanical system may be essentially fully loaded during winter operation.

b. Comfort Considerations: The selection of the HVAC system must be responsive to provide comfort conditions during the intermediate seasons of spring and fall.

6.4 Ventilation Air:

a. Ventilation is defined as that portion of supply air which is outside air plus any recirculated air that has been treated for the purpose of maintaining acceptable indoor air quality.

b. Use of Mechanical Ventilation Requirements for Occupants: Minimum outdoor or supply air rates for occupants in heated or air conditioned facilities, or both shall be in accordance with ASHRAE Ventilation Standard 62-73.

6.5 Humidity Control: Summer humidity control is not authorized where the design analysis indicates the sensible heat factor is less than 0.65. Winter humidity (adding moisture) control is permitted on a zone basis. Such moisture addition shall be provided

on the basis of an absolute minimum of new energy and a maximum of reclaimed energy. Dehumidification control is permitted in the winter in tropical locations where the winter design temperature exceeds 65 degrees F.

6.6 HVAC Control Systems: Use Air Force Engineering Technical Letter. ETL 83-1 with changes or instructions published by AF/LEEEU.

TLF DESIGN GUIDES

7. MECHANICAL VENTILATION DESIGN AND EVAPORATIVE COOLING

7.1 Mechanical Ventilation and Evaporative Cooling Systems: Systems shall be designed, installed, and protected in accordance with the ASHRAE Guide and Data Book of Industrial Ventilation, a Manual of Recommended Practice.

7.2 Evaporative Cooling Design: - Indoor Temperature. Evaporative cooling shall be designed to provide an indoor condition of 80 degrees F dry bulb.

TLF DESIGN GUIDE

8. INTERIOR DESIGN

8.1 Interior Design: In addition to the structural-related finishes selected by the facility designer, the following items must be selected, specified and coordinated with the interior finishes. Care must be taken to allow adequate circulation space and provide a functional arrangement for all activities.

8.2 Living Room:

Queen size sleeper sofa

Two matching lounge chairs. Provide one sleeper chair and one non-sleeper chair if possible. If necessary provide two sleeper chairs if it is the only way to get matching furniture.

Coffee table

Two lamps

Low boy with drawers. Unit is to be sized to support TV.

19 inch color TV.

Art work.

Window treatment

8.3 Dining Area:

Five dining chairs

Art work

8.4 Bedroom:

Queen size bed
Chest of drawers
Table lamp or wall hung lamp
Bedspread
Window treatment
Art work
Chair without arms

TLF DESIGN GUIDE

9. COST GUIDANCE

9.1 Cost Guidance: The A-E estimated cost of the lodging facility, including site improvements will not exceed 90% of the total amount authorized for construction.

9.2 Cost Development: During the planning stages, accurate, detailed itemized cost estimates should be developed to indicate to all concern with the project what items are part of the construction cost, what items will be part of the furnishing budget and items that may be government furnished. Government furnished items that will require the construction contractors to make the compatible utility installation and also require contractor installation of equipment should be clearly identified. Additional items that should be clearly identified early in the planning stage are carpet, window treatment and hardware, kitchen and laundry equipment, shelving and storage for maid and linen rooms, and communication and TV antenna systems.

9.3 Funded Cost: The approved cost (programmed amount) includes the cost of construction, and supervision, inspection and overhead (SIOH) of construction that is provided by other than the base civil engineering personnel. Construction costs include the cost of the primary and support facilities as well as all appliances.

TLF DESIGN GUIDE

10. DEFINITIVE DRAWINGS

10.1 General: The attached floor plan is to be used for the design of all lodging facilities. This plan has been developed to provide the best possible living conditions for a family of up to five members and provide all necessary furniture, including beds, without relying on the addition of temporary furniture. This reduces the wear and tear on the quarters, provides less work for the management and make move in and move out far more convenient for all concerned.

10.2 Entry: In areas with extreme weather conditions, if a plan is used that has direct access from the exterior to each unit, it is recommended that an entry vestibule be included as a part of design to conserve energy. Square footage required for the vestibule is over and above the basic allowable square footage previously stipulated. The entry should have a hard surface walk-off area.

10.3 Livingroom/Bedroom: The major living space provide comfortable seating for five and sleeping accommodations for three people. Furniture should be selected and arranged to provide easy access to the heat pump or fan coil unit and not block the air distribution. The entry closet is to be equipped with a storage unit. It is recommended that the closet be equipped with space

saver type closet equipment that provides a combination of high and low closet poles, shelves, drawers, full length hanging space and hooks for maximum storage capacity. Provide a hard surface walk off area at the entry. The living room is to be carpeted.

10.4 Dining Area: The dining area provides a table height dining counter adjacent to the kitchen with space for five dining chairs. The area is to have a hard surface floor finish to reduce maintenance cost and improve sanitation.

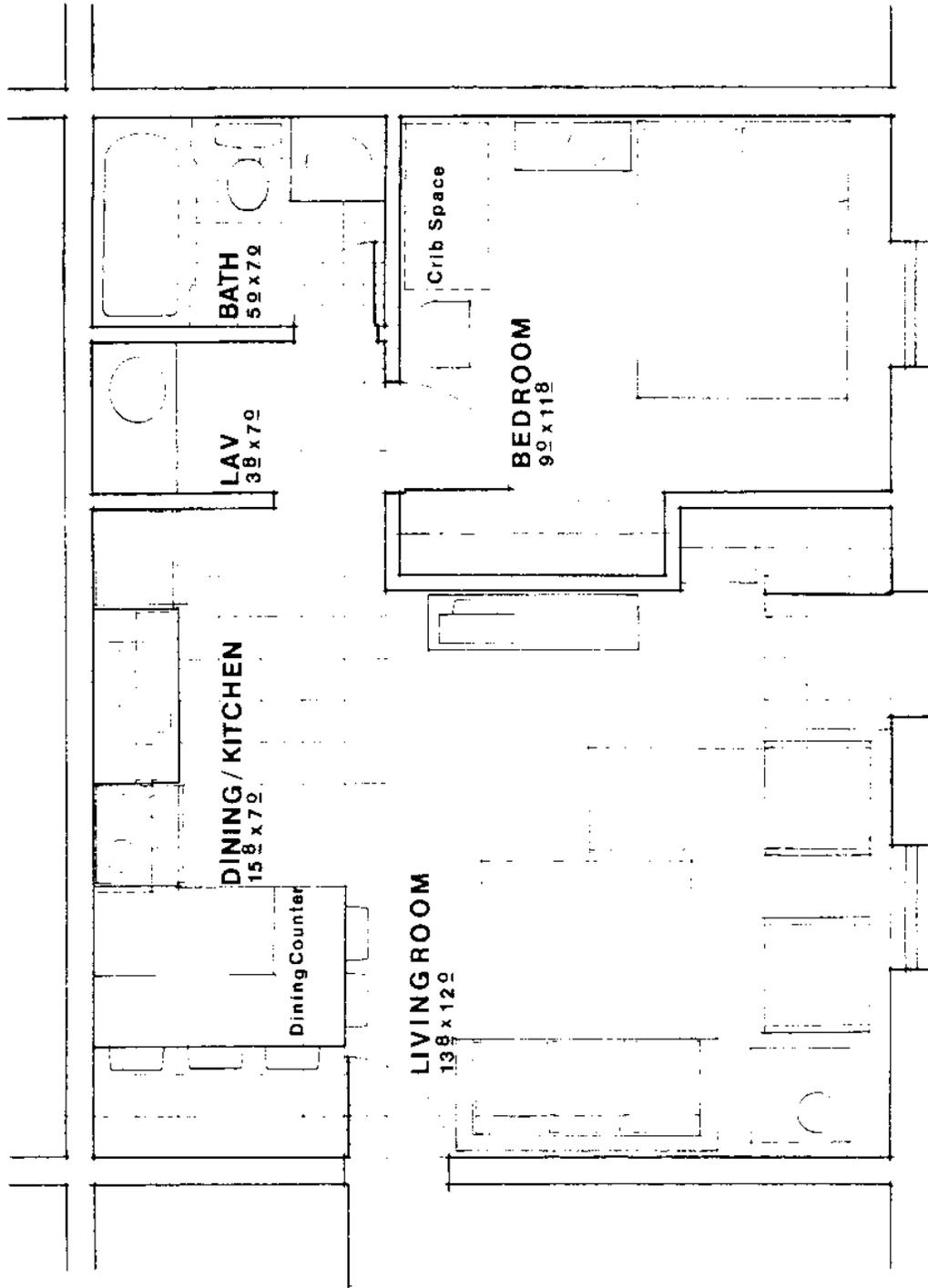
10.5 Kitchen: The kitchen is designed to provide space for a four burner 30 inch range, (with or without a microwave) and a conventional self cleaning oven. Provide a range hood. The kitchen is to be equipped with a double sink. A single sink can be used if a dishwasher is provide. Provide a frost free refrigerator with a separate freezer compartment. Minimum size refrigerator is to be 11 cubic feet. All kitchen equipment is to be selected for ease of cleaning, low maintenance, and be energy efficient.

10.6 Bathroom: The definitive provides a three fixture bathroom plus a separate lavatory. Use cabinet mounted lavatories to provide storage space. Install the tub so that the plumbing supply is accessible through an access panel. The access panel is to be under the second lavatory that is outside the bathroom.

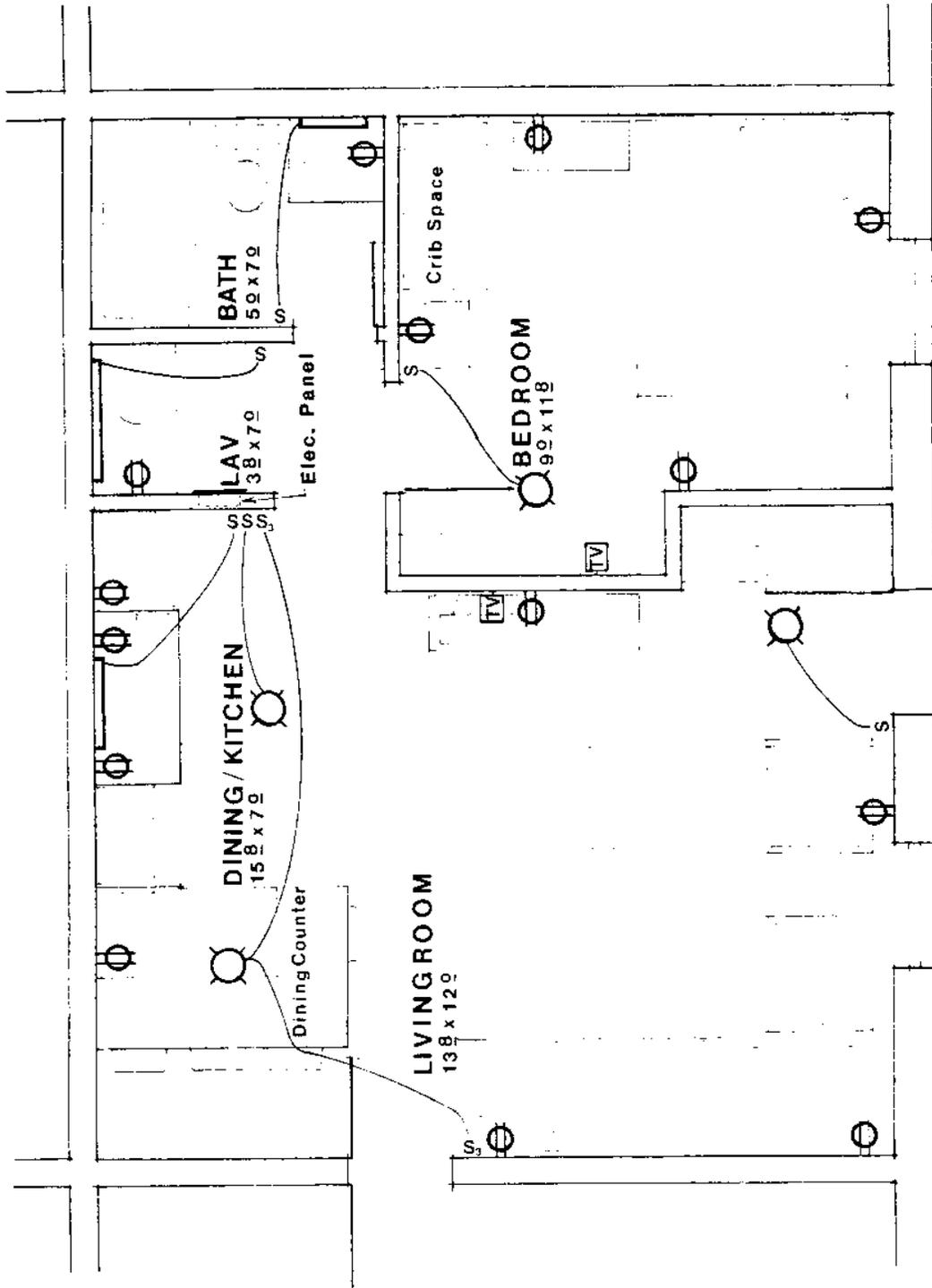
10.7 Bedroom: The hbdroom is sized to accept a queen size bed and have space for a portable crib and still provide access to the heat

pump or fan coil and not block the air distribution. The bedroom closet is to have a built-in chest of drawers as a minimum. Recommend that space saver closet equipment, (as describe above under the living room) be used to give maximum storage capacity.

10.8 Electric Plan: The attached electrical plan shows the basic electrical service that is to be provided. Ceiling lights switched from the entrance door to the living room and from the entrance door to the bedroom are designed to provide light for the closets. Provide bed side lamps with built-in switches or provide a wall switched receptical adject to each bed for the convenience of the occupants. Do not switch bed side lights from the entrance door. Units with connecting doors are to have a three way switch that controls the dining counter light fixture adjacent to the connecting door for the convenience of families that are using two units.



450 SQ. FT. LODGING FACILITY
AFLEEEES WASHINGTON D.C. JULY 1985
SCALE 1/4" = 1'-0"
JE



450 SQ. FT. LODGING FACILITY
AFLEEEES WASHINGTON D.C. JULY 1985
SCALE 1/4" = 1' 0"
JE