

Chapter 5 Criteria for Upgrading Existing Facilities

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Chapter 5

5-1

General

a. PURPOSE This chapter outlines the project development guidance and planning and design considerations for projects involving the upgrading of existing facilities. This chapter also presents strategies for physical development and outlines preplanning decisions, and site and facility selection guidance peculiar to projects that require the modernization and improvement of existing facilities for use by military police organizations.

b. APPLICABILITY The guidance contained in this chapter will be applicable to a wide range of small, medium and large scale projects involving improvements to existing facilities and should be used in conjunction with the criteria and guidance for new construction contained in the preceding chapters. The guidance will typically apply to modernization and improvement projects involving additions, alterations, conversions or replacement of existing facilities. It will also apply to projects involving the relocation of existing facilities and be useful in the planning stage of projects that require phased construction and necessitate overlaps in the design-build process. Alternative approaches to upgrading existing facilities to which the guidance in this chapter may also be applicable, include step-by-step total replacement projects, the acquisition or erection of specially designed portable or relocatable facilities, the addition, expansion or conversion of existing facilities by the construction of new permanent facilities, or the lease/procurement of new or improved operations or office type furniture and equipment. For example, a step-by-step total replacement approach might require functional activities to be temporarily relocated for a short period of time to unimproved but adequate facilities while each phase of upgrading takes place; or, for less extensive projects, might require that gradual unobstructive improvement of facilities and equipment take place while major functions continue to operate in the same location.

c. FACTORS AFFECTING INDIVIDUAL PROJECTS

When individual project constraints indicate the need to upgrade existing facilities, several administrative, budgetary and construction factors must be taken into consideration. These factors include, among other things the condition of existing operations, the type of existing construction, the timing and character of modernization and improvement projects, the appropriation for and funding levels and approval procedures of relevant construction programs, and, at the local level, the budgetary priorities and scheduling constraints imposed by installation manpower and material resources limitations.

d. DEVELOPMENT OF PROJECT OPTIONS Because modernization and improvement projects involve a wide range of design and construction constraints and opportunities, the using service must investigate and evaluate the suitability and effectiveness of a number of construction programs and upgrading alternatives before selecting the most appropriate means for project accomplishment. This assessment should be guided by pre-planning decisions that define the scope and magnitude of required improvements.

5-2

Pre-Planning Decisions

a. BASIC DECISIONS The primary objective of pre-planning decisions is to identify a strategy for physical development that will accomplish the required improvement of existing operations. The functional characteristics and physical condition of existing operations are the most influential factors to be considered. Thus, a preliminary estimate of requirements of existing operations must be made prior to selecting an approach. The accomplishment of this requirement should take into account the following considerations.

- (1) The functional character of existing operations.
- (2) The physical character of presently occupied space.
- (3) The need for technical assistance in the assessment of upgrading potential.
- (4) The long-range desirability of project accomplishment.
- (5) The availability of funds for project completion.

b. FUNCTIONAL CHARACTER OF EXISTING OPERATIONS

In general, a pre-planning decision as to whether or not upgrading of existing facilities is required will depend on the functional character of existing operations and the degree to which existing facilities limit the accomplishment of functional objectives. A review of the functional criteria contained in the preceding chapters of this guide should provide a preliminary indication of the degree to which the functional objectives of military police activities are presently being met. The provost marshal should make a simple but objective evaluation of existing operations based on the project-specific functional and planning and design criteria and general guidance contained in Chapters 2, 3, and 4. The functional characteristics of existing operations can be rated according to the procedures which follow. The results will provide a quantitative indication of the level of operational effectiveness and, when considered in conjunction with factors affecting project urgency, will reflect the need for upgrading existing facilities relative to the functional characteristics and physical condition of existing operations.

Table 5-1 Characteristics of Existing Operations

Functional Indicators	Weighted Value	Criteria Reference	Evaluation Procedure
Location	3	Refer to Chapter 2	Evaluate the existing operational relationships to determine (1) whether or not the functional and physical requirements related to the location of individual military police facilities have been observed, and (2) whether or not the existing location allows for effective physical relationships between military police operations and related functional activities.
Functional Activity Relationships	3	Refer to Chapter 4 for the general space organization principles and physical relationship requirements of individual activities	The present organization of space should be evaluated to determine whether or not the proper functional relationships exist.
Circulation and Security	3	Refer to Chapters 3 and 4	Evaluate existing operational relationships to determine whether or not the proper pattern of visitor/staff circulation will allow the maintenance of functional integrity within major activity zones or whether existing space organization impedes the separation and control of circulation and does not define a clear order of visitor/staff movement from one point to another.
Climate Control and Acoustic Isolation	2	Refer to Chapter 3 and to individual space criteria contained in Chapter 4.	Evaluate existing operations to determine whether or not the special environmental and climate control requirements of functional areas and individual activities are properly provided for.
Flexibility	2	Refer to the specific guidance and criteria contained in Chapters 3 and 4.	Evaluate existing operations to determine whether or not present conditions conform to requirements for flexibility. Conditions related to spatial environment, functional areas, partitions, support systems, and physical adaptability are the most significant factors affecting the flexibility of existing space. Conditions related to equipment, furnishings, and surface materials tend to have less impact on flexibility. In most instances, movable objects can be readily adapted or changed; fixed elements present more lasting constraints on long-term operational effectiveness.
Special Construction	1	Refer to Chapters 3 and 4.	Evaluate existing operations to determine whether or not special construction features typically required by Military Police Facilities conform to the functional criteria for individual activities and the regulations governing the standard of operations.
General Design	1	Refer to Chapters 2, 3 and 4	Evaluate existing operations to determine whether or not the minimum recommended standards for functionally effective design have been observed. Primary and support facilities should conform to the minimum design standards relative to the existing scale of operations.

(1) Rating Existing Operations Using the planning criteria and functional objectives contained in Chapters 2, 3, and 4 as the basis for judgment a quantitative rating of conformity to requirements should be developed for individual functional activities. Low rating, non-conforming or exceptional conditions must be documented as below a specifically prescribed standard. For example, the general characteristics and specific functions of existing operations can be described in terms of their relative conformity on a sliding scale between 0 and 10, where 10 indicates the highest rating of conformity, and 0 indicates non-conformity. However, where minimum standards are set by Army engineering and construction regulations, the minimum standard will be scaled at 5, with 0-4 being below standard and 6-10 above standard. Whole increments will be scaled at ten percent above or below standard; 50% below standard will be zero (0) and 50% above will be ten (10). Specific features with performance standards should be rated. A general rating of existing operations should be accomplished for each of the functional indicators listed in Table 5-1

(2) Format Table 5-2 indicates a graphic format that can be used in applying the general method for rating existing operations. Using Table 5-1 as a guide, an aggregate rating can be achieved by applying the following qualifications to the rating for each indi-

cator: fair rates 6 or 5; poor, 4 or 3; and very poor, 2 or 1. The rating for each indicator listed in Table 5-1 is then multiplied by the number indicating importance immediately following the indicators. This number represents the relative importance of each characteristic in terms of overall operational effectiveness; the first three indicators having the most impact on military police operations, the second two having importance for individual activities, and the last two being only generally important to overall operational effectiveness. In general, aggregate ratings will fall into the following categories: excellent ratings will be above 125; good ratings will be between 105 and 125; fair, between 75 and 105; poor, between 45 and 75; and very poor, below 45.

(3) Factors Affecting Project Urgency The urgency of a particular project will depend on the scale and complexity of operations, the geographical field of operation, and the mission peculiar requirements of individual military police activities. However, such factors are not easily quantified, and, therefore, must be given special consideration on a project-by-project basis. They should be evaluated in conjunction with the rating of the indicators listed in Table 5-1, in order to properly determine the urgency for project accomplishment. Ratings in Table 5-2 that indicate a low degree of conformity to functional and operational

Table 5-2 Example Rating of Existing Operations

Functional Indicator		Characteristics of Conformity					Importance Factor	Rating
		Excellent	Good	Fair	Poor	Very Poor		
a.	Locational Considerations	9					3	27
b.	Functional Activity Relationships				3		3	9
c.	Circulation and Security		7				3	21
d.	Climate Control and Acoustic Isolation				3		2	6
e.	Flexibility and Adaptability				2		2	4
f.	Special Construction Considerations			5			1	5
g.	General Design Considerations				3		1	3
A Aggregate Rating								75

requirements should be given high priority for project accomplishment. In general, a rating of conformity for each indicator which is below 4 will usually be sufficient to indicate the need for urgent construction consideration. When the individual rating of conformity for factors a, b, or c is 9 or below, the accomplishment of the entire project should be considered urgent. Such projects will require immediate authorization under the appropriate military construction program. Field inspection indicates the need for some upgrading in almost all MP facilities. Even relatively small activities usually have special mission peculiar requirements that are not met or that may need improvement. Generally, when low ratings are analyzed in terms of the physical character of facilities, the poor condition of existing temporary type

facilities usually will require an upgrading strategy involving either the conversion of existing permanent facilities or the construction of new facilities. Paragraph 5-2c discusses the impact that the physical character of facilities has on choosing an appropriate upgrading strategy.

c. PHYSICAL CHARACTER OF FACILITIES Upgrading potentials related to the physical character of facilities for nine hypothetical field conditions are illustrated in Table 5-3. The most important physical factor to be considered is the type of construction which houses existing operations. Where temporary construction is in a significantly deteriorated or deficient state such that functional deficiencies are increased or cannot be corrected, complete relocation would be an appropriate

Table 5-3 Upgrading Potentials

/ Indicates likely options
 // Indicates possible alternatives

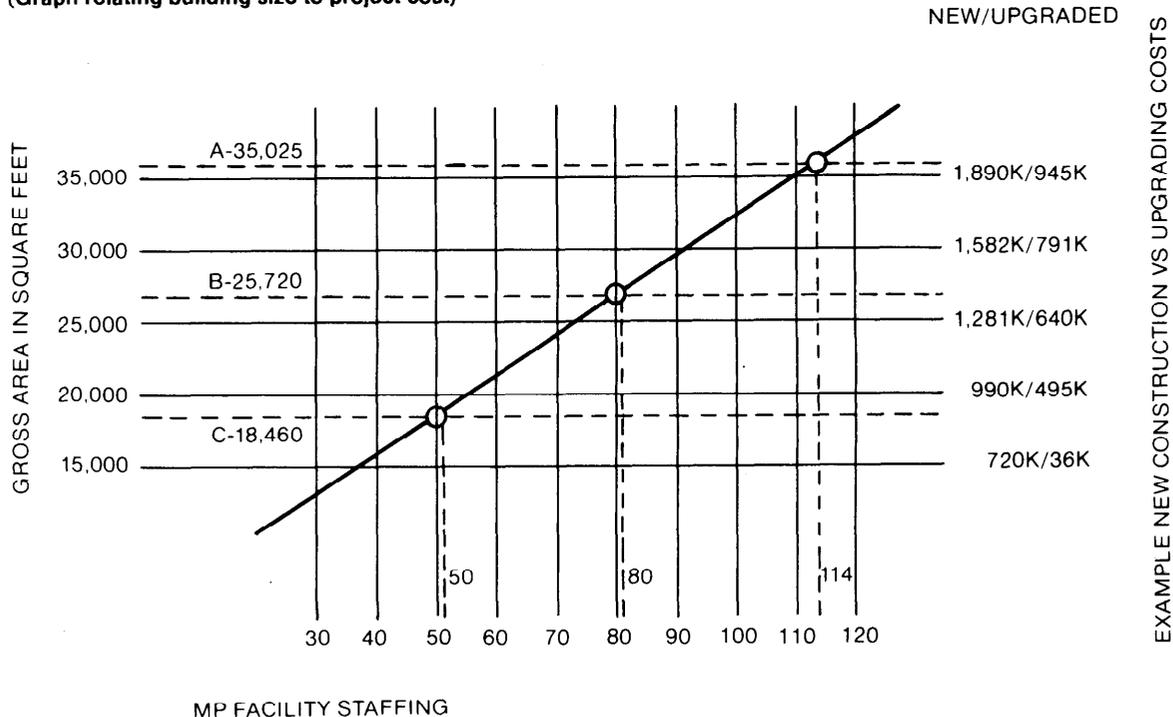
Predominant Existing Conditions	Totally New Construction	Conversion					Rehabilitation					Repair and Maintenance	
		First Priority Complete Relocation	Long-Term High Cost Upgrading	Second Priority Partial Relocation	Short-Term Immediate Improvement	Middle-Term Low Cost Updating	Middle-Term High Cost Upgrading	Long-Term High Cost Upgrading	Long-Term Moderate Cost Upgrading	Middle-Term High Cost Upgrading	Short-Term Low Cost Upgrading		
1. Building and Site Deterioration and Deficiency (Temporary Facilities)	//	/	/	/	/								
2. Site Deterioration, Deficient Support Facilities (Temporary Facilities)		/	/	/	/								
3. Building Deterioration (Temporary Facilities)	//		/	/	/	/							
4. Building and Site Deficiency (Semi-Permanent Facilities)	//		/	/	/	/							
5. Site Deficiency (Semi-Permanent Facilities)				/	/	/	/	/	/	/			
6. Building Deficiency (Semi-Permanent Facilities)	//			/	/	/	/	/	/	/			
7. Permanent Facilities, Major Physical Development Constraints	//					/	/	/	/	/	/	/	/
8. Permanent Facilities, Minor Physical Development Constraints					/			/	/	/	/	/	/
9. Minimal Evidence of Existing Building and Site Limitations					/			/	/	/	/	/	/

physical development strategy. Such a strategy might require either the conversion of existing facilities or the construction of new facilities; in some cases a combination of both approaches might be necessary. When the scale of operation is particularly large, and the amount of converted space is less than half of the total space required, totally new construction may be an appropriate alternative physical development strategy. Other construction classifications and existing conditions are included in Table 5-3 to offer alternate approaches for upgrading existing facilities. The appropriateness of each option will be determined by specific project requirements and by the extent and composition of individual functional activities requiring upgrading. For the purposes of Table 5-3 the location of each of the example facilities is considered to be either the most desirable or at least suitable in terms of maintaining effective MP operations.

tions having similar staff and space needs. The actual cost of new or improved facilities must be established in accordance with procedures contained in AR 415-17, Empirical Cost Estimates for Military Construction. The desirability of accomplishing individual rehabilitation/conversion projects will depend on the factors affecting future needs, especially long range physical development as discussed in paragraph 5-3a. In general, the initial estimate of the need for upgrading should be based on a review of an individual organization's existing and projected operations and functional objectives. A determination of project desirability should be guided by the organizational and functional requirements discussed in Chapters 2, 3, and 4 of this guide. The guidelines contained in Table 5-4 are for illustrative purposes only. Preliminary estimates of the cost of the anticipated project should describe costs in terms of the scope, complexity and sophistication of upgrading requirements including long-term and site improvement requirements. Where the estimate of total project requirements indicates the need for expenditures above 50 percent of the cost of new construction, the feasibility of providing totally new facilities should be studied. Such studies should compare the anticipated short-, inter-

d. PROJECT DESIRABILITY Table 5-4, Project Feasibility Guidelines, indicates the comparative levels of project development required either for the modernization and improvement of existing facilities or for the construction of new facilities for military police opera-

Table 5-4 Project Feasibility Guidelines
 (Graph relating building size to project cost)



Note: Cost of new construction is based on the following average unit costs for buildings only with a target date of July 1976.

mediate- and long-term building and site upgrading costs as well as the maintenance and operating cost of using existing facilities with the construction, maintenance and operating costs of new construction.

(1) Feasibility of Large-Scale Upgrading To illustrate the feasibility of large-scale upgrading in terms of space and staff requirements, upgrading costs are compared in Table 5-4 to new construction costs. These costs are related to the gross area requirements for totally rehabilitated or converted existing facilities. The three points indicated on the graph represent three example designs in Chapter 6. Space needs for each example are based on the requirements for a full range of functional activities provided within optimum physical relationships. By using a factor of 50 percent for allowable upgrading costs, it is possible to predict the feasibility of individual upgrading projects as well as the possibility or desirability that totally new construction will be an acceptable upgrading alternative. The reverse use of this form of analysis might assist the using service in determining the size and scope of activities that could be reasonably accommodated by existing space. For typical situations, it will be helpful. However, the structure of some MP organizations or activities and the physical constraints and opportunities that are

unique or unusual to the conditions of individual sites and buildings tend to diminish the accuracy of this reverse use of project feasibility guidelines.

(2) Partial Upgrading The need for partial new construction can be determined on a zone-by-zone basis by identifying a limited number of essential requirements for upgrading. For example, an analysis of the preliminary estimate of upgrading requirements may indicate that the need for totally new facilities will be limited to MP operations activities or that major reconstruction will be required only in the On-Duty/MP desk area. In such cases, the using service should study the possibility of accomplishing these partial upgrading requirements as part of a larger program of either total rehabilitation of existing facilities or total replacement by new construction. The percentages of the project shown in the example space allocations contained in Table 5-5 should be used for guidance. In general, upgraded space should have space allocations similar to new construction. Again, where 50 percent of new construction costs are exceeded by typical rehabilitation/conversion approaches, totally new facilities should be provided.

(3) Alternatives to Total Replacement When the need for relocation of existing operations is identified and the conversion of existing facilities seems most

Table 5-5 Example Space Allocations

Small Size MP Facility (Supported Pop. 8,000 & Below)

Zone	Function	Staff	Sq. Ft.	%/Net
1	Provost Marshal Activities	8	1,618	.09
2	Military Police Services (Admin)	(1)*	1,830	.10
3	Military Police Services (Ops)	8	3,913	.22
4	Military Police Operations (Support)	22	4,807	.27
5	Military Police Operations (On-Duty)	12	5,716	.32

Medium Size MP Facility (Supported Pop. 8,000 to 16,000)

Zone	Function	Staff	Sq. Ft.	%/Net
1	Provost Marshal Activities	10	1,980	.08
2	Military Police Services (Admin)	(1)*	2,184	.09
3	Military Police Services (Ops)	11	5,029	.21
4	Military Police Operations (Support)	34	6,473	.26
5	Military Police Operations (On-Duty)	25	8,777	.36

Large Size MP Facility (Supported Pop. 16,000 to 36,000)

Zone	Function	Staff	Sq. Ft.	%/Net
1	Provost Marshal Activities	13	2,594	.08
2	Military Police Services (Admin)	(1)**	2,400	.07
3	Military Police Services (Ops)	18	6,908	.21
4	Military Police Operations (Support)	49	8,988	.27
5	Military Police Operations (On-Duty)	34	11,966	.36

*Part-time Occupancy, position not included in staff totals

**Includes Mechanical Equipment Space

appropriate, at least two different partial upgrading alternatives should be fully developed and carefully studied before a final choice is made. For example, one might emphasize interior changes in room layouts and circulation, the other exterior adjustments to building form. This should be done as a means of evaluating the cost-effectiveness of upgrading alternatives where the sites are relatively similar or where location is not the most significant determinant of suitability. Alternatives should consider the possibility of expanding the inadequate space of facilities that are mostly constructed of substantial-permanent type materials. Where there are sufficient alternatives, converting spatially adequate but mechanically and structurally obsolete, temporary type construction should not be considered. Where it is estimated that an alternative to total replacement will have a construction cost in excess of 50 percent of such replacement cost for new construction, a third alternative must be considered - namely the erection of a totally new facility. Also, where the square foot costs for the partial upgrading of existing facilities including necessary relocations, are in excess of 50 percent of the square foot cost for a corresponding portion of new construction, consideration should be given to:

- (a) The incremental development and ultimate replacement of existing facilities by the construction of conventional permanent facilities.
- (b) The acquisition of modular pre-engineered facilities functioning concurrently with existing facilities as a short or middle-term alternative.

e. PROJECT FUNDING The accomplishment of individual upgrading projects depends to a large extent on a careful evaluation of the various construction programs used to provide project funding. Funding for the construction of totally new facilities is typically authorized under and governed by major MCA programs and procedures. Funding for projects which upgrade existing facilities reflects the variety that is characteristic of the scale of modernization and improvement projects. Limitations on funding imposed by specific construction programs are important considerations in determining project priorities. Because of these limitations there may be considerable differences between actual upgrading requirements and the cost, type and classification of modernization and improvement projects allowed under specific construction programs. Also, because the responsibility for approvals and the range of authorizations varies and because appropriated and non-appropriated funds have specific limitations as to use, no single construction program or level and source of funding will always be acceptable for accomplishing a given project objective. The following should guide decisions as to project funding

(1) Program Limitations For small-scale upgrading projects, the using service might consider use of

OMA funds authorized for maintenance and repair in accordance with local approval. This is especially important where MCA program limitations severely limit funding resources or where certain physical limitations (the unavailability of a site or facility) may effectively reduce or prohibit the accomplishment of some project objectives. Also, self-help methods of improvement may be used to accomplish low priority upgrading projects. Larger-scale projects with urgent requirements are usually given a high priority and would most likely be accomplished under urgent minor military construction authorizations (MCA). In determining project priorities, it is important to note that the use of urgent minor MCA funds requires an approval procedure that is different from that required for OMA funding. Project funding under minor MCA programs also has a higher authorization level. Because of this higher authorization level, most large-scale projects involving the upgrading of existing facilities will be accomplished under minor MCA programs. This will allow the appropriate review of project requirements in which a final determination will be made as to whether or not new construction might be more effective as a means to achieving functional objectives.

(2) Program Characteristics A general review of the specific program characteristics contained in the AR 415 series particularly AR 415-15, 415-20, and 415-35, and the criteria governing the funding of maintenance and repair activities contained in AR 420-10 should be used to identify appropriate programs.

f. TECHNICAL ASSISTANCE Technical assistance will usually be sought from the local Facilities Engineer where the using service must determine detailed mechanical and technical requirements. The condition of existing mechanical, structural and environmental systems may indicate the need for professional engineering assistance. Such assistance will usually involve the preparation of a preliminary evaluation of mechanical, structural and environmental systems and the effect their physical condition has on mission performance. This is particularly important for large existing operations and for operations that expect a need to significantly increase or improve present physical facilities over the long term. In some cases, technical assistance may be required to plan and design engineering systems accurately for substantial expansion of primary and support facilities. Extensive upgrading requirements, especially where the need for total new construction is a possibility, will usually require specific technical expertise such as, mechanical engineering, structural engineering, value engineering, site engineering, equipment and furnishing specification, or other specialized knowledge. Specific guidance follows on the principal requirements for and sources of technical assistance.

(1) Principal Requirements Technical assistance is primarily required:

(a) Where the identification of functional requirements depends on accurate assessment of the condition of mechanical, electrical, environmental and structural systems.

(b) Where complex cost factors must be identified and detailed estimates of long-range and life-cycle costs for building and site development must be accurate and reliable:

(c) Where the need for extensive upgrading of environmental and mechanical services is already apparent:

(d) Where cost estimates must indicate to what extent totally new facilities are competitive with the life-cycle costs and utilization potential of newly modernized and improved existing facilities, and

(e) Where requirements for sophisticated technical, mechanical and/or special operations-related equipment have been established, and schedules and standards for procurement and installation are required to assure proper utilization.

(2) Sources of Assistance To supplement its normal project development responsibilities the using service may request technical assistance from local installation planning, engineering and construction services and from local Communications-Electronics personnel. Where local support is limited or not available, the using service may request assistance from outside technical consultants. In all instances, request for supportive technical or professional expert-stallation planning, engineering and construction ser-process.

5-3

Establishing Project Requirements

a. GENERAL To properly establish requirements for modernization and improvement projects, the using service must take into account specific programming, planning and design factors that affect the physical development of existing facilities for use by military police organizations. As a minimum, the determination of specific project requirements should establish.

(1) The extent and character of upgrading requirements for individual functional activities.

(2) The appropriate building and site conditions relative to specific upgrading requirements

(3) The impact on operations that might result from a specific sequence of upgrading actions or the particular priority assigned to project accomplishment.

b. DETERMINING INDIVIDUAL UPGRADING NEEDS

A determination of the extent and character of individual upgrading requirements is the principal planning decision that will influence the selection of an appropriate construction program in general, the extent of upgrading requirements is determined by organizing the information gathered from the analysis of existing conditions in terms of the short, intermediate and long range requirements of present or projected operations. The suitability of facilities to the needs of a particular MP activity at a given time should then be assessed. This can be accomplished by comparing existing conditions and requirements against the general functional and operational requirements and physical and environmental criteria contained in this and other relevant documents. Project Location and existing primary and support facilities will be significant determinants of upgrading alternatives and individual upgrading requirements.

(1) Project Location When the analysts of existing conditions or extent and character of upgrading requirements indicates a need to relocate existing operations, specific site selection requirements related to project location must be established. New sites are usually determined by evaluating the impact of location factors on mission accomplishment. Thus, the using service should provide a description of the most desirable location stating the important factors to be considered in site selection. In preparing specific project location criteria, location factors affecting site selection should be classified into two major categories.

(a) Operational Environment The operational environment describes location factors that must be considered in selecting the component areas or individual activities to be included in the scope of upgrading requirements. The selection of components, and the sequence of upgrading work are influenced by the future demand for and supply of essential support services provided either by a specific functional activity or by MP operations in general. A description of the operational factors affecting project location should include an indication of:

- The primary physical relationship to related functional activities
- The predominant characteristics of adjacent activities
- The predominant environmental characteristics of candidate sites
- The functional characteristics of individual activities
- The operational factors that significantly affect the physical requirements of existing operations.

(b) Physical Environment A description of the physical factors affecting project location should include an indication of:

- Accessibility
- Circulation

- Site features
- Real property facilities
- Surrounding land use and other man-made features
- Site or building structures that might facilitate or obstruct the upgrading of existing facilities.

(2) Primary and Support Facilities When an alternative site containing existing primary and support facilities is required to satisfy functional requirements, such existing facilities must be evaluated for their short term, intermediate and long-range potential for satisfying future physical development objectives. This is a primary requirement since the long-term

continuity of operations is essential to mission effectiveness. The site selection process should compare functional requirements to physical and operational factors similar to those described under paragraph 5-4a.

(3) Potential Upgrading Alternatives Table 5-6 describes the principal upgrading alternatives that are applicable to the modernization and improvement of existing facilities for use by military police organizations used in conjunction with Table 5-7 it provides guidance for determining the specific character of construction alternatives. These alternatives when combined with established priorities for project

Table 5-6 Potential Upgrading Alternatives

TYPE	REQUIREMENTS
Rehabilitation	<p>Applicability – Upgrading of facilities currently used for MP activities.</p> <p>Construction – Additions, expansions, extensions, the partial alteration, replacement, or relocation of existing facilities, and the permanent installation of equipment and facilities for functional purposes such as detention/holding, communications, security, essential environmental and mechanical services, or for any other functional purpose requiring permanently installed equipment or facilities</p>
Minor Rehabilitation	<p>Applicability – Minor rehabilitation is upgrading work that can be accomplished in place.</p> <p>Construction – Surface treatments such as painting, lighting, or floor covering, furnishing or equipment, or the minor partitioning of space that requires no substantial alteration of primary building systems constitute minor rehabilitation activities that could be accomplished under local provisions for self-help projects</p>
Major Rehabilitation	<p>Applicability – Major rehabilitation is upgrading work which involves the entire facility and requires extensive physical change. Major rehabilitation is the approach which should be considered when an analysis of existing conditions and an estimate of functional and operational requirements indicate that the total upgrading effort, considering long-term project accomplishment, will be cost-effective when compared to the costs of either conversion or new construction.</p> <p>Construction – Major rehabilitation includes all activity described under the general type above. Depending on existing conditions, major rehabilitation also may include either the temporary conversion of non-designated facilities which are preferably adjacent or in close proximity to the currently occupied facilities undergoing physical and functional improvement, or the provision of temporary, relocatable, or portable buildings for required functional purposes within the time/use limitations of specific construction programs.</p>
Conversion	<p>Applicability – Conversion is the upgrading of an existing facility not presently used for MP functional purposes.</p> <p>Construction – Conversion includes construction activities similar to those referred to as appropriate for the rehabilitation of existing facilities. The conversion alternative may involve the complete and permanent relocation of existing operations from one facility to another. It is usually required where adjacent facilities cannot be utilized in conjunction with currently occupied space, and where contiguous physical and functional relationships must be maintained. The cost of conversion may be greater than rehabilitation oriented construction and may exceed the 50 percent limitation relative to the cost of new construction. Both the cost and the availability of an appropriate alternative location for the permanent relocation of operations will be a determining factor in the choice of the conversion alternative. A study should be made of the feasibility of total new construction if dramatic changes can be anticipated after upgrading and existing facilities present limitations on operational flexibility. Also, when alternate locations are not acceptable, the extended use of portable or relocatable facilities should be considered until such time as the conversion of appropriate existing facilities is possible.</p>
New Construction	<p>Applicability – This alternative refers to either the total replacement of existing facilities with ground-up new construction or the partial replacement of existing facilities with the long-term view toward ultimate total replacement. New construction should be considered appropriate upgrading alternative where cost-effectiveness and project feasibility studies show that it is economically and functionally more desirable than either conversion or rehabilitation of existing facilities.</p> <p>Construction – When considering the cost of construction, the 50 percent factor will be the principal indicator of economic feasibility, while long-term functional and operational efficiency and the impact on mission effectiveness should govern the choice on a functional basis. This alternative includes: The conventional construction of permanent type new facilities as an addition to or partial replacement of existing facilities, the construction or acquisition of modular type facilities which are classified as semi-permanent or temporary construction and used for intermediate occupancy until either more adequate facilities or new construction funds are made available, the acquisition or lease of short-term relocatable or removeable type facilities such as pre-engineered or modular buildings, equipment, or mobile units. Urgent upgrading requirement for operations presently housed in deficient temporary facilities and having no immediate prospect of relocating to adequate existing facilities represent conditions where the construction of totally new facilities would be most appropriate.</p>
Conservation	<p>Applicability – This approach generally refers to the repair and maintenance activities required to conserve the effective conditions of existing facilities.</p> <p>Construction – Conservation activities include minor self-help construction projects and the acquisition of furnishings and equipment that upgrade existing operation without requiring major adjustments in physical relationships or alterations to existing facilities.</p>

accomplishment, will determine the pre-design concepts and development strategies that satisfy the requirements of selected functional activities. In general, the identification of project priorities and the establishment of pre-design concepts depends on a consideration of the upgrading alternatives described in Table 5-6.

(4) Individual Activity Requirements The specific type and number of individual activities requiring upgrading will depend on an evaluation of their conformity to essential functional requirements and minimum operating standards. An estimate of the extent and character of upgrading requirements for

individual activities can be established using a method similar to the one for rating existing operations. Table 5-7 outlines the individual functional areas that may require improvement and the upgrading activities to be accomplished. In order to simplify the use of the table in conjunction with the example designs in Chapter 6, functional activity code numbers are provided for each space. Following each functional activity and its code number are ratings of existing conditions indicating the most appropriate upgrading option for a given field condition. In general, upgrading options depend both on the specific locational constraints for a given project and on the condition of existing facilities.

Table 5-7 Upgrading Requirements for Individual Functional Activities

Functional Activity	Code	CONSERVATION	REHABILITATION	CONVERSION	CONSTRUCTION
PM Office	1	G/E	F/G	P/F	VP/P
Community Relations	2	G/E	F/G	P/F	VP/P
PM Admin. Support	3	F/G	P/F	VP/P	VP/P
Public Assistance	4	G/E	F/G	P/F	P/F
Community Activities	5	G/E	F/G	P/F	P/F
Registration	6	F/G	P/F	VP/P	VP/P
Traffic	7	F/G	P/F	VP/P	VP/P
Operations Office	8	G/E	F/G	P/F	P/F
OPS Admin.	9	F/G	P/F	VP/P	VP/P
Liaison	10	F/G	P/F	VP/P	VP/P
Community Services	11	G/E	F/G	P/F	P/F
Absentee Control	12	F/G	P/F	P/F	P/F
Investigations	13	F/G	P/F	P/F	P/F
Physical Security	14	F/G	P/F	P/F	P/F
On-Duty Desk	15	G/E	F/G	P/F	P/F
Briefing/Training	16	F/G	P/F	VP/P	VP/P
Lockers/Showers	17	F/G	P/F	VP/P	VP/P
Operations Storage	18	F/G	P/F	VP/P	VP/P
Public Entrance/Lobby	19	G/E	F/G	P/F	P/F
Public Restrooms	20	F/G	P/F	VP/P	VP/P
Staff Toilets	21	F/G	P/F	VP/P	VP/P
Staff Lounge	22	F/G	P/F	VP/P	VP/P
Staff Entrances	23	F/G	P/F	VP/P	VP/P
Maintenance Supply	24	F/G	P/F	VP/P	VP/P
Mechanical Equipment	25	F/G	P/F	VP/P	VP/P

c. DETERMINING BUILDING/SITE SUITABILITY

Whether for facilities currently occupied by military police organizations or for facilities proposed as suitable for military police occupancy, the condition of existing buildings and sites has an effect on both the accomplishment of project objectives and on the provision of functional requirements. In order to properly determine the suitability of existing building/site conditions, the using service should evaluate each existing facility and establish to what extent present conditions inhibit or enhance the short, intermediate and long-term satisfaction of project objectives. Refer to the preceding sections of this guide to determine the applicability of general functional

and operational criteria to locational, building and site constraints and project-specific requirements. In general, a determination of the suitability of existing building/site conditions to individual project requirements depends on the following factors.

(1) Building/Site Relationships The suitability of the location of existing facilities on a particular site depends on the physical development factors outlined in Table 5-8. The considerations indicated in Figure 5-1, Typical Building/Site Relationships, provide additional guidance in determining building/site suitability.

Figure 5-1 Typical Location Considerations

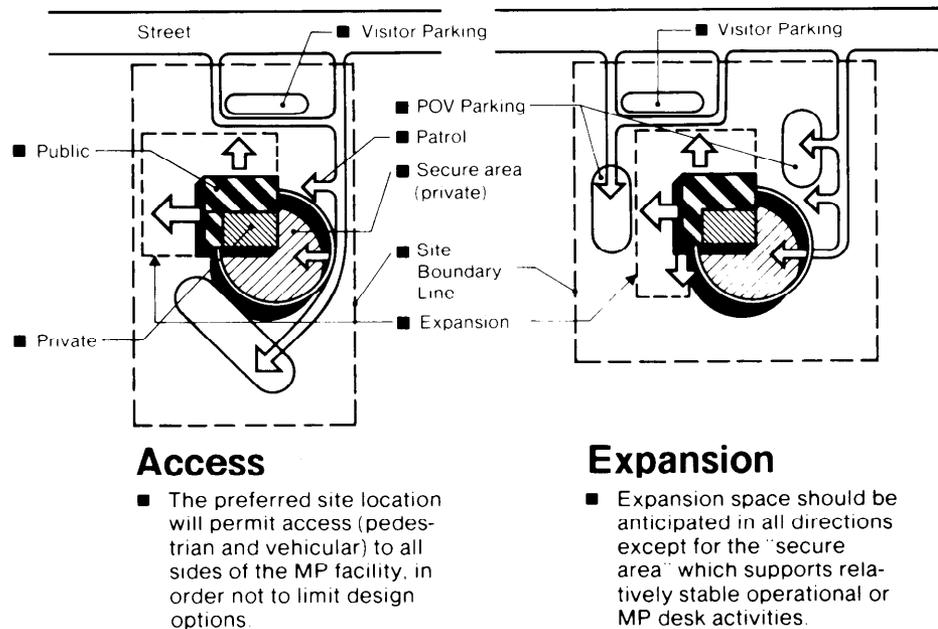


Table 5-8 Physical Development Factors

Operational Characteristics

Requirements	References	Special Considerations
Each site should have the potential for satisfying: <ol style="list-style-type: none"> 1. Specific operational needs: public, private, general functional requirements of MP activities. 2. Inherent site characteristics that will enhance requirements for confidentiality/security re: visitor/staff access, site circulation patterns. 3. Proper physical and functional relationships, separation of public, private operations. 4. Need for shared use of facilities, e.g., access roads, parking, utility services, which will not interfere with essential functional requirements. 	Chapters 2, 3: specific location criteria. Also see illustrative examples.	Consider existing/projected functional relationships of related activities, e.g., CID and SJA. Where existing facilities have/will have direct relationship to related activities, this will influence locational requirements of support facilities/site elements. If future operations require increase greater than 50% of existing primary and support facilities, consider totally new construction.

Table 5-8

(Continued)

Physical Characteristics

Requirements	References	Special Considerations
<p>Each site should have:</p> <ol style="list-style-type: none"> 1. Potential to accommodate life cycle, usefulness, utility requirements of current, projected operations. 2. Near square configuration, existing structures centrally located; ample surrounding space for development. 3. Site boundaries providing potential for future development not exceeding 50% growth factor. 	<p>Chapters 3, 4 utility support criteria. Chapter 6, requirement examples re: different sizes of MP facilities.</p>	<p>Where configuration, space are inappropriate, there should be potential for expansion to adjacent sites for future adjustment.</p> <p>Avoid building/site shapes, topographical conditions, site elevations which might inhibit provision and distribution of adequate mechanical, utility services.</p>

Building/Site Relationships

Requirements	References	Special Considerations
<p>It must be possible to:</p> <ol style="list-style-type: none"> 1. Conform to established functional requirements. Building/site elements must be properly located and have adequate capacity to accommodate functional requirements. 2. Provide proper building/site relationships. The potential for adequate site development must be apparent. 3. Avoid potentially damaging or costly physical or climatological conditions. Over-exposed facilities will have extensive HVAC maintenance, operations and landscaping requirements. 4. Provide unobstructed access and expansion (pedestrian, vehicular) for all sides of existing facilities, so as not to limit future development options or impede accomplishment of separation of visitor, staff, and MP access essential to functional effectiveness. 	<p>Chapters 2, 3 specific site development guidance.</p>	<p>Where overexposure is already a constraint on effective operations, rehabilitation must provide protective landscaping to minimize operating costs.</p> <p>Extensive building perimeter caused by irregular building shapes makes expansion of structural and mechanical systems difficult. Rocky and sloping sites also make expansion or relocation of existing utilities difficult and costly.</p>

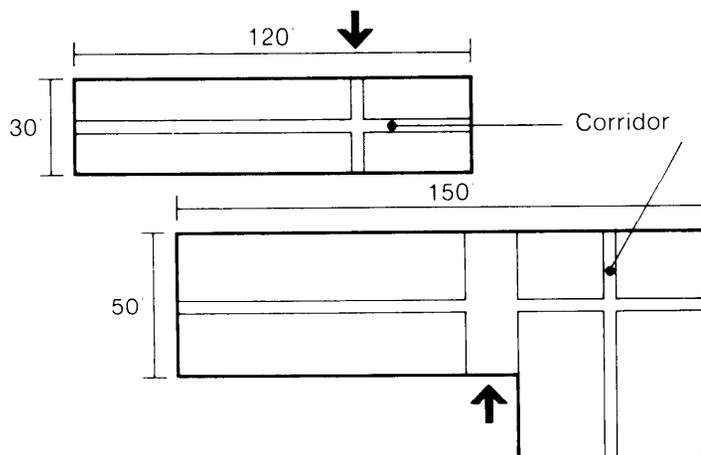
Adjacent Activities and Facilities

Requirements	References	Special Considerations
<p>Consider functional character in terms of their relatedness to MP activities.</p> <p>Consider compatibility of physical and architectural characteristics of surrounding buildings with ultimate physical character of upgraded facilities.</p> <p>Consider building/site relationships on all sides in terms of their access, site circulation requirements, and future development constraints and opportunities.</p>	<p></p>	<p>Inappropriateness of such activities as recreational, commercial services may interfere with mission-accomplishment by diminishing physical security and confidentiality of operations, by detracting from character, image of functional activities, by reducing effectiveness of present and future physical development.</p>

(2) Building Size and Form The suitability of existing building size and form is particularly important to modernization and improvement projects. Since these characteristics must ultimately be made to conform to the functional requirements of military police activities, a situation in which the size and form of a building are already in substantial conformity will be most beneficial to the economy of a project. In general, the physical character and spatial pattern (height, length and width) of existing spaces and the physical relationship requirements of both individual functional activities and general functional areas (zones) must be considered together in order to determine the suitability of an existing building's size and form. The suitability of the usable floor area and

the number of floor levels will depend on the potential for satisfying the functional requirements of a particular scale and intensity of operation. Thus, the suitability of building size will not be exclusively determined on the basis of either the staff totals related to gross area or the aggregate space requirements derived from generally applicable square foot per person ratios. The primary criterion must be functional effectiveness. The application of functional space standards and the principles of space organization contained in this guide will play an important role in determining suitability. Figures 5-2 and 5-3 illustrate examples of a variety of physical constraints that should be considered in determining the appropriateness of a particular building's size and form.

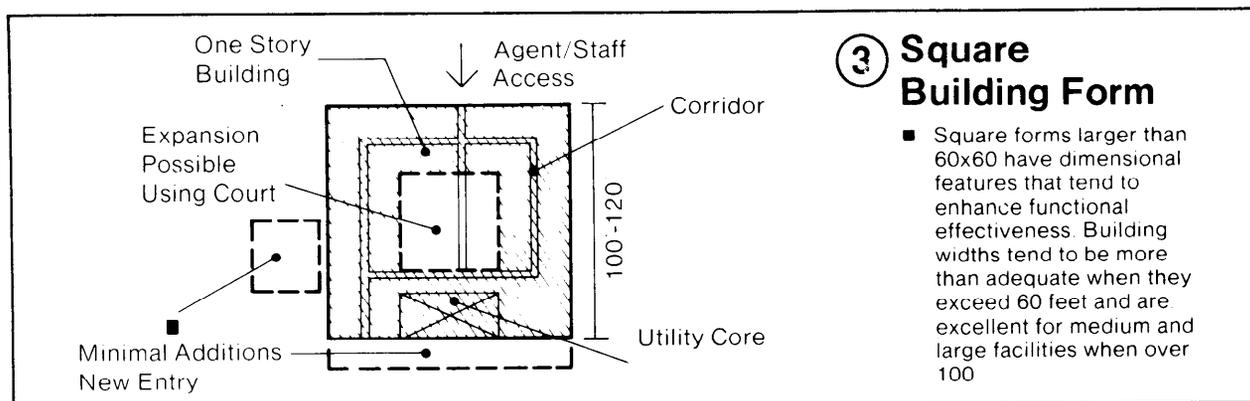
Figure 5-2 Building Size and Form



Typical Existing Building Forms

- ① Narrow, central corridor form less than adequate
- ② Wider, variable spaced multi-corridor forms provide better opportunities for proper space planning

Figure 5-3 Building Size and Form



③ Square Building Form

- Square forms larger than 60x60 have dimensional features that tend to enhance functional effectiveness. Building widths tend to be more than adequate when they exceed 60 feet and are excellent for medium and large facilities when over 100

Figure 5-4 Building Size and Form Consideration

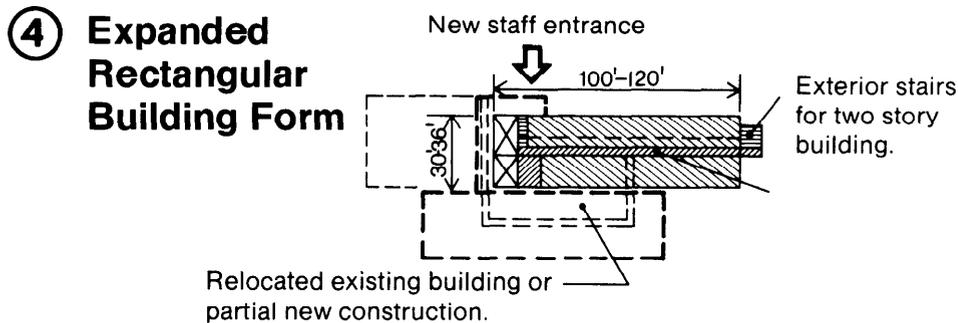
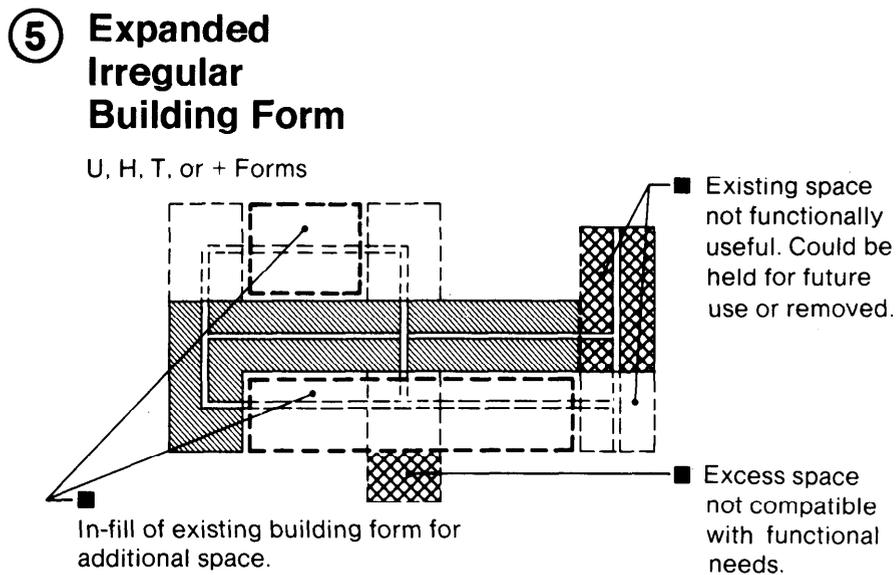


Figure 5-5 Building Size and Form



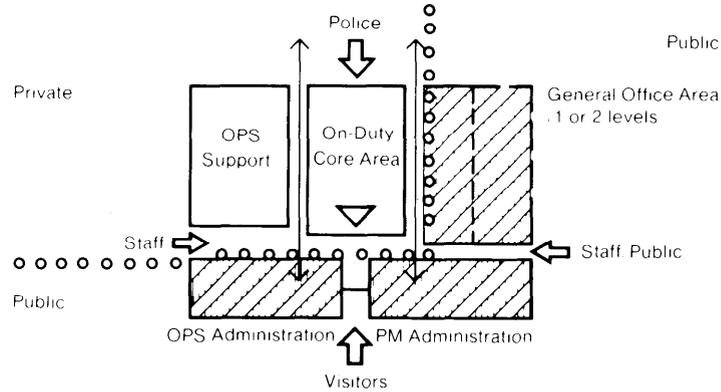
(3) Configuration of Existing Space In terms of accommodating the functional needs of a particular scale of operation, the configuration of existing space will be a significant factor in determining the suitability of alternate facilities or sites. Thus, the physical characteristics and interior layout of existing buildings should be studied for their conformity to general space organization principles (see Chapter 4) and to specific operational requirements. In order to properly assess the relative value of the existing space

configurations in available structures, a number of possible layouts should be developed and studied in comparison to the size and form, interior partition layout, structural system, and circulation and fenestration pattern of an existing building. The examples of desirable field conditions provided in Figure 5-4 illustrate a variety of space configurations and upgrading alternatives. Table 5-9 provides a check list of concerns that should be used in determining appropriate space layouts.

Table 5-9 Space Layout Checklist

Items	Concerns
(1) Space Adaptability	Physical characteristics which enhance cohesive nature of MP operations and administrative support spaces
(a) Positive opportunities	Simple building shape; building width-length between 50-100 ft; relatively open floor plan; circulation; access pattern which allows development of dual or loop corridor system
(b) Negative constraints	Building width under 30 ft; limited access; off-set or irregular corridor; short structural spans
(2) Mechanical/Structural System Layout	Most direct and effective means of distributing mechanical service; suitability; long-term usefulness
(a) Corridor System/ Perimeter Walls	Straight corridors, simple perimeter best suited to mechanical requirements
(b) Use of existing system or development of new systems	Openness; need for incremental expansion; structural integrity; adequate duct-work and piping; capacity for supply of future electrical, plumbing services: technical assistance may be required here.
(3) Expansion	Future potential; adjustment, reorganization or relocation of relatively fixed position spaces, i.e., mechanical rooms, detention, on-duty desk, visitor, staff entrances; briefing, training, locker rooms, operational equipment, evidence/ records storage
(4) Space Partitions	Suitability to project-specific requirements; compatibility with functional relationship and space requirements
(a) Location	Avoidance of unnecessary impediments to expansion and flexibility.
(b) Large open spaces/ equipment-oriented up-grading strategy	Less need for extensive interior renovation; reduction of construction costs.
(5) Circulation Patterns	Suitability
(a) Location	Future site and building access requirements.
(b) Existing interior circulation patterns, location of major/ minor corridor systems. *	Relationship to major functional activities, to stairs, to visitor/staff entrances; separation of public, private, confidential access
(6) Outside Awareness	Visual privacy, natural light (location, potential usefulness, costs), direct fresh air
(a) Existing features: skylights, exhaust fans, windows, skylighted atriums, perimeter ventilation, interior courts, new wall fenestration locations.	Compatibility with essential functional requirements
(b) Too much outside awareness	Difficulty in upgrading vs buildings with little or no fenestration
(c) Small, permanent-type warehouses, service buildings in good locations	Prime for upgrading
(7) Interior Flexibility	Interior flexibility is enhanced by combining relatively stable interior functional spaces and support and building service areas and locating them in or near existing or proposed interior fixed partition spaces. Also, by consolidating entrances and stairs with existing/proposed mechanical equipment space, which is located on building perimeter, vertical supply shafts can be easily expanded to supply either new or relocated functional areas or future additions
(a) Location of fixed partition spaces: mechanical equipment space, toilets, stairs, major and minor entrances and corridors	
(b) Building form	
(c) Adjacent site area	

Figure 5-6 Desirable Space Configuration

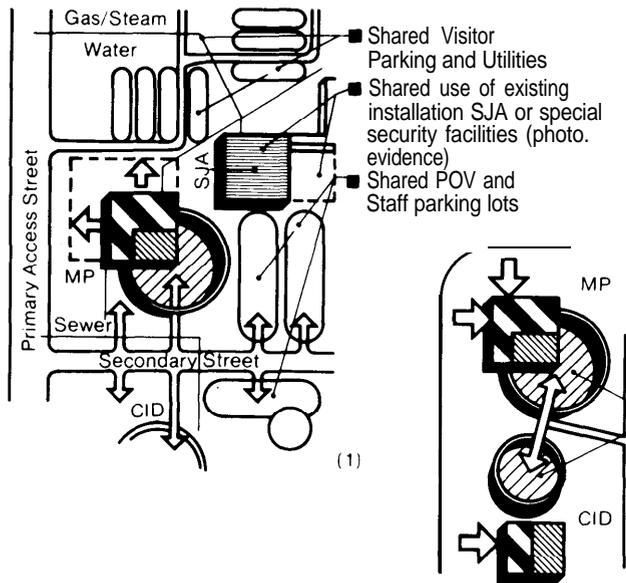


d. DESIRABLE BUILDING AND SITE CONDITIONS

Existing facilities, which are presently inadequate, are not considered to be viable candidates for upgrading. These facilities should be avoided unless the potential exists for either relocating other existing facilities or providing new facilities through partial construction. In all cases, the adaptability of existing building form, the adequacy of floor area, and the suitability of space configurations to the functional requirements of military

police activities constitute the principal determinants of desirability. Simple building perimeters normally will present few, if any, problems in terms of the accomplishment of upgrading objectives. Therefore, irregular shapes have been chosen for Figure 5-7 to illustrate the more difficult conditions which should be avoided in determining the suitability of an existing building or site for use by military police organizations.

Figure 5-7 Building and Site Configuration



- The opportunity to share existing or potential support facilities is a desirable location factor. Shared facilities should be compatible with essential functional requirements for access and expansion and with operational objectives relating to cooperating agencies CID, MP, SJA.

Grouped secure areas and private access shared by related functional activities.

5-4

Establishing Project Sequence

a. GENERAL Project sequence refers to the step-by-step order in which facilities are transformed or upgraded to the desired standard of operations. In determining the sequence in which modernization and improvement work will take place, the using service must consider the impact of relocation or rehabilitation on the overall effectiveness of police operations. When identifying project requirements, the using service should also consider the actual physical constraints and opportunities that are imposed by various alternatives for upgrading existing facilities in identifying requirements, the using service should indicate the immediate and short-term impact that various construction activities may have on the on-going day-to-day operations of military police facilities. The space organization principles contained in Chapter 4 of this guide should be used in conjunction with the following guidance as the basis for determining the appropriate sequence for upgrading.

b. BASIC REQUIREMENTS In all cases, the sequence in which individual upgrading projects are accomplished must insure and maintain the effectiveness of the military police functions according to the following order:

- (1) On-Duty desk and operations office activities and the essential support functions of operations administration;
- (2) Military police capability to respond to serious incidents.
- (3) Custody of detainees.
- (4) Security of evidence and military police records and files.
- (5) Operations support activities such as briefing and training, witness or complainant reception and interviewing (temporary facilities might be provided),
- (6) The primary supervisory and administrative functions of provost marshal activities (temporary facilities might be provided).

c. CONCURRENT AND CONFLICTING IMPROVEMENTS The impact that a predictable sequence of upgrading activities has on the on-going operation of military police facilities will usually influence the achievement of a functionally effective organization of space - one which satisfies both immediate and long-term functional requirements. Interruption of functional activities caused by improvement of one or more activity areas may have a serious negative impact on the effectiveness of other functions not requiring improvement, with the net result being a general loss of effectiveness. Thus, to avoid the negative aspects of concurrent or conflicting

upgrading work the relocation of those on-going functions essential to effective operations should be considered as a first step where,

- (1) Two or three concurrent upgrading activities may isolate or otherwise render ineffective a critical operational activity that does not presently need upgrading.
- (2) The functional effectiveness of adjacent or related activities can be so impaired and disrupted by the disturbance of extensive upgrading work even though their present location properly relates them to either dependent or supervisory activities.

5-5

Special Design Guidance

a. GENERAL Some adjustment in the general planning and design criteria used to develop pre-design concepts for new military police facilities (Chapter 3 and 4) will be required to reflect considerations peculiar to modernization and improvement projects. In some cases mechanical and technical criteria may require a local interpretation. Where exceptions to stated criteria or requirements are necessary, they should be identified prior to the establishment of planning requirements. Exceptions to construction requirements that will result in improvement or elimination of functional deficiencies in an existing facility or site, should be considered as an essential requirement for an effective project. In some cases, exceptions may be necessary to the accomplishment of long-range operational objectives.

b. BASIC GUIDANCE In the determination of appropriate design concepts avoid establishing initial project constraints that might limit or otherwise impede the development of functionally effective facilities. For example, once the determination of an appropriate upgrading strategy is made such as either conversion or rehabilitation avoid limiting design options. It will be necessary to indicate the appropriate combination of strategies and sequence of work for a given upgrading alternative. This is particularly important where project or program limitations are such that specific upgrading work must take place within a severely constrained time schedule. In such cases project development guidance should include a well defined set of step-by-step procedures for each upgrading alternative. These instructions might serve to speed the design process by defining the area of applicability for specific upgrading alternatives such as conservation, partial renovation, and new construction as well as the conversion of unoccupied space. As an example, step-by-step procedures might be required for a physical development strategy that calls for the expansion of existing activities into adjacent found space via newly constructed Intervening space. Projects such as this may require exceptions to specific construction

criteria in order to allow, for example, the planning of new mechanical systems and utility services for existing sub-standard facilities which will not be immediately upgraded, or incremental development over an extended period of time for such site requirements as visitor and staff parking, vehicular and pedestrian access and circulation, and landscaping. Special design requirements for upgrading existing facilities should be established only after consideration has been given to the general design guidance and the criteria contained in Section 5-7.

c. SPECIAL DESIGN PROCEDURE The using service is responsible for the development of the specific background information, design guidance, and functional requirements necessary for the preparation of pre-design concepts. Design procedures for rehabilitation/conversion projects differ from procedures related to the construction of totally new facilities in that the using service has more flexibility in determining the control of project accomplishment. However, this flexibility can be lost when design procedures do not provide for the full development of at least two or possibly

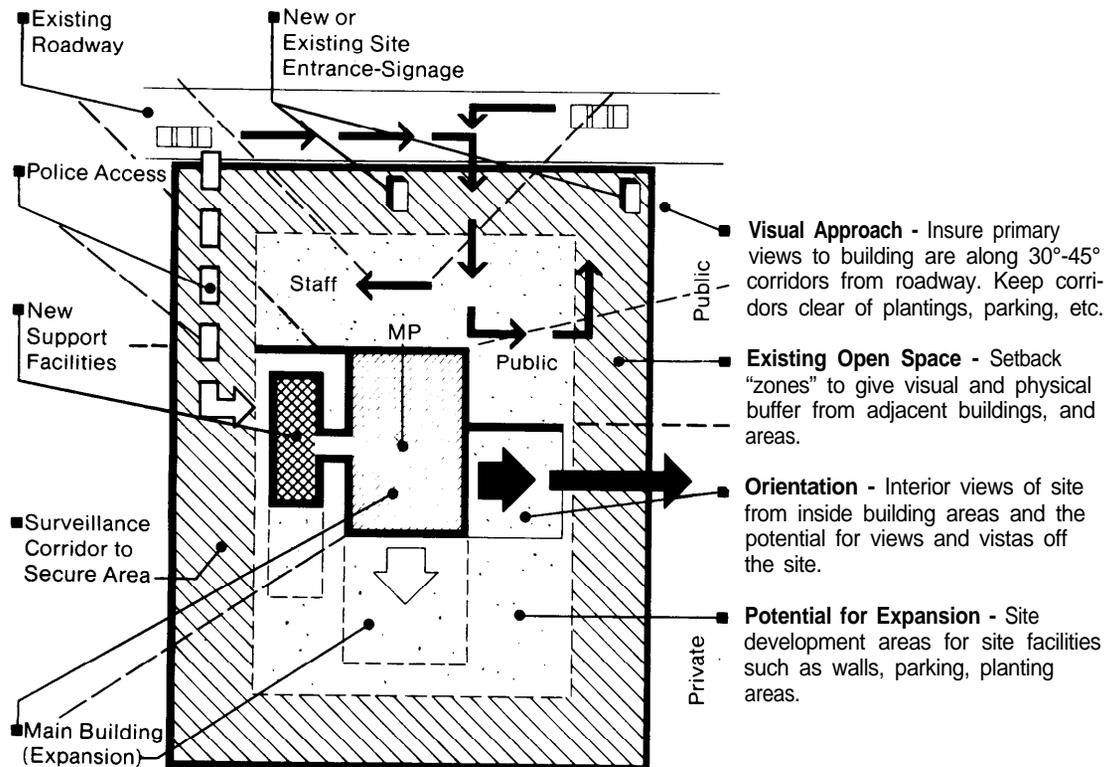
three alternative pre-design concepts for a given upgrading requirement. It may be necessary to seek technical assistance in the development of such design alternatives.

d. PRE-DESIGN CONCEPTS The following factors should be considered in developing pre-design concepts for modernization and improvement projects:

(1) Long-Range Upgrading Strategies The using service must keep in mind at all times that future expansion and flexibility can be jeopardized by certain project limitations. Such limitations relate primarily to short-term piece-meal authorizations for individual facility and site improvements. Also, budget limitations may inhibit the provision of project features that reflect the need for future expansion of the entire facility over the long-term. Cost escalations for long-range projects and comprehensive planning must be considered as the principal ways of avoiding these problems.

(2) Special Operational Relationships Functional relationships to related activities such as CID or SJA

Figure 5-8 Site Elements



are often influenced by the physical development plans of these agencies. For example, cooperative or supportive basis, that would lessen or obviate the need for certain upgrading programs, or may in effect determine the need for others. Opportunities to develop shared-use facilities or to provide functional assistance to certain activities should be identified prior to the improvement of existing obsolete facilities, especially where such opportunities may influence the location of MP facilities.

(3) Exceptions to Construction Criteria Exceptions to specific construction criteria are usually provided for by most project development procedures. However, exceptions to generally applicable construction criteria or to local installation requirements governing site planning and design should be sought only for projects where the primary objective of achieving functional and operational effectiveness would otherwise be significantly jeopardized. In general, such exceptions will be made only after reviewing the merits of alternatives and the specific impact that adherence to governing criteria would have on the accomplishment of essential project objectives.

5-6 Establishing Design Requirements

a. SITE-PLANNING CONSIDERATIONS Site-planning requirements for individual projects are established on the basis of the physical development objectives approved by the local using service. Generally, individual site planning requirements can be identified by a comprehensive survey of the existing conditions using project objectives and limitations as guidelines. Basic project limitations, however, may prohibit the achievement of maximum site development standards. This is particularly true of rehabilitation work on designated facilities occupied by MP activities. In most cases, location constraints preclude major alterations to the layout of existing site elements. Taking such constraints and limitations into account, every effort must be made to achieve the highest possible standard in improving site-planning. Site elements which usually require improvement include major points of vehicular and pedestrian access, site circulation, and major overhead and underground utility lines.

b. SITE ELEMENTS As shown in Figure 5-8, there are several areas of an existing site which should be provided for but upon which little development should occur. The following site elements are important for the open space which they represent:

(1) Easements Depending on the specific requirements for expansion and flexibility related to individual rehabilitation/conversion projects, the design and development of site elements which provide

easements or dedicated areas should generally reflect the need for future building or site expansion. Existing landscaping or the new site planting which is identified as a project requirement should not unduly obstruct the future development of dedicated areas. Easements should provide accent and interest. This can be achieved by planting low to medium shrubs adjacent to either new or existing walk areas. Possible expansion of existing or future facilities may dictate the need to relocate existing shrubs.

(2) Buffer Zones Another area of the existing site which should be designated as an area unavailable for construction activity is the general area adjacent to the project boundaries. Buffer zones or setbacks are important site-planning provisions that allow proper breathing room and separate an existing facility from adjacent uses. This is especially important for a military police facility due to the nature of security and confidential operations. The specific setback distances shown in the illustrative examples in Chapter 6 of this guide should be considered as minimums and not preferred distances. Preferred distances for rehabilitation/conversion projects should be as large as existing conditions warrant, taking into consideration the proximity and nature of adjacent uses and the presence of existing trees or other plant material. Existing roadways and parking areas should be located at a minimum of 20 feet from project boundaries. Single story structures should maintain a minimum separation of 60 feet. Where two-story structures exist, they should be a minimum of 80 feet apart. Where one and two-story structures are adjacent, they should be a minimum of 70 feet apart. These minimum dimensions for buffer zones should be observed where functional requirements do not mandate an increase in physical separation. Increases in the minimum distance for separation might be required where optimum locations are constrained by inappropriate or conflicting adjacent activities that encroach upon the effectiveness of the operational environment.

(3) Visual Approach Persons approaching a military police facility by car normally view the building from an oncoming angle of from 30 degrees to 45 degrees, rather than from directly in front. An opportunity to provide this oblique view of existing facilities is necessary to give the appropriate advance identification needed for turning into the entrance drives. For this reason, the location of existing or projected site elements such as parked cars, eye-level flowering trees, or groups of evergreen plantings that might obscure views of site signage or activity indicators located in these areas either should be avoided or, if already existing, should be removed to avoid obstruction of the visual approach. In addition, groups of existing trees should be selectively thinned and pruned to permit easy viewing of site information from on-site vantage points. Special at-

tention to the need for general site visibility will be important in providing electronic or mechanical surveillance and physical security requirements.

(4) Access The establishment of design requirements relating to points of access will depend on the particular character and intensity of operations as established by pre-planning decisions and on the site-specific development opportunities identified during the site selection process. Generally, vehicular and pedestrian access to existing rehabilitated or converted facilities must reinforce functional objectives relating to a clear and logical separation of visitor/staff circulation. Site planning and building orientation factors should be used to determine the proper design, location, and in some cases, the relocation and redesign of site elements such as access roads, on-site drives, various classifications of parking and pedestrian walkways. The development of specific site planning considerations for the various types of access, such as public, private, staff and service access will be assisted by referring to the guidance contained in Chapters 2, 3, and 4.

(5) Site Circulation Systems and Parking Existing or redeveloped site conditions should allow safe and convenient pedestrian and vehicular circulation. Existing or redeveloped parking systems should provide a clear distinction between various types of groups and individuals who might use the existing upgraded facility or converted non-designated facility. Desirable layouts of existing roads, parking, and walkways should be adopted only where they are consistent with established requirements for security and efficient operation and where they avoid locations directly over underground utilities. The redesign of pedestrian and vehicular circulation systems should conform to the guidelines contained in DOD Construction Criteria Manual 4270.1-M, TM 5-803-3, and TM 5-822-2. Specific site circulation criteria contained in Chapter 3 offers additional guidance.

c. LANDSCAPE PLANTING The importance of landscape planting depends primarily on the physical characteristics of an existing site and on the requirements of individual rehabilitation/conversion projects. Budget limitations and priorities for physical upgrading of an existing site will also influence the position of importance landscape planting has in the project development process. In all cases, however, landscape planting should be considered as a positive, effective, and, in some instances, essential means of accomplishing functional and operating objectives. For example, the use of landscape planting is often an effective element in attempts to reduce both the heating and cooling requirements and related operating costs of facilities. The use of a variety of landscape planting techniques can increase the overall attractiveness and design image of existing facilities while at the same time provide requirements for confidential screening, weather protection and sun-

screening. The relative attractiveness of site access points, building approaches and entrances to existing facilities usually influences the appreciation and respect for the services provided within. See Chapter 3 for additional guidance.

d. SITE LIGHTING Existing sites and facilities may not provide for or conform to even the minimum site lighting requirements that are consistent with physical security and operational effectiveness. In such cases, the provision of adequate lighting for operation areas must be a high priority objective of rehabilitation/conversion projects. Generally, the provisions for site lighting will depend both on the scope and extent of requirements for site and facility upgrading and on the level of sophistication allowed by project authorizations. Such provisions should conform to the criteria established in Chapter 3 of this guide.

e. SITE SIGNAGE The upgrading of existing facilities can be positively assisted by the use of site signage. Where rehabilitation/conversion projects are primarily concerned with the upgrading of presently occupied space, the use of site signage can greatly increase the control and separation of visitor traffic without major effort and within a short period of time. In all instances, the use of site signage and picto-graphic symbols should be coordinated with interior signage systems to effect design and information consistency. General criteria for site signage applicable to rehabilitation/conversion projects is provided in Chapter 3.

f. SITE FURNITURE AND EQUIPMENT Two categories of site elements, site furniture and site equipment, will usually be required by rehabilitation/conversion projects. Typically, these site elements are provided in order to facilitate or augment the operational effectiveness of functional activities. Site equipment is considered to be an outside operational requirement that must be provided for where specifically identified. Site equipment includes: transformers, electric poles, mechanical vaults and various types of MP operational equipment as well as utility meters. Items such as bollards, curb markers, relocatable signs, and other outside functional elements are considered to be site furniture. While essential requirements may exist for certain items in both categories, provision of site furniture for rehabilitation/conversion projects will be subject to the overall limitations and priorities of a specific construction program. Initial requirements for site furniture can be minimized by the re-use of existing features or the use of surface techniques such as pavement painting or changes in surface or ground material. This type of minimal requirement will generally occur where subsequent site upgrading projects provide for the acquisition of new site furniture. Where site furniture is provided, it should be coordinated with other visually identifiable site elements. Project limitations may eliminate the possibility of acquiring new site furniture or require that

existing items of site furniture, which are adequate and otherwise meet basic functional requirements, be retained and upgraded. In cases where new and existing site furniture and equipment are combined, a coordination of surface, color and shape between new and existing items is important to the establishment of a harmonious group of site elements. The scale and aesthetic of site furniture should be related to the materials, forms, and details used in the upgrading of the existing building.

g. EXISTING UTILITY SUPPORT The capacities of existing site utilities should be sufficient to support current and projected operational requirements. Local Facilities Engineering personnel will assist the using service in making a final determination as to site suitability. In making an initial estimate, the utility inventory report for a specific site or facility contained in the Installation Yearly Real Property Survey will be a reliable source of information. Additional utility support may be required when comparisons are made between the preliminary estimates of building requirements and presently available utility support. Probable requirements can be derived from the mechanical and utility requirements presented in the example designs in Chapter 6. Estimates of requirements for an entire military police facility should take into account local variations in the design assumptions relative to orientation, climatological conditions and the engineering value of various construction materials. By factoring in the proportion of new construction requirements represented by the area of activities requiring upgrading, partial requirements for rehabilitation/conversion projects can be determined. Where utility support is substantially inadequate, technical assistance in the form of engineering studies will be required to determine the magnitude of such additional requirements. This is especially important if, all other factors considered, the site in question remains the best choice of location of military police activities. A primary objective of such engineering studies should be to isolate the mechanical and utility requirements directly associated with such limited upgrading for the purpose of comparing costs. Engineering studies should also indicate the best method of providing the new mechanical and utility services. In all cases, utility support should be provided in such a way that subsequent or future upgrading and expansion will be possible without utilizing obsolete utility systems or impairing the effectiveness of those that are adequate. Guidance related to typical utility systems is provided in Chapter 3 of this guide.

h. RELOCATION OF EXISTING SUPPORT FACILITIES Where adequate utility and support facilities exist, their location should not interfere with the accomplishment of rehabilitation/conversion objectives or the provision of essential building/site elements. Where the existing location of utilities, roads, drives sidewalks, paved terraces, or other support facilities would prohibit

operational efficiency and the accomplishment of basic functional objectives, they should be relocated. Siting of relocated facilities should be indicated on the rehabilitation/conversion site plan and should be in accordance with currently accepted standards for support facilities.

i. REDESIGNING EXISTING FACILITIES Existing non-designated facilities generally have an established architectural character, albeit one may be inappropriate to the architectural and functional requirements of military police activities. Chapter 3 provides fundamental design guidance and outlines the principal design factors that should influence the establishment of an appropriate architectural character. Specific functional requirements will be used to determine the extent to which an existing facility's design or space arrangement is inadequate. Specific functional requirements will also be used to determine the scope of required redesign and will influence the order in which individual steps are accomplished in the rehabilitation/conversion process. Environmental and interior design considerations, individual space criteria and space organization principles should be evaluated to determine the specific redesign recommendations and sequence for work in rehabilitation/conversion projects. The general design requirements for new construction contained in Chapters 4 and 5 offer additional guidance for the establishment of specific upgrading requirements.

j. TYPICAL FIELD APPLICATION OF DESIGNS The description of typical field conditions contained in this chapter, as well as the example designs for new construction contained in Chapter 6 provide general planning and design guidance for the accomplishment of rehabilitation/conversion projects. In terms of applicability to pre-design concepts, the hypothetical space programs for new construction (Chapter 6) provide an appropriate point of reference for determining zone or component requirements for existing facilities. Functional requirements for a given scale of operations remain comparable irrespective of the physical conditions and facilities for which they were developed. However, the direct or exclusive use of example requirements alone will not provide an adequate justification for project-specific requirements. The general design guidance for new construction and the illustrative examples of new construction requirements will become the primary source for project justification only when they are adapted to the requirements of existing conditions and used in conjunction with appropriate upgrading alternatives. The upgrading of existing facilities must at all times respond to the physical character, the planning and design constraints, and the project limitations that are peculiar to rehabilitation/conversion projects. Although upgrading may respond to requirements in ways that reflect a more individual approach to physical development than is desirable for new construction, it should result in the same high standard of design.