San Quentin Prison Study: Inventory Report for the California Department of Corrections

Submitted to the
Office of Project Development and Management
California Department of General Services

July 8, 1992

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July 8, 1992

Mr. Stephen Durham
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Dear Steve:

There are two parts to the San Quentin final report for the California Department of Corrections (CDC). The first, on the replacement of Building 22, we have already sent you. Attached is the second part, the inventory of the entire prison and comparison of the actual spaces with those calculated from the *Space Standards for New Prison Construction*. In this final version we have responded in detail to your comments on the draft version.

An automated copy of the database, on which this report is based, accompanies the report in the form of a 5 1/4" diskette formatted for dBase III. Final billing has also been included.

As with the first part, the Building 22 report, we are sending all materials to OPDM for distribution to CDC.

We appreciate your help and support on this challenging project and look forward to working with you again.

Sincerely,

David Moulton
Project Manager

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PROJECT TEAM

In addition to the project team listed below, numerous individuals provided information and aided the development of the report's findings through interviews, meetings and telephone calls. These contacts are listed in Appendix A.

California Department of Corrections (CDC)

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SUMMARY

This report presents an inventory of all of the buildings at San Quentin State Prison. it also represents the completion of the second phase of a two-part contract between the Institute for Law & Policy Planning (ILPP) and the California Department of General Service's Office of Project Development and Management (OPDM) to perform work for the California Department of Corrections (CDC). The first task, a study of space utilization in San Quentin's Building 22 and recommendations for its replacement, has been submitted separately.

For both reports, San Quentin's buildings are classified by the functions which they house in accordance with the scheme given in the handbook *Space Standards for New Prison Construction* (California Department of Corrections, April 1986).

The total approximate space (net square feet) allocated by the *Standards* to each functional component and the actual space use at San Quentin are shown. For completeness, Inmate Housing and Food Services are added though they were not otherwise studied.

Table 1.
Summary of Spaces at San Quentin, Allowed and Actual (NSF)

Functional Component	Standard NSF	Actual NSF	Excess NSF
1. Administration	20,410	37,803	17,393
2. Staff Services/Training (1)	8,613	23,864	15,251
3. Security & Operations	20,994	27,579	6,585
4. Visiting (2)	16,417	30,740	(14,323)
5. Inmate Programs (3)	28,344	31,981	3,637
6. Inmate Services (4)	38,945	92,613	53,668
7. Warehousing & Physical (5)	112,552	13,186	(NA)
8. Inmate Housing (6)	(NA)	30,4085	(NA)
9. Education (7)	20,560	62,148	(NA)
10. Food Services (8)	(NA)	74,984	(NA)
11. PIA & related (9)	(NA)	24,195	(NA)

NOTES:

(1) The Bachelor Officers' Quarters, a non-standard staff service, occupy 11,623 sf, which makes up most of the excess space in this component.

(2) Family visiting is excluded from the "actual" since it is housed in temporary structures. However the present temporary family visiting units comprise an additional 10,400 sf, which is slightly over the standard allowance for this sub-category.

(3) Both the standard and the actual amounts exclude indoor recreation since this would indicate the need for a very large amount of space which would be appropriate only in a prison consisting of six separate housing modules. Modular configuration is not consistent with San Quentin's monolithic design.

(4) The hospital is 57,700 sf larger than called for in the Standards .

(5) A major sub-component of the Physical and Warehousing standard - the PIA warehouse - cannot be calculated without further assumptions, but one reasonable estimate leads to a figure of over 200,000 sf. Since the uncertainty resulting from this large gap in the coverage of the standards might reverse the apparent excess, no figure is shown in the last column.

(6) Inmate housing is included for reference only; the standard was not calculated.

(7) Standards for vocational education are incompletely specified. In academic education there is a deficiency of 7,993 sf and 13 classrooms. Actual vocational education space is close to an estimate based on the Standards, but for reasons similar to those in note (5) above the excess is not calculated.

(8) There is no overall standard for Food Services.

(9) There is no standard for the PIA factories.

(10) In most cases, building areas were measured from the available documents which were undimensioned blueprints or other drawings. Although the prints are nominally to scale, there can be minor errors due to reproduction or dimensional change in the papers. The areas, therefore, should not be taken as more accurate than ± 5% before application of the net:gross factor, despite the number of digits shown in the tables.

San Quentin does not conform very closely to the space allocations presented in the *Standards*. Although there are both excesses and deficiencies within most components, there is an overall excess in administrative and control functions and a relative deficit in functions (buildings inefficient, old, remodeled, etc.) which directly serve the inmates (visiting, programs, education). This trend is partially due to the design philosophy at the time the prison was constructed.

Although the excesses and deficiencies tend to cancel each other out when the total space is considered, the various functions use very different types of space (with exceptions in administration and operations). Because of this, it would be difficult to even out major discrepancies by reallocating spaces within the existing set of buildings. Furthermore, many of the structures have reached the end of what would be a normal lifetime for buildings of their construction.

SPACE ISSUES & METHODOLOGY

Description of the Space Standards

The *Standards* are intended for use as a guide in determining the type and amount of space needed for new prisons in California. This report compares these standards to the existing facility at San Quentin. To this end, the space for a hypothetical "standard" prison of the same bed capacity was calculated and compared with the San Quentin actual space.

The inventory is an adjunct to the recommendations on the replacement of Building 22, which was studied more intensively than the balance of the facility, in accordance with the terms of the contract. However all of the buildings in San Quentin were observed, and, with the exception of warehouses and inmate housing, were visited by the consultant team.

The *Standards* recognize ten components of prison space use. These are Administration, Staff Services, Security and Operations, Visiting, Inmate Programs, Inmate Services, Warehouse and Physical, Inmate Housing, Education, and Food Services. PIA factories are an additional component in this study. Each component has a number of sub-components, described below.

1. Administration: Executive (Warden/Superintendent and Chief Deputy), business services, personnel, procurement, accounting, inmate case records, mail, facility administration. Facility Administration includes the program(s) administrator, correctional counselors, and the inmate advisory council president.

2. Staff Services: In-service training, staff gymnasium and locker rooms, staff dining room, and the firing range.

3. Security and Operations: This complex component includes several types of functions. Security includes central and satellite control stations, perimeter towers, staff identification, a work change area, the armory and sub-armory (the latter for storage only), and the locksmith. Operations includes receiving and release and up to four types of administrator: operations, programs, housing, and business services. The Board of Prison Terms offices and hearing rooms are also included here.

   Under the operations administrator are central services, with the captain and personnel assignment staff; custody services (watch officers); the security and investigations squad (with property and evidence storage), and the sallyport staff.

   Related functions are the housing administrator, the program administrator, and the appeals coordinator.

   The business services administrator is listed under this component, but the space allocation for this position is given under Administration.

4. Visiting: Visitor processing area and both general and family visiting.

5. Inmate Programs: Library, media center, chapels, hobby/handicraft/arts areas, and indoor and outdoor recreation (athletics).

6. Inmate Services: Laundry, health services, and inmate canteen.

7. Warehouse and Physical: Fire house, general and PIA warehouses, and building and vehicle maintenance facilities. Building maintenance comprises electrical, plumbing, carpentry, paint, mechanical, and grounds shops.

8. Inmate Housing: Cells and dormitory, including administrative segregation.

9. Education: Academic administration and vocational, classrooms/shops.

10. Food Services: Food preparation and distribution; dining rooms are not included, the food preparation facility standards are complex and technical. Although details of many types of commercial food preparation equipment are presented in the *Standards*, an overall kitchen package specification for each prison is not given.

Functions not covered in the *Standards*, include industrial activities such as those operated by the Prison Industries Authority (PIA). Because each prison has its own type of industry, there will be no generally applicable standard. Also not included are unoccupied structures housing utilities such as water, sewage, electricity, and steam generation.

Application of the *Standards*

The *Standards* are intended for use at the programming level; they specify the amount of space for each employee or major piece of equipment. The *Standards* give figures for the **net square footage** (NSF), which does not include building circulation, mechanical systems, or exterior walls. Appropriate grossing factors must be applied to give the total building areas for construction cost estimates.

Building areas are expressed in two ways: as "net" and as "gross" areas. Gross area is the total number of square feet used. This includes space which cannot be occupied such as exterior wall thickness, stairs, elevators, corridors, and heating-ventilating-air conditioning (HVAC). Net space is the usable space; the space actually occupied by offices and programs. Since net space is a better indicator of what can be housed in a building, the term "space" in the present study always refers to net space unless gross area is explicitly specified. However, gross area must be considered when estimating site preparation and construction costs.

This report uses a standard grossing factor of 20 percent; gross space is 1.2 times net space, and net is gross divided by 1.2. This is not as accurate as actually measuring both net and gross square footage from working drawings, but not meaningfully different for the purposes of this study.

To apply these standards to San Quentin, six classifications of space were distinguished for this report: *fixed* space, where the allocation is some fixed number per prison; *proportional*, *threshold* and *other* space, determined by the number of inmates; and *variable* and *special* space, which are not governed by the above rules.

- *Fixed* space is readily determined: units of fixed space are of the same size for any prison, and their square footages are simply summed up.

- *Proportional* space is generally expressed in terms of the design bed capacity (DBC); this is usually in units of 500 beds. San Quentin, with a design capacity of 3,286, has six and a fraction of these 500-bed units, which is rounded to six in most cases. Not all inmates are eligible for certain programs (e.g. death row inmates do not attend classes), and in these cases the capacity is taken as 5 units (total less Level I and Special Housing). Similar rounding to whole numbers is used for other proportions such as 1:250, 1:1,200, or 1:1,700 beds.

- *Threshold* space is a simpler variant of proportional space; it is of one size for a small prison and of a larger size for large prisons, with no intermediate steps. There is also an "other" category where there are particular formulas for each space. All of these are included with proportional space in the tabulated data; they are relatively uncommon.

- *Variable* space cannot be calculated exactly from the *Standards* without further information. In a majority of the functional sub-components there is an allowance for clerks, copiers, file cabinets, etc. There is a specific allowance for each clerk or file cabinet, but the number of clerks or cabinets is variable. Thus the total space allocated to each of these varies according to the number of staff or pieces of equipment needed. In this report, the variable items are presented in six groups:

    - Variable staff space, office or shop employees;
    - Filing cabinet space;
    - Copier space;
    - Staff and inmate restrooms and janitors' closets;
    - Other variable items.

- *Special* spaces are those that do not fit the definitions of the other categories. In general these refer to non standardized functions which vary from one prison to another. The *Standards* provide some guidelines but calculations cannot be made without further assumptions. Food service, PIA industries, and vocational education are the principal examples of this category.

In applying the variable standards, ILPP has attempted to make reasonable estimates based on staffing and the present configuration of the prison. The estimated variable space amounts to a little over five percent of the total standard prison space, excluding inmate housing and food services. Refinement of these estimates would require much more intensive study of each area outside of Building 22 and would probably not be justified by the small improvement in the standard values.

Applicability of the Standards

There are a number of reasons why the standards, as written, do not apply well to San Quentin. First, they were developed for new facilities, while San Quentin dates back to the middle of the last century, and many of the present buildings are now used for functions other than those for which they were originally built. Modern design and construction techniques allow efficient use of space; it is difficult, however, to impose the

same degree of efficiency on existing structures. Thus prisons as old as San Quentin use more space for the same functions than modern facilities - or might instead use similar amounts of space but at a level of crowding which would impair operations.

On the other hand, most present day prisons are built, as recommended by the American Correctional Association, as clusters of 500-bed modules around an administrative and service core. Many of the standards are based on these "central" and "satellite" facilities. While it improves prison operations, this type of configuration could actually increase the overall square footage by having a certain amount of duplication at the various modules. In any case, San Quentin is not built in this way and the standards therefore describe a different sort of facility.

Penal philosophy has changed, also. In the nineteenth century prisons were seen almost exclusively as places of confinement and punishment, whereas rehabilitation or at least inmate rights are now recognized as legitimate concerns. The overall allocation of space in San Quentin reflects this earlier emphasis.

Finally, there are some particular characteristics of San Quentin Prison which complicate the application of the *Standards* to the actual situation. San Quentin is now a Level II institution, but it was originally a maximum security facility. It retains levels of security and operations higher than would be the case for a prison built directly to Level II specifications, such as housing inmates in cells rather than dormitories.

The Receiving and Release (R&R) center at San Quentin serves not only the prison itself but is a staging point for distribution of prisoners to most of the other northern California prisons, and it is correspondingly larger. In this capacity it is designated as a "Return to Custody" center (RTC).

Minor adjustments were made in attributing personnel to particular sub-components of the *Standards* since San Quentin uses a different nomenclature for certain staff positions. For example, in Building 22 the Associate Wardens could be placed in either Administration or Operations.

Sources of Information

This inventory provides several types of information, including a listing, net areas, function and assignment, and general building information.

The first is a listing of all the buildings, as gathered from CDC and San Quentin documents, including all permanent prison buildings except the smaller guard shacks and the gun towers, and unoccupied structures such as sewage lift stations and the water tank. Although they are not within the scope of the study, the main cell blocks are included for reference and completeness. Private residences for the warden and other staff inside the prison compound are not addressed.

The second type of information is the (net) areas of these buildings. There were three sources for the information on building square footage. The most accurate was a set of architectural drawings prepared in the late 1980s for a major electrical upgrade of the facility. Most, though not all, of the main buildings are included in this collection. The majority of the drawings are to scale, and building areas were measured from them.

Some reconfiguration of the interior space in a few cases, particularly for office functions, was noted.

The rest of the blueprints are drawn in proportion but not to a standard scale. An aerial photograph[2] of the entire facility and a set of scale drawings prepared from it provided accurate outside dimensions for every building, but no interior details. They were used to scale the unscaled blueprints mentioned above, and to give gross building areas for the buildings for which blueprints were not available.

A map attached to CDC's five-year plan was used as the source of a few of the building areas. The cell block areas, for example, are taken from this map. However the map contains some inaccuracies, most notably the area of Building 8, which is shown as about eight times the true area as determined here. This map also provided some building names, numbers (both the CDC and San Quentin numbering systems), construction material, and ages.

The areas obtained from aerial photogrammetric maps are gross areas since only the outside dimensions appear. All other measurements are net areas. Because of the possibility of error in the gross-to-net conversion process, the building areas in the databases are entered as either "net" or "gross" to indicate in which form the original measurement was obtained. However in all analysis or discussions the gross areas are converted to net by using the 20 percent factor as described above.

The third component of the inventory is a listing of the functions which are located in each building, and assignment of the appropriate areas to each. Most of the buildings at San Quentin house only a single function. A few structures, however, are used for multiple purposes which are listed separately. Sometimes, as with Building 39, much of Building 18, and the new H-Unit administration building, the functional areas are clearly delineated from each other and can be so distinguished on the drawings.

In a few cases the dividing lines are less clear. Consultants visited Building 22 many times and interviewed all of the supervisory personnel to determine exactly what functions were being carried on. However, the scope of services for the contract did not allow this level of effort in other cases, notably Building 8, and the north wing, second floor, third floor, of Building 18. These buildings include several related functions such as the warden's office, business services, accounting, and inmate records, in the type of semi-open environment which would allow easy reassignment of space according to changing needs. These functions all lie within the administrative component, and the exact boundaries of the sub-categories are not delineated.

Other buildings housing multiple functions are the hospital, Building 43 (Maintenance/Vocational Education), and Building 71, the Ranch administration building. The *Standards* recognize three subsections within the central health facility: administration, outpatient clinic, and infirmary. These subsections are not distinguished from each other in the current study. In Building 43, the maintenance and educational workshops lie next to each other and are of similar appearance. Consultants toured this building three times and reviewed the plans but did not make precise on-site measurements of the interior space. The Ranch office lies outside the main area of interest; the total area is accurate but its allocation among the various components is estimated.

2 From Nolte and Associates, South San Francisco.

Finally, there is presented in the inventory some general building information: number of stories (from the institution), and, when available from other documents, the date of construction and building material.

PRISON INVENTORY

This study compares the standards for eight of the ten functional areas are compared with the actual facilities at San Quentin. For the other two, actual spaces are shown but the standard is not presented. Inmate housing is excluded by the terms of the study contract. The standards for food preparation are limited to descriptions of the individual space needs of specific pieces of and do not give an overall picture of the kitchen and dining facilities. The introduction to the *Standards* states that overall standards for this component are still under development. In the absence of usable standards for this, ILPP can describe the current facility but cannot make comparisons.

The study also excludes minor structures such as utility enclosures for water, electrical, sewage, and heating systems, and the prison wall, gun stations and towers. The number and placement of these are dictated by specific site considerations and make only a very small contribution to overall facility square footage; furthermore they are not usable for any other purpose.

Each of the functional components is discussed in turn, comparing the standard and actual spaces. While fixed, proportional, and threshold space are clearly determined by the *Standards*, variable space is not. In each sub-component, therefore, the amount and type of variable space is briefly described. Standard allocations are discussed before presenting the tables, with comments on the actual space afterward.

Neither the ranch or the H-Unit was included in the scope of services, as these are intended to be semi-independent satellite facilities conforming to the new prison standards, and presently consist mostly of temporary trailers. However the plans for the new permanent administration and food services buildings at the H-Unit were available and are incorporated into the data. Interior plans of Building 71, the ranch administration building, were not available, and square footage is estimated to be equally divided among the known functions: administration, laundry, library, and visiting.

All areas are given in net square feet.

Administration

There are nine sub-categories of facility administration: executive, main lobby, business services, personnel, procurement, accounting, inmate case records, mail, and facility administration. Standards give allowances for variable space (inmate clerks and staff technicians, file cabinets, copiers, toilets, restrooms and janitor closets) in most of these sub-categories. There are also variable package sort workstations in the mailroom and counters in case records.

Table 2.
Space Inventory, Actual and Allowed - Administration

Detailed Function	Standard NSF	Actual NSF
Executive Administration	2,110	13,268 (1)
Lobby/Reception	720	0
Business Services	1,135	15,100 (1)
Personnel	1,380	2,542
Procurement	660	3,860
Accounting	1,050	0
Inmate Case Records	4,550 *	0
Mail	750	0
Facility Administration	8,055	3,033 (2)
Administration TOTAL	20,410	37,803

NOTES:

* Staffing assumption: 15 supervisory/technical and 17 office assistants (the *Standards* allow some flexibility here).

(1) These are Building 8 and part of Building 18; the totals include the space occupied by other functions such as reception, accounting and inmate case records.

(2) Ranch and H-Unit

In the "standard" prison, administration is centralized. Its dispersion among six buildings at San Quentin accounts for some of the difference. The exact locations within Buildings 8 and 18 of business services, case records and accounting were not delineated, and the lobby is part of executive administration.

Staff Services and Training

This is the smallest of the functional areas. For the firing range, only the associated building space is shown; the range itself is normally outdoors. Variable spaces are relatively unimportant, except that in-service training can have inmate clerks.

Table 3.
Space Inventory, Actual and Allowed - Staff Services and Training

Detailed Function	Standard NSF	Actual NSF
In-Service Training	2,700	4,074
Staff Services	3,073	2,000
Staff Dining	2,510	6,167
Firing Range	330	0
Bachelor Officers' Quarters	0	11,623
Staff Services/Training TOTAL	8,613	23,864

The major deviation from the *Standards* in this component occurs with the Bachelor Officers' Quarters, for which there is no allocation in the space standards. The BOQ space shown is in the south wing of Building 18 and all of Buildings 86 & 87 at the west gate. Building 87 is little used; Building 86, though intended as a women's BOQ has been reconverted for use as outside contractor's offices.

Security and Operations

This complex area combines disparate functions. The Board of Prison Terms space standard is calculated on the basis of four BPT components, which may not be applicable here because of the centralized housing. The standard allocation of perimeter towers and satellite control stations varies according to overall facility design and layout. The standard figures shown assume five satellite control stations and eight perimeter towers.

Operations has four subsections: administration, central services (captain, personnel assignment), custody services (watch commander), and security and investigations. Housing and program services, though listed separately, are closely related to operations. Variable spaces include timekeepers in central services, inmate clerks in administration and central services, and staff and file space in program services.

Variable space for most of the security functions is minor.

Table 4.
Space Inventory, Actual and Allowed - Security and Operations

Detailed Function	Standard NSF	Actual NSF
Central Control	440	2,763
Satellite Control Stations	1,755	2,624 *
Staff Identification	145	0
Armory	665	1,800
Sub-Armory	110	0
Locksmith	310	0
Receiving & Release	3,390	6,792
Board of Prison Terms	5,280	2,404
Operations	3,140	11,008
Housing Services	280	0
Program Services	870	0
Operations/Services Support	665	0
Perimeter Towers	944	188 **
Work Change	3,000	0
Security & Operations TOTAL	20,994	27,579

* Building area only: does not include the enclosed section of the vehicular sallyport
** Gun porch on building 18 only

As the terminology of the *Standards* does not always reflect usage at San Quentin, the locations of some of these spaces are as follows, giving first the standard term and then the actual building name:

- Central Control: Captain's Porch
- Satellite Control Stations: East gate, West gate, vehicle sally port, inspectoscope gate, 4-post, Control/count gate (Building 18). Other gate shacks (levee gate, industries shack, etc.) are not included.
- Armory: Arsenal/Tower 1
- Operations: Operations and Security Squad in Building 22; H-Unit operations
- Perimeter towers: only the gun porch on Building 18 (W-1) is included. There appear to be 11 perimeter towers and 13 gun stations on the wall; Consultants did not observe all of these.

The upper yard shed, though a large structure, is not counted in the inventory as it is only a roof and not a totally enclosed building. Its area is 23,100 sf.

The overall difference between the *Standards* and the actual is not great. Satellite control stations and perimeter towers are so dependent on the specific prison configuration that comparison with a standard is almost meaningless; furthermore these occupy only a tiny fraction of total space. Consultants did not differentiate housing, program, and support from Operations.

Visiting

The determination of the standard areas for visiting is straightforward except for the "outwaiting lobby" space in visitor processing. This is a space secure from the main visitor processing and adjacent to a bus loading area, for which the size and location depend on the location and climate of the prison.

The *New Prison Policy Guidelines* call for the establishment of a Visitors' Center at all new prisons, located outside the security perimeter and privately operated. The standard space shown is for a single such visitor center.

Table 5.
Space Inventory, Actual and Allowed - Visiting

Detailed Function	Standard NSF	Actual NSF
Visitor Processing	2,960	
Family Visiting	7,380	
Family Visiting - Accessible	705	
General Visiting	26,580	16,417
Visitor Center	1,200	
Visiting TOTAL	38,825	16,417

Visitor processing and general visiting were not differentiated since they appear to be combined in the three visiting units observed. Although family visiting was not included in the database since it is located in temporary buildings, the approximate total of the family visiting buildings is 10,400 sf. No facility in the prison was identified as an outwaiting lobby or visitor center.

Inmate Programs

These are primarily the library, religious programs, and indoor recreation. Outdoor recreation requires ball fields, etc.; these are not buildings and are not shown.

Variable spaces are unimportant here; the only ones listed in the Standards are toilets generally and wash fountains for arts-in-corrections.

Central and satellite libraries entail some duplication of functions (librarians) and of carts for transporting books, so the allocations as shown may overstate the actual needs for San Quentin.

The allocations for religious programs and for hobby/handicraft are surprisingly high. Each is an aggregation of about 1800 sf for each 500-bed module, and will undoubtedly overstate the needs for a centralized facility such as San Quentin.

Most striking is the space allotted to indoor recreation. The *Standards* allow a 7,000 sf basketball court, with bleachers, and a 4,000 sf half-court for each housing pod. Repeated for six pods, this becomes the largest single component in the *Standards*, constituting almost one quarter of the total prison space (less housing, food, and PIA), yet it is difficult to see how it pertains to San Quentin where outdoor activity is often possible and the housing is not in separate pods.

Table 6.
Space Inventory, Actual and Allowed - Inmate Programs

Detailed Function	Standard NSF	Actual NSF
Central Library	2,510	3,017
Satellite Library	3,495	4,859
Media Center	650	2,667
Religious Programs	11,120	9,503
Hobby/Handicraft	9,120	3,483
Indoor Recreation	70,650	27,512
Outdoor Recreation	120	0
Arts-in-Corrections	1,329	938
Programs - unspecified		7,814
Inmate Programs, less recreation	28,344	31,981
Inmate Programs TOTAL	98,994	59,793

The gymnasium (Building 33) is considered to be indoor recreation even though it is presently used for HIV housing. Arts-in corrections is an addition to the north dining hall, shown only in the aerial photograph. "Unspecified" programs are those in the West Block Annex (Building 31) and the new H-Unit administration building. Leaving indoor recreation aside, inmate programs at San Quentin occupy roughly the space allocated in the *Standards*.

Inmate Services

This component comprises three completely independent functions, of which health services is by far the most complex. All are based on a prison of 500-bed modular units.

The central laundry is designed for a population of 1,700 inmates, so the standard space is doubled.

Health services *Standards* include clinic, infirmary, and administration; these categories are combined in this report. Calculation of the outpatient clinic and health administration standards is straightforward as these have little variable space except for medical records transcribers and files. The size of the infirmary, on the other hand, is principally determined by the number of patient cells. In the *Standards* the allocation is given as one room per 100 DBC. On this basis San Quentin should have 32 or 33 patient cells, which leads to the figures shown below.

The inmate canteens (one per module) consist primarily of storage area. Each has a supervisor, again implying duplication.

Table 7.
Space Inventory, Actual and Allowed - Inmate Services

Detailed Function	Standard NSF	Actual NSF
Central Laundry	5,105	13,650
Laundry Distribution	8,815	3,766
Central Health Services	11,030	68,800
Health Services Satellite	7,460	1,634
Canteen	6,535	4,763
Inmate Services Total	38,945	92,613

The central laundry space as shown in the table includes the dry cleaning facility and storage. The sum of central and satellite laundry space is not much different from the standard; the same applies to the canteen.

On the other hand the Neumiller Infirmary is far larger than is called for by the *Standards*, even when the satellites are added in. The infirmary has rooms for about 110 beds, which at 150 square feet each (including circulation) would account for 12,000 square feet of the difference. Consultants observed that the top floor of this four-story building was rather lightly used. Also, the air quality seemed to be below what is desirable for a healthy facility.

Warehouse and Physical

This component, taken as a whole, is a major user of space. It combines warehousing and physical maintenance facilities. Because the functions are similar, Consultants have appended PIA and related (Prop. 139) space to this table though they are not so included in the *Standards*.

The *Standards* give allowances for centralized warehousing and a combination of central and satellite maintenance shops. A small amount of variable space is allowed for inmate clerks, toilets, and emergency showers and eyewashes. There is no standard for mechanical functions such as heat and utilities.

In contrast with other types of space based on 500-bed pods or similar large units, the standard allowance for general warehouse space is given per inmate, and is thus calculated for the exact (design) number of beds rather than a rounded-off figure.

The various plant maintenance shops - electrical, plumbing, carpentry, etc. - are nominally sized at exact hundreds of square feet and may well vary in real locations. Central and satellite shops in the same trade have essentially the same components (supervisor station, workbench, parts storage, etc.) with the central shops being a little larger. Adding together the space requirements for central and satellite facilities would overstate the need for these functions in a centralized institution because of duplication.

The satellite utility shops contain metal fabrication areas of unspecified size; this is by far the largest contributor to variable space in this component. Consultants assume a total metal shop area of 1,350 sf.

The amount of storage allocated to the PIA warehouses at different prisons varies widely depending on the nature of the product stored and the number of inmate workers. The small square footage shown in the table is merely that allocated to the PIA warehouse manager and staff, this being independent of the warehouse size. Without knowing these, the allowed square footage is not calculable.

The *New Prison Policy Guidelines* state that 42 percent of Level II inmates should be employed in the PIA, which comes out to 1,100 inmates for San Quentin. For the PIA industries represented at San Quentin the remote storage space, per inmate worker, is: furniture making, 127 sf; detergents, 390 sf; and mattresses, 503 sf. For key data entry (Prop. 139), no storage is required.

However with a few assumptions it is possible to estimate the area that might be allotted to PIA warehousing. What is needed to make this calculation is the standard allowance per worker and the number of workers. There is no guideline as to how inmates should be assigned to the various PIA programs, but the current distribution of PIA employees is 61% furniture, 17% mattress, 9% detergent, and 13% warehouse and other. With 1,100 employees distributed in this way the PIA storage would be 218,000 sf. However this number is not included in the table below as it is not directly obtained from the *Standards*.

Likewise there is no standard for the size of the PIA factories. A comparison figure for PIA factory space is available for Avenal State Prison, which is a Level II facility of about the same size as San Quentin: PIA space at Avenal, excluding agricultural activities, is 122,500 sf with an additional 71,800 sf of warehouse space (these are

converted from gross figures). Since there is no agriculture at San Quentin there should be more inmates assigned to manufacturing, and the industrial space should be greater.

Table 8.
Space Inventory, Actual and Allowed - Warehouse and Physical

Detailed Function	Standard NSF	Actual NSF
Fire House	3,675	6,478
General Warehouse	73,172	59,850
Vehicle Maintenance	3,295	5,346
Central Maintenance shops	5,010	74,076
Satellite Maintenance shops	26,885	22,907
PIA Warehouse	515	39,458
Physical - unspecified	5,072	
Physical & Warehousing TOTAL	112,552	213,186
PIA and Prop 139	NA	124,195

There is less warehouse space than the *Standards* would allow, though there is significant storage in miscellaneous areas throughout various other buildings and in open areas. Much of San Quentin's "official" warehouse space is in old and deteriorating buildings, Because of the age and condition of these buildings the storage space probably cannot be used very efficiently and previous studies have identified seismic inadequacies in some of the warehouses.

On the other hand, the central maintenance shop is much larger than would be expected from the *Standards*. Even when the satellite facilities are added in this remains true. (Note that what is listed as satellite maintenance in the "actual" column is in fact the workshops used by outside contractors. This use is not explicitly covered as such in the *Standards* but would seem to fall within the spirit of the regulation.) Furthermore the main maintenance facility is a relatively efficient building. The large amount of maintenance space is due, in part, to the difficulty of maintaining an institution as old as San Quentin.

The "unspecified" physical space is a small part of Building 22 (mechanical areas), all of Buildings 64 and 65 (outgrounds office and greenhouse), and the mechanical area in the new H-Unit Administration building.

PIA - factory and warehouse combined - amount to only 163,153 sf, or considerably less than at Avenal prison. Some of the PIA facilities combine factory and storage in the same building. There is about 14,000 sf of storage in the mezzanine of Building 38, but this is listed as PIA rather than warehouse since it is not a separate building. In contrast, much of Building 48, the "outside" mattress factory, is used as a warehouse. Consultants

did not inspect this building closely and made no determination of the breakdown; it is listed as PIA warehouse in the inventory.

Thus the actual PIA space would seem to be much too small. However the 1,100 PIA employees on which the calculation was used is far above the actual figure of 327, of which, 42 work in the warehouse and vocational education. For the balance of 285 factory workers the warehouse space would be 65,000 sf, not too far from the 43,000 obtained by combining Building 48 (mattress) and the mezzanine of Building 38 (furniture). Detergent storage was not observed. If PIA and related activities were expanded it would probably be into different fields (e.g., the data entry for Proposition 139). Without knowing what these would be it becomes impossible to calculate space requirements.

Education

Education includes academic and vocational classes, plus an administrative section. The education administration has variable numbers of office assistants and inmate clerks. Academic classroom space is based on three classrooms (20 students each) and a learning laboratory for each housing module. In San Quentin this works out to five modules' worth (15 classrooms) since about 500 of the inmates do not participate in classroom education.

Space allowances for vocational instruction are incompletely specified in the *Standards*. There is no standard for either the number or the type of vocational programs. Once the vocational curriculum is established there are then standard space allowances for classrooms and other supporting services, but not for the vocational shop areas themselves since these vary with the particular trade being taught. Minor differences in the amount of supporting space occur among small, medium, and large equipment shops.

The *New Prison Policy Guidelines* state that 18 percent of the inmates should participate in vocational education. Excluding special housing and Level I inmates, as with academic education, this works out to 470 inmates, or 23 - 24 classes at 20 inmates each. However vocational classes at San Quentin have typically 24 rather than 20 students and could accommodate this number in 19 classes.

A hypothetical mix of three small equipment shops at 1,000 sf, eight medium equipment shops at 2,000 sf, and eight large equipment shops at 3,000 sf (Consultants' estimated figures for workshop size) would give a total of some 58,885 sf for the vocational shops and classrooms. This figure is not included in the standards column of the table as it does not come directly from the *Standards* and is only one of many possible configurations.

Table 9.
Space Inventory, Actual and Allowed - Education

Detailed Function	Standard NSF	Actual NSF
Education Administration	1,340	5,417
Academic Ed. Classroom/Support	16,770	4,700
Voc. Instruct. - Small Eq. Shop	0	3,162
Voc. Instruct. - Medium Eq. Shop	0	6,400
Voc. Instruct. - Large Eq. Shop	0	41,818
Voc. Instruct. - Shared Support	2,450	652
Education, excluding Vocational	18,110	10,117
Education TOTAL	20,560	62,148

The actual administrative space is high, but half of this is in the "administration annex," the lightly used and very inefficient top floor of Building 22, whose functions could be consolidated into a much smaller area. There are only five (scheduled to be six) academic classrooms rather than the fifteen called for.

Vocational instruction is offered in 16 areas, from data processing and landscaping (light) to machine shop and printing (heavy). The actual total vocational area of 52,032 sf falls a little below the estimated "standard" of 58,885 given above, but the approximate nature of this latter figure means only that there is not a serious discrepancy in this category.

CONCLUSION

In this report, Consultants compared the total building space at San Quentin to that of a hypothetical prison built to modern standards. However, a simple comparison may be misleading for three reasons. First, as has been stated several times, San Quentin was not built according to those standards. Second, the *Standards* themselves do not allow an exact calculation of the sizes of some major components, in particular prison industries and vocational education. Finally, a simple total can mask deficiencies in some areas and excesses in others. Such disparities in general cannot be eliminated by interchanging part of the space since the buildings are constructed to serve different functions.

Three components use office space: administration, much of security and operations, and education administration. Space could in principle be interchanged among these without major modification, assuming that the needs of location and adjacency are met. (Health and PIA administrations also use office space but are best put with their respective functions.) Maintenance, vocational education, the hobby shop, and prison industries use factory space. There is some possibility of tradeoff here if attention is paid to the issues of noise, dust or fumes, and security. But functions such as the hospital, library, classrooms, food preparation, R&R, and laundry occupy buildings that are not easily converted to other uses.

Administrative space greatly exceeds the standards, yet most of what Consultants observed was rather cramped, particularly in Building 18. (Building 8 is a notable exception.) The inflexible layout is certainly responsible for some of the crowding. Although Consultants did not address this issue, it appeared that the level of automation is low, increasing personnel and file storage needs also.

Security and Operations, by contrast, has only a little more space than the *Standards* prescribe, and half of this is due to the increased requirements of R&R. Even at that, R&R seems to have inadequate storage space. The dungeon also contributes to the excess, yet it is more of historical than functional interest: no one should be sentenced to work there! Education administration could lose the "education annex" without much of a loss of efficiency; here, however, Consultants note that there is provision for two more administrators than are allowed for in the *Standards*. The education administration space, in Building 22, is far from luxurious, again in part because of the building layout.

Office space, then, is higher than called for by the *Standards*, but there is little noticeable excess. To use less space in the existing buildings the prison would have to revise and streamline its activities substantially.

Staff Services and Training, though a small component of the entire institution, occupies nearly three times the standard space. Half of this is the bachelor officers' quarters, which does not appear in the *Standards* at all. In particular, the BOQ in Building 18, though undoubtedly convenient for the staff, occupies valuable space in immediate proximity to the prison yard. The employees' snack bar and lounge (Buildings 14 and 15) are also considerably larger than the *Standards* provide for.

Administration, Operations, and Staff Services use more space than in the hypothetical standard facility. These are spaces which are intended primarily to serve the prison staff.

They also are centralized, probably even more in the hypothetical case than at San Quentin where they are scattered among a number of buildings.

Visiting, education, and inmate programs are operated for the benefit of the inmates; they show a different pattern. These, however, are dispersed among satellites in the standard case, which should lead to higher overall space requirements.

Even with the temporary family visiting units added in, the total visiting space is only about two-thirds of the standard. Some of the deficiency comes in the lack of an outwaiting lobby and a visitor center.

Inmate program space is more complicated. There is an apparent 3,600 sf excess, but all of this can be accounted for in the new H-unit administration, which is yet to be built. Individual sub-components vary. Library space is a little over the standard. The "media center" in Building 22 is in fact a full-fledged TV station, with a studio, editing room, and tape library. These capabilities could not be preserved in the standard space allocation. Conversion of the TV station to a vocational classroom, in which the institution has expressed interest, would both serve a useful educational purpose and allow retention of much more space.

Religious programs, hobby shop, and especially indoor recreation show large deficiencies, but it would be extremely difficult to argue for the allocation of the standard amounts of space for these in view of the prison configuration overall.

In education the pattern is clear: there are not nearly enough academic classrooms, and not quite enough vocational classrooms to meet the requirements of the *New Prison Policy Guidelines*. Here the centralization - satellite issue is irrelevant.

For components benefiting the inmates there is an apparent deficiency in space. This is clearest with education and visiting but is obscured by the decentralization question in inmate programs.

Inmate services occupy a middle ground. The laundry and hospital are required functions, while the canteen might be considered an inmate program if there were more substance to its activities. As with those programs, the canteen space is low. Laundry space, on the other hand, is a little high. Consultants are not qualified to judge the efficiency of the laundry or dry cleaning plants and cannot say whether smaller facilities would suffice.

The hospital is far larger than called for by the *Standards*. It was apparently a source of pride when it was built (in 1927) as an example of enlightened new thinking in penal administration. Consultants visited the building several times but did not examine service records to determine the intensity of use of this facility. Thus this report cannot say whether the hospital is bigger than it needs to be in view of the range of services that it provides.

It should be noted that the hospital and laundry, and also food services, though they may be sized for the design bed capacity, must provide for all inmates despite any overcrowding. With the present population of San Quentin they are closer to the authorized sizes.

Warehouse, maintenance, and industry present the greatest challenge to the inventory, first because they occupy such a large amount of space, and second because they must be specific to the institution. Also, many buildings, as they age and become less usable for

other purposes, tend to get used for storage and workshops, and are maintained as such beyond their usual lifetime. Thus both the quantity and the quality of the space in this component is at issue.

In particular, the buildings' seismic integrity has been questioned by others; they do not appear visually to be in good repair; and there may well be problems with toxic contamination and asbestos. Although ILPP did not deal with these issues for the San Quentin warehouses, the age and general condition of the buildings and the presence of contamination in other prisons makes it quite likely that there are problems here.

Warehouse space seems a little low, but prisons everywhere are noted for storing more than they need. The scope of this contract does not extend to examining the usefulness of the stored materials.

Considering the age of San Quentin it is virtually certain that utilities occupy more space than they would in a modern prison, and that maintenance of the mechanical equipment and of the buildings in general is a major task. It is not surprising, therefore, that the maintenance space is much larger than that prescribed. Even so, Consultants noted numerous instances of deteriorating facilities, indicating that maintenance cannot keep up with the need.

The space needs of the PIA have been discussed at some length. It is notable that the number of inmates working in prison industries (excluding the new data entry program) is only about a third of that specified by the *New Prison Policy Guidelines*. However Consultants recognize that this is an area in which policies are shifting away from the traditional industries toward competitive and profitable activities. There will undoubtedly be further changes in this area which will increase the space demands. While the furniture factory, for example, could be used more intensively, it is clear is that there is not now existing space which can be used for any major expansion of the prison industries.

Consultants' overall conclusions on San Quentin: the entire facility is aging, inefficient, and not at all in accordance with modern penal standards. Yet the extreme demand for prison space in California makes it necessary to keep the institution in service despite the enormous commercial value of the land on which it stands. A start at modernization is being made with the permanent construction of the H-Unit, and will surely continue if the new RTC is built to the west of San Quentin proper. Any major upgrading of the prison itself, however, should start with a master plan based upon the information in this inventory, supplemented with more detail on the functions being carried out in buildings other than Building 22. The master plan could well include an economic evaluation of alternative uses for this desirable piece of property.

APPENDIX A: LIST OF CONTACTS

San Quentin

Doug Anderson, Vocational Education Supervisor
Sergeant Armbright, R&R
Carlos Avina, Appeals Coordinator
Gent Davis Assistant Warden III
Al Geranen, Chief of Plant Operations III
Larry Heer, Correctional Education Supervisor
Dwayne Honey, Chief of Plant I
Sally McVicker, Plant Operations (Capital Projects)
Ido Neinhuis, Community Resources Manager
Dick Nelson, Assistant Warden II
John Nunez, Chief of Plant I
Bob Ruiz, Vocational Educational Supervisor
Larry Schneider, SQTV
Captain Spangler, Special Security & Investigations
Marvin Wilson, Correctional Officer/Escort

California Department of Corrections (CDC)

Dick Bass, Statistics
Frank Eickelkraut, Planning and Construction
Larry Small, Design and Program Planning
Dennis Turnipseed, Planning and Construction

APPENDIX B:
DESCRIPTION OF DATABASE

The San Quentin inventory database was created using Quattro Pro and Paradox 3.5 (inter convertible spreadsheet and relational database programs by Borland). It was converted to dBase III+ output at the end, but was not tested on that system.

There are four files. Two show the application of the *Space Standards for New Prison Construction* ("*Standards* ") to San Quentin, and the other two are an inventory of the actual space at the institution.

As these constitute a relational database, they are keyed together by linking fields, which will be noted. Note also that they are in a compact format, with single-line column headings and no explanatory text.

The *Standards* list ten space categories. Eight of these are included in all of these files:

- Administration;
- Staff Services;
- Security & Operations;
- Visiting;
- Inmate Programs;
- Inmate Services;
- Warehouse and Physical;
- Education.

The category of Inmate Housing is not a subject of this study, and the category of Food Services is in the *Standards* in a preliminary and fragmented fashion which cannot be adapted for this use. Facilities for prison industries (PIA and Proposition 139) are not covered by the *Standards*.

These categories are divided into a number of sub-categories, with space standards being given for each. For example, under Administration are Executive Administration, Lobby/Reception, Business Services, Personnel, Procurement, etc. In the *Standards* each sub-category appears typically as a one-page table followed by a page of explanatory notes.

Omitting those categories which refer exclusively to prisons at a security level other than Level II, ILPP has assigned code names (USECODE) to each (ADM.1, SEC.3, and so on). These codes key the two standards databases to each other and to the San Quentin DETAIL.DBF file.

ILPP has identified five types of space in the *Standards*. The terminology is ours:

- **fixed**, where there is a specific area for any prison regardless of size.

- **proportional**, where the area increases by a certain amount for each increment of so many beds (design bed capacity, or DBC). The increment is usually 500 beds, but other increments are used in some cases.

- **variable**, where the size of a single space is specified but the number of such spaces depends on the particular configuration of the prison (e.g., copiers or restrooms which may be shared with other units) or on the program (number of inmate clerks or file cabinets, size of a vocational education classroom). The amount of variable space cannot be determined unequivocally, without making assumptions as to the number of variable units.

- **threshold**, a seldom-used category, being of a certain size up to a particular population and of a larger size beyond that, i.e., a single step increase.

- **other**, a few spaces determined by other formulas. These must be handled individually.

These five types of standard are found throughout the *Standards* listings, frequently occurring together in the same sub-category. There are also **special** spaces which are incompletely determined or even entirely lacking in the *Standards*.

The file **STANDARD.DBF** lists all of the sub-categories and their fixed and proportional spaces. Proportional spaces are calculated for a prison of the size of San Quentin (DBC = 3286, but rounded down to the nearest whole increment, thus rounded to 3000 for increments of 500). Threshold and "other" spaces are included with proportional.

Consultants have made an allocation of variable space which they consider reasonable for the size and configuration of San Quentin. The file **VARSPACE.DBF** gives the breakdown of the variable spaces for those sub-categories which include them. Note that the figures for some types of space have been combined to give this table (e.g., staff and inmate toilets) so that the figures may not be applicable to a different prison.

STANDARD and **VARSPACE** have been calculated for San Quentin specifically, and cannot be used as they stand to give the allocations for an institution of different size or security level. (The proportional spaces, which account for most of the individually-determined area, can be calculated for other prisons with the use of a simple spreadsheet.)

The file **INVENTRY.DBF** lists each San Quentin building, including categories not otherwise studied such as inmate housing, food services, PIA, and various security and utilities shacks. Each building appears just once. A few buildings are left out: these are temporary structures such as the individual housing units in the ranch and H-unit. Also omitted are most of the guard towers and the gun shacks on the wall.

In **DETAIL.DBF**, by contrast, each building is listed by function; those with many functions such as Building 18 or Building 22 are listed a corresponding number of times. This is the file that contains the area for each use sub-category. Structures which are not of interest, such as most of those listed in the preceding paragraph, are not included in DETAIL. **DETAIL** is linked to **STANDARD** by the ILPP-assigned **USECODE** described above and to **INVENTRY** by the San Quentin building number.

Comparison of the standard and actual spaces for each sub-category can be made by summing the allocations in that sub-category in **DETAIL** and comparing them with the total in **STANDARD**. Then it is necessary to look in **VARSPACE** to see whether there are problem spaces, and make a reasonable estimate for these when they occur. As described elsewhere, however, it is questionable whether the *Standards* can reasonably be applied to San Quentin for every category since they were devised for new prisons designed around 500-bed modules, which San Quentin is not.

The data fields are listed, with an explanation when necessary.

INVENTRY:

SANQNO:	building number as used at the prison, for example, (Building) 22. Two new buildings are scheduled to be built at the H-Unit; ILPP has arbitrarily called these Buildings 110 and 111. The laundry is called Building 39 on some maps, but this number is used for a different building (the mattress factory/dry cleaning building), so the laundry has been given number 39.5 here.
CDCCODE	building designation used by CDC but not generally recognized at the institution. These have a letter showing functional category and a number. Building 22 is called P2 (P for "Program") in this terminology. This designation was not supplied for all of the buildings.
BLDGNAME:	the descriptive name, or one of the names, used at the institution.
BUILT:	year built, if known
MATERIAL:	material of construction, when known: Wood, Concrete, Metal, Other
STORIES:	number of stories in the building
BASEMENT:	Is there a basement as well? Y-Yes, N-No. (blank)-unknown
PLANS?:	Whether or not ILPP had access to building drawings beyond the exterior outline taken from an aerial photograph. The code is: S-scale drawings, N-not to scale drawings, (blank)-no drawing. If there are plans the building area and interior divisions are likely to be more accurate.
DETAIL?:	Is the building included in the file DETAIL? (Y/N)
COMMENTS:	Any questions or anomalies, especially about building name or identification.

DETAIL:

UNITNAME:	name of each subdivision within the building. Thus for Building 22 these are Operations, Library, Security Squad, etc. For single-function buildings it is the same as BLDGNAME.
USECODE:	ILPP's terminology for the sub-category.

SANQNO

NSQFT net square feet for the unit*

GSQFT: gross square feet*

(* Note: For some buildings the area was obtained as net square footage and for others it was gross. Only the original measurement is noted for these two fields, so one field is entered and the other is left blank on each line.)

COMMENTS

STANDARD:

USECODE1: the use code, but without the appended sub-category designation (e.g., ADM)

USESUB: the sub-category of USECODE (e.g., .1)

DETAILED FUNCTION: description of the sub-category, corresponding to the page headings in the *Standards*

FIXED: total fixed space for the sub-category. The peculiar negative value for Family Visiting is a mathematical trick to make the totals of regular and of accessible visiting come out right; it should not be taken literally by itself.

PROPORTIONAL: proportional space as calculated for an institution of the size of San Quentin. As noted, usually this corresponds to 500-bed modules, sometimes six and sometimes five. There are other size formulas for proportional space, and the threshold and "other" spaces are included here also.

VARIABLE: Consultants' estimate of what the variable space might be.

TOTAL: Total of the preceding three columns.

VARSPACE:

USECODE1

USESUB

STAFF: estimated variable space for either staff or inmate clerks

FILES: es imated filing cabinet space

COPIER: estimated copier space

TOILETS: estimated staff and inmate toilets and janitor's closet

OTHER: other types of space

DESCRIPTION_OF_OTHER

Updating or refinement of the data in any of these files will improve the usefulness of the database.