2900.0600 CONSTRUCTION STANDARDS FOR SECURITY AREAS.

Subpart 1. **Cell, room, dormitory sizes.** Each maximum security cell, medium security cell, or detention room shall provide for at least 70 square feet of floor space within the cell or detention room.

Minimum security rooms shall provide a minimum of 50 square feet of floor space per prisoner when unrestricted access to exercise, dayroom, or program areas is permitted. Seventy square feet of floor space is required when such access is not permitted.

Dormitories shall provide three or more beds and a minimum of 60 square feet of floor space per prisoner within the dormitory exclusive of toilet and shower areas. Dormitories shall not be used in maximum security areas.

Subp. 2. **Inspection corridors.** Each maximum security cell shall be located at least 44 inches away from an outside wall, separated from the wall with an inspection corridor.

A 44-inch inspection corridor providing visibility of medium security living areas shall be provided. Such corridor need not be between the exterior wall and prisoners.

Subp. 3. **Access to outside windows or doors.** No area occupied by a maximum security prisoner which is unsupervised directly by staff shall have direct access to an outside window or door.

No area occupied by medium or minimum security prisoners which is unsupervised directly by staff shall have direct access to an outside door.

Subp. 4. **Exterior and natural light orientation.** Maximum security cells or dayrooms and exercise areas shall have access to natural light through the 44-inch inspection corridor required under subpart 2.

Medium security cells or detention rooms and minimum security rooms shall be located either on an outside wall which provides a window for natural lighting or on a dayroom area which provides this condition.

Medium and minimum security dormitories shall be located on an outside wall which provides windows for natural lighting.

Subp. 5. **Sally ports.** Each entrance to a maximum or medium security prisoner living area shall be provided with a sally port large enough to accommodate a stretcher with both gates or doors closed.

Subp. 6. **Maintenance access to plumbing, heating, and light fixtures.** Maximum security cells shall be constructed to permit maintenance of plumbing, heating, and light fixtures from outside the prisoner area.

Subp. 7. **Prisoner access to plumbing and heating fixtures.** Heat registers, thermostats, electrical outlets, and plumbing pipes shall be located out of the reach of maximum security prisoners.

Heat registers may be located in medium and minimum security areas but shall be protected by security screen. Electrical outlets may be located in medium and minimum security areas but shall have a shutoff switch outside the prisoner area. Thermostats shall be located outside of medium and minimum security areas with heat sensors provided in prisoner areas as necessary. Plumbing pipes shall not be exposed to medium security prisoners.

Subp. 8. **Sewer lines.** Each sewer line shall be equipped with at least a two-inch cleanout plug located within 18 inches of each toilet and a shutoff valve on each water line located outside the prisoner area.

Subp. 9. **Plumbing fixtures.** Plumbing fixtures used in maximum or medium security areas shall be either aluminum or stainless steel security fixtures.

Subp. 10. **Abuse resistance.** All materials accessible to prisoners used in the construction of maximum security shall be capable of withstanding serious damage for a period of two hours, using that which is normally available within that area.

All materials accessible to prisoners used in the construction of medium security shall be capable of withstanding serious damage for a period of one hour, using that which is normally available within that area.

The design and furnishings of minimum security areas shall be developed with normalcy in mind, but in keeping with the design, purpose, classification, and use of the remainder of the facility.

Subp. 11. **Locking devices.** Maximum security cell doors shall be equipped with locking devices that provide the capability to lock all doors either collectively or separately from outside the prisoner area.

Medium and minimum security cell, detention room, or dormitory doors may be equipped with locking devices that provide the capability to lock all doors either collectively or separately from outside the prisoner area.

Subp. 12. **Vent openings.** Vent openings shall be no larger than seven inches of the diameter of a circle or 5-1/2 inches of a side of a rectangular opening.

Subp. 13. **Grillage.** Grillage bars shall consist of tool resistant steel, a minimum of seven-eighths inch in diameter, spaced no more than six inches on center vertically with lateral bar supports 3/16 inch thick at least every 18 inches. Grillage shall not be used in minimum security areas.

Subp. 14. **Glass.** All glass shall consist of polycarbonite and tempered glass combination materials, or bullet and heat resistant glass, which in either case shall be no less than one-half inch thick and greater as proportionately correlated in thickness with the overall size of the opening and the use. Architects shall verify state building code glass requirements in fire-resistive construction.

Subp. 15. **Concrete walls, floors, and ceilings.** All concrete walls, floors, ceilings shall be prepared in accordance with the Manual of Standard Practice, Concrete Reinforcing Steel Institute. All concrete shall be reinforced with intermediate grade steel meeting requirements of deformed billet-steel bars three-eighths inch in diameter for reinforced concrete ASTM A 615, Grade 60.

Mesh reinforcing shall be welded wire fabric reinforcing ASTM A 185 steel wire of size indicated and spot welded at intersections.

Placement of concrete shall be in accordance with ACI 304. Portland cement ASTM C 150 Type I shall be used for general concrete work. Fine aggregate ASTM C 33 100 percent passing of no. 4 sieve coarse aggregate ASTM C 33 three-fourths inch. Concrete mix design, 3,500 psi for general use, three inches maximum slump.

Subp. 16. **Wall construction.**

A. Maximum security walls shall consist of one of the following:

(1) steel plate, 3/16 inch thick; riveted or welded;

(2) poured concrete six inches thick with vertical and horizontal steel rod reinforcement, vertical rods six inches on center, horizontal rods as per subpart 15;

(3) concrete block eight inches thick with cells filled full height with mortar or concrete; vertical steel rod reinforcement in each block cell; horizontal steel reinforcement between each course; with hardening compound used to treat joint mortar;

(4) security walls consisting of a hollow metal, 14 gauge, steel core, interlocking wall system equal to or surpassing the following panel performance data:

Under a static load of 10,000 pounds, placed at quarter points, maximum deflection at center of panel shall not exceed .50 inches with a rebound to .065 inches after load removal. The wall panel shall be subjected to a racking or twist test placing a 5,000 pound load on one unsupported corner of the panel, with the other end of the panel held in a fixed position and with the third corner having a vertical support. The maximum permitted deflection of the unsupported corner shall not exceed 1.65 inches with a rebound to .180 inches after load removal. Wall panels shall be adequately insulated so as to deaden metallic ring if wall panels are struck by prisoners.

B. Medium security walls shall consist of one of the following:

(1) poured concrete six inches thick with vertical and horizontal steel rod reinforcement, vertical rods six inches on center, horizontal rods as per subpart 15;

(2) concrete block eight inches thick with cells filled full height with mortar or concrete; vertical steel rod reinforcement in each block cell; horizontal steel reinforcement between each course; with hardening compound used to treat joint mortar;

(3) poured concrete four inches thick with vertical and horizontal steel rod reinforcement, vertical rods six inches on center, horizontal rods as per subpart 15. Concrete shall be faced with two inches of structural glazed tile;

(4) security walls consisting of a hollow metal, 14 gauge, steel core, interlocking wall system equal to or surpassing the following panel performance data:

Under a static load of 10,000 pounds, placed at quarter points, maximum deflection at center of panel shall not exceed .50 inches with a rebound to .065 inches after load removal. The wall panel shall be subjected to a racking or twist test placing a 5,000 pound load on one unsupported corner of the panel, with the other end of the panel held in a fixed position and with the third corner having a vertical support. The maximum permitted deflection of the unsupported corner shall not exceed 1.65 inches with a rebound to .180 inches after load removal. Wall panels shall be adequately insulated so as to deaden metallic ring if wall panels are struck by prisoners.

Subp. 17. **Ceiling construction.**

A. Maximum security ceiling construction shall consist of one of the following:

(1) steel plate, 3/16 inch thick; riveted or welded;

(2) prestressed concrete planks laid side by side, minimum of four inches thick;

(3) cast in place reinforced concrete minimum of four inches thick;

(4) an 18 gauge, steel core ceiling panel system which will withstand a rack or twist test of 1,800 pounds on one unsupported corner of the ceiling panel, without weld failures or buckling of any portion of the panel. The opposite end of the panel shall be held in a fixed position and the third corner shall have a vertical support during the test. Insulate in the same manner as wall panels.

B. Medium security ceiling construction shall consist of one of the following:

(1) prestressed concrete planks laid side by side, minimum of four inches thick;

(2) same as above with secondary ceiling suspended to consist of no less than nine gauge expanded metal covered with one inch of concrete and plaster treated with hardening compound;

(3) cast in place reinforced concrete minimum of four inches thick;

(4) an 18 gauge, steel core ceiling panel system which will withstand a rack or twist test of 1,800 pounds on one unsupported corner of the ceiling panel, without weld failures or buckling of any portion of the panel. The opposite end of the panel shall be held in a fixed position and the third corner shall have a vertical support during the test. Insulate in the same manner as wall panels.

Subp. 18. **Floor construction.** Maximum and medium security floors shall consist of one of the following:

A. poured, reinforced concrete, six inches thick, using minimum of nine gauge expanded metal, or three-eighths inch steel rod six inches on center;

B. prestressed concrete sections laid side by side with minimum of 2-1/2 inches concrete or terrazzo slab using nine gauge expanded metal;

C. medium security floors may consist of quarry tile with a full setting bed method of installation;

D. a slab on grade shall be a minimum of four inches reinforced concrete with 6 X 6 to 10/10 welded wire mesh (ten gauge wire six inches o.c. each way). Quarry tile, resinous terrazzo, or an equivalent floor finish shall be applied.

Subp. 19. **Door construction.** Maximum and medium security doors shall consist of one of the following:

A. Grillage type, consisting of tool resistant steel bars, seven-eighths inch diameter, spaced no more than six inches on center vertically with lateral bar supports at least every 18 inches; equipped with security hinges, food pass (5 inches by 12 inches minimum), a dead bolt security lock.

B. Hollow metal door, 14 gauge steel minimum, equipped with security hinges, a lockable food pass (5 inches by 12 inches minimum), view panel and speak through, a manual or electrical security dead lock. Face sheets of hollow metal doors shall be of 14 gauge steel minimum and an all steel core shall be used which will provide the following performance data:

A static load of 14,000 pounds should be applied at quarter points on the door panel, with less than three-fourths inch deflection and without any failure of the door panel or welds after the load has been removed. The door panels should be subjected to a rack or twist test by placing 7,500 pounds on one unsupported corner of the 14 gauge hollow metal door panel, with the other end of the door clamped in a lock position, and the third corner

of the door supported with a vertical member. No permissible failure can occur in the door panel nor any of the welds during or after the 7,500 pounds is removed.

C. All hollow metal doors shall be six feet eight inches minimum height, 30 inches minimum width.

D. Grillage doors less than six feet eight inches minimum height, 30 inches width shall be approved by the department prior to construction. No grillage door shall be approved less than six feet high by two feet one inch wide, set three inches above finish floor, six feet three inches minimum opening height. All openings shall comply with state building code height and width requirements.

Subp. 20. **Window construction.** Maximum and medium security window construction shall consist of one of the following:

A. solid metal frame windows no wider than 5-1/2 inches (no movable parts) to be used only in conjunction with a mechanical air exchange and temperature control system; or

B. louvered or awning type windows, encased in security frames, containing rolled steel bars between panes not wider than six inches on center and covered on the inside by security screen (no less than 18 gauge or greater than one-fourth inch mesh openings) and mosquito screen on the outside.

Subp. 21. **Hardware.** All hardware used in maximum security areas shall be designed for maximum security use. All hardware in maximum and medium security areas shall be attached, using security type or tamper-proof fasteners that face away from the prisoner area. All electrically operated hardware shall provide for manually operated key override in an emergency. Electric hinges shall be equipped with concealed wires so that electric parts are not exposed after hinge is installed. All vent guards shall be constructed of tool-resistant steel, or the opening guarded by observable tool-resistant steel bars, meeting grillage specifications. Pipe chase doors or access panels shall consist of not less than one-eighth inch steel plate, locked with a security dead lock, or be of construction materials comparable to maximum security hollow metal steel doors. All hardware used in medium security areas shall be designed for medium security use.

Subp. 22. **Medium security dormitories.** Medium security dormitories shall be equipped with one fixed bed per prisoner; one ceiling or wall light per two beds, covered with an abuse resistant lens; one toilet and modesty panel for each eight prisoners; one sink and abuse resistant mirror for each eight prisoners; one shower, minimum 36 inches by 36 inches, for each 15 prisoners; one abuse resistant eating table with seating benches that provide a minimum of three square feet of space per prisoner with capacity for each prisoner up to six, but no less than six in dormitories larger than capacity for six and no

less than 60 per cent of the total capacity level, whichever is greater; one fixed dresser or wall locker per prisoner.

Subp. 23. **Minimum security rooms.** Minimum security rooms shall be equipped with a bed, desk or table, clothes closet, mirror, ceiling or wall light, and chair. Minimum security rooms shall be located separate and apart from other areas of the facility requiring higher degrees of security, but within the overall security perimeter of the facility.

Dayroom areas of at least 40 square feet per one-half of the total minimum security capacity, but no less than 120 square feet shall be provided adjacent to the sleeping area and shall be equipped for a T.V., and with telephone jack, table, seating facilities, electrical outlets. All power supplies shall be controlled by staff from outside the prisoner area.

One toilet and modesty panel, sink, and mirror shall be provided for each eight prisoners and one shower, minimum 36 inches by 36 inches, shall be provided for each 15 prisoners, when not provided in the individual rooms.

Doors are not required to be equipped with dead lock or dead latching mechanisms.

Subp. 24. **Minimum security dormitories.** Minimum security dormitories shall be equipped with the following items per prisoner: bed or bunk, wall locker or wall shelf and clothes hooks, mirror, dresser, chair, eating tables and chairs shall be provided to accommodate one-half the total capacity of the dormitory. Additional furnishings may be permitted such as divider panels, T.V. set, radio, lounge chair, and any other article which is normally used in residential living, but would not constitute a disproportionate security threat to the remainder of the facility.

Minimum security dormitories shall be located separate and apart from other areas of the facility requiring higher degrees of security, but within the overall security perimeter of the facility.

One toilet and modesty panel, sink, and mirror shall be provided for each eight prisoners and one shower, minimum 36 inches by 36 inches, shall be provided for each 15 prisoners. Such facilities may be adjacent to or apart from the dormitory proper, but must be within the immediate vicinity. Facilities may be gang type or individual when more than one is required. All privacy requirements found elsewhere in these standards apply.

Visiting shall be provided outside and apart from the dormitory area. When dayrooms are not provided, a room shall be provided for the visiting of minimum security prisoners. Such room may be the same as that provided other prisoners for privileged visiting, i.e., with attorneys, clergy, etc., providing it does not cause serious conflict in the maintenance of security for the remainder of the facility.

Doors are not required to be equipped with dead lock or dead latching mechanisms.

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