

# Center of Standardization Physical Fitness Facility (PFF)

Category Code: 74028

**Army Standard** 

## **Prepared by**

**US Army Corps of Engineers, Huntsville Center** 

738-3684



## DEPARTMENT OF THE ARMY ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT 600 ARMY PENTAGON WASHINGTON DC 20310-0600



reply to Attention of

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MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: New Physical Fitness Facility Standard Design Criteria

- 1. In accordance with AR 415-15 and the recommendations of the Commander, U.S. Army Community and Family Support Center, proponent for Physical Fitness Facility (PFF), and the Subcommittee on PFF, the Department of the Army Facilities Standardization Committee approved the revised DA standard design criteria for PFF.
- 2. The standard criteria are mandatory for use in the planning, programming, design and construction of FY03 and beyond MILCON PFF projects. Major Army Commands (MACOM) must ensure that their installations are planning and programming PFF based on this standard. USACE personnel must ensure that the design and construction of PFF comply with the standard criteria. Any desired deviations from the standard criteria must first receive approval from MACOM and then be forwarded to HQ CFSC and ACSIM for concurrence.
- 3. The new PFF standard criteria are contained in Technical instructions 800-01, Design Criteria, Appendix H. For questions or information on the PFF standard criteria contact the Center of Standardization, U.S. Army Engineering and Support Center, Huntsville, ATTN: CEHNC-ED-CS-A (Mr. Jay Clark / 256-899-1673), 4820 University Square, Huntsville, AL 35816-1822.

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#### **Description:**

Physical fitness is the cornerstone of readiness. It is an essential and critical element of Soldiering. The Army emphasizes the importance of a high level of physical capacity for the occupational tasks that Soldiers are required to perform. Staying fit is enhanced today with the growing popularity and use of cardiovascular and strength equipment among Soldiers. Physical Fitness Facilities are required by the Army to promote the strength and fitness of the soldiers. Physical fitness and sports support Army Core values. In addition, Physical Fitness Facilities provide one of the most popular sources of recreation for the soldiers and their families. Sample Surveys of Military Personnel (SSMP) consistently show fitness/sports facilities as first in use and importance to soldiers and family members.

#### **Applicability:**

- This Army Standard applies immediately to all new permanent Physical Fitness Facilities.
- The Army Standard applies to Army facilities worldwide.
- The Army Standards for Physical Fitness Facilities are derived from the American College of Sports Medicine (ACSM) (as directed by DoD Memorandum), Unified Facilities Criteria UFC 4-740-06, TI 800-01 Appendix H, and the Technical Criteria for U.S. Army Physical Fitness Facilities dated October, 2003.
- All geographic districts shall incorporate the mandatory design criteria described herein in close coordination with the USACE designated Center of Standardization (COS) for Physical Fitness Facilities.

#### Waivers:

- Only the Assistant Chief of Staff for Installation Management has authority to approve exceptions to the Army Standards.
- Waivers from the Army Standard must be requested in accordance with AR 420-1 and the Army Facilities Standardization Program Charter, latest edition.
- All waiver requests to the Army Standards require COS conflict resolution prior to submission by the Garrison Commander.
- Garrison Army Standard waiver request submissions must be received in sufficient time to allow complete review by the Facility Design Team and development of recommendations or course of action for the AFSC to consider prior to implementation into project design.
- Late submissions and/or project delays are NOT sufficient stand-alone justification for accelerated review or other dispensation for not meeting the Army Standard contained herein.

Item	Mandatory Criteria								
Facility Size	Facility sizes must be as follows based on the authorized population of the installation. The authorized population is figured as 100% active duty, 25% of family members, and 10% of DoD civilians where the civilian workforce is more than 60% of the total work force. In OCONUS locations, 100% of the DoD civilians are included:								
	Size         Population         Total Gross Square Feet           X-small         251 - 1000         27,771           Small         1001 - 3000         44,347           Medium         3001 - 6000         64,799           Large         6001 - 10,000         89,448           X-large         10,001 - 15,000         120,125								
	For every 5000 in population over 15,000, add increments of 30,677 square feet. These gross building areas are exact areas.								
Control Desk	Must be located so it is visible from the lobby/main entrance in order to control who enters the facility. Must be located adjacent to, and with direct, unobstructed, visual and physical access to, the free weight area for safety concerns. Must be able to monitor either visually, or with video-surveillance, the following areas: <ul> <li>Cardio and Circuit areas</li> <li>Gymnasium</li> <li>Group Exercise Rooms</li> <li>Entrance to Locker Rooms</li> <li>Entrance to Racquetball Courts</li> </ul> Counter heights shall be provided for standing height along with a lower area to meet ADA requirements. Lockable storage space must be provided for towels, balls, and other required equipment that will be issued from this desk. In smaller facilities, this may be accomplished through locking cabinets. In the medium and larger facilities, a separate storage room will be required.								
Fitness Module - Cardiovascular Area	Floor mounted electrical outlets in a grid, with circuits sized for the load from fitness equipment is required to allow flexibility in equipment arrangement and to avoid cord hazards. A raised floor system that provides flexibility in outlet placement is an acceptable alternative. Cardiovascular area shall be designed to provide a minimum of 2 different "environments". These environments include Cardio Theater, external views, internal views, large group interaction, and small intimate groupings. Some portion of the Cardiovascular area must be contiguous with the Circuit and Free Weight Areas. Ceiling heights and flooring material must be as specified in the Technical Criteria for U.S. Army Physical Fitness								

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	Facilities.								
	Size of this function shall be as follows:								
	Size Net Area of Function (+/- 5%)								
	X-small 550								
	Small 1350								
	Medium 2550								
	Large 4000								
	X-large 6000								
	For every 5000 in population over 15,000, add increments of 2000 net square feet.								
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Fitness Module -	Must be designed so that the entire circuit area is contiguous and that								
Circuit Area	circuit equipment space is not dispersed into the Cardiovascular								
	and/or Free Weight areas. The Circuit Area must be contiguous with								
	the Free Weight Area and a portion of the Cardiovascular Area.								
	Ceiling heights and flooring material must be as specified in the								
	Technical Criteria for U.S. Army Physical Fitness Facilities.								
	Size of this function shall be as follows:								
	Size Net Area of Function (+/- 5%)								
	X-small 800								
	Small 1350								
	Medium 1650								
	For every 5000 in population over 15,000, add increments of 1000 net square feet.								
Fitness Module - Free	Must be directly accessible, visually and physically, to the Control								
Weight Area	Desk so that staff may see and respond to any emergency								
	immediately. Mirrors must be provided on at least half of 2								
	perpendicular walls. Mirrors must extend from 18" above the floor								
	to a height that provides full body visibility. For safety reasons for								
	the weight lifters, all lighting fixtures in this area must be primarily								
	indirect (>75% up-lighting). The Free Weight Area must be								
	contiguous with the Circuit Area and a portion of the Cardiovascular								
	Area. Ceiling heights and flooring material must be as specified in								
	the Technical Criteria for U.S. Army Physical Fitness Facilities.								
	Size of this function shall be as follows:								
	Size Net Area of Function (+/- 5%)								
	X-small 975								
	Small 1885								
	Medium 3055								
	Large 5200								
	X-large 7995								
	For every 5000 in population over 15,000, add increments of 2795								

	net square feet.									
Fitness Module -										
	This room must be located on an exterior wall with vehicular access and oversized double doors (8'-0" wide minimum) or roll-up doors for delivery of fitness againment. Doors into the fitness module must									
Receiving/Equipment	```									
Repair/Storage	for delivery of fitness equipment. Doors into the fitness module must									
	also be able to accommodate movement of equipment.									
	Size of this function shall be as follows:									
	Size Minimum Net Area of Function (+/- 5%)									
	X-small 233									
	Small 459									
	Medium 726									
	Large 1150									
	X-large 1730									
	For every 5000 in population over 15,000, add increments of 580 net									
	square feet.									
Fitness Module -	The Fitness Assessment Area must be located within the Fitness									
Fitness Assessment	Module to provide space for fitness testing and consultation.									
Area										
Exercise Module	Shall be a minimum of 2 separate rooms, or 1 large room that is									
	divisible into smaller rooms by use of movable walls. All sections of									
	the room must be accessible from the main circulation path. Mirrors									
	must be provided on at least half of 2 perpendicular walls and must									
	extend from no more than 1' above the floor to a height that provides									
	full body visibility. Open storage cubbies (minimum 1 cu. ft. each)									
	must be provided directly inside the entrance to this module for									
	user's small items such as keys, wallets, street shoes, etc. Flooring									
	must be solid maple strip flooring that meets or exceeds the Maple									
	Flooring Manufacturers Association (MFMA) specifications for a									
	` ' 1									
	"second or better" grade, with an appropriate substrate that eliminates									
	dead spots and provides for adequate impact absorption. Synthetic									
	flooring, designated for aerobic classes, may be provided only if the									
	general population served by this facility is primarily active-duty									
	military, and these areas will not be used primarily for standard									
	aerobic classes, and must be approved by FMWRC. A waiver will be									
	required for any other type of flooring proposed. Ceiling heights									
	must be as specified in the Technical Criteria for U.S. Army Physical									
	Fitness Facilities. Enclosed, lockable storage rooms must be									
	provided for each room, or section of a room, to provide space for									
	storage of items such as mats, fit balls, medicine balls, bands, steps,									
	dumb bells, etc.									
	XXII									
	Where more than 1 individual room is provided, one of the rooms									
	may be outfitted as a Combatives Room. There is no requirement for									
	mirrors and wood flooring in a Combatives Room. Dimensions of a									
	Combatives Room must be minimum of 36' x 36'. Walls and Floors									

	shall be padded. Doors shall not open directly into the padded area.												
	Size of this fu	Size of this function shall be as follows (does not include storage).											
	Storage shall l	be an additional 10% of th	ne area shown below:										
	Size	Total Net Area of	Net Area of each room if										
		<u>Function (+/-5%)</u>	2 separate rooms provided										
	X-small	2200	1200, 1000										
	Small	2900	1650, 1250										
	Medium	4550	2800, 1750										
	Large	7000 4500, 2500 * In the large											
		size, the 4500 square foot room could be subdivided with a movable wall.  X-large 10,500 6750, 3750 * In the X-Large size, the 6750 square foot room could be subdivided with a movable wall.  For every 5000 in population over 15,000, add increments of 3500											
	Large si												
	•	e feet, either to the 2 room	·										
	additional roo	m(s).	-										
Gymnasium			courts authorized, courts may										
		be provided in 1 large gymnasium or in a primary and secondary											
	•	-	one required between courts										
			nasium must be maple strip										
		flooring (or equal) or synthetic flooring (when approved by the											
		installation and COS) that complies to the appropriate Deutsches											
		Institut für Normung (DIN) standards for gymnasium flooring. Court											
	_	markings and function fixtures (such as backboards) must comply											
	-	with the requirements of the Governing body of the sport (such as											
		National Collegiate Athletic Association (NCAA)). The secondary											
		gymnasium will be designed to meet the programming requirements											
		of the installation and shall consider more non-traditional sports such											
		as indoor soccer, in-line hockey, etc. Clear heights must be as											
	-	specified in the Technical Criteria for U.S. Army Physical Fitness											
	Facilities to ac	Facilities to accommodate both Basketball and Volleyball. An											
		enclosed, lockable storage room must be provided for each											
		or equipment. Doors must											
	movement of	movement of large items such as rolls of floor mats, volleyball											
	standards, por	table basketball goals, etc											
		sketball courts is as follow											
	Size	Number of Courts	· · · · · · · · · · · · · · · · · · ·										
	X-small	1	9804 - 10,200										
	Small 2 17,400 – 18,392												
	Medium	3	24,600 - 27,284										
	Large	4	31,800 – 35,948										
	X-large	5	40,200 – 44,840										
	For every 500	0 over 15,000, add 1 addi	tional court with a Net Area										

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In accordance with the International Building Code, the area of the								
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	rooms. If the user has selected a Climbing wall for their facility, it									
	must be located so as to be under constant staff supervision, or must									
	be located in a separate lockable room. Enclosed, lockable storage is									
	required for each structured activity.									
	Size of this function shall be as follows (does not include storage).									
	Storage shall be an additional 10% of the area shown below:									
	Size Total Net Area of Function (+/- 5%)									
	X-small 2550									
	Small 3175									
	Medium 3950									
	Large 5300									
	X-large 6460									
	For every 5000 in population over 15,000, add increments of 1160									
	square feet.									
Locker Rooms	The following functions are mandatory in the general area referred to									
Locker Rooms	as "Locker Room".									
	Locker/Dressing Area									
	Grooming Area									
	• Shower Area with private shower stalls and drying booths.									
	Gang showers are NOT allowed.									
	Restroom facilities									
	Sauna or Steam Room									
	A separate men's and women's locker room shall be provided. All									
	locker room functions, listed above, must be provided for each									
	gender. Locker Rooms must be arranged so that the restroom									
	functions are close to the entrance of the locker room, and do not									
	require that people needing to use the restroom must pass through the									
	locker and/or shower area. Shared saunas, steam rooms, etc. will not									
	be provided. Lockers must be a minimum of 15" wide and 18" deep.									
	Minimum height is 30" per half locker. Use of "Z" lockers to									
	provide additional height is allowable. There will be a combination									
	of full-height and half-height lockers, the ratio of which is									
	determined by the installation based on climatic concerns.									
	Size of this overall function shall be as follows:									
	Size Combined Net Area Range of Function									
	X-small 2116 - 2400									
	Small 3312 - 3800									
	Medium 4910 - 5850									
	Large 6788 - 8800									
	X-large 9438 - 11,800									
	For every 5000 in population over 15,000, add increments of 2650 -									
	3000 square feet.									
Sauna/Steam Room	A sauna or a steam room must be provided in the Physical Fitness									
Sauna/Steam Room	11 sauna of a secam foom must be provided in the finysteal fittless									

Laundry	Facility. The installation may determine which is their preference. Separate saunas/steam rooms must be provided for each gender. Shared saunas or steam rooms are NOT allowed. Controls shall be accessible to staff only. Access to the saunas/steam rooms shall be through the locker rooms only.  Must provide adequate area and mechanical/electrical support for											
Laundry	industrial style washers (extractors) and dryers (tumblers) with additional space for utility sink, folding table, and storage for laundry carts. It is preferable that the laundry be adjacent to the control desk. However, if the laundry is located elsewhere in the facility, space must be provided in the laundry room for storage for a minimum of 2 laundry carts.											
Administration	An administration area must be provided that includes office space for the facility manager along with other program staff in accordance with the table below. It is not required that the administration area be adjacent to the control desk.											
	Minimum Net Areas:											
	X-Small Small Medium Large X-large											
	Director's Office 120 120 120 120 120											
	Program Managers' Offices 0 100 100 100 200											
	Support Staff Workstations 128 128 256 384 384											
	(Quantity of Workstations) (2) (2) (4) (6) (6)											
	Copy/file/work/break Room 160 240 160 160 160											
	Classroom/Training Room 0 0 420 420 420											
	Classroom/Training Storage 0 0 60 60 60											
	For every 5000 over 15,000, add increments of 64 square feet for an additional support staff workstation.											
Lobby	Must be in the proximity of the main entrance and control desk.  Must be visible from the control desk so staff can monitor the area.  Must provide area for seating for approximately 5% of the total number of participants. Must also provide direct access to public toilets.											
Public Toilets	Must be accessible from the lobby and gymnasium. Primary users of these restrooms will be spectators.											
Elevator	In multi-story applications, an elevator to comply with ADA and to provide a means to move fitness equipment to the upper level(s) is required.											
HVAC	Physical Fitness Facilities must be conditioned per the Technical Criteria Document for Army Physical Fitness Facilities, which is based on the American College of Sports Medicine (ACSM). A waiver is required to deviate from the requirements specified in the Technical Criteria document											
Drinking fountains	Drinking fountains shall be directly adjacent to, or within, each functional module. Determination of whether the drinking fountain is placed within the module is dependent upon the flooring material											

and potential for damage or injury.
and potential for damage of injury.

#### GENERAL DESIGN PHILOSOPHY:

The Army currently has 244 facilities at 110 installations world-wide. The majority of these facilities are in adequate condition, but almost all installations currently have a deficit in the amount of PFF space based on their population. The new standard reflects a modular approach which takes into account the current trends in training, fitness, and recreation, and uses the current PFF inventory at the installation to maximize efficiencies and to provide uniform opportunities across the Army.

#### **GUIDANCE:**

U.S. Army Physical Fitness Facilities must comply with the Technical Criteria for U.S. Army Physical Fitness Facilities dated October, 2003, except as modified by the Army Standard above.

The building fire protection system shall be designed in accordance with the applicable standards and codes. The PFF shall be protected throughout by an approved automatic wet pipe sprinkler system.

The entire facility must be handicap accessible.

Physical Fitness Facilities must be designed to allow natural day lighting while controlling glare and heat gain. Spaces should be provided with large windows, translucent panels, clerestory windows and other techniques to maximize daylighting and improve the quality of life in these facilities.

Army PFF in the past have been a series of dark concrete block rooms with different functions placed inside. The intent of the new standard is to provide open areas appropriately designed for their function. Concepts such as exposed structure in lieu of acoustical tile ceilings may be utilized in many different areas. Also, spaces shall be as open as possible to provide flexibility to accommodate shifts in trends in fitness and recreation.

Extremely large installations will consider providing mega facilities (larger than the "large" size indicated in the charts above), sized by using the increments as shown above, to minimize the total number of facilities on the installation to maximize staffing and other efficiencies.

Traffic patterns must be considered when laying out the lobby and control desk to minimize potential conflicts with cross traffic for people signing in. It is preferable that the control desk be located on the right side when you enter the facility.

Laundry room should be located in close proximity of the control desk. Often, the staff running the desk will also be taking care of the laundry.

Unless otherwise noted, all net areas provided in the mandatory requirements above are the ideal area based on equipment sizes and other functions. Actual areas may vary +/- 5% from what is shown.

DIN standards referenced above in the Gymnasium may be found in the American College of Sports Medicine (ACSM) book, "Health/Fitness Facility Standards and Guidelines".

The chart on the following page lists the total area for each functional area that should be provided for an entire installation based on their authorized population. The PFF buildings are allocated on the basis of authorized population (AP) which includes 100% of active duty military and 25% of their dependents. Retirees are not counted in the AP at this time. DoD civilians are included at 10% only if they exceed 60% of the total workforce for CONUS installations. OCONUS installations are authorized at 100% of the civilian population in their AP.

It is difficult to determine the number of parking spaces required for a PFF. Based on the American College of Sports Medicine's "Health/Fitness Facility Standards and Guidelines", for initial parking calculations, assume 1 parking space for every 300 gross square feet of facility. This will provide adequate parking for all staff and approximately 60% of the maximum facility participants. However, many factors may result in the adjustment of this number of parking spaces, either up or down. A parking needs survey needs to be conducted to determine a more accurate need for parking, and the number of parking spaces provided adjusted accordingly. This survey needs to consider the following aspects at a minimum:

- 1. Current parking available in close proximity to the PFF.
- 2. The number of spectators that can be accommodated in the gymnasium.
- 3. Proximity of the PFF to troop housing.
- 4. Availability and use of public transportation.
- 5. The type of unit (administrative vs. training, etc.)
- 6. The amount of shift work.

AUTHORIZED PFF SPACE ALLOWANCE																	
TOTAL PF	FUNCTIONAL AREAS & C BUILDING AREA																INCREMENT
(Areas in s 11/09/07	quare reer)	X-SMALL POST	SMALL POST	MEDIUM POST	LARGE POST	X-LARGE 1 POST	X-LARGE 2 POST	X-LARGE 3 POST	X-LARGE 4 POST	X-LARGE 5 POST	X-LARGE 6 POST	X-LARGE 7 POST	X-LARGE 8 POST	X-LARGE 9 POST	X-LARGE 10 POST	X-LARGE 11 POST	(each 5000 over 10,000)
	Minimum Population:	251	1001	3001	6001	10,001	15,001	20,001	25,001	30,001	35,001	40,001	45,001	50,001	55,001	60,001	
	Maximum Popultion:	1000	3000	6000	10,000	15,000	20,000	25,000	30,000	35,000	40,000	45,000	50,000	55,000	60,000	65,000	5000
	Cardiovascular Area	550	1,350	2,550	4,000	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	26,000	2,000
Fitness	Circuit Area	800	1,350	1,650	2,300	3,300	4,300	5,300	6,300	7,300	8,300	9,300	10,300	11,300	12,300	13,300	1,000
Module	Free Weight Area	975	1,885	3,055	5,200	7,995	10,790	13,585	16,380	19,175	21,970	24,765	27,560	30,355	33,150	35,945	2,795
	subtotal	2,325	4,585	7,255	11,500	17,295	23,090	28,885	34,680	40,475	46,270	52,065	57,860	63,655	69,450	75,245	5,795
	Storage - 10%	233	459	726	1,150	1,730	2,309	2,889	3,468	4,048	4,627	5,207	5,786	6,366	6,945	7,525	580
	Large Group Exercise	1,200	1,650	2,800	4,500	6,750	9,000	11,250	13,500	15,750	18,000	20,250	22,500	24,750	27,000	29,250	2,250
Exercise	Small Group Exercise	1,000	1,250	1,750	2,500	3,750	5,000	6,250	7,500	8,750	10,000	11,250	12,500	13,750	15,000	16,250	1,250
Module	subtotal	2,200	2,900	4,550	7,000	10,500	14,000	17,500	21,000	24,500	28,000	31,500	35,000	38,500	42,000	45,500	3,500
	Storage - 10%	220	290	455	700	1,050	1,400	1,750	2,100	2,450	2,800	3,150	3,500	3,850	4,200	4,550	350
	Racquetball Courts (Minimum)	800	800	1,600	1,600	2,400	3,200	4,000	4,800	5,600	6,400	7,200	8,000	8,800	9,600	10,400	800
Structured Activity	Other Structured Activities	2,550	3,175	3,950	5,300	6,460	7,620	8,780	9,940	11,100	12,260	13,420	14,580	15,740	16,900	18,060	1,160
Module	subtotal	3,350	3,975	5,550	6,900	8,860	10,820	12,780	14,740	16,700	18,660	20,620	22,580	24,540	26,500	28,460	1,960
	Storage - 10% of Struc. Act.	255	318	395	530	646	762	878	994	1,110	1,226	1,342	1,458	1,574	1,690	1,806	116
Gym	Basketball Courts (Gymnasium) Includes elevated jogging track (no scope)	10,200	17,400	24,600	31,800	40,200	48,600	57,000	65,400	73,800	82,200	90,600	99,000	107,400	115,800	124,200	8,400
Module	Storage	700	1,050	1,400	1,750	2,100	2,450	2,800	3,150	3,500	3,850	4,200	4,550	4,900	5,250	5,600	350
	subtotal	10,900	18,450	26,000	33,550	42,300	51,050	59,800	68,550	77,300	86,050	94,800	103,550	112,300	121,050	129,800	8,750
TOTAL NET	OF MODULES	19,483	30,976	44,931	61,330	82,381	103,431	124,482	145,532	166,583	187,633	208,684	229,734	250,785	271,835	292,886	21,051
						SUPI	PORT ARE	A ALLOWA	NCES:								
Sauna, Loc	kers, Showers, Toilets	2,400	3,800	5,850	8,800	11,800	14,800	17,800	20,800	23,800	26,800	29,800	32,800	35,800	38,800	41,800	3,000
PUBLIC RE	STROOMS	320	690	1,060	1,430	1,920	2,410	2,900	3,390	3,880	4,370	4,860	5,350	5,840	6,330	6,820	490
4.17%	ADMIN/LOBBY	925	1,480	2,160	2,980	4,004	5,028	6,052	7,076	8,100	9,124	10,148	11,172	12,196	13,220	14,244	1,024
20%	MISC. (M/E, Circ., Struct., etc.)	4,626	7,389	10,800	14,908	20,021	25,134	30,247	35,360	40,473	45,585	50,698	55,811	60,924	66,037	71,150	5,113
TOTAL GR	OSS AREAS (Calculated):	27,753	44,335	64,801	89,448	120,125	150,803	181,480	212,158	242,835	273,512	304,190	334,867	365,545	396,222	426,899	30,677
ACTUAL S	STANDARD SQ. FT.:	27,771	44,347	64,799	89,448	120,125	150,802	181,480	212,157	242,834	273,511	304,188	334,865	365,542	396,220	426,897	30,677