



**U.S. Army Corps  
of Engineers**  
Engineering and Support  
Center, Huntsville

## **Joshua W. Soto Physical Fitness Facility**

**Building 20751  
Fort Bliss, TX**



**ESTR – Phase 1  
Project No 64614**

**June 2011**

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## CHAPTER 1 - GENERAL

### 1-1 Purpose

The intent of this document is to present the findings of the Phase I ESTR performed on Building 20751 (Joshua W Soto Physical Fitness Center) at Fort Bliss, TX. The ESTR was performed by the HNC team on May 16 and 19, 2011.

### 1-2 Facility Description

Soto Physical Fitness Facility was developed to be an extra-large PFF. Due to budget restraints it was reduced in scale by removing the racquetball courts and 2 basketball courts. It is approximately 95,200 sq. ft. The facility was occupied in June, 2010. Hours of operations for the facility are Monday-Thursday: 5am - 9pm; Friday: 5am - midnight; Saturday: 7am - midnight; Sunday, holidays & training holidays: 8am - 8pm.

### 1-3 ESTR Team Members

The following is a list of HNC's team members that participated in the ESTR:

- Jay Clark – Architectural
- Robert Jackson – Mechanical
- Karen Shockley - Electrical

### 1-4 Meeting Contacts

The following is a list of individuals that were contacted during the ESTR:

- Eric Hildreth, MWR Sports and Fitness Director
- Sal Rocha, Soto Gym Facility Manager
- Maria Montes, DPW Team Lead
- Adrian Trejo, DPW Design Branch
- Jessica Saenz, COE Resident Engineer
- Emilio Escandon, O&M

### 1-5 Construction

The design-build contractor for this project was Alutiq LLC. The following is a list of the major contract modifications issued during construction.

- Most change orders were due to ambiguities in the RFP and criteria.
- During contracting and design phase, a lot of back and forth to bring the facility under budget.

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**CHAPTER 2 - ARCHITECTURAL**

**2-1 General Discussion**

- Fire extinguisher cabinets in the gymnasium are too flimsy and are not holding up to the abuse.
- Walls in the gymnasium are also not durable enough. There are cracks and damage to the finish
- Weight room has damage on walls from the weight plates.
- Whole weight room flooring is being replaced because it is cracking from weights dropping on it. It is a poured in place flooring. Changing to 5' wide roll out surfacing more like Mondo flooring. Flooring needs to be able to withstand impact of at least 150 pound of weight being dropped from 4'-5' above the floor.



- Too many cubbies were provided throughout the facility, especially in the fitness module. They distributed them around to other places that did not have cubbies.



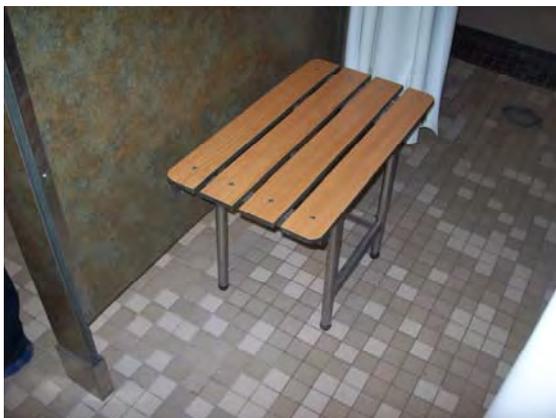
- Mechanical, Communications, and Recycling Rooms are all oversized. Part of this may stem from the

original design which was approximately 25,000 square feet larger. The standard does not dictate the space to be provided for these functions, so this needs to be reviewed during design.

- Issues with elevator certification. Is the state required to do elevator certification in federal construction?
- Fire alarm and strobe was placed right above the heater in the sauna. On the first day of operation, those items melted down the wall.
- Top of stairs were not coordinated with the floor finish. Therefore there is a slight change in floor level at the top of the stairs which is a real safety concern.



- Storage area for each functional area is very important and is extremely useful and needs to be maintained. This storage enables them to store all of their aerobics equipment off of the floor, which is extremely rare!
- Too many drinking fountains. People don't use drinking fountains. They bring or buy their own water.
- The private shower stalls in the men's locker room is greatly appreciated. In addition, the drying booths are appreciated, and help with facility upkeep (people are generally not as wet when they return to their lockers). Considerations for the drying booths include ensuring the bench is durable, and provided with legs if it is a fold-down bench, providing durable hooks for hanging of gear (main maintenance issue in this facility with the drying booths), providing durable commercial curtain rods and hooks, and designing to allow for users to reach in and adjust the shower before entering the actual shower stall.



- Their laundry room (which is also oversized!) includes 2 extractors and 4 tumblers. They really only need 3 tumblers.



- Only need 1 ice machine. Safety office has requirements on the ice machines that make them a maintenance problem for the staff. Ice maker at the concessions area could be used when ice is needed for emergencies.

- Snack bar needs larger storage room. They took over recycling room for more of their storage. Also could use more counter top space and cabinets.
- Open concept into gymnasium and fitness module works well from the spectator standpoint. However, they needed nets in the openings around the gymnasium to keep the balls from going into other areas.
- Spinning room is a big hit. The sound proofing helps keep the sound out of the adjacent spaces. They are bringing in a consultant to “energize” the space. At first they thought that 60 bikes was going to be overkill, but they really couldn’t do with less.



- The combatives room is crucial as well. They will still hold events, and larger combatives training in one side of the gymnasium as well. The combatives room is about half of what they need. In order to provide space for hanging bags, they do not have 2 full mats. In addition, the room was not built to the standards needed for combatives: room way out of square, columns protruding into the room, electrical outlets around the wall. Mats on the floor need to be 3” thick. Mats on the wall need to be 1 ½” thick and don’t need to be any taller than 6’. Wall mats should extend down to the top of the floor mats, not to the floor surface itself. Walls need to be reinforced in this room, especially where the bags are located.



- Banked curves on jogging track seems to make some people's hips hurt. May be appropriate on longer tracks, but question the need for banked curves on a track around a 2-court gym.
- Need to provide synchronized clocks around the track.
- Provide 2 scoreboards per court.
- Stereo in spinning room needs to be controlled by the instructor on the bike. Therefore, it needs to be mobile, and needs to be located inside the actual spinning room.
- Storage is required for spinning classroom, mainly for broken and new bikes.
- Health assessment office in this facility does actual physical testing of patrons.
- The projector in the conference room was a coordination issue with FF&E vs MCA. Anything that takes a mount is an issue because different equipment requires different mounts.
- The aerobics room was provided without mirrors, which should be required.
- The aerobics room was provided without an acoustical tile ceiling. While the users didn't think it was a problem, we may want to investigate adding that as a requirement.
- Due to the use of Kal wall and indirect lighting shining up into fire proofed structure, the room seems dim.
- There are HVAC units above this space. When they leak, they damage the wood floor. HVAC units should not be located above wood floors.



- Various spaces could use clear windows for view and brighter daylighting. All spaces seem dim, and it seems like it is overcast outside.



- Need space in gym storage for combatives mats. One mat is 6 rolls that are 6' long. These mats are 3" thick. There can be as many as 5 mats per court.
- Storage for bulk cleaning supplies is needed, before it is broken down to the individual janitors closet on an as needed basis.
- The open plan with a lot of flexibility is key!!!

### 2-2 Feedback/Lessons Learned/Standard Design Impacts

- There is a need for cubbies in the gymnasium as well as other areas. Add a requirement to provide cubby type storage in the gymnasium.
- Pads on the walls under the basketball goals were overkill based on how far the wall is from the edge of the court. Review the standard to see if we require the pads when the full safety zone is met.
- Need to provide general storage for the facility staff for general storage. Needs to be centrally located in the facility.
- Need to beef up verbiage about ceiling heights and exposed structure to ensure that nothing is lower than the minimum height we require, and that the space is "designed" for exposed structure, and not just look like it should have had a ceiling but didn't!

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**CHAPTER 3 - MECHANICAL**

**3-1 General Discussion**

- HEPA filters were increased to get more LEED points but it is a problem for the installation because they don't stock those filters (HEPA 8 vs HEPA 13).
- Health assessment room is overly warm. Plus, due to the physical activity, it gets even warmer!
- All exercise rooms are inconsistent on temperature.
- Aerobics Room (Exercise Module) should be at approximately 68 degrees F.
- LCD thermostats are preferred.
- Pressurization issues are occurring inside the facility. In the summer time the building seems to be overly positive pressurized that the building doors may come open. In the winter time the building seems too under pressurized that the buildings are hard to open.
- Multiple heating fan coil units were used in the weight room. The suggestion was made that a dedicated unit would have been the preferred option.
- The HVAC system installed are roof top package units in connection with terminal units.
- Duct smoke detector sensors are being falsely activated by the sand. They can't identify which smoke detector falsely alarmed so they have to check every smoke detector in the system.
- The pre-filter is getting clogged with lent.

**3-2 Lessons Learned/ Standard Design Impacts**

- Need to look at the plumbing code to see if the number of drinking fountains may be reduced, or if there is another way to accomplish this (ie. Water vending machines).
- Insure proper air balance is established in the facility.
- Insure an identifiable system is in place to identify duct smoke detectors and properly posted on site.

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## CHAPTER 4 - ELECTRICAL

### 4-1 General Discussion

- Gym lighting needs to be zoned by court and also by levels over each court. In addition, if there are any special features, such as a movie screen, lighting controls need to take this into account as well.
- Floor mounted electrical is still the best solution for cardio equipment, even if it is a coordination nightmare.
- All rooms with multiple doors shall have light switches provided at each door, properly wired. This includes storage rooms. Consider use of occupancy sensors, but ensure they are located so they can “see” the activity in the room.
- A PA system was not installed. They tried to use the Mass Notification System as the PA. That does not work, so the facility does not have a PA system.

### 4-2 Lessons Learned/ Standard Design Impacts

- Ensure electrical plugs at the dressing counter are above the counter to allow patrons to plug in their own hair dryers and be able to use them.
- Ensure electrical outlets are not provided in the Combatives Rooms on walls where mats will be provided, unless they are mounted above the mats.
- Provide write up regarding jacks for TV and projector. They had to install additional jacks to be able to connect equipment to the projector.