



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

Large Consolidated Fire, Safety, and Security Headquarters Facility

**Building 20709
Fort Bliss, TX**



**POTR – Phase 1
Project No 64608**

15 March 2013

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CHAPTER 1 - GENERAL

1-1 Purpose

The intent of this document is to present the findings of the Phase I Post Occupancy Technical Review (POTR) performed on Building 20709 (Large Consolidated Fire, Safety, and Security Head Quarters Facility) at Fort Bliss, Texas. The POTR was performed by the HNC team on 25 FEB 2013.

1-2 Facility Description

Building 20709 was the prototype for the new Directorate of Emergency Service (DES) Facilities, the Army Standard's for DES Facilities was pattern after this facility. This facility was occupied in 29 MAR 2012. This is a 24 hour / 7 days a week operation facility. There is always someone on duty in this facility.

The facility was a prototype for the new Army Standard, is was "custom designed" by the CoS due to the 1391 being based on the outdated UFC. The Standards FDT felt it was important to incorporate as many of the features of the new standard as possible into the square footage allowed by the 1391.

The users are very pleased with the facility.

1-3 POTR Team Members

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

- Jay Clark – Architectural
- Chris Shepherd – Architectural
- Rod Bridgeman – Mechanical
- Jackie White – Electrical

1-4 Meeting Contacts

The roster is attached in Appendix A

1-5 Contract Modifications

The design-build contractor for this project was Creative Times Inc. (CTI) There was a total of 11 mods, and a copy of the mods are in Appendix B. Many of the mods were site issues.

1-6 Construction Issues

- Fire Administration Lobby light sensor does not work.
- Door stops are needed.

Post Occupancy Technical Review

March, 2013

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- There were equipment procurement problems.
- One overhead electrical plug missing in Apparatus Bay.
- Warranty has been an issue.
- There are various water leaks though out the facility.
- Apparatus Bay exhaust systems has major problems mainly due to size of connector to exhaust.



- Mass notification system does not work properly.
- Kitchen range hood does not work.
- The sally-port for the detention area does not work. The doors can be pulled apart by hand.



- The conversation ports between the detention waiting area and the MP Desk need to be amplified.



1-7 Overall Satisfaction

- Overall, everyone is very pleased with the facility.

CHAPTER 2 - ARCHITECTURAL

2-1 General Discussion

- There were general discussions about lessons learned and nice to haves. The team walked through the entire facility during normal business hours to see day to day operations. We also engaged with the staff to get a overall sense of the facility from the staff point of view.
- The open day room was not getting much use. Instead they were using the enclosed recreation room more. For the standard look at ways to ensure better utilization.



- The furniture did not fit the dorm rooms. Some of the furniture was too large for the rooms. This was due to the facility being resized.



- More lockers are needed in the Patrol Area and the bathrooms need more storage space



- The bathrooms are undersized.
- There were no funds to tie-in the facility communications with the installation's communication system. The contract should have provided funds for this connection.
- The card reader requires a pin and card to gain access. The firefighters want only a pin coded card reader on the doors.



- The computer Aided Dispatch Room size did not match-up with the furnishing installed there. The MP Desk also needs data outlets and additional cooling because of the computers, printers and monitors.



- The Request for Proposal should require the equipment operation manuals to be provided to the occupant. CEHNC needs to contact the contractor and request the equipment operation manuals.
- ADA standards for the front door need to be revised to include automatic door openers. The front doors do not always work.
- The occupant would like a gas connection in the patio area.
- The designer should correlate the door frames and the IDS equipment early in the design process. For this project the door frames did not work with the IDS equipment. The lock detection on the outer doors needs to be deactivated.



- The kitchenette should be changed into a full kitchen.



- The Apparatus Bay Doors are hard to open. The ventilation system may not exhaust all fumes to the outside.



- The designer needs to redesign the roof hatch. A guardrail should be placed around it to prevent falls.



2-2 Feedback/Lessons Learned/Standard Design Impacts

- Add mirrors with medicine cabinet in the Fire Chiefs shower and toilet area. Provide a medicine cabinet for each person using the dorm room. (If 2 people use the same bathroom, then provide 2 medicine cabinets)
- Admin. areas need more storage space.
- Add a door to the laundry room.
- Add gas capability to the patio area.
- Provide high ceilings and ceiling fans in the fitness area. Also add telephone(s).



- DES area needs a kitchenette.
- Add phone and data in every room.
- Showers are needed for the Law Enforcement staff.
- Each section needs access to restrooms.
- Each section needs storage.
- Add com. and data in Con. Waiting area.
- More toilets are needed in the central areas in the facility.
- Determine the best configuration of the dayroom/recreation room so that the space is being utilized.
- Law Enforcement conference room needs to accommodate 20 people.

- Add all major equipment to milcon. This includes things like kitchen equipment.



- Kitchen needs 2 refrigerators, not 1 refrigerator and 1 freezer. Actually needs a refrigerator for each Company (i.e. a 3-Company station would need 3 refrigerators).
- Look at security of the detention area. Should there only be one door into that area, and should it be provided with a vestibule?
- Look at stained concrete floor in MP and guard area. VCT is not holding up well and is marking from all the traffic.



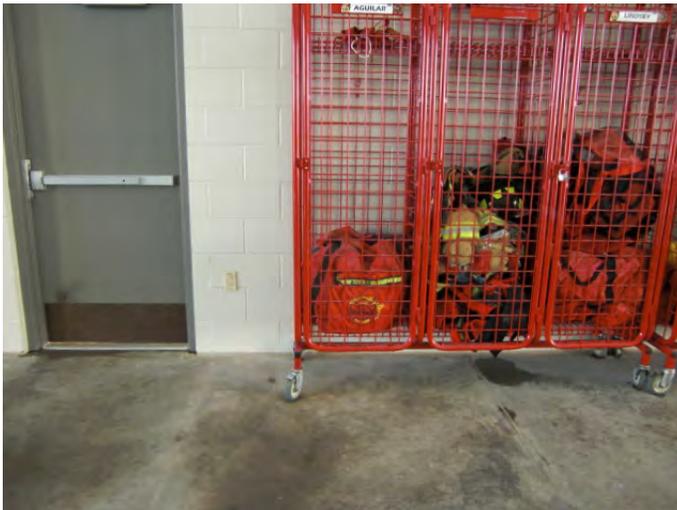
- A larger Patrol Briefing Room is needed.



- The designer needs to add more offices for Patrol Officers.
- The Fire Department Headquarters should be a central hub. It should not be located in the corner of the building.
- Provide durable and cleanable wall surfaces in MP and guard area. They have put a FRG wainscot in these hallways to protect the walls.



- Firefighters gear should not be stored in the Apparatus Bay due to exhaust fumes. Personnel Protective Equipment should be stored in a dedicated room.



CHAPTER 3 - MECHANICAL

3-1 General Discussion

HVAC

- HVAC System consists of a chilled water and hot water system serving a VAV system and multiple fan coil units. Gas-fired infrared heat is used for the Apparatus Bay.
- Individual, dedicated fan coil units provided for each dorm room.
- Tailpipe exhaust system in the Apparatus Bay is not working properly. The exhaust hose tailpipe adapter does not fit the fire truck exhaust tailpipe. A new adaptor fitting has been ordered.



- Building Occupant had difficulty obtaining copy of O&M Manual.
- Kitchen range hood exhaust fan is not working, the supply fan is working. This item will be repaired under warranty.
- There is some backflow of vehicle exhaust products when Apparatus Bay exhaust system is deenergized.

PLUMBING

- Commercial duty washing machine drains into floor trench.



- Low flow shower heads and lavatories were provided.
- Waterless urinals were provided.
- Apparatus fill line was provided in Apparatus Bay.
- Stainless steel security plumbing fixtures provided in Detention Area.
- Backflow preventer located in Apparatus Bay consumes valuable space and is subject to damage. Due to ready access requirements for annual inspection and testing, it could not be raised.



FIRE PROTECTION

- Building fire extinguishing system consists of a wet pipe sprinkler system.

3-2 Lessons Learned/ Standard Design Impacts

- Zone thermostat should be located in Dispatch Room instead of Senior Desk Sgt Office due to presence of multiple computers, a copy machine, multiple large monitors, and a printer in Dispatch Room. The Dispatch Room was uncomfortably warm.
- Provide heat and low temperature remote alarm in mechanical equipment room.
- Provide high temperature remote alarm in Communication Room.
- Do not locate backflow preventer in Apparatus Bay.
- Ensure exhaust hose tailpipe fittings are compatible with vehicles located in Apparatus Bay.
- Ensure Apparatus Bay exhaust system runs a purge cycle to remove residual exhaust products.

CHAPTER 4 - ELECTRICAL

4-1 General Discussion

- There are adequate exterior lighting systems provided for parking areas, sidewalks, building entrances and perimeter for safety, evacuation, and security measures.
- Lighting is controlled by motion sensors. When the motion sensors malfunction, manual switches were added.
- Emergency lighting switches OFF when area not occupied or during unoccupied hours.
- 100% emergency generator back-up power has been provided.



- Emergency generator has been provided with 72 hour on-site fuel storage.
- The Firefighter Alert System does provide simultaneous visible and audible alerts inside and outside.
- The Apparatus Bay does have self-retracting electric drop cords between vehicles that reach to either end of each bay.



- The Apparatus Bay does not have functioning Red/Green signaling system mounted 6' AFF for each door to indicate whether the bay door is fully raised.
- The Apparatus Bay Hose Drying Rack does have dedicated outlets to support drying equipment.



- Cathodic Protection System was provided.



- The transformer is metered.

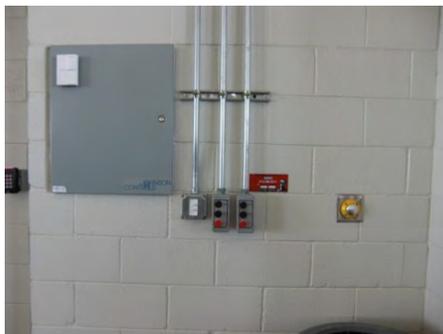


- Does the transformer meter, gas meter, and water meter appear to be connected to the Building Monitoring System? This information will be provided later.

- At a minimum, has the transformer meter, gas meter, and water meter been integrated with the post-wide UMCS/EMCS and are the required data logging being recorded/stored for the facility? This information will be provided later.
- Adequate Lightning Protection System was installed.



- The Dispatcher's Suite UPS does serve all Dispatch computers, telephones, and firefighter alert system to provide a fully functional dispatch when transitioning from normal to emergency power.
- The Day/Training Room (including kitchen) does have dimming controls for the lighting. This room is not used that much.
- The Recreation Room does have dimming controls for the lighting. This room is not used that much.
- General use duplex wall outlets were provided not less than 10' on center and located to eliminate the need for extension cords. More power outlets are needed in the fitness rooms.
- The Station Officer's Office/Watch Desk has been provided with operational control to open the Apparatus Bay Doors.



- The Station Officer's Office/Watch Desk has been provided with operational control of the Firefighter

Alert System.



- The Firefighter Alert System does correctly control audible alert and dedicated alert lighting in Dorm Rooms, corridor lights from Dorm Rooms to Apparatus Bay, and Apparatus Bay.



- The wiring is concealed from view in finished/areas.
- There is adequate working clearance for electrical and communication panels.



- The occupant is satisfied with intercom system (announcements understandable).
- The Telephone/Data/Power outlets are not all connected at the reception and admin areas.

- The Communication Rooms are adequately heated/cooled.



CHAPTER 5 - MISCELLANEOUS

5-1 CIVIL/SITE

- The occupant is not satisfied with parking design. The Parking lot curve cuts need to be wider for oversized trucks.



- Tiger Teeth does not work properly. They are chewing up the sides of the tires on the fire trucks.



5-2 SECURITY

- The design for the outdoor storage area for fire extinguishing agents sufficiently limits access to the area.



- There is adequate console space for the Closed Circuit Television (CCTV) monitors to monitor the

facility.

- There is adequate space provided for the CCTV, network, communication, UPS, and computer equipment for the facility in the UPS Room.
- The cipher lock does adequately limit access to this area and function properly in the UPS Room.
- The UPS does adequately power the Dispatch equipment.
- In the Telecommunications Room, the locking mechanism adequately limits access to this area and function properly.
- The camera should monitor the perimeter of the facility, apparatus bay, interview rooms and the corridors.
- The designer should design an ESS for this type of facility.

APPENDIX A - ROSTER

Post Occupancy Technical Review (POTR) - Notes

| | | | |
|--|--|-------------------------------|-----------|
| Installation: FT. BLISS | | PN: 64608 | Bldg: DES |
| Name: Jay Clark | | Organization: CEHNC - COS | |
| Phone: (256) 895-1673 | Email: james.t.clark@usace.army.mil | | |
| Professional Responsibility: COS ARCHITECT | | | |
| Name: CHRIS SHEPHERD | | Organization: CEHNC-COS | |
| Phone: (256) 895-1673 | Email: chris.a.shepherd@usace.army.mil | | |
| Professional Responsibility: | | | |
| Name: Jackie White | | Organization: CEHNC | |
| Phone: (256) 895-1742 | Email: Jackie.White@usace.army.mil | | |
| Professional Responsibility: Electrical Engineer | | | |
| Name: PHIL BARRICK | | Organization: USACE FT. WORTH | |
| Phone: (817) 866-1757 | Email: philip.barrick@usace.army.mil | | |
| Professional Responsibility: PM | | | |
| Name: STEVE EDWARDS | | Organization: DES | |
| Phone: (951) 588-3546 | Email: STEPHEN.J.EDWARDS.CIV@MAIL.MIL | | |
| Professional Responsibility: Deputy Director | | | |
| Name: Rod Bridgeman | | Organization: CEHNC | |
| Phone: (256) 895-1727 | Email: Rod.C.Bridgeman@usace.army.mil | | |
| Professional Responsibility: Mechanical | | | |
| Name: J. Colon | | Organization: DPW/RP | |
| Phone: (915) 569-8412 | Email: jacqueline.a.colon@civ@mail.mil | | |
| Professional Responsibility: Realty Specialist | | | |

Post Occupancy Technical Review (POTR) - Notes

| Installation: | PN: | Bldg: |
|--|--|-------|
| Name: CHARLIE BUTLER | Organization: DES/FIRE | |
| Phone: (915) 744-8401 | Email: charles.j.butler@.CIV@MAIL.MIL | |
| Professional Responsibility: FIRE CHIEF | | |
| Name: Antonio De Anda | Organization: DPW-ESD | |
| Phone: (915) 568 1752 | Email: antonio.deanda.civ@mail.mil antonio.deanda@us.army.mil | |
| Professional Responsibility: | | |
| Name: Valarie Claxton | Organization: DES / PSD | |
| Phone: (915) 744-9367 | Email: valarie.e.claxton@us.army.mil | |
| Professional Responsibility: PSD Supply Specialist | | |
| Name: Paul Rausch | Organization: Industrial Hygiene | |
| Phone: (915) 1742-3118 | Email: paul.rausch@us.army.mil | |
| Professional Responsibility: | | |
| Name: | Organization: | |
| Phone: () | Email: | |
| Professional Responsibility: | | |
| Name: | Organization: | |
| Phone: () | Email: | |
| Professional Responsibility: | | |
| Name: | Organization: | |
| Phone: () | Email: | |
| Professional Responsibility: | | |

APPENDIX B – MODS

| CHANGE REQUEST NO. | MOD NO. | RMS Reason Code | M or D | Description | UNFUNDED POTENTIAL | PENDING NOT NEGOTIATED | NEGOTIATED COST | AWARDED COST | MOD AWD DATE | TOTAL DDC |
|--------------------|---------|-----------------|--------|--|--------------------|------------------------|-----------------|--------------|--------------|-----------|
| MK001 | P00002 | 1 | M | Utility Connections & Power back-up UPS | 165,000.00 | 547,447.00 | 388,820.00 | 388,820.00 | 21-Apr-11 | |
| MK002 | Cancl'd | 1 | M | ESS (IDS, CCTV, Access Control) | 350,000.00 | - | - | - | Cancelled | |
| MK003-1 | P00001 | 1 | M | Hardened Walls, PA System | 100,346.00 | | 100,346.00 | 100,346.00 | 01-Feb-11 | |
| MK003-2 | P00008 | 1 | M | Definitize MK003-1 | 100,346.00 | 512,380.00 | 525,367.00 | 525,367.00 | 30-Sep-11 | |
| MK004 | P00004 | 1 | M | POV Parking Spaces | 625,858.00 | 639,508.00 | 647,453.00 | 647,453.00 | 09-Aug-11 | |
| MK005 | P00005 | 1 | M | Parkway Landscape | 23,147.00 | 25,333.00 | 30,550.00 | 30,550.00 | | |
| MK006 | P00003 | 1 | M | By-Pass Switch & Training Room Carpeting | 75,000.00 | 115,740.00 | 114,663.00 | 114,663.00 | 18-Jul-11 | |
| MK007 | P00007 | 1 | M | Infrastructure Changes to ESS | 25,000.00 | 123,260.00 | 129,062.00 | 129,062.00 | 28-Sep-11 | |
| MK008 | Canc | 1 | M | ESS (CCTV & Access Control) Installation \$1.2M funded by DPW | - | - | - | - | Cancelled | |
| MK009 | P00006 | 9 | M | Time Extension for MK003-2 Legal Review | - | - | - | - | 19-Sep-11 | |
| MK010 | P00009 | 1 | M | Geotextile material change, Extension of primary communication line, Changes to electrical wiring, Exterior signage change, ESS Infrastructure changes, Communications systems interduct, A/V changes, Contractor time extension, Additional/redundant voice/data lines for 911 call center, Gas piping change for gas dryer | 377,539.00 | 411,043.00 | 405,145.00 | 405,145.00 | 11-Jan-12 | |
| MK011 | | 1 | M | SCBA Compressor electrical change | 20,000.00 | | | | Cancelled | |

Total Mods \$ 2,341,406.00