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CENWO-ED-DG

04 August 2015

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: End State Technical Review Report, Phase II, construction completed 2013.  
Fort Hood, TX, Chaplain Family Life Training Center (PN 71515)

PART ONE, ASD FUNCTIONAL BASIS EVALUATION SUMMARY

This portion of the Memorandum will address the specific evaluations made as they relate to the Army Standard Design (ASD) for this facility type, discussed in the order observed. Because any completed facility also includes characteristics and features not part of the ASD requirements, not all of the potential Lesson's Learned have application to the ASD. The primary focus of this investigation is to improve the ASD and to do so in a way that reflects upon the underlying assumptions and theories (design concepts) upon which the ASD was developed. "PART TWO" of the Memorandum will include detail on the actual observations and take up the various issues unique to this facility as well as those applicable to the ASD. To assist perusal of the document the primary functional space type being discussed has been inserted (in parentheses) in between the appropriate groups of comments.

In general, most agreed that the completed facility is performing well in many ways; the building layout allows enough flexibility to overcome some of the functional requirements that are missing from the program. The users feel generally empowered to accomplish the Chaplaincy mission. This has been of tremendous value to the congregations being supported and the entire military community and Army mission.

Weaknesses of the facility focus primarily on a few components that are not functioning quite as intended. There were also a (very) small number of weaknesses that were rooted in all of the aspects of what puts a project together (contract, design, construction), as well.

Observations made that relate directly to the ASD requirements and the design concepts selected for use by the Office of the Chief of Chaplains (OCCH) are as follows:

1.1 The Users want larger and deeper sinks in the kitchen. **All Center of Standardization (CoS) ASD Chapels have non-commercial cooking equipment; this arrangement avoids having to meet the commercial-equipment fire-suppression requirements. Instead, these facilities have finishing kitchens which usually assumes that food has been prepared elsewhere and is just warmed, reheated and plated in that area. However, it may be beneficial to provide commercial sinks for cleaning. The customer's comment about commercial sinks would allow the people who brought food to clean the dishes and food containers effectively without the added cost of commercial fire suppression. (This comment is the same as 2.2)**

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1.2 The original location of the Waiting Area was very visible to people walking around the facility. Since counseling is a private matter, the location for the Waiting Area and the Resource Center switched with each other to provide more privacy for waiting soldiers and their families. **The CoS is aware of these challenges; this facility is a Family Life Chaplain Training and Resource Center. The Omaha District CoS did not develop an ASD for this particular facility type. Many of the functional and programmatic requirements are therefore missing from this facility. For example, the functional requirements of a classroom differ from that of a counseling training room. The User is in the process of upgrading the classrooms to meet the functional requirements of counseling training rooms. (This comment is the same as 2.3)**

1.3 Based on the User's current need, the movable partitions are unnecessary and infrequently used. **The intention of this facility is to support a full range of Chaplaincy programs and military community activities and the COS recognizes the needs of the congregation might change overtime; therefore, the ASD is intended to provide a range of furnishings to meet the needs of present and future congregations. The 2012 Chaplin Family Life Training Center (CFLC) ASD reprogrammed the functional arrangement, eliminating the movable partitions. (This comment is the same as 2.5)**

1.4 Horizontal blinds (2") are 12-15 feet long to cover the large expanse of exterior windows. The blinds included a wand to control their tilt but they started to break even as the contractor installed them. They are too long and unable to withstand the weight of the blinds when being turned. **The ASD does not currently address this problem but possible solutions would be to require string controls instead of wands on windows of extreme height, consider a different window treatment such as window shades, or include restrictions on window designs for classrooms where light control is an issue. (This comment is the same as 2.12)**

**IN SUMMARY:** In general, the results of this ESTR demonstrate that the underlying concepts behind the 2004 ASD were sound and effective. Each of the principle functional areas and features are supporting an excellent level of successful ministry. The completed facility appears to represent a very-close-to-optimum balance between aesthetics, function, cost, and maintainability. The completed facility also appears to represent a high-value long-term asset for the military community, the Garrison, the OCCH, and the Army.

## PART TWO, ALL OBSERVATIONS AND DISCUSSIONS

This portion of the Memorandum will address each observation. Because any completed facility also includes characteristics and features not part of the ASD requirements, not all of the potential Lesson's Learned have application to the ASD. Some are project specific and

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related to project history, unique points-of-view, unique features, or unique functions that needed to be added to the general facility mission. This portion of the report allows all such observations and discussions to be recorded and applied to future projects as appropriate. The following observations and discussions were identified:

(Administrative Spaces)

## **NSTR**

(The Activity Center)

2.1 The acoustics design in the Activity Center works well. There is no perceivable noise from the HVAC system or lighting system. It is so quiet you can hear a church mouse.

**This is gratifying evidence of ASD general architectural considerations, HVAC design, and choice of materials.**

(Audio/Visual System Issues)

## **NSTR**

(The Kitchen Suite)

2.2 The Users want larger and deeper sinks in the kitchen. **All CoS ASD Chapels have non-commercial cooking equipment; this arrangement avoids having to meet the commercial-equipment fire-suppression requirements. Instead, these facilities have finishing kitchens which usually assumes that food has been prepared elsewhere and is just warmed, reheated and plated in that area. However, it may be beneficial to provide commercial sinks for cleaning. The customer's comment about commercial sinks would allow the people who brought food to clean the dishes and food containers effectively without the added cost of commercial fire suppression.**

(Resource Center)

2.3 The original location of the Waiting Area was very visible to people walking around the facility. Since counseling is a private matter, the location for the Waiting Area and the Resource Center switched with each other to provide more privacy for waiting soldiers and their families. **The CoS is aware of these challenges; this facility is a Family Life Chaplain Training and Resource Center. The Omaha District CoS did not develop an ASD for this particular facility type. Many of the functional and programmatic requirements are therefore missing from this facility. For example, the functional requirements of a classroom differ from that of a counseling training room. The User is in the process of upgrading the classrooms to meet the functional requirements of counseling training rooms.**

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(Waiting/Reception)

2.4 See response to 2.3

(Classrooms/Counseling Rooms)

2.5 Based on the User's current need, the movable partitions are unnecessary and infrequently used. **The intention of this facility is to support a full range of Chaplaincy programs and military community activities and the COS recognizes the needs of the congregation might change overtime; therefore, the ASD is intended to provide a range of furnishings to meet the needs of present and future congregations. The 2012 CFLC ASD reprogrammed the functional arrangement, eliminating the movable partitions.**

2.6 The Users are pleased with the sound privacy provided by the functional performance of the acoustics throughout the facility; the sound protection between classrooms used for counseling is a good example of effective sound isolation. **Since activities in these spaces may contrast with the activities in adjacent spaces, enhanced acoustic isolation is a functional requirement.**

2.7 Smaller windows in the Classroom/Counseling Rooms would reduce the size of window coverings. **The 2012 CFLC ASD modified the floor plan and elevations, which reduced the size of the windows.**

(Gymnasium/Multi-Purpose Room)

2.8 Some building Users think the Gymnasium lights link to occupancy sensors, with automatic shut-off. As a result, they are leaving the lights on. **ASHRAE standards require automatic shutoff of indoor lighting when not in use; however, some spaces are exempt. The Users should post a sign instructing visitors to shut off lights when they leave.**

(Youth Lounge/ Youth Center)

2.9 The clear-coat finish and stained concrete floor in the Activities Room and Youth Center is very attractive. The User is pleased with the finish, except the scratches on the floor caused by sliding chairs. They are addressing the problem by adding felt pads to the chair leg bottoms. **The ASD does not include stained concrete as a flooring option; however, the CoS will consider adding this option to the documents.** (This was also addressed during the Ph 1 ESTR)

(Vestibules/Lobbies/Corridors/Stairways)

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2.10 Sensitivity of motion sensors in the Corridor and Restrooms is low; the lights do not turn on when you enter the spaces. **ASHRAE standards require automatic shutoff of indoor lighting when not in use. The Users should determine if DPW could reset the sensitivity setting.**

(Storage Spaces)

## **NSTR**

(Toilet Rooms and Janitor's Closets)

2.11 The customer commented that the vents in the restroom were not working. The plans show that the exhaust fan is located far away from the restrooms and the exhaust duct runs from the restrooms to the exhaust fan. **The HVAC system works very well at keeping the noise to a minimum. Since most people are accustomed to hearing the noise of the exhaust fan, the absence of noise predicates the assumption that the fan is not working; however, commissioning would ensure that the actual exhaust rate meets the designed exhaust rate.**

(Building Features and Finishes)

2.12 Horizontal blinds (2") are 12-15 feet long to cover the large expanse of exterior windows. The blinds included a wand to control their tilt but they started to break even as the contractor installed them. They are too long and unable to withstand the weight of the blinds when being turned. **The ASD does not currently address this problem but possible solutions would be to require string controls instead of wands on windows of extreme height, consider a different window treatment such as window shades, or include restrictions on window designs for classrooms where light control is an issue. (This was also addressed during the Ph 1 ESTR)**

2.13 Problems with door hardware interrupt the User's daily function by requiring time and resources to remedy the situation. Locking hardware has fallen out of some of the doors, the keyless entry control system at one door is not operating properly, and closers on main access doors need frequent adjustments to maintain an adequate seal. **DPW should provide assistance with maintenance at some point. General wear and tear from regular use requires routine lubrication and adjustments.**

(Furniture, Appliances, and Equipment Items)

## **NSTR**

(Equipment Rooms and Systems)

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2.14 The lighting and HVAC system tie into the occupancy sensors. It was immediately apparent when walking down the hallway that the lighting system was not functioning properly. **Fundamental Commissioning is a third party physically verifying that each system is functioning as designed and the CoS will continue to rely on the benefits of this service as part of LEED certification to assist with validating the ASD and designers intent.**

2.15 This is the second chapel visit in which efficient delivery of hot water was a complaint. **The primary way to ensure hot water in a short amount of time is by running the hot water recirculating pump. This building does have a hot water recirculating pump. The plans do not address when the pump is to turn on and turn off. Running the pump uses power and increases the stand by losses for the hot water system. Not running the pump can increase the wait time from a few seconds to a wait time of a few minutes. With the unpredictable nature of a chapel's usage schedule, it will be a challenge to determine the optimal schedule for the recirculation pump.**

2.16 The cooling tower design shows 95 degree entering water temperature and 85 degree leaving water temperature. The temperature gauges on the supply water temperature was literally off the chart rising above the 125-degree mark into the region that had no markings. **The CoS is unsure what is causing the rooms on the North side of the building to be warmer than the South side, but our mechanical engineer believes that the likely cause is that the chiller is running water temperatures far above the design condition. DPW should address this issue; running equipment outside the design conditions will likely shorten the life of the equipment.**

2.17 DPW balances the controls for the HVAC system to provide an appropriate distribution of heating or cooling in the Gymnasium/Multi-Purpose Room when the Users coordinate the facility's schedule with them. However, if the Users do not communicate or coordinate their schedule with DPW, the interior climate is either too hot or too cold. The Users do not have access to the controls and there are no occupant overrides. **The staff needs easy access to the controls, while making them secure from the general-public.**

(Site Issues)

2.18 The landscaping plan attempted to achieve a significant reduction of water usage as well as a reduction in the management needs of the vegetation by reducing the size of water-sensitive areas using permeable materials such as mulch and rock. One drawback of this approach is the damage to the building caused by blades from the mowers picking up and projecting rocks toward the building. The resulting damage so far is three broken windows. **The CoS believes DPW and the groundskeepers should discuss ways to mitigate this happening in the future.**

2.19 Walking path from building to parking lot is not illuminated; some groups are concerned that the path is too dark at night. **Security lighting at a site may deter lesser**

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**threats and aggressors. Adequate site lighting for pedestrians is part of the functional/operational requirements in the ASD.**

#### PART THREE, UNIQUE ISSUES

3.1 Ft. Hood is a Training Center and, as a result, has more requirements for counseling/training space. They have changed some classrooms into counseling rooms which resulted in existing features that aren't needed (cabinetry with sinks, accordion partitions, conference tables and chairs) and lack of required features (appropriate furniture and audio visual equipment). They are in the process of adding cameras and microphones in counseling rooms for training purposes. **There are no more than three Family Chaplain Training Centers in CONUS so this issue is unlikely to reoccur. The 2012 CFLC provides space for counseling/training.**

3.2 The facility does not have a maintenance contract, but instead uses student volunteers to clean the facility. Apparently, this arrangement is working very well; the Users maintain the facility to the point it still looks new.

#### PART FOUR, THE REVIEW PROCESS AND PARTICIPANTS

The following team of participants gathered at the Chaplain Family Life Training Center on August 4, 2015. The review process began with a meeting and continuation of previous discussions of lessons learned related issues, building operations, descriptions of what congregations are being served and their usage patterns, etc. Once general discussion reached an appropriate point, the team shifted to a tour of the facility with further items brought up as we went.

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