Defense Media Activity

Fort George G. Meade, MD



Project Team:

| Owner: | Army Corps of Engineers |
|---------------------|-------------------------|
| Architect: | НОК |
| Engineers: | HSMM AECOM |
| General Contractor: | Hensel Phelps |

Mechanical Systems:

- (3) 500 ton water-cooled chillers
- (3) 3,000 MBH gas fired condensing boilers
- The three story part of the building will use (6) AHU's using (2) AHU's per floor
- The remainder of the building will have (10) RTU's located on the roof
- APC Cooling racks are used in the Data Center and constant volume rooftop units are used for Tele-Video Studios

Electrical/Lighting:

- 3,000 A, 480Y/277 V, 3 phase 4 wire three-sectioned switchboard feeds 480/277V distribution in the building
- Redundant power used from two separate 13.8 KV feeds
- (3) exterior 3,000 KVA 13.8KV-480/277V transformers
- Emergency power provided at two emergency power levels using UPS and an emergency generator
- Energy efficient T8 fluorescent lamps used in most spaces
- Occupancy sensors are implemented for lighting control

Project Information:

| Size: | 185,870 SF |
|------------------|-----------------------|
| Cost: | \$56.2 million |
| Stories: | 3 |
| Delivery Method: | Design-Bid-Build |
| Construction: | Spring '09 to 09/2011 |



Architecture:

The DMA building is large facility for the US armed forces that was designed to mimic "Georgian" Architecture. It is on track for a LEED Silver rating. Some of the features of the building are; red brick and white trim, symmetrical design, portico with classical columns at the entrance, and "punched" windows.

Structural:

- DMA uses a steel composite construction with 3" metal decking and 2.5" lightweight concrete
- Typical beam size of W14x22 with a typical girder of W18x35
- The three story part is laterally supported using moment frames while the rest is supported by combination of braced and lateral frames
- Soil Bearing Capacity ranges from 2000psf to 3000psf for walls and spread footings

CPEP SITE: http://www.engr.psu.edu/ae/thesis/portfolios/2010/pvl104 Pavel Likhonin **Mechanical Option**