ARCHITECTURAL FINAL DESIGN CHECKLIST 1 September 2011

PROJECT NAME:

DATE:

DESIGNER:

REVIEWER:

A. General Design Issues:

Item #	Item	Check Des	Check Rev
1.	The design does not exceed the gross area limits established by the project 1391 Form, or other official scope definition criteria. The facility Gross Area calculations shall be as stated in Engineering Construction Bulletin (ECB) 2008-29	____	_____
2.	The design complies with Engineering and Construction Bulletin No. 2009-20 Subject Access for People with Disabilities or deviations have been clearly noted.	____	_____
3.	Applicable Force Protection measures as defined in UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings.	____	_____
4.	The LEED Rating Tool has been utilized to determine the required rating for MILCON Projects or as directed by the Project manager.	____	_____
5.	The design is in compliance with the National Fire Protection Association 101 Life Safety Code and UFC 3-600-01 Fire Protection Engineering for Facilities.	____	_____
6.	The HQUSACE list of publications has been reviewed for applicability to this project. Listing includes Army Regulations (AR), Technical Manuals (TM), Design Guides (DG), Engineering Regulations (ER) and Engineering Technical Letters (ETL).	____	_____
7.	For U.S. Navy Projects, http://www.wbdg.org/references/pa_dod.php has been reviewed for pertinent publications.	____	_____
8.	Architectural Peer Review has been conducted and comments		

	addressed.		
9.	Interior design aspects of project will be developed in accordance with UFC 3-120-10 Interior Design unless directed otherwise.	____	_____
10.	The appropriate Corps of Engineers Center of Expertise for this project (http://www.usace.army.mil/civilworks/cecwe/coexpert/), has provided assistance in the design of this project in accordance with ER 1110-1-8158.	____	_____
11.	For projects designed to be used primarily by foreign personnel, cultural considerations unique to the user have been identified and appropriate features incorporated into the design.	____	_____
12.	Where present, Sensitive Compartmented Information Facilities (SCIFs) have been designed in accordance with ICD 705 TECHNICAL SPECIFICATIONS FOR CONSTRUCTION AND MANAGEMENT OF SENSITIVE COMPARTMENTED INFORMATION FACILITIES	____	_____
13.	Installation Design Guides have been followed.		
14.	Roofing system selection was made after reviewing UFC 3-330-02A Commentary On Roofing Systems.		
15.	If metal buildings are used, UFC 3-320-04A Metal Building Systems, with Change 2 has been reviewed		
16.	If project is design / build, the Design / Build Instructions for Military Construction has been reviewed.		
17.	Peer reviews are accomplished IAW memo titled "Implementation of Quality Control in Facilities Development Division" found on the EC-TF web site.		

B. Drawings:

B1 *General –*

Item #	Item	Check Des	Check Rev
1.	The CADD Standards for the project have been adhered to in setting up all design files. Particular attention should be given to font size, level symbology, detail reference symbol, scale, etc.	____	_____

2.	The information within the Title Block of each drawing has been reviewed for accuracy including the "Designed By", "Drawn By", "Checked By" and "File No." fields.	____	_____
3.	The Index Sheet has been coordinated with the current list of architectural drawings with respect to drawing number and title.	____	_____
4.	Where the specifications state wording such as "as shown", the drawings have been prepared to actually include that information.	____	_____
5.	Dimensions are based upon locally available materials to the greatest extent possible. Accordingly, nominal metric dimensions have been utilized – i.e., 100mm/150mm/200mm for wall thicknesses, etc.	____	_____
6.	Graphic scales are included on all drawings. Where more than one scale is used on a drawing, the appropriate graphic scales have been included.	____	_____

B2 *Abbreviations & Symbols –*

1.	A drawing has been included to identify abbreviations and symbols utilized on the project drawings and have been coordinated with the other architectural drawings for compliance.	____	_____

B3 *Floor Plans –*

1.	A Composite Floor Plan has been included for those buildings that are to large in size to fit on a single floor plan drawing at a scale of 1:100 and the overall building dimensions are indicated on this plan.	_____	_____
2.	Where a Composite Floor Plan is utilized, break lines are shown where the floor plan is broken down into partial plans and the sheet number where the partial plan can be found is noted.	_____	_____
3.	Wall types are clearly identified on the drawings and reference is made to the appropriate Typical Wall Types drawing.	_____	_____
4.	Fire rated partitions are clearly identified on the drawings and have been coordinated with the Fire Protection Engineer with respect to rating and location.	_____	_____
5.	Doors and windows have been clearly identified with a unique	_____	_____

	identifier and reference is made to the appropriate sheet where Door and Window Schedules are drawn.		
6.	All interior partitions have been located by dimension as have openings in all exterior and interior partitions.	_____	_____
7.	Where floor slopes are required, direction and degree of slope is indicated and coordination with Structural Engineer has been done.	_____	_____
8.	North Arrow has been included on the drawing and its placement has been coordinated with the Civil Engineer. If Plan North is used, it is appropriately shown.	_____	_____
9.	Splash blocks have been provided where roof leaders discharge onto finished grade and coordination has been done with the Civil Engineer if alternative treatment (i.e., rock beds) is desired.	_____	_____
10.	Adjacent site features – pads, walkways, walls, etc. - shown have been coordinated with the Civil Engineer and site drawings.	_____	_____
11.	Floor elevations have been coordinated with Civil Engineer.	_____	_____
12.	Coordination with Structural Engineer has been completed with respect to column designation, grid spacing, column sizes, building expansion joints, depressed slabs, equipment pads, roof penetrations, finished floor elevations, cross bracing, bearing walls, etc.	_____	_____
13.	Location and size of mechanical and electrical spaces have been coordinated with the appropriate engineering discipline.	_____	_____
14.	The locations of wall and building section cuts are clearly indicated on the floor plans.	_____	_____
15.	The gross floor area is indicated on each of the floor plan drawings and the gross building area is indicated on the ground floor plan.	_____	_____

B4 *Roof Plan & Details –*

1.	Drawing clearly indicates direction and degree of roof slope. Slope for elastomeric membrane roofing is not less than 2%. This has been coordinated with the Structural Engineer.	_____	_____

2.	Rooftop equipment has been located and provided with appropriate equipment pad. Coordination with Mechanical and Structural Engineers has been done.	_____	_____
3.	Roof penetrations for ducts, vent pipes, hatches, etc. have been located and sized and have been coordinated with the appropriate engineering discipline. Where used, roof scuttles have been coordinated with Specification Section 05500, Miscellaneous Metal.	_____	_____
4.	Reference has been made to the appropriate drawing where roof details are shown.	_____	_____
5.	Interior roof drains have been avoided to the greatest extent possible in favor of perimeter roof drainage. Gutters, scuppers, leaders and other roof drainage components have been clearly shown and identified on the plan.	_____	_____
6.	The roof flashing details shown on the drawings have been coordinated with the specifications and are appropriate for the system used.	_____	_____
7.	Where visibility of rooftop equipment from the ground is likely to be objectionable, measures have been taken to provide adequate screening.	_____	_____
8.	For ballasted elastomeric membrane systems, locally available concrete pavers or ballast has been utilized.	_____	_____

B5 *Building Elevations –*

1.	Fenestration – doors, windows, louvers, etc. - has been coordinated with the floor plan drawings with respect to size and location and reference number.	_____	_____
2.	Finished floor elevations and top of parapet elevation are identified and have been coordinated with the Structural Engineer and Civil Engineer.	_____	_____
3.	Where applicable, stucco control joints have been identified and located by dimension.	_____	_____
4.	Exterior building finishes and colors have been noted.	_____	_____
5.	Approximate finished grade has been shown and coordinated	_____	_____

	with the Civil Engineer.		
6.	Floor to floor heights and other vertical dimensions (i.e., window and louver sills, exterior stair landings, etc.) have been identified.	_____	_____

B6 *Building Sections* –

1.	Building section cut locations have been noted on the floor plans.	_____	_____
2.	Vertical dimensions and finished floor elevations have been noted as have room names/numbers.	_____	_____
3.	Coordination has been done with the Mechanical Engineer to assure that sufficient space exists above suspended ceilings and below floor/roof slab to accommodate mechanical ductwork and other utilities.	_____	_____
4.	Column grids and bubbles have been shown and coordinated with the floor plans.	_____	_____
5.	Finished floor (or top of slab) and top of parapet elevations have been coordinated with the Structural Engineer.	_____	_____
6.	Ceiling heights shown have been coordinated with those listed on the Room Finish Schedule.	_____	_____

B7 *Reflected Ceiling Plans* –

1.	Reflected ceiling plan has been provided and clearly identifies all ceiling materials and systems by notation.	_____	_____
2.	Suspended ceiling grids associated with acoustical tile systems have been shown and coordinated with the Mechanical, Fire Protection and Electrical Engineers.	_____	_____
3.	Diffusers, supply registers, lights and fire protection elements have been shown and identified on the Legend and any interferences have been identified and the appropriate designers have been advised.	_____	_____
4.	Coordination has been done with Electrical and Mechanical Engineers to insure that they are aware of the use of metric ceiling grid (600mm X 1200mm module) so that light fixtures and ceiling mounted mechanical features are appropriately	_____	_____

	sized.		
5.	Accommodation has been made for access to any mechanical equipment located in the space between the suspended ceiling and the structure above.	_____	_____

B8 *Wall Sections* –

1.	Wall section cut locations are correctly shown on the floor plans.	_____	_____
2.	Vertical dimensions and finished floor elevations are indicated.	_____	_____
3.	Construction materials have been indicated or noted.	_____	_____
4.	Required thermal values for wall and roof assemblies have been noted but insulation thickness has NOT been indicated.	_____	_____
5.	Column grid and bubble have been provided.	_____	_____
6.	Intersection of metal walls and masonry walls in pre-engineered buildings has been clearly detailed with respect to flashing condition.	_____	_____

B9 *Typical Wall Types* –

1.	The various wall types have been indicated by unique designator and all materials clearly noted.	_____	_____
2.	Clear indication is given as to whether wall extends to structure, or terminates at a set distance above suspended ceiling, and that distance above the ceiling is dimensioned.	_____	_____
3.	Anchorage of interior partitions to structure above has been coordinated with Structural Engineer and adequately detailed.	_____	_____
4.	Where acoustical insulation has been utilized, the desired STC rating for the partition has been clearly indicated by notation.	_____	_____

B10 *Room Finish Schedule* –

1.	Abbreviations used on the schedule have been coordinated with those on the Abbreviations & Symbols drawing.	_____	_____
2.	Clear indication is given as to the intention of whether or not to use sealer or hardener on exposed concrete floor surfaces.	_____	_____

3.	Interior and exterior material color/pattern selections have been noted and are in compliance with any stated or applicable design guidelines.	_____	_____
4.	Requirement for depressed slab has been noted where either tile or wood athletic flooring floor finish is specified, or where walk-in refrigeration units are present. Coordination with Structural Engineer has been done.	_____	_____
5.	Slip resistant floor finishes have been used in wet areas.	_____	_____

B11 *Door Schedule* –

1.	Abbreviations used on the schedule have been coordinated with the Abbreviations & Symbols drawing.	_____	_____
2.	Builder's hardware sets have been listed and coordinated with specifications.	_____	_____
3.	Exterior doors requiring compliance with Force Protection guidelines have been noted as being metal with solid oak core and have been provided with appropriate hardware in accordance with guidelines contained on the EC-TF homepage at https://tac50.tac.usace.army.mil/internal/techweb/pdtf.htm.	_____	_____
4.	Head, jamb and sill details have been coordinated with the sheets on which they are drawn.	_____	_____
5.	The need for undercuts or louvers has been coordinated with the Mechanical Engineer and appropriate dimensions noted on the schedule.	_____	_____
6.	Any requirement for electric locks, balanced magnetic switches, motorized operators, etc., has been noted on the drawings and coordinated with the Electrical Engineer. Additionally, terminology and nomenclature is consistent between architectural and electrical drawings and specs.	_____	_____
7.	Doors in rated partitions have been identified with the appropriate fire rating and glass area (if applicable) is in accordance with NFPA.	_____	_____
8.	Metal thresholds have been provided for exterior doors and coordinated with the specifications.	_____	_____
9.	Dimension of doors and frames located in masonry walls have	_____	_____

	been established with consideration to the metric masonry coursing module of 200mm.		
10.	Door type designation is consistent with the Steel Door Institute standard door design nomenclature listed in ANSI A250.7 and SDI 106.	_____	_____

B12 *Enlarged Partial Plans (Toilets, Kitchens, Etc.) –*

1.	Enlarged plans have been keyed to building floor plans with appropriate bubbles and reference boxes.	_____	_____
2.	Built-in fixtures and features have been located by dimension.	_____	_____
3.	Reference symbols for interior elevations have been properly placed.	_____	_____
4.	Floor drains have been identified where present and floor slope shown.	_____	_____
5.	Water proofing has been provided and clearly noted under tile floors in wet areas on upper levels and behind wall tile in separation walls in shower rooms.	_____	_____
6.	Toilet partitions are floor mounted and door sizes are manufacturer's standard.	_____	_____
7.	Enclosures for showers and Eastern-style water closets are constructed of masonry with ceramic tile finish rather than modular manufactured shower enclosures or toilet partitions to insure durability.	_____	_____

B13 *Interior Elevations –*

1.	Elevations have been properly reference to the floor plan.	_____	_____
2.	Vertical dimensions for ceiling heights are shown and fixture, equipment or toilet accessory mounting heights, etc. have been provided.	_____	_____
3.	Wall openings have been coordinated with the floor plans with respect to width and location.	_____	_____
4.	Where host nation personnel are likely to make significant use of the toilet rooms, the toilet partitions extend to 100mm above finished floor elevation and space between panels is kept to	_____	_____

	absolute minimum or vision guards are installed to afford a heightened degree of privacy.		

B14 *Equipment and Furniture Plans & Schedules –*

1.	Where systems furniture is utilized, care has been taken to insure that NFPA 101 Life Safety Code egress requirements have not been compromised.	_____	_____
2.	Items requiring connection to building utility systems have been coordinated with the appropriate engineering design discipline and utility requirements have been identified on the schedule.	_____	_____
3.	Differentiation is clearly made between Contractor Furnished and Government Furnished items.	_____	_____

B15 *Stair Details –*

1.	Stair plans have been referenced back to the floor plans using appropriate detail symbols and reference box.	_____	_____
2.	Tread, riser, railing and guard dimensions comply with NFPA 101.	_____	_____
3.	Design of concrete stairs has been coordinated with the Structural Engineer and non-skid finish and non-slip non-ferrous metal nosings have been provided.	_____	_____
4.	Handrails have been clearly identified with respect to material, finish and profile (and diameter), and have been coordinated with the Specifications Section 05500, Miscellaneous Metals.	_____	_____

B16 *Elevator Details –*

1.	Elevator plan has been referenced back to the floor plans using appropriate detail symbols and reference box.	_____	_____
2.	Elevator hoistway dimensions have been coordinated with the elevator manufacturer's product literature for the required cab size and elevator capacity.	_____	_____
3.	Machine room has been provided for hydraulic elevator and is sized from a manufacturer's product literature.	_____	_____
4.	Depth of elevator pit is noted and has been coordinated with available product literature. The ladder access to the pit has	_____	_____

	been coordinated with Specification Section 05500, Miscellaneous Metal.		
5.	The need for a sump pit has been coordinated with the Mechanical Engineer.	_____	_____
6.	Elevator has been designed IAW TI 810-90 Elevator Systems, or on U.S. Navy projects, the elevator has been designed in accordance with NAVFAC Elevator Design Guide, 10 Jan 01.	_____	_____

B17 *Door Details –*

1.	Head, jamb and sill conditions have been detailed for each door in the project.	_____	_____
2.	Sill conditions have been coordinated with the Room Finish Schedule and changes in finish have been provided with appropriate transition strip.	_____	_____
3.	Critical frame dimensions have been provided. Avoid dimensioning wall thickness since it is likely to vary from door to door and should be indicated on the floor plan drawings.	_____	_____
4.	Jamb anchors have been indicated and coordinated with specifications with respect to type.	_____	_____
5.	Exterior jambs in masonry walls are filled solid with grout.	_____	_____
6.	Marble saddles have been utilized at locations with ceramic or quarry tile flooring.	_____	_____
7.	Caulking and sealants have been clearly indicated and identified by notation. Type of sealant is noted on drawing or in Specification Section 07900 Joint Sealing	_____	_____

B18 *Casework Details –*

1.	Casework details have been referenced back to the floor plans.	_____	_____
2.	Section cuts have been shown on casework plans. Materials have been clearly identified by notation and critical dimensions shown.	_____	_____
3.	Hardware has been appropriately identified and coordinated with the specifications.	_____	_____

4.	Built-in electrical items have been coordinated with Electrical Engineer.	_____	_____
5.	Location of receptacles has for appliances has been coordinated with Electrical Engineer.	_____	_____

B19 *Expansion & Control Joint Details –*

1.	Building expansion joints have been coordinated with Structural Engineer with respect to location and dimension, and have been clearly identified on floor plan and building elevation drawings.	_____	_____
2.	Building expansion joints have been provided with appropriate floor, wall, roof and ceiling covers for adjacent material finishes.	_____	_____
3.	Coordination with Structural Engineer has been done to insure that masonry control joints are located and detailed.	_____	_____
4.	Stucco and plaster expansion joints have been detailed and dimensioned, and are clearly located on building elevations or reflected ceiling plan as appropriate.	_____	_____

B20 *Column Details –*

1.	Provide large scale details of conditions where columns intersect with partitions, clearly identifying method of anchorage and materials by notation.	_____	_____
2.	Reference details back to floor plans and include column line designations.	_____	_____

B21 *Signage –*

1.	If significant signage requirements exist on the project, signage details to include elevations (with dimensions), method of mounting and material indications have been provided.	_____	_____
2.	Requirements of NFPA 101 have been incorporated.	_____	_____
3.	Signage schedule to include text message, size, type, etc. is included and coordinated with project specifications.	_____	_____
4.	Braille requirements have been met IAW ADAAG and UFAS.	_____	_____
5.	Signage location plan if deemed necessary is included clearly		

	identifying where signage is to be placed.	_____	_____
6.	For projects where significant host nation use is anticipated, use of dual language signage has been included.	_____	_____

B22 *Miscellaneous Items* –

1.	Metal louvers that are not part of the HVAC system (and therefore not specified by the Mechanical Engineer) have been adequately detailed and addressed in Specification Section 07600 Sheet Metalwork, General.	_____	_____
2.	Operable windows include insect screens.	_____	_____
3.	Recessed cabinets have been provided for portable fire extinguishers and locations have been coordinated with the Fire Protection Engineer.	_____	_____
4.	Any adjacent exterior features that are visually objectionable – dumpsters, generators, etc. - have been provided with the appropriate screening treatment.	_____	_____
5.	Where Force Protection measures apply, the window sill height in occupied buildings is at least 1200mm above the finished floor elevation unless noted otherwise by project specific Force Protection design guidance.	_____	_____
6.	Window blinds have been provided to afford privacy or solar control.	_____	_____
7.	If demolition is involved, the extent of the demolition work is clearly identified through the use of drawings and has been coordinated with the specifications.	_____	_____
8.	Requirements for equipment such as monorails, bridge cranes, vehicle lifts, etc. have been coordinated with Mechanical, Electrical and Structural Engineers as appropriate.	_____	_____
9.	For renovation projects, clear definition has been made on the drawings between new and existing work.	_____	_____
10.	Where warranted by the quantity of window types, a window schedule has been prepared to supplement the window detail drawings. Schedule included unique identifier, window dimensions, material indication and detail reference numbers.	_____	_____

11.	Metal building system components have been selected to perform acceptably in the conditions present at the project site.	_____	_____
12.	Where warranted by project location, seismic features have been incorporated into the design.	_____	_____
13.	Figured or opaque glass has been used in windows in toilet and locker rooms to afford privacy.	_____	_____

C. Specifications:

Item #	Item	Check Des	Check Rev
1.	Project specifications have been developed in accordance with ER 1110-1-8155, 24 Dec 98. Unified Facilities Guide Specifications (UFGS) have been utilized to the greatest extent possible. Where a UFGS does not exist for a particular feature, the UFGS format has been utilized in creating a new section.	_____	_____
2.	Use of proprietary commercial product trade names has been avoided.	_____	_____
3.	Terminology is consistent with drawings.	_____	_____
4.	Information in the specifications is not duplicated in other specification sections or on the drawings. If a conflict exists, the specifications will govern.	_____	_____
5.	The specifications have been tailored to this project and any inapplicable information from the UFGS has been deleted, including the list of applicable publications.	_____	_____
6.	Designer choices indicated within brackets in the UFGS have been selected and required data in blank spaces has been inserted.	_____	_____
7.	Applicable publications paragraph has been reviewed to insure that the most current versions are listed.	_____	_____
8.	The notes to the spec writer have been reviewed for guidance in preparing the various specification sections during the editing process.	_____	_____
9.	Force Protection design blast pressures, material and mounting guidance and other pertinent information provided by the	_____	_____

	Protective Design Center have been included in the Steel Window and Steel Doors & Frames specifications, as appropriate.		
10.	Use of wood in exterior locations has been avoided or kept to a minimum. Where used, selection of species is based upon local availability and performance and flush joints have been avoided. Specifications have included an appropriate finish.	_____	_____
11.	Toilet accessories have been coordinated with the floor plans for toilet rooms and janitor closets with respect to selection, style and nomenclature.	_____	_____
12.	Where items are likely to require regularly scheduled maintenance (i.e., elevators, food service equipment, etc.), specifications include the requirement for manufacturer's authorized and qualified local service representative.	_____	_____
13.	Electrically operated items are required to operate on locally available power supply (i.e., 50 or 60 Hz) and that power supply has been included within the specifications. Coordination with Electrical Engineer has been done.	_____	_____
14.	Where utilized, suspended plaster ceilings are unrestrained and access panels have been located for any equipment requiring service or maintenance.	_____	_____
15.	In Specification Section 09900, Painting, General, paragraphs indicating surfaces not to be painted, or for which painting is prohibited have been completed. Resistance to corrosion for the project location has been considered in paint selections. Also, the preferred Designer options have been selected and Contractor options maintained.	_____	_____
16.	Submittal register has been completed in coordination with the designated CETAC-EC-T specifications POC.	_____	_____
17.	Metal studs have been specified as the 22 gauge that is readily available in the Middle East.	_____	_____
18.	The use of loose fill insulation has been avoided due to the inability to adequately insure that masonry cells are free of obstructions that might prohibit the flow of insulation.	_____	_____
19.	Coordination with Structural Engineer has been done with respect to information contained within sections on	_____	_____

	Architectural Concrete, Masonry, Miscellaneous Metal, Metal Siding, Standard Metal Building Systems and Overhead Electric Cranes.		
20.	Coordination with Mechanical Engineer has been done where Hydraulic Elevator spec is used and with the Electrical Engineer where the Electric Elevator spec is used.	_____	_____

D. Design Analysis:

Item #	Item	Check Des	Check Rev
1.	Design analysis has been created utilizing the standard CETAC-EC-TF template.	_____	_____
2.	Coordination between design analysis and drawings has been done with respect to selected building systems, design thermal (u) values, required toilet fixture counts, corrosiveness, etc.	_____	_____
3.	Design Guidance Memorandum has been prepared for applicable portions of the project.	_____	_____