

Appendix 7.3

Facilities Planning & Construction (FP&C) Design Assessment Checklist
 Draft v1.0 10-31-2016

Activities

	Yes (Y)	No (N)	Notes
Conceptual			
Does design conform to existing master plan?			
Does site plan show utilities and circulation?			
Does site plan show topographic features?			
Are small-scale line drawings of plans and sections adequate to define horizontal			
Do plans show existing and proposed facilities in their relative arrangement?			
Do plans accommodate the disabled?			
Is there a general description of architectural, engineering, structural?			
Is there a listing of minimum codes to be used?			
Do square footage areas correlate to the program requirements?			
Does cost model correlate to established budgets?			
Has the preliminary building energy model been prepared?			
Schematic			
Have applicable codes, standards and rules been cited?			
Is there a differentiation between new construction and existing items?			
Are the "outline specifications" included?			
Architectural:			
Is life safety plan information provided?			
Is occupancy classification indicated?			
Are fire and smoke separations shown?			
Are sprinkler requirements explained?			
Is the construction type stated?			
Are typical exterior wall and roof sections shown?			
Are the numbers of floors described?			
Is the square footage per floor shown in accordance to the program?			
Does cost correlate to established budgets?			
Civil/Structural:			
Are the design parameters given?			
Is a topographical survey provided?			
Is a narrative of drainage concept provided?			
Is statement on flood considerations provided?			
Is a statement of availability of utility services provided?			
Is the building system narrative provided?			
Are the proposed roads and parking described?			
Is a soil and geotechnical report provided?			
Are overall plan dimensions indicated?			
Is there a Storm Water Pollution Prevention Plan/Soil Erosion Control Plan described?			
Mechanical:			
Are the design parameters given?			
Is the source of utility services shown?			
Is the design of any specialty system provided?			
Are the energy requirements included?			
Are the energy management/temperature controls and/or building automation systems described?			
Are indoor environmental requirements described?			
Electrical:			
Are the design parameters provided?			
Is the source and voltage of electrical service provided?			
Is the fire alarm system described?			
Is the security system described?			
Is the communication system described?			
Is the lighting system described?			
Is the computing data networking system described?			
Has the updated building energy model been prepared?			
Design Development			
Does the design development submission represent the philosophy of design?			
Are the "final draft" specifications included?			
Do the drawings show overall floor plans, outside elevations, location and orientation on the site?			
Are the system schematics shown for the facility?			
HVAC			
Plumbing			
Electrical Power Distribution			
Fire Alarm			
Security			
Site Water			
Site Storm Sewer			
Site Sanitary Sewer			
Does HVAC schematic diagram depict the following?			
Approved results of the life-cost analysis			
Approved results of the energy analysis			
Are schematic diagrams shown for campus type of utilities for the following:			
Chilled Water			
Steam			
Fire			
Domestic Water Distribution			
Do the "final draft" specifications describe the following:			

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Scope of project			
Applicable codes			
Applicable rules			
Applicable standards			
Applicable regulations			
Each discipline with required design values shown			
Are the project location, Architect and Engineering firms' addresses and telephone numbers shown?			
Architectural:			
Are occupancy types and floor areas indicated?			
Are square footage calculations shown for every space in accordance with program requirements?			
Is a description of the shape and façade of the building provided?			
Are all code-required features shown?			
Is the fire protection system described?			
Are the insulation "U" values shown?			
Are the glazing type "U" values shown?			
Are the exiting requirements stated?			
Are dimensions strings indicated on column grid?			
Are interior handrail posts noted to be set in Portland cement grout?			
Is sufficient access provided to all elevator machine components?			
Is tempered glass indicated where required?			
Is VCT indicated at OIT closets?			
Are sightlines into bathrooms appropriate?			
Do exterior elevations depict visible rooftop mechanical equipment?			
Are exterior hollow metal frames treated with a bituminous coating on the back/throat side?			
Are the plans developed with the principles of "Universal Design" related to accessibility?			
Civil/Structural:			
Is a site plan shown?			
Is a grading plan, including contours and finish floor elevations provided?			
Is a utility plan included?			
Is a statement of loadings provided?			
Are preliminary foundation plans shown?			
Are preliminary floor and roof plans shown, including beam sizes & slab depths?			
Is a soil and geotechnical report relating to foundation design provided?			
Are dimension strings indicated on column grid?			
Are exterior handrail posts noted to be set in Portland cement grout?			
Is there a Storm Water Pollution Prevention Plan / Soil Erosion Control Plan described?			
Mechanical/Plumbing:			
Are HVAC and plumbing plans showing preliminary layout of equipment areas provided?			
Are air handling units specified with "wing" type coils?			
Is a description of HVAC controls included?			
Is a description of energy management system included?			
Is a description of the building automation system included?			
Are the critical interfaces with life safety systems such as fire/smoke dampers, firestopping and fire control interlocks described?			
Are special plans and criteria for mechanical/plumbing systems shown (i.e., kitchen hoods, food service equipment, vending, paint storage ventilation, fuel systems, laundry equipment, and compressed gas systems)?			
Are fire protection plans shown?			
Were the NFPA requirements for construction phase submittal reviewed?			
Do the drawings reflect the approved scheme resulting from the energy and life cycle cost analysis?			
Is adequate access provided to mechanical equipment located in attic spaces via ladders, catwalks, etc.?			
Electrical:			
Is the lighting layout provided?			
Are the calculations to show foot-candle intensities in each room provided?			
Are exterior lighting levels/photometrics indicated?			
Do lighting illumination levels comply with the requirements of the Energy Analysis?			
Are the preliminary electrical equipment locations shown?			
Are the phase and voltage electrical characteristics shown?			
Is the type of wiring system indicated?			
Are the preliminary communications and data plans shown?			
Are the preliminary fire alarm plans shown?			
Are the preliminary security plans with card readers shown, including electrical power requirements?			
Is a narrative on proposed power distribution system provided?			
Is the emergency generator fuel fill vent and whistle indicated?			
Is electrical closet construction of fire rated assembly?			
Do OIT closets indicate surface mounted 3/4" fire retardant plywood on all wall surfaces, painted?			
Has the updated building energy model been prepared?			
Are special plans and criteria for electrical systems shown (i.e., grounding, kitchen hoods, food service equipment, emergency power, laundry equipment, vending, etc.)?			
Cost:			
Does cost correlate to established budgets?			
Have the estimated costs of construction between the Architect/Engineer and the Construction Manager or Owner's Cost Consultant been reconciled?			
100% Construction Drawings			
Are the following shown?			

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All necessary information previously described.			
All necessary details.			
All sections.			
All schedules.			
All system diagrams.			
All construction types.			
All wall ratings - fire and "U" values.			
All listed firestop systems.			
Do the documents clearly depict the following?			
All design and construction requirements			
Adequate information to permit accurate Contractor take-off and pricing			
The finalization of the previously submitted and approved design phases			
The agreed upon responses of earlier design review quality comments			
All items provided by Owner installed by Contractor, in matrix format			
All items installed by Owner, in matrix format			
Project name, project number and project location			
Compass orientation the same on all plan view sheets			
All easements, right-of-way, and interfaces with public, city or county utilities			
All proposed alternates shown clearly and accurately, and consistent between the specifications and drawings			
All previously approved energy and life-cycle cost analyses, schemes and architectural features			
All necessary building code approvals			
Drawing sheet signed and sealed by Architect or Engineer?			
Do square footage areas correlate to program requirements?			
Does cost correlate to established budgets?			
Have the estimated costs of construction between the Architect/Engineer and the Owner's Cost Consultant been reconciled? provided?			
Architectural:			
Are wall details shown that ensure the minimum "U" value is met?			
Are roof details shown that ensure the minimum "U" value is met?			
Floor plans:			
Are all dimensions and all spaces identified?			
Are all walls dimensioned from column lines?			
Are rated partitions identified?			
Are ADA disability features identified? Are assembly spaces with more than 50 seats equipped with amplification systems and assistive listening devices?			
Is the location of all drinking fountains, fire extinguishers, hoses, etc. shown?			
Is all built-in equipment identified?			
Is the orientation (north arrow) shown on all plans?			
Is the scale shown for all drawings?			
Are all access panels shown and coordinated in locations for access to mechanical, electrical and plumbing equipment?			
Elevations:			
Are all exterior and interior elevations of the building shown?			
Are all materials labeled?			
Are all vertical dimensions shown?			
Is the roof slope identified?			
Do exterior elevations depict visible rooftop mechanical equipment?			
Are exterior hollow metal frames treated with a bituminous coating on the back/throat side?			
Are all required masonry expansion and control joints indicated?			
Reflected Ceiling Plans:			
Is the plan fully coordinated by CAD overlay with mechanical, electrical, data, and sprinkler system drawings, including access panels?			
Are all ceiling materials identified?			
Is the design intent of ceiling grid clearly shown?			
Scale of Plans:			
Are all plans shown at 1/8" = 1'-0" scale, except for enlarged plan view for equipment rooms, stairs, etc.?			
Section and Details. Identify:			
All exterior wall sections minimum 3/4" = 1'-0".			
All interior wall sections minimum 3/4" = 1'-0".			
All roof edges, expansion joints, penetrations shown with isometric drawing of scupper or any non-standard situations.			
All head, jamb and sill details shown for all doors and windows, complete with dimensions.			
All expansion joints shown, complete with dimensions.			
Are stairs, stringers, landings completely detailed with floor and base finishes?			
Schedules and Legends. Identify:			
Finishes.			
4" rubber base			
Ceramic tile thickness uniform on walls.			
Static dissipative tile floor in OIT closets.			
Use of acrylic enamel paints (no oil based paints).			
Doors and windows.			
Toilet accessories.			
All abbreviations.			

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Miscellaneous:			
Show mounting heights for all ADA items; toilet room accessories, ramp slopes, stair design, seating capacity.			
State on the drawings the code and year that applies to the project.			
Show all design loads on drawings.			
Are interior handrail posts noted to be set in Portland cement grout?			
Is sufficient access provided to all elevator machine components?			
Is tempered glass indicated where required?			
Is privacy maintained with regard to sightlines into bathrooms?			
Civil/Structural:			
Show anchor bolt embedments and projections.			
Provide footing elevations.			
Identify connections and services.			
Indicate top elevation of all catchbasins and manholes.			
Match contours with top elevations of catchbasins and manholes.			
Is the type of pipe specified?			
Are the datum elevations correlated with the USGS elevations?			
Are the finish floor elevations shown?			
Is the finish floor elevation above 100-year flood?			
Are pavement sections shown?			
Are control joints shown in all slabs?			
Are all structural elements properly and accurately dimensioned from column grid lines?			
Are exterior handrail posts noted to be set in Portland cement grout?			
Are there any special structural details that require a sequence of erection narrative?			
Are all design loads including dead, live, snow and wind loads shown and accounted for?			
Has a roof snow/drift load analysis been performed?			
Is sufficient access provided to all elevator machine components?			
Mechanical/Plumbing:			
Are all fire/smoke dampers provided in all rated walls/ceilings?			
Is a detail shown for sealing all wall and ceiling penetrations?			
Is the water heater relief piping and discharge point shown?			
Is all ductwork designed in compliance with ASHRAE and SMACNA?			
Are ductwork pressure testing/leakage restrictions indicated?			
Are all systems in compliance with University Basis of Design requirements?			
Are "wing" type coils specified on air handling equipment?			
Are all plumbing systems in compliance with applicable codes?			
Is the following equipment provided in all attics?			
Access opening, platforms, and walkways, where applicable.			
Lighting.			
Auxiliary pans/drains for air conditioning equipment.			
GFI convenience outlets.			
Do all kitchen hoods conform to mechanical and fire codes?			
Do all chemical fume hoods conform to mechanical and fire codes?			
Are all air conditioning condensate lines with discharge shown?			
Does the discharge conform to code?			
Are all required backflow prevention devices shown?			
Does the fire sprinkler system show:			
Details of water source?			
Type of sprinkler system?			
Plan of sprinkler system?			
Are risers shown?			
Are connections to existing systems shown?			
Are all valves and controls shown?			
Notation requiring fire protection contractor to provide the sprinkler head model number on the design submittal shop drawings?			
Is an anti-microbial system flush specified?			
Is the temperature control system provided?			
Is the energy management system provided?			
Is the building automation system provided?			
Are temperature control energy management and building automation systems' schematics shown on the drawings?			
Are the sequences of the HVAC systems' of operation provided, complete with a point list?			
Are the ceiling diffuser and sprinkler head locations coordinated with the architectural reflected ceiling plans?			
Was clash detection made of the mechanical work to ensure no conflicts with other work, equipment or structures?			
Is adequate access provided to mechanical equipment located in attic spaces via ladders, catwalks, etc.?			
Electrical:			
Is an electrical site plan shown?			
Was clash detection made of the electrical work to ensure no conflicts with other work, equipment or structures?			
Is lighting system in accordance with University energy guidelines?			
Does all electrical design comply with the latest National Electrical Code?			
Are all conductors copper?			

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Is the electrical legend complete?			
Are all panelboard schedules provided?			
Do they show voltage and phase?			
Is the rating of the main disconnect shown?			
Are all circuit numbers shown?			
Are the number of poles shown?			
Are all trip-amperes shown?			
Are all volt-amperes shown?			
Are all wire sizes shown?			
Are all conduit sizes shown?			
Is lighting fixture schedule shown?			
Are all fluorescent lamps and ballasts of the energy-saving type?			
Is an exterior lighting photometrics plan included?			
Are riser diagrams shown for the following:			
Electrical service?			
Fire alarm system?			
Intercom system?			
Telecommunications system?			
Computer data system?			
Is the following transformer data provided?			
Voltage?			
Phase?			
KVA rating?			
Is the division of work between contractor, University of Notre Dame Utilities and AEP clearly shown?			
Is the voltage and KVA rating of all generators shown?			
Is the voltage and KVA rating of all transfer switches shown?			
Is sufficient space shown as required by the National Electrical Code for the following?			
Panelboard locations?			
Switchgear locations?			
Transformer locations?			
Are assurances made that no water lines are above electrical panels or switchgear?			
Are all locations of mechanical equipment and their circuits shown?			
Are all circuits for kitchen equipment shown?			
Are all rooms designated as shown on the architectural plans?			
Is the lighting layout coordinated with the architectural reflected ceiling plan?			
Is all grounding shown?			
Is all the electrical equipment shown on the floor plans?			
Are all circuits shown on the floor plans?			
Are specifications provided for the following?			
All electrical equipment			
The fire alarm system.			
The intercom system.			
The lightning protection.			
The security system.			
The telecommunications system.			
The computer data system.			
The firestopping details.			
All grounding, including equipment grounding.			
Are the diagrams for door card swipe access systems shown?			
Are the power requirements and sequence of control shown for elevator recall system?			
Is the emergency generator fuel fill vent and whistle indicated?			
Are the security plans with card readers shown, including electrical power requirements?			
Are OIT/data outlets indicated at vending machines?			
Is electrical closet construction of fire rated assembly?			
Do OIT closets indicate surface mounted 3/4" fire retardant plywood, on all wall surfaces, painted?			
Has the final building energy model been prepared?			