

Design Review
Faculty of Education Centers
Balkh, Faryab, Jawzjan Afghanistan

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Response Legend
A - Agree
D - Disagree
O - Out of scope
AE - Agree with exception

Comment #	Reviewer	Reference	Comment	Response Code	Response	Back-Check
ARCHITECTURE COMMENTS APPLY TO BALKH, FARYAB AND JAWSJAN ARCHITECTURAL DRAWINGS AS THEY APPEAR TO BE IDENTICAL SETS						
A-1	KCB	GENERAL	Consider adding a typical Legend and abbreviation sheet to the set			
A-2	KCB	GENERAL	Add appropriate scales to detail titles and scale bars to the drawing sheets.			
A-3	KCB	GENERAL	Why no reflected ceiling plans for coordination purposes?			
A-4	KCB	A-01	Enlarged plan reference at Stair 2 should be tagged as OPP HAND			
A-5	KCB	A-01	Are the building entrances and exits accessible as shown or do ramps need to be added?			
A-6	KCB	A-01 and A-02	Need to do more dimensioning and plan details			
A-7	KCB	A-01 and A-02	Provide Building Code and Construction Data on the floor plans with the following information (at a minimum): construction class, use group, height and area limitations, fire resistance ratings, design occupant load, egress requirements			
A-8	KCB	A-01 and A-02	References to doors and windows should be to sheet A-11			
A-9	KCB	A-01 and A-02	Columns and bearing walls are hatched, add that to the Legend			
A-10	KCB	A-01 and A-02	Show cabinet heaters on floor plans for coordination purposes.			
A-11	KCB	A-02	Is there a way to make the second floor accessible? Are elevators available? You could make provisions for a future elevator.			
A-12	KCB	A-03 and A-04	Life Safety plans should address occupant load based on area and occupancy (show room areas)			
A-13	KCB	A-03 and A-04	Life Safety plans should address travel distances			
A-14	KCB	A-03 and A-04	Egress width of stairs, corridors and doors shown to accommodate occupant load need to be shown			
A-15	KCB	A-03 and A-04	References to doors and windows should be to sheet A-11			
A-16	KCB	A-03 and A-04	Per IBC 708 and 1017 corridor walls can be fire partitions. You should distinguish between different types of fire rated walls.			
A-17	KCB	A-03 and A-04	If this is higher education this building can be use group B. If this is the case Per Table 508.3.3 storage rooms do not have to be separated since it is less than 10% of the floor area.			
A-18	KCB	A-03 and A-04	Incorrect window type symbol is being used (why are they tagged on the Life Safety drawings?)			
A-19	KCB	A-05	Key in details from A-16.			
A-20	KCB	A-05	Label high and low points of the roof.			
A-21	KCB	A-05	Key in canopy section (may need more detail - wall section?)			
A-22	KCB	A-05	How is access to the roof provided for routine maintenance?			
A-23	KCB	A-06	Some notes are too small to read.			
A-24	KCB	A-06	Why did door symbol change?			
A-25	KCB	A-06	Tag roof drainage.			

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ARCHITECTURE COMMENTS APPLY TO BALKH, FARYAB AND JAWSJAN ARCHITECTURAL DRAWINGS AS THEY APPEAR TO BE IDENTICAL SETS						
A-26	KCB	A-06	It is not clear what the finish is on the exterior stairs.			
A-27	KCB	A-06	Any control joints needed in the plaster EIFS system?			
A-28	KCB	A-06	Elevations have not been coordinated with HVAC drawings as there are cabinet heaters in every room that have wall penetrations.			
A-29	KCB	A-07	Showing lights and ceiling fans and any other component in this building in these sections would be good for clarity and coordination purposes.			
A-30	KCB	A-07	Why did door symbol change?			
A-31	KCB	A-08	Top spot elevation should be top of roof parapet.			
A-32	KCB	A-08	Show roof drainage.			
A-33	KCB	A-08	Give dimension for drip and what it is made out of.			
A-34	KCB	A-08	Any need for additional wall sections (through stairs, canopy)?			
A-35	KCB	A-08	The structural detailing of the grade beam, floor slab and cru wall is vastly different than shown in these wall sections - coordination is needed.			
A-36	KCB	A-09	Tag enlarged plans for Stair 003 also as Stair 002 SIM OPP HAND			
A-37	KCB	A-09	Consider adding stair detail to show the non-slip nosing and the specific dimensions of the treads and risers.			
A-38	KCB	A-09	Per IBC 1009.5.2 Outdoor stairways need to be designed so that water does not accumulate - I do not see this addressed. This needs to be detailed.			
A-39	KCB	A-09	Stair sections are not keyed in correctly - A-10 should be in the bottom right, A-09 in the bottom left			
A-40	KCB	A-09	Enlarged toilet room plans: based on the dims that are there it looks like there is 1200mm from the corridor door to the screen wall which does not provide the proper clearances per IBC 2006 and ICC A117.1.			
A-41	KCB	A-09	Enlarged toilet room plans: double check the clearance between the screen wall and the sinks it does not appear to have the proper clearances per IBC 2006 and ICC A117.1.			
A-42	KCB	A-09	Key in section of stair A001 on both level enlarged plans.			
A-43	KCB	A-10	Layout of stairs is not coordinated with the Structural drawings - need to be clear 177.8mm is max allowable riser height per code			
A-44	KCB	A-10	Per IBC 1009.10 Stairways shall have handrails on both sides. It does not appear there are on these stairs.			
A-45	KCB	A-10	How does guardrail terminate at concrete column on second floor?			
A-46	KCB	A-10	There are varying distances form handrail to wall called out - per IBC 1012.6 they are to be a min clearance of 38mm			

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A-47	KCB	A-10	It is not clear what the finish is on the exterior stairs. Note says to align CMU with conc. but A-12 says wall finish is PP?			
A-48	KCB	A-11	Safety and Single are spelled incorrectly in the window schedule.			
A-49	KCB	A-11	If you do need a fire rated window for Type C the rating in minutes would be listed and the window cannot be aluminum and get a rating. Also cannot be a sliding window and get a rating. If this needs to be an operable opening there will have to be an open			
A-50	KCB	A-11	Why does window type D need to be "fire protective"? It is not in a rated wall.			
A-51	KCB	A-11	Per 715.5.3 1 hour rated doors are only permitted to have .065 sq M of wired glass. Door type D5 has .36 sq M x 2.			
A-52	KCB	A-11	Per 715.4 Door type D2 can be 3/4 hour rated.			
A-53	KCB	A-11	Window and door details are lacking a lot of information (notes, setbacks, etc...).			
A-54	KCB	A-12	Room finish schedule notes and exterior finish notes call out for door frames to be painted but the color is not called out anywhere.			
A-55	KCB	A-12	If this building is in a specific location can we get rid of references to different climates and keep the one that is applicable?			
A-56	KCB	A-13	Details are a bit unclear - maybe show less at a larger scale; remove crossing note leaders.			
A-57	KCB	A-13	Why detail these if there are no details for louver openings on the A drawings?			
A-58	KCB	A-14	Need a better detail at canopy connection to building wall - can term bar attach through EIFS or should EIFS stop at that point? If it stops how is it terminated)			
A-59	KCB	A-15	Key in details from this sheet to A-09.			
A-60	KCB	A-16	Sheet is not numbered in a clear manner.			
A-61	KCB	A-16	Roof drainage detail should show actual condition with overhang.			
A-62	KCB	A-16	Detail D-V "pipe" is spelled incorrectly.			
A-63	KCB	A-16	Are roof parapets a concern in this seismic zone?			
A-64	KCB	A-16	There is an image of an elevation on the specification cover that has a sloped metal roof. Isn't that a more appropriate roof system design for this region?			
A-65	KCB	A-17	Lab cabinet long section note pointing to the wood base: it is unclear what product is being called for there.			
A-66	KCB	A-17	Lab cabinet plan calls out a 600mm x 600mm lab sink however the lab cabinet section dimensions a 600mm deep cabinet - sink will not fit.			
A-67	KCB	A-17	Tags are wrong, they reference A-19			
A-68	KCB	A-17	If building is accessible there should be an accessible lab station provided			

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A-69	KCB	A-17	How does cabinet heater work into casework? Add detail.			
A-70	KCB	A-18	Drawing is incomplete. Lines are missing on the plan, titles and scales are missing or incorrect. Elevation and wall section tags are incorrect. Door details are referenced that are not in the set of drawings.			
A-71	KCB	A-18	Why not use the same room finish legend as on A-12?			
A-72	KCB	A-18	Drawing border does not match the other drawings in the set.			
A-73	KCB	A-18	Wall sections?			
A-74	KCB	A-18	Roof details?			
A-75	KCB	A-18	This does not appear to be coordinated with structural as they are showing brick bearing walls?			
ARCHITECTURE SPECIFICATION COMMENTS						
A-76	KCB	GENERAL	Building elevation on spec cover does not match building elevations in drawing set			
A-77	KCB	GENERAL	Is it <u>Faculties</u> of Higher Education or <u>Facilities</u> ?			
A-78	KCB	GENERAL	Footer says: Higher Education Facility - Bamian			
A-79	KCB	GENERAL	Is LEED part of this project? If not remove references to it in all specs.			
A-80	KCB	04 42 00	Spec has not been edited for the conditions of this project. There are references to chimneys, steel lintels, brick veneer, steel framing, stone, precast, etc...			
A-81	KCB	05 50 00	Spec has not been edited for the conditions of this project.			
A-82	KCB	06 10 00	Spec has not been edited for the conditions of this project.			
A-83	KCB	07 14 00	Spec has not been edited for the conditions of this project.			
A-84	KCB	07 22 00	Spec has not been edited for the conditions of this project.			
A-85	KCB	07 42 13	I did not see metal wall panels in the drawings. Are there supposed to be some? If so this spec has not been edited for the conditions of this project.			
A-86	KCB	07 52 00	This is not the roof system that is detailed on the Drawings, it is also unedited.			
A-87	KCB	07 60 00	Spec has not been edited for the conditions of this project.			
A-88	KCB	07 60 00	This spec section is in here twice.			
A-89	KCB	07 92 00	Spec has not been edited for the conditions of this project.			
A-90	KCB	08 11 13	Spec has not been edited for the conditions of this project.			
A-91	KCB	08 33 23	I do not see any overhead rolling doors on the drawings.			
A-92	KCB	08 51 13	Spec has not been edited for the conditions of this project.			

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A-93	KCB	08 71 00	Spec has not been edited for the conditions of this project.			
A-94	KCB	08 71 00	Drawing A-18 has a hardware set listed but I do not see sets in the spec. It is unclear whether there should be sets in the spec or are items listed on the drawings (spec makes reference to "Hardware Schedule")? Sets on the drawings seem to be lacking information.			
A-95	KCB	08 81 00	Spec has not been edited for the conditions of this project.			
A-96	KCB	08 91 00	Spec has not been edited for the conditions of this project.			
A-97	KCB	08 91 00	The door elevations on Drawing A-11 do not indicate any door louvers as listed in the spec.			
A-98	KCB	08 91 00	It is not clear on the architectural drawings if louvers are required, where or who is supplying them.			
A-99	KCB	09 22 37	Spec has not been edited for the conditions of this project.			
A-100	KCB	09 30 00	Spec has not been edited for the conditions of this project.			
A-101	KCB	09 66 16	Spec has not been edited for the conditions of this project.			
A-102	KCB	09 90 00	Spec has not been edited for the conditions of this project.			
A-103	KCB	09 96 00	Are there any high performance coatings? I do not see any listed on A-12			
A-104	KCB	10 28 13	Spec has not been edited for the conditions of this project.			

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MECHANICAL COMMENTS APPLY TO BALKH, FARYAB AND JAWSJAN ARCHITECTURAL DRAWINGS AS THEY APPEAR TO BE IDENTICAL SETS						
M-1	RB	General	The design package provided for review was for the Balkh, Afghanistan facility. Information for the Faryab and Jawzjan locations were not provided, and as result have not been reviewed.			
M-2	RB	Specifications	Specifications are unedited masters and contain numerous items unrelated to project. Specifications should be edited to remove all items that are not part of project.			
M-3	RB	Dwg M-01	Drawing appears to be typical "General Notes" sheet and should be edited to remove all items that are not part of project.			
M-4	RB	Dwg M-01	Remove Note 6 pertaining to control diagrams.			
M-5	RB	Dwg M-01	Remove Note 7 pertaining to exterior supply ductwork as exterior ducting is not used.			
M-6	RB	Dwg M-02	As per International Mechanical Code 2006 (IMC), public toilet rooms require 75cfm (35L/S) ventilation per each urinal OR water closet. Recommend increasing exhaust from 212cfm (100L/S) to 225cfm (106L/S) in each toilet room.			
M-7	RB	Dwg M-02	Recommend use of transfer air ducts OR door grilles in toilet rooms to provide makeup air from corridor to toilet rooms. At code required ventilation rate (225cfm - 106L/S) air velocity beneath a 1" (25.4mm) undercut door is 900fpm (4.6M/S) which is excessively high. If fire walls are provided to maintain corridor as an acceptable means of egress, provide fire/smoke dampers, as applicable, within transfer air path from corridor into toilet rooms.			
M-8	RB	Dwg M-02	Provide required size for fresh air register located at wall penetration of Administration Room located on first floor.			
M-9	RB	Dwg M-02	Electric Room should be expected to contain electrical/communications equipment with sizable heat release. As result, we would recommend mechanical cooling (or mechanical exhaust) be provided instead of natural ventilation to ensure reliable operation of the equipment located within this space.			
M-10	RB	Dwg M-02	Based on IMC occupancy (7people/1000SF.- 7people/93SM) and fresh air requirement (20cfm/person - 9.4L/S per person) for offices, recommend increasing fresh air provided to Administration Room from 64cfm (30L/S) to 80cfm (38L/S).			
M-11	RB	Dwg M-03	As per IMC public toilet rooms require 75cfm (35L/S) ventilation per each urinal OR water closet. Recommend increasing exhaust from 212cfm (100L/S) to 225cfm (106L/S) in each toilet room.			

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MECHANICAL COMMENTS APPLY TO BALKH, FARYAB AND JAWSJAN ARCHITECTURAL DRAWINGS AS THEY APPEAR TO BE IDENTICAL SETS						
M-12	RB	Dwg M-03	Recommend use of transfer air ducts OR door grilles in toilet rooms to provide makeup air from corridor to toilet rooms. At code required ventilation rate (225cfm; 106L/S) air velocity beneath a 1" (25.4mm) undercut door is 900fpm (4.6M/S) which is excessively high. If fire walls are provided to maintain corridor as an acceptable means of egress, provide fire/smoke dampers, as applicable, within transfer air path from corridor into toilet rooms.			
M-13	RB	Dwg M-04	Detail 1 shows a recessed cabinet heater, but plans appear to depict heaters as surface mounted. Confirm wall construction is adequate to allow installation of recessed heaters or change to surface mounted units. Update plans and details to clarify design intent.			
M-14	RB	Dwg M-05	Schedule of Units does not include requirements for wall mounted exhaust fans. Required capacities and performance criteria for these fans should be included.			
M-15	RB	Dwg M-05	Provide airflow requirement for Recessed Cabinet Heater (CH) in units of L/S instead of cfm.			

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PLUMBING COMMENTS APPLY TO BALKH, FARYAB AND JAWSJAN ARCHITECTURAL DRAWINGS AS THEY APPEAR TO BE IDENTICAL SETS						
P-1	DCG	Dwg P-01	General Note #6 - note calls for buried piping to be galvanized. PVC would be a more appropriate material.			
P-2	DCG	Dwg P-02	All the text should be upsized to be more legible			
P-3	DCG	Dwg P-02	The floor drain in the Storage Room adjacent to the Gang Toilet Rooms needs a vent.			
P-4	DCG	Dwg P-03	All the text should be upsized to be more legible			
P-5	DCG	Dwg P-03	The floor drain in the Storage Room adjacent to the Gang Toilet Rooms needs a vent.			
P-6	DCG	Dwg P-04	Need to identify the plumbing fixture types			
P-7	DCG	Dwg P-04	No hot water piping shown			
P-8	DCG	Dwg P-04	Need shut-off valves on water risers to be able to isolate rooms for maintenance			
P-9	DCG	Dwg P-04	Are there freezing concerns with the small diameter piping shown running along the exterior walls?			
P-10	DCG	Dwg P-05	Need to identify the plumbing fixture types			
P-11	DCG	Dwg P-05	No hot water piping shown			
P-12	DCG	Dwg P-05	Need shut-off valves on water risers to be able to isolate rooms for maintenance			
P-13	DCG	Dwg P-05	Are there freezing concerns with the small diameter piping shown running along the exterior walls?			
P-14	DCG	Dwg P-06	Water service entering the building does not match the floor plans.			
P-15	DCG	Dwg P-06	The fixtures in the laboratories are called out as lavs, should be called out as sinks.			
P-16	DCG	Dwg P-06	Need to show fire rated floor penetrations.			
P-17	DCG	Dwg P-07	All the text should be upsized to be more legible			
P-18	DCG	Dwg P-07	The sanitary risers also need to be enlarged, drawings are not legible.			
P-19	DCG	Dwg P-08	Detail 1 - Need to show a cleanout cap on the end of the open pipe under the cleanout ferrule.			
P-20	DCG	Dwg P-08	Detail 2 - Plotting or layer configuration issues. Detail only shows text.			
P-21	DCG	Dwg P-08	Detail 5 - Need to complete detail.			

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ELECTRICAL, COMMUNICATIONS, FIRE PROTECTION COMMENTS APPLY TO BALKH, FARYAB AND JAWSJAN ARCHITECTURAL DRAWINGS AS THEY APPEAR TO BE IDENTICAL SETS						
C-1	JLB	General	The drawings and specifications provided for this review regarding communications are incomplete and are not constructible. The documents provided do not follow the guidelines for the Army's technical guide for Installation Information Infrastructure Architecture (I3A) or TIA/EIA ,ANSI, any other telecommunications industry standards. My comments will be based on the standards mentioned above.			
C-2	JLB	General	BLAKH was the only site that had electrical drawings provided, It has been assumed that the comments provided on the BLAKH drawings will be used for Jawzjan and Faryab as well.			
C-3	JLB	Specs	All specifications regarding Telecommunications are Unedited USGS guide specifications. Edited sections must be provide in order to conduct review.			
C-4	JLB	Specs 27 15- 19	I don't think this section is applicable to this project.			
C-5	JLB	Spec's Table of contents	The TOC There are no headings for Div 27 or Div 28 they are just lumped in under Div 26 Electrical.			
C-6	JLB	Spec's Table of contents	Section 27 1 00 in not listed in TOC but is included in the specs.			
C-7	JLB	Drawings E series	All drawing have the following Message in the boarder "PRODUCED BY AUTODESK EDUCATIONAL PRODUCT"			
C-8	JLB	E-01	Schedule of light fixtures contains Comm. panels outlets and manholes. These should be on there own schedule			
C-9	JLB	E-01	General note #2 has different formatting than Gen note # 3-19, but more importantly states the specs are to be used in conjunction with the drawings. See comment C-1 above.			
C-10	JLB		General note #5 indicates that 16mm dia conduits is the minimum acceptable size. The I3A and TIA/EIA 569-B both call for a minimum of a 25mm or 1" conduit.			
C-11	JLB	E-01	List of drawings schedule is missing drawings E-13 to E20			
C-12	JLB	E-05	Riser diagrams typically show the telecommunications back bone system. Online drawings show communications outlets and how they interface with the riser/backbone system.			
C-13	JLB	E-05	Drawing calls for STP Cat 6 cabling. The standard type of Cat 6 cabling is UTP. STP will work however unless the is a need for it just creates extra expense.			
C-14	JLB	E-05	Cat 6 cable should be plenum especially with little or no detail regarding pathways.			
C-15	JLB	E-05	DA outlets marked with 1XRJ45/Cat6 to data patch panel. This should read 1 cat 6 cable to Data patch panel. The RJ45 describing the outlet connector.			

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C-16	JLB	E-05	Voice and data cable appear to be run in separate pathways / outlets. The can cohabitate in the same outlet and pathway. This will reduce cost.			
C-17	JLB	E-05	Pathway sizes or types not indicated			
C-18	JLB	E-05	Riser diagrams typically show the telecommunications back bone system. Online drawings show communications outlets and how they interface with the riser/backbone system.			
C-19	JLB	E-05	Data RIZER (second floor) has no pathway lines connecting the outlets to the data cabinet. Rizer is typically spelled riser when referring to Telecommunications pathways and cabling.			
C-20	JLB	E-05	Data cabinet 48 RU, 48cmx 180cmx20cm is not acceptable for telecommunications. The cabinet is not wide enough to install 19in (482.6mm) standard patch panels. The cabinet is not deep enough to accept communications equipment.			
C-21	JLB	E-05	Cabinets are not shown connected together via cable or pathway. The drawing does say to connect them together with 2-100mm conduits but no riser/back bone cables are specified. Conduits should be EMT.			
C-22	JLB	E-05	Data riser should include telephone as well ex. Data and Telephone riser.			
C-23	JLB	E-16,17	Communications Cables, equipment and racks should not be located in an electrical room. I3A and Tia/Eia 569-B			
C-24	JLB	E-16,17	Pathway between CC-01 and handhold size, type and quantity not shown			
C-25	JLB	E-16,17	Handhold specified does not meet I3A'a minimum recommendations.			
C-26	JLB	E-16,17	DA outlet cable counts do not match riser drawing E-05.			
C-27	JLB	E-16,17	No pathways shown. There should be at least notes describing a typical installation. Major pathways such as cable trays should be shown here if used.			
C-28	JLB	E-17	Note "2 CC-01 VIA 2xCAT6" These are not considered riser cables. A multi pair telephone riser cable would be needed to make the telephone system functional. Typically Fiber optic cable is used to as riser cable between Telecommunications Enclosures/Rooms(TE's and TR's)			
C-29	JLB	E-20	Communications hand hole shown does not meet the minimum requirements for I3A			
C-30	JLB	E-20	Communications hand hole shown is a precast but the drawing calls for a poured in place box? If the intent is to provide a cast in place solution design calculations and a structural design will be required.			

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C-31	JLB	Missing details/drawings	Drawings/detail indicating typical outlet configurations, online diagrams, communications wall and rack elevations, Outside plant duct bank burry depth and configuration, service entrance detail, typical pathway installation detail, typical wall penetration detail, Telecommunications grounding and bonding system detail, communications space layouts and minimum requirements such as power outlets, cable racking temperature control detail is missing.			
C-32	JLB	Missing information on overall design	Detailed information on pathways such as size, type, installation detail, routing, outlet boxes, pull boxes and fill ratio are missing			
C-33	JLB	Missing information on overall design	Detailed information on telecommunications spaces such as power requirements ,equipment requirements, properly sized equipment racks, environmental controls, connection to other TR's and the outside plant duct bank are missing.			
C-34	JLB	Missing information on overall design	Detailed information on communications cabling and components such as racks patch panels cable, outlet connectors, outlet faceplates, PET's, fiber optical backbone cable, connectors patch panels splice units and installation requirements are missing.			
FP-1	MD	Specs	All specifications regarding Fire Alarm System are Unedited USGS guide specifications. Edited sections must be provide in order to conduct review.			
FP-2	MD	E-06	Is the cable that is specified on the top of the drawing FPL? Verify compliance with NFPA 70.			
FP-3	MD	E-06	What will the FACP connect to the fire Dept? If so show on diagram.			
FP-4	MD	E-06	Initiation devices should be Zoned by floor.			
FP-5	MD	E-06	Notifications appliances and initiating devices can not connect to the same circuit.			
FP-6	MD	E-14 and E15	Coordinate locations and spacing of all detectors with other ceiling mounted devices such as light fixtures			
FP-7	MD	E-14 and E-15	Add notification appliance in the corridor out side the Men's room.			
FP-8	MD	E-14 and E-15	S 15 and S 16 Cabling should not be shown routed over Electrical panel			
PA-1	MD	Specs	Specifications regarding PA System are unedited USGS guide specifications. Edited section must be provide in order to conduct review.			
PA-2	MD	E-06	Does the PA control panel have a microphone or a telephone interface			
PA-3	MD	E-06	Wiring size and type not shown on PA control panel diagram			
PA-4	MD	E-06	PA speaker wattage not shown			
PA-5	MD	E-14 and E-15	Show wire path to PAS from each speaker			

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ELECTRICAL, COMMUNICATIONS, FIRE PROTECTION COMMENTS APPLY TO BALKH, FARYAB AND JAWSJAN ARCHITECTURAL DRAWINGS AS THEY APPEAR TO BE IDENTICAL SETS						
PA-6	MD	E-14	in Men's room fix Speaker label. Currently overlaid with another label			
E-1	JAS	General	BLAKH was the only site that had electrical drawings provided, It has been assumed that the comments provided on the BLAKH drawings will be used for Jawzjan and Faryab as well.			
E-2	JAS	E-01	"Schedule of Lighting Fixtures" should be renamed "Plan Legend"			
E-3	JAS	E-01	The "List of Drawings" is not accurate. There are 20 electrical drawings.			
E-4	JAS	E-01	Note 16-fault interrupting capacity for circuit breakers for lighting and sockets does not agree with the value given in the panel schedules.			
E-5	JAS	E-02	Verify socket loads. They can not all be 1000 w.			
E-6	JAS	E-02	Description for circuit 35 is not accurate			
E-7	JAS	E-02	What does circuit 30 feed? Don't see any exterior lighting.			
E-8	JAS	E-02	Verify all Description & Served Area on panel schedule. Some are not accurate.			
E-9	JAS	E-03	Verify all Description & Served Area on panel schedule. Some are not accurate.			
E-10	JAS	E-03	The load for circuit 37 is not accurate. It should be 13000 w and requires a minimum circuit breaker rating of 75A.			
E-11	JAS	E-02/E-03	Provide calculations to verify that total voltage drop is less than 5% for feeder and branch circuits.			
E-12	JAS	E-04	150 sq mm conductor is not adequate for a 300 A circuit. According to BS7671:2008 Table 4D1A, Reference Method B, 3 phase 150 sq mm has an ampacity of only 262 A.			
E-13	JAS	ALL Floor Plans	Room numbers on Electrical floor plans and Panel Schedules should match those on the Architectural drawings.			
E-14	JAS	ALL Floor Plans	Electrical floor plans are not drawn to the same scale as the Architectural drawings.			
E-15	JAS	E-07	There is no emergency lighting outside the exit doors as required.			
E-16	JAS	E-07	There are not enough emergency fixtures in the corridors. More than 2 are required in 34.8 M. Typical for both floors.			
E-17	JAS	E-07	There is no emergency lighting in the Vestibule which is part of the means of egress.			
E-18	JAS	E-07	It would be helpful to see lighting calculations for typical rooms.			
E-19	JAS	E-07	There is no lighting, either normal or emergency provided in the end stairs. Typical for both floors			
E-20	JAS	E-08	Recheck lighting calculations. The Stairs seem overlit.			

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ELECTRICAL, COMMUNICATIONS, FIRE PROTECTION COMMENTS APPLY TO BALKH, FARYAB AND JAWSJAN ARCHITECTURAL DRAWINGS AS THEY APPEAR TO BE IDENTICAL SETS						
E-21	JAS	E-08	May want to consider splitting Library lighting into 2 circuits.			
E-22	JAS	E-09/E-10	Need note that GFCI sockets are mounted above counter, not at 300mm. Typical of all Laboratories.			
E-23	JAS	E-11	Should X-Ref the Civil site plan in order to show actual layout of site to scale. You can't tell where anything is located in relationship to the building or other features on the site.			
E-24	JAS	E-11	Need grounding (earthing) details			
E-25	JAS	E-11	Is the generator in an enclosure or a building?			
E-26	JAS	E-11	Where is the 300A main disconnect for the generator mounted?			
E-27	JAS	E-11	How is the circuit to the Well House run from the building to the Handhole for the main electrical feed?			
E-28	JAS	E-11	What equipment is located in the Well House? No lighting is shown. No wiring diagrams.			
E-29	JAS	E-11	What is the symbol (square with letter A inside) located between the generator and the ground (earth) grid?			
E-30	JAS	E-11	125 sq. mm conductors are too small for a 300A circuit. Is this supposed to be 2 parallel runs? Should have a spare conduit.			
E-31	JAS	E-11	Voltage drop in conductors must be considered in sizing conductors.			
E-32	JAS	E-12	Exhaust fan circuit 38/PB-1 is listed as Well House and Pump on the panel schedule.			
E-33	JAS	E-20	Need to add details for other lighting fixture types.			
E-34	JAS	Specs	All Electrical specification sections appear to be unedited UFGS sections. These MUST be edited to reflect the specific requirements of this project. An in-depth review could not be performed.			
E-35	JAS	Specs	Section 26 20 00, Interior Distribution System is missing. This is a critical section.			
E-36	JAS	Specs	There is no specification for the generator other than KW rating shown on the drawings.			
E-37	JAS	26 05 19.00 10	Wire sizes should be shown in Metric equivalent sizes			
E-38	JAS	26 51 00	Generally incomplete and unedited. Many inapplicable paragraphs.			

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CIVIL COMMENTS APPLY TO BALKH DRAWINGS SETS						
CB-1	CTJ	C-01	There are several locations where existing contours cross over each other.			
CB-2	CTJ	C-01	It is not clear whether this plan is intended to show both existing and proposed contours or existing contours only. A legend would be helpful.			
CB-3	CTJ	C-02	There is a double line west of the proposed building that is running north - south. There is no indication what this line is intended to show. Is it a retaining wall? Is it a curb?			
CB-4	CTJ	C-02	There are fence/gate details shown on sheet C-15, but there is no indication on the site plan where the fence/gates are to be located.			
CB-5	CTJ	C-03	There is an existing feature west of the proposed building that is not identified. Is it a building, parking lot, yard, etc...? If it is a building, storm runoff should not be directed toward it.			
CB-6	CTJ	C-03	There is a flow line label and arrow east of the proposed building that heads directly toward the generator room & fuel storage. Storm runoff should be directed away from the building.			
CB-7	CTJ	C-03	The plan shows a 2% slope away from the proposed building on all sides. The plan should be refined to indicate that runoff should not flow toward any of the other buildings on the site, whether proposed or existing.			
CB-8	CTJ	C-03	There is no indication of the finish floor elevation of the proposed building with respect to existing grades.			
CB-9	CTJ	C-03	Grading information for the proposed road is not shown.			
CB-10	CTJ	C-04	The plan does not indicate pipe sizes for the water distribution system; however, a note states that the pipe diameter will be determined in the 65% design submittal. There are water pipe sizes indicated on sheets C-07 and C-16, however they do not match - 50mm vs. 75mm.			
CB-11	CTJ	C-05	The sewer pipe and manhole layout does not match what is shown on sheet C-17 (Sewer Line Profile & Details). One sheet shows 5 manholes, whereas the other shows 3 manholes.			
CB-12	CTJ	C-05	The septic system is shown on the east side of the building on this sheet, whereas the septic system is shown on the west side of the building on sheet C-17. Which is correct?			
CB-12	CTJ	C-07	The pipe labeled "50mm to building" does not match the pipe size (75mm) shown on sheet C-16 (Water Supply Line Profile & Details).			
CB-13	CTJ	C-11	The Geotechnical Report prepared for the project indicates that 3 percolation tests were performed for the septic system. Locations of these percolation tests are not shown on the site plan, nor is there any indication which of these tests was used for design of the septic system.			

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CIVIL COMMENTS APPLY TO BALKH DRAWINGS SETS						
CB-14	CTJ	C-11	The dimensions shown on the Septic System Bed Configuration Section View detail are all the same and do not reflect the dimensions shown on the Absorption Field Detail on sheet C-08.			
CB-15	CTJ	C-13	There is a note "Warning Tape at Minimum 30cm Depth" with no other explanation. Is this to be used for all utilities?			
CB-16	CTJ	C-15	This sheet shows details for steel gates with chain link fence on both sides of the gates. Verify that these are the intended materials.			
CB-17	CTJ	C-16	The ground level indicated on the profile does not match what is shown on sheet C-01 (Contours & Benchmarks) - 912m vs. 348m. Is a different elevation datum being used?			
CB-18	CTJ	C-16	The manholes indicated on the profile are not clearly shown on sheet C-04 (Water Supply & Distribution Plan).			
CB-19	CTJ	C-17	The ground level indicated on the profile does not match what is shown on sheet C-01 (Contours & Benchmarks) - 912m vs. 348m. Is a different elevation datum being used?			
CB-20	CTJ	C-17	The pipe slope indicated on the plan view (1%) does not match what is shown on the profile or sheet C-05 (1.5%).			
CB-21	CTJ	C-17	See comments C-11 and C-12 for inconsistencies between this sheet and sheet C-05.			

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CIVIL COMMENTS APPLY TO FARYAB DRAWINGS SETS						
CF-1	CTJ	General	There are a number of sheets missing from this plan set. An adequate review cannot be completed without them. Following is a general list of missing information: Roads and walkways Site grading Water supply and distribution septic system design and details Pipe trench details Sewer line profile			
CF-2	CTJ	C-01	There are a number of contours that appear to indicate 2 separate high points directly northeast of benchmarks 1 and 2. Are these contours correct? If so, is there some sort of retaining structure between these high points and the existing building?			
CF-3	CTJ	C-01	Existing contours of different elevations pass through the existing building to the northwest. Does this building have a stepped first floor level.			
CF-4	CTJ	C-02	There are fence/gate details shown on sheet C-15, but there is no indication on the site plan where the fence/gates are to be located.			
CF-5	CTJ	C-05	The building, sewer and septic system layout shown on this plan do not match what is shown on the site plan (C-02). This layout on this sheet appears to be from a different project.			
CF-6	CTJ	C-05	Sewer pipe sizes are not indicated on this sheet, however there is a note that states "pipe diameter will be determined in the 65% design submittal".			
CF-7	CTJ	C-11	This sheet shows details for steel gates with chain link fence on both sides of the gates. Verify that these are the intended materials.			