

OPM SUBMITTAL REVIEW & COORDINATION
COMMISSIONING CONSULTANTS REVIEW

6C.2.1 - 03



**Consulting
Engineering Services**

CxA DESIGN REVIEW COMMENTS - Plumbing

Northeast Metropolitan Regional Vocational High School

Project Name:		Northeast Metropolitan Regional Vocational High School				Referring Agency:		Consulting Engineering Services		
Project No.:		2022604.00 G				Reviewed By:		Jacob Coons		
Milestone:		90% CD				Review Date:		4/17/2023		
NO.	Drawing/ Spec Section	Detail/ Room Number	DISCIP LINE	Cx Review Comments	REVIEW COMMENT BY:		Designer Response	Follow Up Comments	Reviewer Response (Open/ Closed)	Review Set
CES 4.01	P0-0-1 (applicable to all sheets)	General Comment	P	Show locations of cleanouts	CES		Cleanout locations will be added in future submission	Cleanouts shown.	Closed	60% CD
CES 4.02	P0-0-1 (applicable to all sheets)	General Comment	P	Many pipes are shown rising in locations where they will not be concealed. Confirm intent.	CES		Piping to be coordinated with architect accordingly.	Piping still shown exposed, outside of walls, in some locations.	Open	60% CD
CES 4.03	P0-0-1 (applicable to all sheets)	General Comment	P	Floor drains in many areas do not appear to be vented. Clarify intent.	CES		Floor drain venting to be added in future submission.	Venting for floor drains has been added.	Closed	60% CD
CES 4.04	P1-0-0A	Kitchen A108	P	Sanitary connection to floor grate?	CES		Drain connection to be added in future submission	Drain connection has been added to floor troughs.	Closed	60% CD
CES 4.05	P1-0-0A	Recycling A109	P	Location shown to grease waste. Should it go to sanitary instead?	CES		FD waste shall go to sanitary.	FD shown going to sanitary.	Closed	60% CD
CES 4.06	P1-0-0A	Servery A112	P	Several of the storm pipe risers do no appear to be in enclosures. Verify exposed piping is acceptable	CES		Final location to be confirmed with architect.	Some storm locations have been moved to an enclosure from the last submission. Some pipe risers are still exposed.	Open	60% CD
CES 4.07	P1-0-0A	Carpentry A141	P	Is the intent to have floor drains in carpentry?	CES		Yes.		Closed	60% CD
CES 4.08	P1-0-0A	Carpentry A141	P	Why do the other floor drain in this area go through an oil separator but this one does not? Confirm intent. Refer to location on redline markup.	CES		Emergency shower/eyewash discharge to sanitary system.		Closed	60% CD
CES 4.09	P1-0-0B	Cosmetology B120	P	How are these fixtures vented?	CES		Venting to be added below slab in future submission.	Fixtures are bow vented.	Closed	60% CD
CES 4.10	P1-0-0C	Elev #2 E2	P	Where does the pump discharge to?	CES		Pump will discharge and drain to sanitary system.	Pump discharge shown.	Closed	60% CD
CES 4.11	P1-0-0C	Shower	P	Sanitary connection to fixtures missing. Also relocate room name/ number to proper location.	CES		Noted. Will be revised in future submission.	Sanitary and vent piping shown to plumbing fixtures in Shower Room C025.	Closed	60% CD
CES 4.12	P1-0-0C	TLT C022C	P	Floor drain not connected to sanitary	CES		Noted. Connection to be added in future submission	Floor drain has been removed from this room.	Closed	60% CD
CES 4.13	P1-0-0C	Auto Collision C022	P	10" Storm - Appears to be an excessively convoluted route. Clarify intent	CES		Routing to be simplified.	Storm piping/routing has been modified since last submission.	Closed	60% CD
CES 4.14	P1-0-0C	Metal Fabrication C004	P	8" Storm - Riser appears to go through a piece of equipment. Clarify intent	CES		Riser shall drop against column. Location will be revised in future submission.	Riser location has been revised.	Closed	60% CD
CES 4.15	P1-0-0C	Metal Fabrication C004	P	Floor cleanout is located under a piece of equipment and may not be readily accessible. Clarify intent/review location	CES		Location shall be revised in future submission.	Floor cleanout locations has been revised.	Closed	60% CD
CES 4.16	P1-1-1A	Dry Storage A103	P	Piping to fixture not shown	CES		Piping to be indicated in future submission.	Piping shown to fixture on drawing P2-1-1A.	Closed	60% CD
CES 4.17	P1-1-1A	Cooler A102	P	Exposed Piping? Confirm intent.	CES		Final location to be coordinated with architect.	Storm piping location has been revised.	Closed	60% CD
CES 4.18	P1-1-1A	OFF A104	P	8" vent for radon mitigation - exposed piping rising in the middle of the room? Verify intent.	CES		Final location to be coordinated with architect.	Radon mitigation piping moved to wet wall.	Closed	60% CD

CES 4.19	P1-1-1A	Receiving A110	P	Piping shown in space but where is it going?	CES		Piping layout to be completed and intent clarified in future submission.		Open	60% CD
CES 4.20	P1-0-0A	Receiving A110	P	Floor drain not properly vented. Floor drain connects to a sanitary main with a water closet discharging upstream. Vent should be added between the floor drain and where it connects to the sanitary main.	CES		Venting to be revised.		Open	90% CD
CES 4.21	P1-0-0A	Theory CR A148D	P	Storm piping shown as 6" above grade and then increases to 8" below grade with no additional connections. Is this due to a lower pitch? Confirm intent.	CES		The 6" storm is able to handle the storm load vertically. When running horizontally the storm line must be increased to handle the line with a pitch of 1/8" per foot.		Open	90% CD
CES 4.22	P1-0-0A & P1-1-1AB	Corridor A146	P	Show sanitary/vent & water piping to drinking fountains.	CES		Sanitary and venting of fixture is shown in riser diagrams on P5-0-1.		Open	90% CD
CES 4.23	P1-0-0A & P1-1-1A (typ of all locations)	Carpentry A141	P	How is fixture P-3B vented? Is water supply from below or overhead?	CES		Water supply is from overhead. The trap for the fixture is vented above slab. Piping to be added.		Open	90% CD
CES 4.24	P1-0-0B	HVAC Technology B103	P	How is floor grate vented? Sanitary drain from fixtures on different level are connecting upstream.	CES		Venting to be added to below slab piping.		Open	90% CD
CES 4.25	P1-0-0B	Near Locker B121A	P	Duplicate radon piping tags shown.	CES		Duplicate tag to be removed.		Open	90% CD
CES 4.26	P0-0-1 (applicable to all sheets)	General Comment	P	Finish tagging pipes.	CES		Noted.		Open	90% CD
CES 4.27	P1-1-0C	Room below IDF C009	P	Missing water piping to janitors sink, missing fixture tag	CES		Water piping to be added.		Open	90% CD
CES 4.28	P1-1-0C	Shower C025	P	Add cold water supply to water closet/modify pipe size. Only 1/2" CW shown currently.	CES		CW Size to be increased to 1".		Open	90% CD
CES 4.29	P1-1-0C	Plumbing Room C008	P	Where is vent piping routed to?	CES		Vent pipe routing to be completed and routed to level above.		Open	90% CD
CES 4.30	P1-1-0C	General Comment	P	Where is argon piping supplied from?	CES		Argon is supplied from portable canisters. Piping distribution is built to support connection to portable canisters.		Open	90% CD
CES 4.31	P1-1-1C	Stair 7	P	Duplicate storm piping tags with conflicting areas.	CES		Duplicate tags to be deleted.		Open	90% CD
CES 4.32	P1-1-0D & P1-1-1D	TLT/Showers D117A & D122A	P	Only (4) 2" V shown on floor below. Can these be battery vented to reduce number of vent connections?	CES		Grouping of (3) showers are currently battery vented. Each grouping of (3) showers has two vents.		Open	90% CD
CES 4.33	P1-1-2B	TLT B201C & Business Office Tech B202	P	Missing hot and cold water piping to sink and bathroom fixtures.	CES		Piping to be added.		Open	90% CD
CES 4.34	P1-1-2B	TLT B217	P	Water piping does not look correct. Hot water dropping in wet wall serving urinals. No water shown next to lavatory. No water shown serving water closets.	CES		Piping in this area to be revised and completed.		Open	90% CD
CES 4.35	P1-1-2B	TLT B228	P	Missing water supply to bathroom fixtures.	CES		Piping in this area to be revised and completed.		Open	90% CD
CES 4.36	P1-1-2B	TLT B228	P	Pipes showing through fixtures, what are these pipes serving?	CES		Pipes to be relocated to proper location.		Open	90% CD

CES 4.37	P1-1-4B	Robotics & Automation B402	P	Where is the compressed air piping supplied from?	CES		Compressed air supplied from compressor AC-4 in Storage Room B402G.		Open	90% CD
CES 4.38	P1-1-4B	Robotics & Automation B402	P	Piping not tagged.	CES		Pipe tag to be added.		Open	90% CD
CES 4.39	P3-0-1	Detail 11 - Condensate Receptor		Vent connection is required for p-trap serving indirect waste receptor.	CES		Condensate receptor venting to be added.		Open	90% CD
CES 4.40	PL-1-1	Field Maint. Garage LR104		No vent piping shown for trench drains.	CES		Vent to be added.		Open	90% CD
CES 4.41	PL-1-1	Field Maint. Garage LR104		Confirm storm requirements. Understorm 6" storm lateral shown but no storm piping shown above grade.	CES		Storm requirements to be confirmed.		Open	90% CD
CES 4.42	P0-0-1 & PL-1-1	General Comment		Pipe tagged as "PD" but not listed in the piping legend.	CES		PD pump discharge to be added		Open	90% CD
CES 4.43	P0-0-1 & PL-1-1	General Comment		Suggest reviewing/editing pipe legends as necessary. Sanitary piping is noted as "SAN" in legend, on drawings it is mostly tagged as "S".	CES		Noted. Legend to be revised.		Open	90% CD

		CxA DESIGN REVIEW COMMENTS - Fire Protection								
		Northeast Metropolitan Regional Vocational High School								
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CES 3.01	FP1-1-0.5CD	Detail 2	FP	Sprinklers are shown too close together	CES		Sprinkler graphics/layout to be revised accordingly.	Sprinkler graphics/layout has been revised.	Closed	60% CD
CES 3.02	FP1-1-0.5CD	Detail 3	FP	It appears some of this work is also shown on the full plans.	CES		Sprinkler graphics/layout to be revised accordingly.	Sprinkler graphics/layout has been revised.	Closed	60% CD
CES 3.03	FP1-1-0C (Typical)	Key Plan	FP	Correct hatching on key plan to indicate area shown. typical for all sheets	CES		Noted, will address for future submission.	Key plan is accurate to area of building shown on drawing.	Closed	60% CD
CES 3.04	FP1-1-0C	Hatched Area above Corridor C010	FP	Light Hazard Area label shown in Ordinary Hazard Area	CES		Light Hazard Area, is noted for toilet room. Will be addressed for clarity on partial plans.	Clarified.	Closed	60% CD
CES 3.05	FP1-1-0C	Generator Panels C007 and Elec Main Elec C001	FP	Should these areas be shown as Ordinary Hazard?	CES		Areas will be noted as Ordinary Hazard.	Clarified.	Closed	60% CD
CES 3.06	FP1-1-0C	Plumbing Room C008	FP	Where does the drain piping for the floor control valves terminate?	CES		Drain piping termination point shall be indicated in future submission.	Drain piping indicated on drawings.	Closed	60% CD
CES 3.07	FP1-1-0C	Elev #2 E2	FP	Is coverage required for the elevator pit and for Elevator Machine Room	CES		These areas do not require sprinkler coverage.		Closed	60% CD
CES 3.08	FP1-1-0C	Paint Booth	FP	Sprinkler heads shown on the wall. Should these be relocated?	CES		Sprinklers are above paint booth at the shop ceiling.		Closed	60% CD
CES 3.09	FP1-1-0C	Paint Booth	FP	The two sets of sprinklers appear to be too close together. is there a separation not readily visible on the plans? Typical for both spray booths	CES		One set of sprinkler heads are shown within the booth. Other set is intended to provide coverage at the shop ceiling outside the paint booth. Plans shall be updated for clarity.	Clarified based on pipe routing.	Closed	60% CD
CES 3.10	FP1-1-0C	Off C022E	FP	Sprinkler heads shown too close together and conflicting hazard classifications shown in the is area.	CES		Hazard classifications are for rooms under mezzanine. Classifications to be modified as needed for clarity. Sprinkler layout to be modified.	Clarified showing sprinklers at ceiling level and below ductwork.	Closed	60% CD
CES 3.11	FP1-1-0C	TLT C022C	FP	Heads shown too close together.	CES		Sprinkler below mezzanine and at shop ceiling appearing on same plan. Graphics to be modified.	Clarified.	Closed	60% CD
CES 3.12	FP1-1-0C	Auto Collision C022	FP	Heads shown too close together.	CES		Sprinkler layout to be modified accordingly.	Sprinklers modified.	Closed	60% CD
CES 3.13	FP1-1-0C	Stair 7	FP	Is this a drain riser? Where does it terminate? Also the symbol is not in the legend. Is this a fire department hose valve?	CES		Symbol is a fire department hose valve. Drain riser to terminate through exterior wall underside of stair.	Clarified, tags added.	Closed	60% CD
CES 3.14	FP1-1-0C	Auto Collision C022	FP	Missing sprinkler head on the far right side of the plan.	CES		Sprinkler layout to be modified accordingly.	Sprinklers modified.	Closed	60% CD
CES 3.15	FP1-1-0C	Stair 6	FP	There appears to be something missing in this location. Also, the various pipes/risers are not labeled	CES		6" fire standpipe riser, 3" sprinkler drain riser to be labeled.	Clarified, tags added.	Closed	60% CD
CES 3.16	FP1-1-0C/D	Stair 6	FP	Sprinkler coverage in the stair looks deficient. Typical	CES		Sprinklers will be shown at underside of bottom landing and at top of the stairways. Typical for all stairways.	Sprinklers adequately shown.	Closed	60% CD
CES 3.17	FP1-1-0D	Related C022D and TLT C022C	FP	Sprinklers shown too close together	CES		Sprinkler below mezzanine and at shop ceiling appearing on same plan. Graphics to be modified.	Clarified, sprinklers now shown on FP1-1-0C.	Closed	60% CD
CES 3.18	FP1-1-0D	Stair 6	FP	Where does the drain piping terminate?	CES		Drain riser to terminate through exterior wall underside of stair.	Drain termination shown on FP1-1-0C.	Closed	60% CD
CES 3.19	FP1-1-0D	Just above Stair 6	FP	What does the riser serve?	CES		Riser serves auditorium fire department valve connection.	Hose valve connections at stage have been removed. Confirm this is intended.	Open	60% CD

CES 3.20	FP1-1-0D	Area outlined in detail 3 callout	FP	Conflicting hazard classification	CES		Hazard classifications are for rooms under mezzanine. Classifications to be modified as needed for clarity. Sprinkler layout to be modified.	Clarified using callout.	Closed	60% CD
CES 3.21	FP1-1-0D	Area outlined in detail 3 callout	FP	Sprinkler heads shown too close together. Are they at different elevations?	CES		Sprinkler below mezzanine and at shop ceiling appearing on same plan. Graphics to be modified.	Clarified using callout.	Closed	60% CD
CES 3.22	FP1-1-1A	Stair 1 S1	FP	Will sprinkler coverage be provided in this area?	CES		Sprinkler coverage will be provided in this area as required.	Sprinklers shown at top of stairwell. Confirm if sprinkler coverage required below stairs at bottom level and/or intermediate levels.	Open	60% CD
CES 3.23	FP1-1-1A	Kitchen A108	FP	Has full coverage been provided?	CES		Full sprinkler coverage to be provided except for areas under hoods, covered under separate ANSUL system.	Clarified.	Closed	60% CD
CES 3.24	FP1-1-1A	Stair 2 S2	FP	Is a fire department hose valve provided here?	CES		Fire department hose valve to be noted at Stair 2.	Hose valve shown.	Closed	60% CD
CES 3.25	FP1-1-1A	Area below Tool Crib B101H	FP	This space appears to have no doors. Is sprinkler coverage required?	CES		Sprinkler coverage is required, this area is accessible from a ladder to the mezzanine level.	Sprinklers now shown.	Closed	60% CD
CES 3.26	FP1-1-1B	Fire Pump Room B105	FP	Where is fire pump test header shown?	CES		Fire pump test header shown on north exterior wall outside fire pump room.	Fire pump test header shown.	Closed	60% CD
CES 3.27	FP1-1-1B	Fire Pump Room B105	FP	10" service shown on riser diagram	CES		Riser diagram shall be updated to show 8" service.	Riser diagram has been updated.	Closed	60% CD
CES 3.28	FP1-1-1B	Fire Pump Room B105	FP	Pump shown backwards	CES		Pump layout to be revised.	Pump shown correctly.	Closed	60% CD
CES 3.29	FP1-1-1B	Fire Pump Room B105	FP	Piping doesn't match riser	CES		Piping to be coordinated accordingly.	Not yet corrected. Fire pump test header piping and fire department connection supply piping shown on suction side of fire pump.	Open	60% CD
CES 3.30	FP1-1-1B/C	General Comment	FP	piping not visible in multiple areas	CES		Drawings to be revised for clarity.	Piping appears visible in all areas.	Closed	60% CD
CES 3.31	FP1-1-1B	Plumbing and Pipe Fitting B101	FP	FHVC tag shown. What is this associated with?	CES		Fire hose valve connection for standpipe system.	Clarified.	Closed	60% CD
CES 3.32	FP1-1-1B	Tool Crib	FP	Confirm sprinkler heads are shown properly.	CES		Heads above and below mezzanine level appearing. Graphics to be modified accordingly.	Sprinklers appear to be shown correctly.	Closed	60% CD
CES 3.33	FP1-1-1B	General Comment	FP	Should LH tags be on the part plan on P1-1-1.5AB?	CES		Correct. Tag locations to be modified.	Hazard tags shown on FP1-1-1.5AB	Closed	60% CD
CES 3.34	FP1-1-1C	Stair 4 S4	FP	Where does the drain terminate	CES		Drain terminates through exterior wall at Lower Level.	Clarified.	Closed	60% CD
CES 3.35	FP1-1-1C	Cust A205	FP	Identify symbols shown in space.	CES		Graphical error. Should not appear on FP drawings.	Symbols still showing on FP1-1-2A.	Open	60% CD
CES 3.36	FP1-1-2C	Near Corridor C201	FP	6" FSP and 3" SDR not pointing to anything outside Corridor	CES		To be deleted.	Tags deleted.	Closed	60% CD
CES 3.37	FP1-1-2C	Corridor C206	FP	Clarify why two types of sprinklers are provided in such close proximity to each other	CES		Sprinkler layout to be modified accordingly.	Sprinkler coverage clarified.	Closed	60% CD
CES 3.38	FP1-1-2C	Proscenium opening	FP	Are any special fire protection measures necessary at the proscenium opening?	CES		Sprinklers required at underside of walkway. Window sprinklers are required at glass separation at upper levels.	No special sprinkler measures shown at the proscenium, confirm proscenium wall not required to be fire-rated or provided with a means of achieving a fire-resistance rating.	Open	60% CD
CES 3.39	FP1-1-3A	STOR A314	FP	Sprinkler coverage in this area does not seem to match the background	CES		Sprinkler layout to be modified accordingly.	Sprinkler layout corrected.	Closed	60% CD
CES 3.40	FP1-1-4D	General Comment	FP	The entire 4th floor appears to be fed off of a single riser. Verify the floor area doesn't exceed that allowed by NFPA 13. Check for other floors as well	CES		Noted and will be reviewed.	4th floors appears to be served split between multiple two alarm risers.	Closed	60% CD
CES 3.41	FP1-2-1A	General Comment	FP	Is more than one standpipe connection required for the roof?	CES		Roof area standpipe coverage shall be reviewed and confirmed.	Multiple hose valve connections shown on roof.	Open	60% CD
CES 3.42	FP5-0-1	Detail 1	FP	It seems redundant to have check valves on the inlet and outlet of the fire pump	CES		FP riser diagram to be revised to reflect piping layout.	Riser diagram still shows check valve on suction side of fire pump in addition to the the double check valve assembly.	Open	60% CD
CES 3.43	FP5-0-1	Detail 1	FP	Four ZCV-A shown on the floor plan but three shown on this detail.	CES		FP riser diagram to be revised to reflect piping layout.	Quantity on plans matches riser diagram.	Closed	60% CD

CES 3.44	FP6-0-1	Detail 7	FP	Fire Pump Tag incomplete	CES		Noted. Will address.	Tags still need to be updated.	Closed	60% CD
CES 3.45	FP6-0-1	Detail 8	FP	Where is the combination standpipe with PRV required. PRV not found on plans.	CES		PRV requirements to be reviewed and addressed accordingly.	PRV removed from standpipe detail.	Closed	60% CD
CES 3.46	FP1-1-0C	Auto Collision C022	FP	Floating sprinkler head shown with no piping.	CES		Sprinkler to be removed.		Open	90%CD
CES 3.47	FP1-1-0C	Between IDF C009 & General Supply C015	FP	Room appears to be missing sprinkler coverage.	CES		Sprinkler coverage to be modified for this area.		Open	90%CD
CES 3.48	FP1-1-0D	Storage D003J	FP	Sprinklers appear close together.	CES		Key note added. This sprinkler is under HVAC equipment.		Open	90%CD
CES 3.49	FP1-1-1A, FP1-1-1B, FP5-0-1	General Comments	FP	Piping to fire department connection near Stair 1, on drawing FP1-1-1A, is connecting to sprinkler main piping on system side of one of the alarm check valves. If the FDC is serving the entire building, it should connect in between the supply piping control valves and before the alarm check valves.	CES		Piping to FDC modified.		Open	90%CD
CES 3.50	FP1-1-1A, FP1-1-1B, FP5-0-1	General Comments	FP	Drawings show 2 separate fire department connections, riser diagram only shows 1. Confirm quantity and location.	CES		1 FDC in Part A. 1 Fire Pump Test Header in Part B. Drawings to be revised		Open	90%CD
CES 3.51	FP1-1-1B	Fire Pump Room B105	FP	Piping to fire pump test header shown before inlet to fire pump. Update to match riser diagram.	CES		Piping on drawing to be revised.		Open	90%CD
CES 3.52	FP1-1-1B	Fire Pump Room B105	FP	Keynote #3 does not correspond to where it placed on the drawing.	CES		Instance of Key Note 3 removed.		Open	90%CD
CES 3.53	FP1-1-1B & FP5-0-1	Fire Pump Room B106	FP	Update drawings/riser so tag for fire pump test header matches.	CES		Will be updated.		Open	90%CD
CES 3.54	FP1-2-1A	General Com	FP	Duplicate text shown on roof, leaders not pointing to any objects.	CES		Duplicate text to be deleted.		Open	90%CD

 Consulting Engineering Services		Cx DESIGN REVIEW COMMENTS - Mechanical and Controls (ATC) Specifics								
		Northeast Metropolitan Regional Vocational High School								
Project Name:		Northeast Metropolitan Regional Vocational High School			Reviewing Agency:		Consulting Engineering Services			
Project No.:		2022604.00 G			Reviewed By:		Jeanine Palmieri			
Milestone:		90% CD			Review Date:		4/17/2023			
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CES 1.01	230993.11 and M Drawings	Split System A/C Units (Typical)	M	230993.11, 1.15, C for split A/C units it indicates Spaces served by these systems shall be instrumented with temperature sensors for monitoring by the BMS, alarming temperatures out of range. Monitoring sensors now shown on drawings.	CES		Will be indicated in a future submission.	Some sensors have been provided in 90% Set. Not yet complete	In Progress	60%CD
CES 1.02	230993.11 and M Drawings	EUH/ECUH (Typical)	M	230993.11, 1.13, B for electric cabinet unit heaters indicates that the shall be provided with manufacturers thermostats for field installation but also shall be instrumented with temperature sensors for monitoring by the BMS and alarming when 5°F below the temp setpoint (adj.) Monitoring sensors not yet shown on drawings.	CES		This will be clarified in a future submission.	Currently still no monitoring sensor shown for low space temp for 90% Set	Open	60%CD
CES 1.03	M Drawings	General Comment - Control Sensors	M	Control sensor placement on drawings not yet complete	CES		This will be indicated in a future submission.	Some sensors have been provided in 90% Set. Not yet complete	In Progress	60%CD
CES 1.04	M1-1-1A	TIT A107	M	No exhaust Shown to this toilet room	CES		Exhaust to this toilet room will be indicated in a future submission.	Provided	Closed	60%CD
CES 1.05	M1-1-1A and M5-0-1	F-18 (Kitchen Area)	M	Review schedule to ensure location and "serving" for F-18 are accurate. Appears to be located in the kitchen A108 and serve Recycling Room A109, custodial A113, Office A104, Tilt A106 and should serve A107 (no grille shown in there currently)	CES		Will review and revised.	Revised to Kitchen BOH	Closed	60%CD
CES 1.06	M1-1-1A	Elevator Machine Room	M	What is this room (Elev Machine Room?) and how is it accessed? No door shown. Split A/C in space missing Tag - Assumed 2-4 based on M1-3-1A	CES		The location of this AC will be revised in a future submission.	Now shown as chair storage with door	Closed	60%CD
CES 1.07	M1.1-0D	General Comment	M	Ductwork Sizing in progress. To be reviewed for completeness during next review.	CES		Noted.		Closed	60%CD
CES 1.08	M1.1-0D	Auto Technology D003	M	CO/NO2 System - Is this being monitored by the BMS or is this 100% Standalone? If monitored, this should be written into the spec.	CES		It will be monitored by the BMS and will be included in the specification in a future submission	CES to review SOP	Open	60%CD
CES 1.09	M1.1-0D	VAV Schedules (Typical)	M	Sound Data appears to be incomplete	CES		Will be completed in a future submission.		Closed	60%CD
CES 1.10	M1.1-0D	Receiving A110	M	Confirm sufficient heat near this exterior door.	CES		Confirmed. EUH to be provided in Receiving A110.	EUH is provided in space	Closed	60%CD
CES 1.11	M1.1-0D	Carpentry A141	M	Confirm necessary controls will be provided with relocated dust collector.	CES		Confirmed.		Closed	60%CD
CES 1.12	M1-1-2A	CR A224, 225, 226, 227	M	Suggest moving room name indication for clarity.	CES		Noted.	Moved	Closed	60%CD
CES 1.13	M1-1-2B	Records B227	M	Does this records area require any ventilation?	CES		Ventilation will be added in a future submission.	Provided	Closed	60%CD
CES 1.14	M1-1-2B	CR B212 Typical	M	Sensors in progress. To be reviewed on next set. Suggest drawing whips to each piece of equipment controlled for clarity.	CES		Controls and sensors will be clarified in a future submission.		In Progress	60%CD
CES 1.15	M1-1-2B	TLT 217?	M	Exhaust not shown in space	CES		Exhaust will be indicated in future submission.	Provided	Closed	60%CD
CES 1.16	M1-1-3A	Elev Machine EE	M	Is split A/C needed in here?	CES		AC noted in item number CES 1.06 is to be relocated to this elevator machine room in a future submission.	Provided	Closed	60%CD
CES 1.17	M1-1-3A	Digital Learning A308 (typical)	M	Similar locations on other pages show T and TC2 serving similar areas. Is this shown correctly here? If the Thermostat controls the VRF. What is controlling the electric reheat on the VAV?	CES		This is shown correctly. The thermostat is controlling the VRF FCU and the CO2 sensor is controlling the VAV. The HRU discharge air temperature will be reset based on outdoor air temperature. VAVs connected to HRU-1, 2, 3 will not be provided with electric reheat coils.		Closed	60%CD
CES 1.18	HVAC Drawing Notes	General Comment	M	Update detail and drawing number for reference.	CES		Noted. Bala 4/26/23: Clarify comment and location of issue. Reference drawing number and drawing note number.	Not yet addressed	Open	60%CD
CES 1.19	M1-1-LB	Detail 2	M	Room names not identified on plan.	CES		Will update in a future submission.	Added	Closed	60%CD
CES 1.20	M1-3-0C	Near Coach OFF C024	M	What is this space. Is there a FCU that serves Coaches office C024 also? FCUS should be tagged.	CES		Will be revised in a future submission.	Tagged	Closed	60%CD
CES 1.21	M1-3-1D	Elec Rm	M	Split A/C not tagged	CES		Will be tagged in a future submission.	Tagged	Closed	60%CD
CES 1.22	M5-0-3	Sound Attenuator Schedule	M	Schedule not yet filled in.	CES		Will be completed in a future submission.		Closed	60%CD
CES 1.23	230993.11	Air Handling/Rooftop Units	M	Suggest identifying sequences with associated unit numbers for clarity.	CES		Sequences of operation will be revised and clarified in a future submission.	TBD	Open	60%CD
CES 1.24	230993 and M Dwgs	Control Diagrams	M	Will control diagrams be provided?	CES		No.	For such a complicated and technical job, control diagrams should have been utilized for clarity of control.	Closed	60%CD
CES 1.25	M1-1-0C	DEH Units (Typical)	M	Have these been scheduled? Schedules not found for Dehumidification Units	CES		Will be scheduled in a future submission.		Open	90% CD
CES 1.26	M1-1-0C	Auto Colloision C022 Metal Fabrication C004	M	Are these separate sensors or is this a combination sensor? Does the humidity sensor control the DEH? and the Temperature sensor control the EUH's. Clarity needed.	CES		Humidity sensor will control dehumidifiers. Temperature sensor will control AHU.		Open	90% CD

CES 1.27	M1-1-0D	VVE-0D-02 and VVE-0D-03	M	These are identified here but are not clearly labeled on this drawing. tag accordingly for clarity	CES		Will be clarified in a future submission		Open	90% CD
CES 1.28	M1-1-1A	Stair 2	M	Untagged CUH	CES		Will be tagged in a future submission.		Open	90% CD
CES 1.29	M1-1-1B	Condensing Unit outside Electrical Technology	M	Unit not tagged or noted.	CES		Will be noted in a future submission. Equipment is not provided by Div. 23 contractor.		Open	90% CD
CES 1.30	M1-1-1A	VAV A1-08	M	Review location of sensor	CES		Will be revised in a future submission.		Open	90% CD
CES 1.31	M1-1-1A	Culinary Arts VAV	M	VAV Tag missing	CES		Will be tagged in a future submission.		Open	90% CD
CES 1.32	M1-1-1D	Stairwell	M	Should this be stair 6 S6?. Is there a FCU or CUH that serves this space?	CES		This stair is in Area C (refer to matchline). Refer to M1-1-1C for label and other levels of Area C for equipment serving this space.		Open	90% CD
CES 1.33	M1-1-1A	Stair 6	M	FCU shown in space but not tagged	CES		Could not locate stair 6 on M1-1-1A. Stair 6 on M1-1-1C does not indicate an FCU. Clarify comment.		Open	90% CD
CES 1.34	M1-1-4A	Dental Assisting A402 amd Sci Lab A425 (area)	M	Sensors not shown	CES		Will be indicated in a future submission.		Open	90% CD
CES 1.35	M1-1-4A	Elec Rm A426A	M	Is this electric room need to be served by anything? AC, Exhaust ,etc?	CES		Exhaust will be added in a future submission		Open	90% CD
CES 1.36	M1-1-4B	Utility A402K	M	Identify wall hung unit. Is this a split A/C? or a FCU?	CES		Will be indentified in a future submission. Unit is identified on M1-3-4B in this submission.		Open	90% CD
CES 1.37	M1-1-4B	Corridor B403	M	Tag FCU	CES		Will be indentified in a future submission. Unit is identified on M1-3-4B in this submission.		Open	90% CD
CES 1.38	230993.11	VRF Condensing Unit SOP	M	Suggest that the Defrost mode be identified on the VRF graphic to let the user know the unit is in defrost mode. General Alarms shall be picked up from the condensing unit and displayed on the graphic.	CES		Will be included in a future submission.		Open	90% CD
CES 1.39	230993.11	Variable Frefigerant Flow Systems	M	All available points shall be monitored/alarmed/etc.	CES		Will be included in a future submission.		Open	90% CD
CES 1.40	230993.11	Miscellaneous Exhaust Fans	M	Sequences to be provided for 100% CD Submission	CES		Sequences are included in 90%CD set.		Open	90% CD
CES 1.41	230993.11	Domestic Hot Water	M	Section indicates to monitor and alarm domestic hot water heaters. Are recirc pumps to be monitored as well?	CES		Will be included in a future submission.		Open	90% CD
CES 1.42	230993.11	General	M	Suggest all spaces to alarm if temperature falls below 50°F	CES		Will be included in a future submission.		Open	90% CD
CES 1.43	230993.11	Dehumidification Units	M	No SOP provided for DEH Units	CES		Will be included in a future submission.		Open	90% CD



Consulting Engineering
Services

CxA DESIGN REVIEW COMMENTS - Electrical

Northeast Metropolitan Regional Vocational High School

Project Name:		Northeast Metropolitan Regional Vocational High School			Reviewing Agency:		Consulting Engineering Services			
Project No.:		2022604.00 G			Reviewed By:		Matt Penrose			
Milestone:		90% CD			Review Date:		4/13/2023			
NO.	Drawing/ Spec Section	Detail/ Room Number	DISCIP LINE	Cx Review Comments	REVIE W COMME NT BY:		Designer Response	Follow Up Comments	Review er Respon se (Open/C losed)	Review Set
CES 2.01	E1-1-0	MSB-1A - Main Elec C001	E	PLEASE REVIEW INSTALLTION METHODS/FUTURE REPLACEMENT OF LARGER EQUIPMENT SUCH AS THE MAIN SWITCHBOARD, TRANSFORMERS, ETC. DOUBLE DOORS INTO ELECTRICAL ROOM WILL ACCOMMODATE, HOWEVER, THIS LEADS INTO A CORRIDOR WITH STANDARD WITH DOORS AT STAIRS.	CES		Accommodation for replacement of larger equipment will be reviewed.		Open	60% CD
CES 2.02	E1-1-0	PV Panelboar d - Main Elec C001	E	PLEASE INDICATE LOCATION OF PV DISCONNECT SWITCH. NORMALLY REQUIRED AT EXTERIOR ADJACENT TO UTILITY METER/UTILITY TRANSFORMER.	CES		Location of PV switch will be included in future submission.		Open	60% CD
CES 2.03	E1-1-0	Elev Mach C012	E	DISCONNECTS ARE REQUIRED AT DOOR STRIKE SIDE OF DOOR.	CES		Disconnect location will be revised.		Open	60% CD
CES 2.04	E1-1-0C	Key Plan (Typical)	E	PLEASE EDIT KEYPLAN TO MATCH	CES		Key plans will be revised to match.		Open	60% CD
CES 2.05	E1-1-0D	General Comment	E	PLEASE REVIEW ARTICLE 511 REQUIREMENTS FOR WIRING AND DEVICES AS DESIGN PROGRESSES.	CES		Any area classifications and requirements for wiring devices will be coordinated as design progresses.		Open	60% CD
CES 2.06	E1-1-MC/MD and On	General Comment	E	DRAWING INCOMPLETE, CANNOT BE REVIEWED. Not ready for a 60% CD review.	CES		The scope indicated on the drawings is sufficient for a 60%CD pricing set. Drawings issued for the 60%CD MSBA submission will meeting MSBA 60%CD requirements with the exception of all circuiting being completed.		Open	60% CD
CES 2.07	E1-1-0D and on	Controlled Receptacl es	E	CONSIDER HALF-CONTROLLED OUTLETS TO MEET REQUIREMENTS OF UPDATED STRETCH CODE EFFECTIVE JULY 1ST (TYPICAL ROOMS WITH CONTROLLED OUTLETS).	CES		Half-controlled outlets will be considerd.		Open	90% CD
CES 2.08	E1-1-0M	General Comment	E	IS THERE NEED FOR ADDITIONAL CONVENIENCE RECEPTACLES AT PERIMETER OF MEZZANINE EQUIPMENT SPACES?	CES		Some additional receptacles will be added.		Open	90% CD
CES 2.09	E1-1-1D	Instructor Office near L222	E	OFFICE MISSING POWER.	CES		Power will be added to office.		Open	90% CD
CES 2.10	E1-1-1D	Stair 5	E	CONFIRM IF HEATING AT EXTERIOR DOOR REQUIRES POWER.	CES		Heater will be provided with power.		Open	90% CD
CES 2.11	E1-1-1D and on	Restroom s with single toilet	E	CONSIDER CALL FOR AID PULL CORDS IN SINGLE RESTROOMS (TYPICAL).	CES		Will be coordinated with architect.		Open	90% CD
CES 2.12	E1-1-2A	Media Center A221	E	CLARIFY POWER REQUIREMENTS FOR MEDIA CENTER.	CES		Media center power requirements will be clarified.		Open	90% CD
CES 2.13	E1-1-2A	Workroom A216, MC Small Groups	E	SUGGEST ADDITIONAL CONTROLLED OUTLETS TO MEET NEC 210.71 & STRETCH CODE.	CES		Additional controlled outlets will be added.		Open	90% CD
CES 2.14	E1-1-2B	In-House Suspension B216	E	CONSIDER ADDING POWER FOR TEACHER/CUSTODIAN.	CES		Power will be added.		Open	90% CD
CES 2.15	E1-1-2C	Upper Multipurpose Room C202	E	CONSIDER POWER AT UPPER LANDING IN AUDITORIUM.	CES		Power will be added at upper landing.		Open	90% CD
CES 2.16	E1-1-MD	Mezzanine M003	E	CONSIDER INDICATING SCOPE SHOWN ON OTHER DRAWINGS (E1-1-0M)	CES		Clarification will be added as required to avoid showing same scope on multiple sheets.		Open	90% CD
CES 2.17	E2-1-0C and on	General Comment	E	CONSIDER SHADING EMERGENCY FIXTURES FOR CLARITY	CES		Shading, or another means of disinguishing EM fixtures, will be considered.		Open	90% CD
CES 2.18	E2-1-4A	Comment	E	CONSIDER HIDING OTHER TRADES FOR CLARITY.	CES		Will be considered.		Open	90% CD

		CxA DESIGN REVIEW COMMENTS - Architectural									
Consulting Engineering Services		Northeast Metropolitan Regional Vocational High School									
Project Name:		Northeast Metropolitan Regional Vocational High School									
Project No.:		2022604.00 G									
Milestone:		90% Backcheck									
		Reviewing Agency: Consulting Engineering Services									
		Reviewed By: Chris Walczak									
		Review Date: 12/4/2022									
NO.	Drawing/ Spec Section	Detail/ Room Number	DISCIP LINE	IMPOR TANCE (H, M, L)	Cx Review Comments	REVIE W COMME NT BY:		Designer Response	Follow Up Comments	Review or Respon se (Open/ Closed)	Review Set
CES 6.01	A2-1-1	Detail 3	A		Recommend adding CW27 to "Curtain Wall Types" drawings.	CES		These curtain walls were labeled incorrectly, they should be CW25's. We have corrected the labeling.		Closed	CD
CES 6.02	A2-1-6	Detail 3	A		This section of curtain wall, tagged CW23, does not appear to graphically match the CW23 detail shown on Drawing A6-3-4.	CES		Curtain wall was tagged incorrectly. It has now been fixed.		Closed	CD
CES 6.03	A2-1-6	Detail 3	A		This section of curtain wall, tagged CW24, does not appear to graphically match the CW24 detail shown on Drawing A6-3-4.	CES		Curtain wall was tagged incorrectly. It has now been fixed.		Closed	CD
CES 6.04	A5-3-1	Detail M	A		Roof vapor barrier not shown in detail. Recommend maintaining continuity of the vapor barrier at all equipment curb locations.	CES		Vapor barrier will be added to the detail.	Closed anticipating this this will be completed as noted by Architect	Closed	CD
CES 6.05	A5-3-1	Detail N, Q, O, K, H, G, F, E & D	A		Recommend adding a tag to identify the roof vapor barrier in this detail. (Typical)	CES		Will add appropriate notations.	Closed anticipating this this will be completed as noted by Architect	Closed	CD
CES 6.06	A5-3-1	Detail F & E	A		Should the sealant bead located beneath the stainless steel rain hood be tagged? (Typical)	CES		Will add appropriate notations.	Closed anticipating this this will be completed as noted by Architect	Closed	CD
CES 6.07	A6-3-2	Detail 1	A		Recommend moving the dimension label for graphical clarity.	CES		Will clean up dimensioning for better clarity.	Closed anticipating this this will be completed as noted by Architect	Closed	CD
CES 6.08	A6-3-2	Detail 1	A		Recommend reviewing conflicting labels. (Typical)	CES		Will review and resolve conflicting labels.	Closed anticipating this this will be completed as noted by Architect	Closed	CD
CES 6.09	A6-3-3	Detail 1	A		Recommend reviewing conflicting labels.	CES		Will review and resolve conflicting labels.	Closed anticipating this this will be completed as noted by Architect	Closed	CD
CES 6.10	A6-3-4	Detail 1	A		Recommend reviewing conflicting labels. (Typical)	CES		Will review and resolve conflicting labels.	Closed anticipating this this will be completed as noted by Architect	Closed	CD
CES 6.11	A6-3-4	Detail 1	A		Both curtain wall types are identified as CW25. Please clarify design intent.	CES		We have fixed the labeling conflict.	Closed anticipating this this will be completed as noted by Architect	Closed	CD
CES 6.12	A6-3-4	Detail 1	A		Both curtain wall types are identified as CW26. Please clarify design intent.	CES		We have fixed the labeling conflict.	Closed anticipating this this will be completed as noted by Architect	Closed	CD
CES 6.13	A6-3-6	Detail 1 & 2	A		Recommend reviewing conflicting labels. (Typical)	CES		Will review and resolve conflicting labels.	Closed anticipating this this will be completed as noted by Architect	Closed	CD
CES 6.14	A6-3-8	Detail 1	A		Recommend identifying component on graphical detail.	CES		Will identify all components in detailing.	Closed anticipating this this will be completed as noted by Architect	Closed	CD