



ADDENDUM #1

SOLICITATION NUMBER AND TITLE:	IFB 23B-006: CHESAPEAKE WELCOME CENTER RENOVATION AND EXPANSION PROJECT	
SOLICITATION DUE DATE AND TIME:	May 31, 2023	1:00 PM Local Time
DELIVERY LOCATION OF SUBMITTAL:	HARFORD COMMUNITY COLLEGE Procurement Dept. 401 Thomas Run Road, Bel Air, MD 21015 Conowingo Building, Suite 105	
BID OPENING	May 31, 2023	2:00 PM Local Time Chesapeake Center – Dining Room North
PRE-SOLICITATION MEETING LOCATION:	Chesapeake Center- Dining Room North	
QUESTIONS DUE DATE AND TIME:	<u>CHANGED:</u> May 9, 2023	5:00 PM Local Time
PROCUREMENT DIRECTOR:	Questions must be received by the date and time noted above via email to: Christine Carpenter at <u>ccarpenter@harford.edu</u>	
BID DEPOSIT:	Bid Deposit – 10% of bid price	
MBE GOAL:	10% of bid price	
BONDING REQUIREMENTS:	100% Payment & Performance Bond	
INSURANCE REQUIREMENTS:	Construction with Builders Risk	
PREVAILING WAGE:	Prevailing Wage Required	

Harford Community College encourages small and minority businesses to respond to and participate in solicitation opportunities.

Chesapeake Welcome Center Renovation & Addition Project

Addendum #1

May 2, 2023

- Item 1.1. The deadline for Pre-Bid RFI's has been extended to May 9, 2023 at 5:00PM local time.
- Item 1.2. Include the information from the Pre-Bid Meeting in the following attachments to this Addendum:
 - i. Pre-Bid Meeting Minutes (4 pages)
 - ii. Pre-Bid Meeting Sign-in Sheets (6 pages)
- Item 1.3. Include the Pre-Bid RFI Spreadsheet with questions and answers. Please note that the responses are part of the Bid Documents. Any questions that haven't been answered will be addressed in Addendum #2.
 - i. Pre-Bid RFI Spreadsheet (4 pages)
- Item 1.4. Delete Specification Section 12 61 00 from the Project Manual Table of Contents and delete Specification Section 12 61 00 from the Project Manual in its entirety.
- Item 1.5. Replace Specification Section 00 41 00 - Bid Form with the attached revised Specification Section 00 41 00 – Bid Form.
- Item 1.6. Replace all references of a minimum one-year warranty found in the Bidding Documents with a minimum two-year warranty period from the date of Substantial Completion.
- Item 1.7. Include additional details for the mock up panel with attachments SK-01 and SK-02. Please note that these sketches are in addition to the requirements found in Specification Section 01 43 39.
- Item 1.8. Add Item 3.4 – E – 1a to Specification Section 01 50 00 – Temporary Facilities and Controls:
“Construction notification signage will be furnished by the College, to be installed by the Contractor. Contractor should assume for material bidding purposes a minimum of three - 12' treated 4x4 posts in concrete temp footers, 50 LF of treated 2x4, and 1 sheet 3/4" treated plywood.”
- Item 1.9. Replace Item GC.9 – A in the IFB Document in its entirety and replace with:
“The College shall obtain and turnover the General Building Permit. The Contractor shall be responsible for all Trade Permits.”
- Item 1.10. Delete Appendix C in its entirety.
- Item 1.11. Replace Specification Section 01 10 00 – Summary of Work with the attached revised Specification Section 01 10 00 – Summary of Work.

- Item 1.12. Replace Item 1.3 – C in Specification Section 01 50 00 – Temporary Facilities and Controls with:
“Electric Power Service from Existing System: Provide connections and extensions of services as required for construction operations. The Owner will be responsible for paying for consumption during construction.”
- Item 1.13. Delete from the Drawing List:
- i. TR-302 – Theatre Rigging: Section Details.
 - ii. S-127 – Partial Plans & Details – Add Alternates.
 - iii. E506 – Lighting Control Schedule.
 - iv. E507 – Fire Alarm Details.
- Item 1.14. Replace Item 1.5 – A in Specification Section 06 40 23 – Interior Architectural Woodwork with:
“Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in-service performance. Shop must follow requirements of AWI’s Quality Certification Program.”
- Item 1.15. Replace Item 1.5 – B in Specification Section 06 40 23 – Interior Architectural Woodwork with:
“Installer Qualifications: Follow the requirements of AWI’s Quality Certification Program.”
- Item 1.16. Delete Item 1.5 – D – 1 from Specification Section 06 40 23 – Interior Architectural Woodwork.
- Item 1.17. Include the attachment Appendix B to the Bid Documents.
- Item 1.18. Include the attachment Specification Section 26 29 13 – Motor Controller to the Bid Documents.
- Item 1.19. Replace all references of the “Notice to Proceed – For all Submittals, Steel procurement of material and Electrical procurement of material” with “Notice to Proceed – For all Submittals, Steel procurement of material, Mechanical procurement of material, and Electrical procurement of material.”
- Item 1.20. Please see attachment showing a potential location on campus to relocate the Kitchen services.
- Item 1.21. The Owner is a member of E&I Cooperative Services (www.eandi.org) and the awarded Contractor and Trade Subcontractors can use E&I Cooperative Services contracts to fulfill product requirements where E&I Cooperative Services holds an agreement. For the list of products please visit their website and/or contact Bob Solak at Bsolak@eandi.org.

This amendment is issued to clarify, add to, delete from, correct and/or change the Bid Documents to the extent indicated and is hereby made a part of the said Bid Documents on which the Contract will be based.

Chesapeake Welcome Center Renovation & Addition Project

Pre-Bid Meeting Minutes

April 26, 2023 – 9:00AM

1. HCC Procurement Items:

- a. NOTE: Any questions asked during this meeting must be sent in writing to be included in an addendum. Any oral answers, clarifications, or changes given are not contractually binding.
- b. Pre-Bid RFI cutoff date – Friday, May 5th Close of Business. (5:00 PM)
 - Questions must be emailed to Christine Carpenter. Email address found in the bid documents.
 - All addenda must be acknowledged in the bid submittal in the appropriate area.
 - Failure to note receipt of addenda may result in response being deemed non-responsive.
- c. Bid Date – May 31st – 1:00 PM – Conowingo Building- hard copy - to include:
 - Bid Form
 - Bid Deposit – 10% of bid price
 - MBE Forms
 - Affidavits
 - Phasing Summary
- d. Bid Opening- May 31st – 2:00 PM- Chesapeake Dining Room
 - Only bid amounts will be read, no determination of responsive or responsibility.
- e. Hold the bid price for 120 days.
- f. Bid Form will be revised in Addendum #1.
- g. Performance & Payment Bond required – 100%.
 - Select Subcontractor Performance Bonding required – to be touched on later.
- h. Insurance Requirements – in the Invitation for Bids document – Paragraph 2.2 – unique limits include:
 - General Liability: \$3M High risk features
 - Auto Liability: \$3M per accident heavy equipment
 - Umbrella \$15M each occurrence and aggregate
 - Pollution Liability: \$1M each event and aggregate (occurrence form)
 - Professional E/O
 - Builders Risk: Contract Price
- i. MBE goal of 10% - no Sub-Goals.
- j. State Prevailing Wage applies.
- k. Maryland Tax exemption does not apply.
- l. Building to meet LEED Silver requirements.
- m. Background checks may be required.
- n. No tobacco products on college premises (in car or in parking lot).
- o. Liquidated Damages - \$2,500 per calendar day.
- p. No cost escalations allowed after the award of bid.

2. Bidding Items:

- a. Owner will provide onsite electric, water and natural gas throughout construction.
 - i. Site is on private septic and there will be no dumping in sewer lines.
 - ii. All waste needs to be removed from the Site by the Contractor.
- b. Separate onsite Construction trailer for the Owner to be provided.
- c. Asbestos Abatement will be performed by the Owner's Contractor prior to NTP to Contractor.
- d. Third-Party Testing and Inspections by Owner – Contractor to coordinate with them.
- e. Commissioning Agent will be under the Architect.
- f. Warranty Duration – Minimum of 2-year warranty. Addendum #1 will have the change.
- g. Additional site visits available upon request for Kitchen review for Phasing.
- h. There will be two Notice to Proceeds issued for this project.
 - i. NTP for all project Submittals, all Structural Steel material procurement, all Mechanical material procurement and all Electrical material procurement.
 - 1. Bid Form contains breakout pricing for these items. This amount will be the amount for the initial NTP.
- i. NTP for Construction or the remainder of the project will be issued at a later date for the remainder of the base contract amount.
- j. All workers will be required to park in the S Lot. Please see campus map for location.
- k. Contractor may be allowed to use other areas on the campus for staging after College approval.
- l. Contractor will be required to maintain safe walkway from Lot C to the main campus.
- m. Road closures will not be permitted unless scheduled and approved by the College.

3. Construction Items:

- a. A web-based project management software is required and subject to Owner approval.
 - i. Procure is preferred, but not mandatory.
- b. Project Timeline
 - i. Bid – May 31, 2023.
 - ii. Notice of Intent to Award – July 2023.
 - iii. Notice to Proceed for Submittals, Steel & Electrical Material – August 2023.
 - iv. Project Kickoff Meeting with Contractor – August 2023.
 - v. Owner move out of Building – September 2023.
 - vi. Owner conduct Abatement Activities – October 2023.
 - vii. Anticipated Notice to Proceed for Construction – October 23, 2023.
 - viii. Anticipated Date of Substantial Completion – April 23, 2025
- c. Pre-Construction Kickoff Meeting (after issuance of the Notice of Intent to Award)
Requirements include but are not limited to:
 - i. List of all proposed Subcontractors that will be in direct contractual relationship with the General Contractor.
 - 1. Include the #2 Subcontractor by Trade.
 - 2. Include the change order amounts to go to #2 Subcontractor.
 - 3. Include #1 and #2 Subcontractor's Labor Burden percentages for Change Order work.
 - 4. Include required list of select Subcontractors that may be Sub-subcontractors.

- a. Polished Concrete.
 - b. Metal Panels.
 - c. Terrazzo.
 - d. Fixed Audience Seating.
 - e. Sprinkler.
 - f. Fire Alarm
 - g. Low Voltage / Data
 - ii. Select Subcontractors are required to have a Performance Bond.
 1. Contractor may bond any Subcontractors in addition to the required Trades listed in the Specs.
 2. Contractor may decide to not provide a deduct Alternate for the removal of a Subcontractor's required Performance Bond which would keep the bonding requirement for that Trade Subcontractor.
 3. Once the list of Subcontractors is established (at the Kickoff Meeting), the Owner will then decide if any Subcontractor Performance Bond deduct alternates will be accepted. The Owner may at any time accept the Subcontractor bonding deduct alternates.
 - iii. Initial Construction Schedule.
 1. Initial Construction Schedule must include list of long-lead items with expected lead times.
 2. Final Construction Schedule (complete with Subcontractor sign offs) will be submitted later after the final Notice to Proceed is issued.
 - iv. Initial Phasing Plan Presentation:
 1. Contractor to present a detailed proposed Phasing Plan for Owner and Design Team review.
 2. Verbal review comments will be provided for incorporation into a formal written phasing plan submission by the Contractor.
- d. Phasing Plan:
 - i. Drawings show 2 Phases as a suggested phasing plan. Contractor required to prepare a detailed phasing plan for Owner approval.
 - ii. Kitchen and Telecom must remain operational during the project. It is understood that there will be short switch-over outages.
 - iii. Critical copper and fiber optic cables running south and west along the proposed building footprint connect the campus networks to the main Telecom Room that must remain in operation throughout construction. Work surrounding and work on these cables will require a scheduled outage and is to occur during a campus wide holiday and is subject to the Owner's approval.
 - iv. Dining Services Operations could temporarily be relocated as part of the Contractor's bid / phasing plan.
 1. Dining Area will not be needed. Kitchen only.
 2. Reuse of the existing kitchen equipment for the temporary kitchen will be allowed.
 3. Potential campus locations will be reviewed.
 - v. Campus deliveries must be maintained.

- e. Treatment of Subcontractors – all Subcontractors shall be treated fairly and will be encouraged to report to the Owner if they feel that they are not.
 - f. Saturday and Holiday work is only permitted after Owner approval and Contractor may be subject to a deduct change order for Owner Site presence.
 - g. Substitutions for convenience will be permitted only with credit proposal attached.
 - h. Change Orders:
 - i. Overhead and Profit shall be 15% on self-performed work.
 - ii. Change Order Overhead and Profit on Subcontractors shall be 5%.
 - iii. There will be a maximum of a combined 5% Overhead and Profit added to a Subcontractor's Change Order.
 - iv. Change Order worker classification rates (Base & Fringe) shall be at the Prevailing Wage UNLESS APPROVED BY THE OWNER PRIOR TO THE ISSUANCE OF THE NOTICE TO PROCEED FOR CONSTRUCTION.
 - i. Schedule of Values:
 - i. SOV must be issued for Owner review 30 days prior to the expected first Pay App submission for the Construction Activities.
 - ii. Labor and Material broken out for every item unless approved by the Owner.
 - iii. Each trade Subcontractor / Supplier must have a submittals line item.
 - iv. Each trade Subcontractor must have a "Closeout Docs" line item and a separate "Punchlist" line item.
 - 1. All the "Punchlist" line items must add to no less than 2% of the Contractor's base contract amount.
 - 2. All the "Closeout Docs" line items must add to no less than 1% of the Contractor's base contract amount.
 - a. Approved O&M's and Sample Warranties will be allowed to bill against the "Closeout Docs" line item.
 - j. All Payment Applications must be accompanied by a Monthly Schedule Update:
 - i. Payment Applications without a schedule update may be submitted but will not be paid until an acceptable schedule update has been submitted.
4. Site Walk.

Harford Community College Chesapeake Welcome Center

April 26, 2023
9:00AM

General Contractor	Representative Name	Representative Position	Representative Email
CAM	VINCENT CULOTTA	PROJECT MANAGER	VINCE@CAMBUILDS.COM
CAM			
Davis			
Davis			
Dustin	Bronson Musser	Estimator	bmusser@dustinconstruction.com
Dustin			
Gilbane	Alina Mangwiri	Business Development	mangwiri@gilbane.com
Gilbane			
KBE	Mindy Lyle	Estimating	dlawson@kbebuilding.com
KBE			
Keller	Michelle Clements	estimating	mclements@kellerbrothers.com
Keller			
Lobar			
Lobar			
Lewis	Matthew Dietz	Senior Estimator	MDietz@lewis-Contractors.com
Lewis			

Harford Community College Chesapeake Welcome Center

April 26, 2023

9:00AM

General Contractor	Representative Name	Representative Position	Representative Email
MCN	Bill Beschner	Vice President	bill@mcnbuild.com
MCN	DEAN WHITEHEAD	ESTIMATOR	DEAN.WHITEHEAD@MCNBUILD.COM
Mullan			
Mullan	Rick Jackson	P.M.	Rjackson@mullanr.com
X Oak	DAVE TALL	PM	dtall@oakcontracting.com
1 Oak	Tony Sabatelli	SUPER	TSABATELLI@OAKCONTRACTING.COM
WT	Chuck Konkolic	V.P.	Charles.Konkolic@WhitingTurner.com
WT	Colin Lay	PM	Colin.Lay@WhitingTurner.com
Wohlsen	JOE FRIES	PM	JFRIES@WOHLSEN.COM
Wohlsen			
OAK	DREW MANNING	GENERAL MANAGER	DMANNING@OAKCONTRACTING.COM

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Chesapeake Welcome Center

April 26, 2023
9:00AM

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Chesapeake Welcome Center

April 26, 2023
9:00AM

Subcontractor Company Name	Representative Name	Representative Position	Representative Email	MBE? (check if MBE)
Ligon + Ligon	Ben Dyer	Estimator	bdyer@ligon and ligon.com	
Action Electric	Brian Moretz	Estimator	brian moretz @ aol.com	
True Power Solutions	Josh Stullknecht	Director	josh s@ tpscompany.net	
DEL Electric	Chris Pastelak	Estimator	cpastelak@DEL-Electric.com	
East Coast Concrete	Dennis Wamble	Estimator	Dennis @ E C C C I .com	
GE Tignall	Mickey Glendon	PM	mjglendon@getignall.com	
DESIGN + INTEGRATION	CONNOR MUMICHEN	ESTIMATOR	CMUMICHEN@DESIGNANDINTEGRATION.COM	X
Anchor Mechanical	Shane Goetzinger	Estimator	sgoetzinger@Anchormech.com	
Malstrom Electric	Keith D'Annunzio	Estimator	Keith@malstromelectric.com	
Dean Artz Cypress	Dean Moretz	estimator	Dean@cypresspaintingsystems.com	X
Goel Services	Jacob Sisco	Estimator	Jacob.Sisco@Goelservices.com	X
Premier Concrete	Steve Henning	Estimator	Shenning@premier.biz	
Premier Concrete	Daniel Beck	Estimator	dbeck@premierconcrete.biz	
FSI Demo	Warren Rumphrey	Estimator	warren@fsidemo.com	
Boskey Const Inc	Paul Glass	"	paulg@boskeyconstruction.net	
GLB Concrete	Dan Logsdon	Estimator	dan@GLBconcrete.com	

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Chesapeake Welcome Center

April 26, 2023

9:00AM

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Chesapeake Welcome Center

April 26, 2023
9:00AM

Subcontractor Company Name	Representative Name	Representative Position	Representative Email	MBE? (check if MBE)
TempAir	Phil Melnick	Project Manager	pmelnick@tempaircompany.com	✓
ANCHOR MECHANICAL	JOHN MONATH	ESTIMATOR	jmonath@anchormechn.com	
Greene Construction	Mike Wiley	Estimator	mike.wiley@greeneconstruction.com	
James D. Quirk Inc	Jim Quirk	Pres	jim@jamesquirk.com	
Dewey Fuller	Tracy A. Dewey	Estimator	tdewey@jamesquirk.com	
MEC2	Deb Dietrich	Service	deborah.d@m-corp.us	
MEC2	Dave Hutchinson	Service	daveh@m-corp.us	
HEER BROS INC	TODD JENKINS	PM/ESTIMATOR	TODDJENKINS@HEERBROS.COM	
Hutzel and Buckler	Ryan Binnie	Outside Superintendent	r.binnie@hutzelandbuckler.com	
Hillis-Carnes Engineering	Dan Cooke	Branch Manager	dcooke@hcea.com	
ROW Schulte Masonry	CODY SCHULTE	VP	Schultemasonry@gmail.com	
Star Electric	JARED PAYNE	VP	jpayne@starelectricmd.com	
EC Chuck Shaw	Chuck Shaw	Branch Manager	cshaw1@ecslimited.com	
BARCO	Mark McDuff	PM	mark@barcoent.com	
Heer Brothers Inc.	Kevin Clark	President	KevinClark@HeerBros.com	
Kim Engineering	Lauren Runkle	Marketing Manager	laurenrunkle@kimengineering.com	✓

Harford County Community College Chesapeake Welcome Center Renovation & Addition

RFI / BIDDING PHASE					
RFI No.	Date Asked	RFI DESCRIPTION	Date Reply	Addnm#	RFI RESPONSE
1	4/15/2023	Specifications issued has two Fixed Audience Seating spec sections (11 61 13 & 12 61 00). One needs to be deleted.	5/2/2023	1	Delete Specification 12 61 00 from the Table of contents and from the Project Manual in its entirety.
2	4/15/2023	Bid Form 6E - Alternate #5 - Item #1 states add a second year for the warranty and the language in 5A and 5B states to reduce the warranty duration from 2 to 1 years.	5/2/2023	1	Bid Form to be revised in Addendum #1. Please see revised Spec Section 00 41 00 in Addendum #1.
3	4/15/2023	Please provide mock up panel location and details / section cut.	5/2/2023	1	Mock up panel requirements can be found in Spec Section 01 43 39. Site location to be provided by the Architect at a later date. Additional details are included in this Addendum - Sketch SK-01 and SK-02.
4	4/15/2023	Is there a State Sign required? If so, please provide sign details.	5/2/2023	1	Construction notification signage will be furnished by the College, to be installed by the Contractor. Contractor should assume for material bidding purposes a minimum of three - 12' treated 4x4 posts in concrete temp footers, 50 LF of treated 2x4, and 1 sheet 3/4" treated plywood.
5	4/17/2023	What is the anticipated start date for the above referenced project?	5/2/2023	1	Please see spec section 00 02 00 Para 1.9.
6	4/17/2023	Can you tell us how many General Contractors were approved to bid this project? Any chance you could send us the list?	5/2/2023	1	The List of Prequalified GCs has been posted on the HCC BidBoard and eMaryland Marketplace Advantage.
7	4/24/2023	Please confirm the bid date and the last date for RFIs	5/2/2023	1	The last day of bid questions is being extended to close of business on 5/9/2023.
8	4/25/2023	Project Added General Conditions, Page GC-5, Item GC-9.A: Please clarify who is responsible for paying the cost of the General Building Permit for this project.	5/2/2023	1	The Owner will obtain, including pay for, the General Building Permit. The Contractor is responsible for all Trade Permits.
9	4/25/2023	The bidding documents provided include Appendix C – Structural Calculations. What is the intent of including these in the contractor's contract documents? If the engineer of record has made a mistake in these calculations, does that mistake become the contractor's responsibility? Please clarify.	5/2/2023	1	Delete Appendix C in its entirety. It was included with DGS documentation and was inadvertently included in the Contractor's Bid Solicitation.
10	4/25/2023	Specification Section 01 10 00 – Summary of Work, Page 7: At the top of this page there is the following statement: "A salvage list is to be provided by request for coordination and storage/moving and the contractor is to carry an allowance for disconnecting, properly handling and delivering salvaged items". Here are our questions and requests for clarification related to this statement: A. Please provide the salvage list referred in this paragraph.	5/2/23	1	A. SALVAGE LIST 1. Salvage, wrap and box or palletize all existing acoustical wall panels (AWP) in the existing conference room. Relocate to a Storage location on campus as directed by the College. These will be installed by contractor in completed building. See Demolition note 1 on AD1.01

RFI / BIDDING PHASE					
RFI No.	Date Asked	RFI DESCRIPTION	Date Reply	Addnm#	RFI RESPONSE
		B. Who is responsible for creating the allowance referenced in this statement? There is not a specification for allowances and there is no spot on the bid form to identify an allowance. How will the amount of this allowance be documented?			B. The contractor is to include the pricing for this within the contract. No Allowance is required. C. This item will be further clarified in Addendum #2.
		C. What Kitchen equipment if any is to be salvaged			
11	4/25/2023	Specification Section 01 31 00 Project Management and Coordination, Page 5, Paragraph 1.6.D.3: Please confirm that the contractor is to include BIM modeling for this project.	5/2/2023	1	The Contract shall provide BIM modeling for this project.
12	4/25/2023	Specification Section 01 50 00 Temporary Facilities and Controls, Paragraph 3.3.C&D: These paragraphs say to connect to the Owner's existing electric power service. Please clarify who is responsible for the consumption charges related to electric power use for construction purposes, Owner or Contractor.	5/2/2023	1	Consumption charges will be by the Owner. Please see Pre-Bid Meeting Minutes Item 2a for more information.
13	4/25/2023	Drawing TR-302 is listed on the drawing list but is not included in the drawing set provided. Please provide drawing TR-302.	5/2/2023	1	Delete TR302 from sheet lists, this sheet is not included.
14	4/25/2023	Drawing S-127 is listed on the drawing list but is not included in the drawing set provided. Please provide drawing S-127.	5/2/2023	1	Delete S-127 from sheet lists, this sheet is not included.
15	4/25/2023	In the set of drawings provided, after drawing E505 comes drawings E01 and E02. These two drawings are not on the drawing list. Please clarify if they are intended to be part of the bidding documents.	5/2/2023	1	E001 Electrical Legend and E002 Electrical General Notes are included in the Bid Documents.
16	4/25/2023	Drawings E506, E507, E601 and E602 are listed on the drawing list but are not included in the drawing set provided. Please provide these drawings.	5/2/2023	1	Drawings E601 and E602 were included in the Bid Documents and have been included in Addendum #1. Delete E506 and E507 from the sheet lists.
17	4/25/2023	Specification Section 01 31 00, Paragraph 1.8.B, Page 7 says that Procore is the preferred Web Based Project Management System. Will HCC bear all Procore subscription costs/fees for the project or does the General Contractor need to carry this cost in the Bid? If HCC is not carrying this cost, would Submittal Exchange be an acceptable Web Based Project Management System?	5/2/2023	1	The Contractor shall provide a web based project management system with cost included in the the contract. Procore is a suggestion and preferred but other web based systems will be review and acceptance not withheld unreasonably.
18	4/25/2023	Specification Section 01 10 00, Paragraph 1.8.B, Page 7 has FF&E items under the heading of "Owner Furnished/Owner Installed Products". Drawing K-101B has numerous kitchen equipment items listed as FF&E. Please confirm that all items in the FF&E column on K-101B are furnished and installed by the Owner.	5/2/2023	1	Confirmed. Further clarification to this item will be provided in Addendum #2.
19	4/25/2023	Specification Section 05 12 00 Structural Steel Framing, Paragraph 1.8.A&B: These paragraphs say that the steel fabricator and the steel erector must be AISC certified. Can the AISC certification be waived for either the fabricator or the erector?	5/2/2023	1	Yes, the AISC certifications plant and erector may be waived with the Code required speical inspections that are required for this project, noted in 05 12 00 Paragraph 1.8 A&B.
20	4/25/2023	Specification Section 06 40 23 Interior Architectural Woodwork, Paragraph 1.5.A&B: These paragraphs say that the millwork fabricator and installer must be AWI certified. Can the AWI certification be waived for either the fabricator or the installer?	5/2/2023	1	Yes, the AWI certification can be waived for both the fabricator or the installer.

RFI / BIDDING PHASE					
RFI No.	Date Asked	RFI DESCRIPTION	Date Reply	Addnm#	RFI RESPONSE
21	4/25/2023	Terms & Conditions, Page T&C-4, Paragraph G31: This paragraph says that background checks “may” be required. There is a cost associated with contractors and subcontractors obtaining background checks. Please clarify if all employees working on-site will be required to provide background checks.	5/2/2023	1	It is not the Owner's intent to require background checks for all workers / employees onsite. However, should questionable activities occur onsite, the Owner reserves the right to have those individuals provide a background check at the Owner's request. Failure to provide the requested background check will result in those individuals' removal from the project. For bidding purposes, this is a bidders risk - judgement.
22	4/25/2023	Specification Section 01 50 00 Temporary Facilities & Controls, Paragraph 1.3.D, Page 1. This paragraph describes temporary heat and says to assume temporary heat will be needed for the duration of the job. What is this temporary heat referring to? Is this for the building, construction trailers or both?	5/2/2023	1	This temp heat is referencing construction temp heat.
23	4/28/2023	There are TWO specs for Audience Seating listed in the table of contents as 116113 (but is 126113 when you open) and 126100. Our vendor said they prefer we use 126100. Please clarify which is correct and eliminate the other	5/2/2023	1	Please see Pre-Bid RFI #1 response.
24	4/28/2023	<p>This project outlines the requirements for the GC to provide a Builders Risk Policy. In order to do this, we need the following information.</p> <p>a. Is there a mortgage, if so, please provide the Payee Name, Contact, Phone, Address</p> <p>b. Will you want coverage on any existing structure? If so, what is the value of the existing structure? What would be the value after construction is completed?</p> <p>c. What is the intended Occupancy use for?</p> <p>d. Total SF of covered area?</p> <p>e. What is the age of the existing structure?</p> <p>f. What year was the Heating and Electrical most recently updated?</p> <p>g. Will the school have any fire or burglary detection systems in place and operational during construction?</p> <p>h. What Limit of insurance coverage? What deductible amount is requested?</p>	5/2/2023	1	The Insurance requirements were included with the bid package.
25	4/28/2023	There was NO Appendix B included in the Appendices File. Please provide or confirm none exists.	5/2/2023	1	Appendix B has been added via Addendum #1.
26	4/28/2023	There's a discrepancy in the Warranty Period. Scope of Work 3.0, D.6 calls for a 2-year warranty while G.12 (page T&C-1) calls for a 1-year warranty “unless otherwise stated” and GC.31(page GC-15) call for a 1-year warranty “unless otherwise provided in the specifications”. Please clarify the warranty period.	5/2/2023	1	The minimum warranty required shall be two years. All references throughout the bidding documents to a minimum one year warranty shall be revised to be a minimum two year warranty.
27	4/28/2023	Who is responsible for permits? Construction Terms and Conditions item C4 states Contractor to obtain and pay for unless otherwise specified. General Conditions GC.9 A. states Contractor to obtain or assist the College in obtaining. Please clarify who is obtaining and who is paying. If by GC, consider an allowance for this since the exact costs are unknown?	5/2/2023	1	Please see Pre-Bid RFI #8 response.

RFI / BIDDING PHASE					
RFI No.	Date Asked	RFI DESCRIPTION	Date Reply	Addnm#	RFI RESPONSE
28	4/28/2023	Spec Section 26 2913 is missing. Spec Section 26 2816 is included twice. The second occurrence of 26 2816 appears to be for Motor Controllers but is titled and numbered incorrectly. Confirm Motor Controller specification is the second occurrence of 26 2816 or provide correct specification.	5/2/2023	1	Specification Section 26 29 13 - Motor Controller has been added via Addendum #1.
29	4/28/2023	Please consider extending the last day for questions beyond May 5 th . The nature of bidding, most subcontractors don't get involved until a week before the bid. Most questions will come to us past the 5 th no matter how much we try to get the questions early. Not have responses to these pending questions could cause us to lose participation and/or add costs for uncertainty.	5/2/2023	1	Please see Pre-Bid RFI #7 response.
30	4/28/2023	Please define the specific lots where contractors are allowed to park.	5/2/2023	1	Please see Pre-Bid Meeting Minutes item #2j.
31	4/28/2023	The civil plans indicate a LOD which is typically the contractor's area to use for storage, etc. If there are any restrictions to this, please define clearly.	5/2/2023	1	There are no restrictions inside the LOD. There are additional areas outside the LOD on campus property that can be discussed as potential staging areas after Owner review and approval. Additional information to be provided in Addendum #2.
32	4/28/2023	Per the prebid meeting, the owner will pay for all contractor utilities including electric and water. Please confirm this.	5/2/2023	1	Please see Pre-Bid RFI #12 response.
33	4/28/2023	Please confirm that all Asbestos will be removed by owner prior to contractor mobilization.	5/2/2023	1	Confirmed. Please see Pre-Bid Meeting Minutes item #2c for additional information.
34	4/28/2023	Please confirm the project requires a two-year warranty.	5/2/2023	1	Please see Pre-Bid RFI #26 response.
35	4/28/2023	Please add the following contractor to 27 41 00 Audio Visual Systems, Part I, Section 1.5 Quality Assurance.	5/2/2023	1	Clarifies that the specification 27 41 00 will require that the contractors must come from the preferred prequalified bidder list provided in the specifications OR must demonstrate three years of experience and furnish three reference projects of similar size and scope. The contractors must be able to provide references with Extron and Epson systems.

SECTION 00 41 00 – BID FORM

IFB 23B-006 Chesapeake Welcome Center Renovation and Expansion Project

All bids must be fully and properly executed, securely sealed, and marked with the number and title of the bid. Envelopes shall be addressed to the Procurement Department at Harford Community College 401 Thomas Run Road; Bel Air, MD 21015 – Conowingo Building.

Bids must be received in the Procurement Department:

1:00 PM, May 31, 2023. Late bids will not be accepted.

Bids will be publicly opened on May 31, 2023 at 2:00 PM at the Chesapeake Center- Dining Room.

To be considered responsive, bidder must have attended the mandatory Prebid Conference and each bid package submitted must, at a minimum, include the following documents:

1. Bid form, completed and signed;
 2. Solicitation Affidavits, completed and signed;
 3. Bid Deposit, 10% of Bid Price.
 4. MBE Forms
-
1. The undersigned Bidder proposes and agrees, if this bid is accepted, to enter into an Agreement with Owner utilizing the agreement found within the project specifications, to complete all work as specified or indicated in the contract documents for the contract price and within the contract time indicated in this bid and in accordance with the contract documents.
 2. Bidder accepts all of the terms and conditions of the Invitation For Bid. The submitted Bid will remain valid for one hundred and twenty (120) calendar days after the day of the bid opening. The successful Bidder will sign the agreement and submit any other documents required by the contract documents within ten (10) business days after the issue date of Owner's Notice of Award.
 3. In submitting this bid, bidder represents, as more fully set forth in the Bidding Documents that:
 - A. Bidder has examined copies of all the contract documents and acknowledges the following addenda:

Addendum Number _____ Dated _____

Addendum Number _____ Dated _____

Addendum Number _____ Dated _____
 - B. Bidder has examined the site and locality where the work is to be performed, the legal requirements (federal, state, and local laws, ordinances, rules, and regulations) and the conditions affecting cost, progress or performance of the work; and has made such independent investigations as Bidder deems necessary;
 - C. This bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation; and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other bidder to submit a false or sham bid; Bidder has not solicited or

induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for himself any advantage over any other Bidder or over Owner.

- D. Bidder agrees that the work will proceed and be substantially completed in the following number of calendar days from the receipt of a "Notice-to-Proceed for Construction" from the Owner.

1. Number of Days to Substantial Completion: Five Hundred and Forty-Eight (548) Calendar days

- E. Liquidated Damages: It is understood that the bid price will be firm for a time period of (120) calendar days from the bid opening date and that if the undersigned be notified of acceptance of this proposal within this time period, the firm shall complete the work within (548) calendar days from the issue date for "Notice-to-Proceed for Construction". This Work if not substantially completed, as determined by the College, within the time periods specified, Contractor will be liable for Liquidated Damages of \$2,500.00 per calendar day.

4. BASE BID

- A. The undersigned Bidder, having carefully examined the Drawings, Specifications, and all subsequent Addenda, as prepared by Murphy & Dittenhafer, Inc. and the Architect's consultants, having visited the site, and being familiar with all conditions and requirements of the Work, including permits required, hereby agrees to furnish all material, labor, equipment, services, and including permit costs in the Bid, necessary to complete the work according to the requirements of the Documents, and will complete the work for the following price(s), which includes sales tax on material permanently incorporated into the work, as indicated in the conditions of the contract. Escalation shall not be allowed.

BASE BID: (\$ _____), _____
(figure) (use words)

5. BREAKOUT PRICING FOR SUBMITTALS, STEEL, MECHANICAL & ELECTRICAL MATERIAL

- A. Breakout pricing is part of the base bid submission and not in addition to the Base Bid amount. The requested breakout pricing is included in the Base Bid amount.
- B. Bidder shall provide breakout pricing for the processing of all project Submittals, the procurement of all Structural Steel, the procurement of all Mechanical material and the procurement of all Electrical material. Awarded Bidder will receive a Partial Notice-To-Proceed for Submittals, Steel, Mechanical and Electrical Material after all required Contract Approvals are obtained by the Owner.

BREAKOUT PRICING FOR ALL PROJECT SUBMITTALS, ALL STRUCTUAL STEEL MATERIAL, ALL MECHANICAL MATERIAL AND ALL ELECTRICAL MATERIAL:

(\$ _____), _____
(figure) (use words)

6. ALTERNATES

- A. ALTERNATE NUMBER 1:

1. Bidder shall submit the amount to deduct from the total contract sum in connection with deletion of the pavers from the plaza and provide scored concrete as indicated on drawing C133.

DEDUCT THE SUM OF (\$ _____), _____
(figure) (use words)

B. ALTERNATE NUMBER 2:

1. Bidder shall submit the amount to deduct from the total contract sum in connection with the deletion of the Café and its related scope from the project as indicated on the Bid Drawings.

DEDUCT THE SUM OF (\$ _____), _____
(figure) (use words)

C. ALTERNATE NUMBER 3:

1. Bidder shall submit the amount to add to the total contract sum in connection with the addition of Bi-Polar Ionization for all AHUs per 23 73 13 – Air Handling Units and drawings M507 & M701.

ADD THE SUM OF (\$ _____), _____
(figure) (use words)

D. ALTERNATE NUMBER 4 (MULTIPLE ALTERNATES MAY BE SELECTED):

1. Bidder shall submit the amount to deduct from the total contract sum in connection with removing the Performance Bond requirement for select Trade Subcontractors:

ALTERNATE 4A – Remove the performance bond requirement for the Building Concrete Subcontractor:

DEDUCT THE SUM OF (\$ _____), _____
(figure) (use words)

ALTERNATE 4B – Remove the performance bond requirement for the Masonry Subcontractor:

DEDUCT THE SUM OF (\$ _____), _____
(figure) (use words)

ALTERNATE 4C – Remove the performance bond requirement for the Structural Steel Subcontractor:

DEDUCT THE SUM OF (\$ _____), _____
(figure) (use words)

ALTERNATE 4D – Remove the performance bond requirement for the Metal Panel Subcontractor:

DEDUCT THE SUM OF (\$ _____), _____
(figure) (use words)

ALTERNATE 4E – Remove the performance bond requirement for the Window / Storefront Subcontractor:

DEDUCT THE SUM OF (\$ _____), _____
(figure) (use words)

E. ALTERNATE NUMBER 5 (ONLY ONE OF THE ALTERNATES MAY BE SELECTED):

1. Bidder shall submit the amount to deduct from the total contract sum in connection with decreasing the minimum warranty requirement from two-years to one-year.

ALTERNATE 5A – Decrease the minimum requirement for every warranty duration from two-years to one-year. All project warranties with a specified duration for more than two-years shall remain as specified.

DEDUCT THE SUM OF (\$ _____), _____
(figure) (use words)

ALTERNATE 5B – Decrease the minimum warranty requirement for the project from two-years to one-year except all the Mechanical, Electrical, and Plumbing (MEP) minimum warranty durations shall remain two-years. All project warranties with a specified duration for more than two-years shall remain as specified.

DEDUCT THE SUM OF (\$ _____), _____
(figure) (use words)

7. UNIT PRICES

- A. Unit prices are for both extra Work and credits. This list of prices will be submitted with the Bid and shall become a part of the Contract upon its award. Unit prices listed below are applicable and to all work in this project involving extra materials/services performed by the Contractor or his subcontractors and/or credits to the Owner for materials/services deleted from the project. Unit price includes all overhead and profit for the Subcontractor. Contractor mark-ups is to be applied per Article 7 of General Conditions. Prices as stated shall remain in effect through the end of the Contract warranty period. The undersigned acknowledges the unit price values as part of this bid proposal and agrees to add or delete items for the unit prices identified when directed to do so by the Owner.

1. UNIT PRICE NUMBER 1: Removal of unsuitable soils and replacement with approved soil fill material from on-site.

\$ _____ PER CUBIC YARD
(figure only)

2. UNIT PRICE NUMBER 2: Removal of unsuitable soils and replacement with approved soil fill material from off-site.

\$ _____ PER CUBIC YARD
(figure only)

3. UNIT PRICE NUMBER 3: Removal of unsuitable soils and replacement with approved stone fill material from off-site.

\$ _____ PER CUBIC YARD
(figure only)

4. UNIT PRICE NUMBER 4: Rock excavation, removal and replacement with approved soil fill material from on-site.

\$ _____ PER CUBIC YARD
(figure only)

8. PHASING

- A. Please provide below a brief summary of what your proposed Phasing Plan for Owner approval will consist of (ie. Per the current phasing drawings, offsite kitchen in Area A, etc.):

9. EXECUTION

- A. The undersigned, duly authorized to bind the named firm, agrees, upon receipt of written notice of acceptance of this bid within one hundred and twenty (120) calendar days after its opening, to execute the contract in accordance with the bid as accepted, and to render and payment and performance bonds and a certificate of insurance within ten (10) business days after notification of award.

1. Bidder is a Partnership:

By: _____ (Seal)
(Firm Name)

(General Partner)

Business Address: _____

Phone Number: _____

2. Bidder is a Corporation:

By: _____

(State of Incorporation)

By: _____
(Name of Person Authorized to Sign)

(Title)

(Corporate Seal)

Attest: _____
(Secretary)

Business Address: _____

Phone Number: _____

SOLICITATION AFFIDAVITS

FIRM NAME: _____

FIRM ADDRESS: _____

A) NON-COLLUSION:

I AFFIRM THAT: Neither I, nor, to the best of my knowledge, information and belief, the above firm nor any of its other representatives I here represent have:

- 1) Agreed, conspired, connived, or colluded to produce a deceptive show of competition in the compilation of the proposal being submitted herewith; and
- 2) Not in any manner, directly or indirectly, entered into any agreement, participated in any agreement, participated in any collusion to fix the price proposal of the offeror herein or any competitor, or otherwise taken any action in restraint of free competition in connection with the Contract for which this proposal is submitted.

B) SUSPENSION AND DEBARMENT:

I AFFIRM THAT: Neither I, nor to the best of my knowledge, information, and belief, the above business, or any of its officers, directors, partners, or any of its employees directly involved in obtaining or performing contracts with public bodies, has ever been suspended or debarred (including being issued a limited denial of participation) by any Federal or public entity, except as follows: (List each debarment or suspension providing the dates of the suspension or debarment, the name of the public entity and the status of the proceedings, the name(s) of the person(s) involved and their current positions and responsibilities with the business, the grounds of the debarment or suspension, and the details of each person's involvement in any activity that formed the grounds of the debarment or suspension)

FIRM NAME: _____

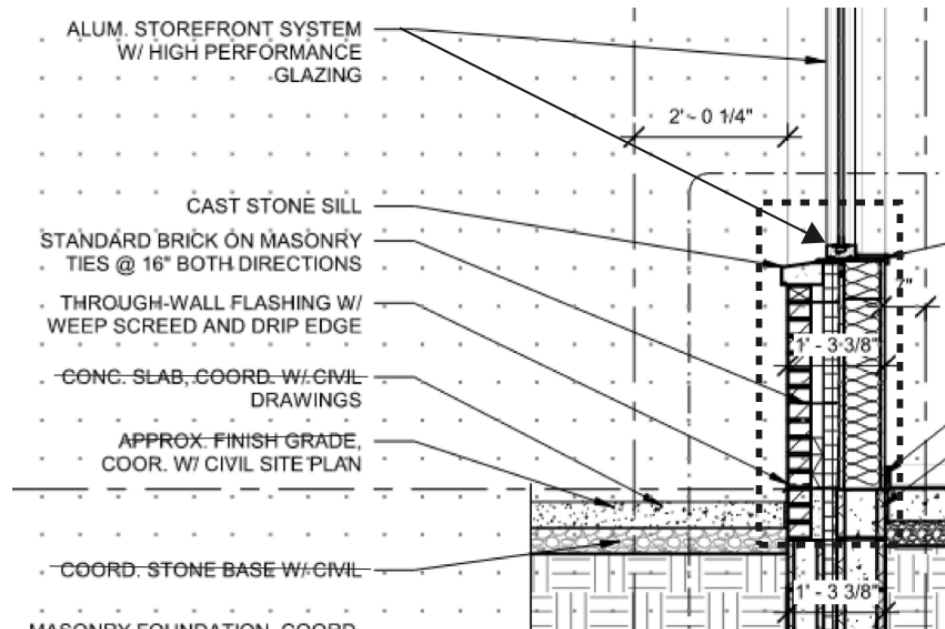
- 1) The above business was not established and it does not operate in a manner designed to evade the application of or defeat the purpose of debarment pursuant to Title 16, of the State Finance and Procurement Article of the Annotated Code of Maryland; and
- 2) The business is not a successor, assignee, subsidiary, or affiliate of a suspended or debarred business, except as follows: (Indicate the reasons why the affirmation cannot be given without qualification)

C) I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

By: _____
Signature of Authorized Representative and Affiant Printed Name of Authorized Representative and Affiant

Date: _____ Federal Employer Identification Number (FEIN): _____

END OF SECTION 00 41 00



REF. SPECIFICATIONS FOR COMPLETE MATERIAL REQUIREMENTS.

MASONRY & STUD MOCK-UP

4' x 4' SECTION OF WALL

REF. WALL SECTION 2/A3.10

ADDENDUM #1

Murphy & Dittenhafer
A R C H I T E C T S

250 West Market Street, York, Pennsylvania 17401
717-648-9527 voice 717-643-2449 fax

HARFORD COMMUNITY COLLEGE
CHESAPEAKE WELCOME CENTER,
RENOVATION & EXPANSION - CC-07-MC19-465
401 THOMAS RUN ROAD, BEL AIR, MARYLAND, 21015

MOCK UP

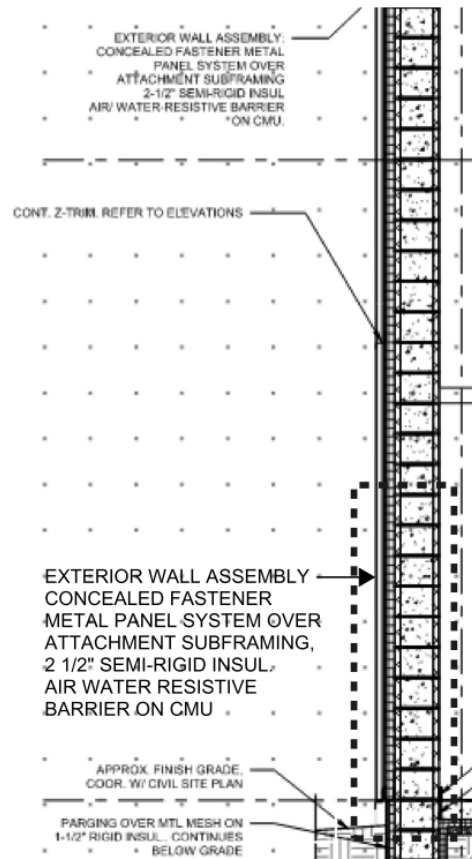
SK.01

DATE: 05/01/23

CHECKED BY: JAT

DRAWN BY: KSS

M&D PROJ #: 20118



REF. SPECIFICATIONS FOR COMPLETE MATERIAL REQUIREMENTS.

METAL WALL PANELS & MASONRY MOCK-UP
 4' x 4' SECTION OF WALL
 REF. WALL SECTION 3/A3.10

ADDENDUM #1

MURPHY & DITTENHAFFER
 ARCHITECTS
 800 North Charles Street, Baltimore, Maryland 21201
 410-525-4823 voice 410-525-8914 fax

HARFORD COMMUNITY COLLEGE
 CHESAPEAKE WELCOME CENTER,
 RENOVATION & EXPANSION - CC-07-MC19-465
 401 THOMAS RUN ROAD, BEL AIR, MARYLAND, 21015

MOCK UP

SK.02

DATE: 05/01/23

CHECKED BY: Checker

DRAWN BY: Author

M&D PROJ #: 20118

SECTION 01 10 00 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Related Requirements:
 - 1. Division 01 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.
- B. Section Includes:
 - 1. Project information
 - 2. Work Covered by Contract Documents
 - 3. Phased construction.
 - 4. Work Performed by Owner
 - 5. Owner-Furnished/Contractor-Installed (OFCI) Products
 - 6. Owner-Furnished/Owner-Installed (OFOI) Products
 - 7. Contractor's Use of Site and Premises
 - 8. Coordination with Occupants
 - 9. Work Restrictions
 - 10. Specifications and drawings conventions

1.3 DEFINITIONS

- A. Work Package: A group of specifications, drawings, and schedules prepared by the design team to describe a portion of the Project Work for pricing, permitting, and construction.

1.4 PROJECT INFORMATION

- A. Project Identification: Harford Community College
Chesapeake Welcome Center
- B. Project Location: 401 Thomas Run Road
Bel Air, Maryland 21015
- C. Project Number: DGS Project No. CC-07-MC19-465
M&D Project No. 20118
- D. Owner: Harford Community College
 - 1. Owner's Representatives:
 - a. Harford Community College (HCC) - Louis Claypoole, Director of Campus Operations; Ph: 443-412-2655.

- b. HCC Project Manager Michael Channell, Manager of Capital Projects mchannell@harford.edu; Ph: 443-412-2654.
 - c. Stantec Consulting Services – Bret Waskiewicz, Senior Project Manager; Bret.Waskiewicz@Stantec.com; Ph: 443-718-8286
- E. Architect: Murphy & Dittenhafer Architects, Inc. 805 North Charles Street; Baltimore, Maryland 21201; Ph: 410-625-4823
- F. Architect's Consultants: The Architect has retained the following design professionals who have prepared designated portions of the Contract Documents:
 - 1. Structural Engineer: EwingCole; 810 Light Street, Suite 100; Baltimore, Maryland 21230; Ph: 410-783-1696
 - 2. Civil Engineering: Site Resources, Inc.; 14315 Jarrettsville Pike; Phoenix, Maryland 21131; Ph: 410-683-3388
 - 3. MEP Engineer: Burdette, Koehler, Murphy & Associates, Inc.; 6300 Blair Hill Lane, Suite 400; Baltimore, Maryland 21209; Ph: 410-323-0600
 - 4. Low Voltage Design: Convergent Technologies Group; 6501 York Road; Baltimore, Maryland 21212; Ph: 410-532-2395
 - 5. Food Service Design: Nyikos-Garcia Foodservice Design, Inc.; 7146 Starmount Way; New Market, Maryland 21774; Ph: 240-683-9530
 - 6. Theater Design: Fisher Dachs Associates, Inc.; 22 West 19th Street; New York, NY 10011; Ph: 212-691-3020 x284
 - 7. Commissioning Agent: RMF Engineering; 5520 Research Park Drive; Baltimore, MD 21228; Ph: 410-576-0505

1.5 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and includes, but is not limited to, the following:
 - 1. The existing building, built in 1966, has undergone several building renovations during its lifetime. M&D has received, scanned, and provided HCC with digital copies of previous building additions, alternations, and renovations. The goals of this renovation and expansion can be achieved in this project within the site constraints and unique existing building conditions. The building currently supports 21,208 NASF of program and will approximately double in this project to a target of 44,505 NASF program areas (updated in February 2021). The existing building is 32,266 GSF and plans are for additions for a new total of 78,000 GSF in this project. Related civil limit of disturbance consist of 3.45ac total.
- B. Type of Contract:
 - 1. Project will be constructed utilizing a design-bid-build delivery method.
- C. Removal and disposal of materials:
 - 1. Non-hazardous materials shall be removed in accordance with Specification Section 01 74 19 – Construction and Demolition Waste Management and Disposal.
 - 2. Asbestos containing materials (ACM) will be removed by owner's abatement contractor prior to the start of construction, an Asbestos Inspection report and Certificate of Analysis is attached per Appendix E. Separately, hazardous materials abatement treated as construction debris shall be included to be part of the Selective Demolition Specification Section 02 41 19 scope, a Hazardous Materials Inspection report is attached as Appendix F. If additional hazardous asbestos containing materials are encountered the contractor shall stop work in that particular area and notify the Owner immediately.

- D. LEED Certification:
 - 1. LEED Silver Certification is required.
- E. Refer to Bid Documents for other contract requirements.

1.6 PHASED CONSTRUCTION

- A. Contractor shall construct the work in phases, if deemed necessary to construct within the Owner's requirements. Contractor shall provide any means and methods necessary to meet the Operations and Access criteria listed below. The Contractor shall not be limited to a number of phases and the two phases (Phase 1 and Phase 2) as indicated in the drawings are only a suggestion.
 - 1. Phasing Plan Submission: The Contractor shall present a detailed phasing plan prior to the start of construction at the initial meeting for review by the Owner and Design Team. Owner and Design Team will provide verbal comments after the presentation. Within seven (7) days after the initial meeting, Contractor shall submit a formal written phasing plan, which incorporates the Owner and Design Team comments from the initial meeting, for approval by the Owner and Design Team.
 - a. Contractor shall not commence any construction activities, other than temporary fence and field offices, until written approval of the submitted Phasing Plan has been provided by the Owner. The Contract time shall not be increased due a delay in Phasing Plan approval because of the Contractor not complying with Owner or Design Team direction on Phasing Plan revisions.
 - b. Deviations from the approved Phasing Plan shall not occur without written approval by the Owner. Contractor can propose revisions to the Phasing Plan to the Owner at any time. Only once revisions have been approved, shall they occur.
 - 2. Phasing Criteria Summary: Harford Community College (HCC) campus Dining Services ("Dining Services") and campus critical infrastructure (telecom and fiber optic cable) shall be continuously able to operate and be provided functional power and network operations, MEP systems and Fire Alarm & Sprinkler systems. The Contractor shall provide notice and grant right of entry provided to HCC's Information Technology staff to access main Telecom room for the duration of the project. Contractor shall guarantee the continuous use and safety of the HCC Campus Dining Services operations for the duration of HCC's academic calendar (found on HCC's website) of the existing Chesapeake Center located in the west wing of the building, including the covered loading area and access to Fighting Owl Blvd. Demolition or work in the areas of the existing Dining Services operations shall occur only after U&O is granted for the new Dining Services facility, its loading docks, and covered canopy as well as other associated scope related to Dining Services Operations. In addition, all work related to critical infrastructure shall not occur until after new Dining Services operations resume, specifically within and around the existing main Telcom Room (which serves as a central campus hub) and connected exterior telecom and fiber optic cables that are critically located near the west and south new structural footings.
 - a. References: See Phasing Plans & Phased Demolition Plans and any of their references. The Contractor is responsible for following all phasing criteria and is responsible for the detail, sequencing, permitting and inspections in all aspects of Phasing.
 - b. Dining Services Operations Temporary Relocation: If the Contractor is to plan on the temporary relocation of Dining Services operations in trailers, the new facilities must be equal to the existing facilities. The Contractor and their subs may request a site visit to Dining Services during bidding to document and develop a scope that will be equal to the existing facilities and allow for equal operations. Any phasing

- plans that relocate Dining Services must include a detailed scope and description of how the temporary facility will be equal to the existing Dining Services operations and will be subject to approval.
- c. Utilities: All utilities that are required for Dining Services and Information Technology operations. Reference Civil, MEP, & TA drawings and specifications.
 - 1) HCC is to be notified and provided with an opportunity of on-site observations for demolition, excavation and new work that impacts underground utilities or requires an outage of service. The Contractor will need to provide 48 business hours' notice to HCC for scheduled work that impacts Dining Services operation or Critical Infrastructure.
 - 2) Planned outages for Telcom and Fiber Optic cables shall only occur during HCC's Spring or Winter breaks. School calendar for these breaks can be found online on the college's website. The Contractor shall excavate the foundations near the Telcom and Fiber Optic cables with caution and provide support, bracing, protection and follow details for any foundation wall penetrations.
 - d. Campus Deliveries: Access to Fighting Owl Blvd for semi-truck deliveries must be available daily. The Contractor shall provide any outage schedules and coordinate with HCC and their Dining Services and IT staff through all phases. Contractor shall complete work area that allows the Dining Service operations and access for deliveries on Stadium Avenue, prior to regrading, paving and closing Fighting Owl Blvd. for more than (1) weekday.
 - e. Life Safety: The Contractor shall be responsible for coordination, permitting and inspection of all aspects of Life Safety, Health Department, and all other inspections required by the (AHJ) Authority Having Jurisdiction per the Contractor's phasing plans. Protect access and egress from all Dining Services staff and IT staff in areas near the work. Pedestrian pathways may be required. Contractor shall provide a safety procedures plan and issue hard hats vest and protective equipment to designated HCC staff.
 - f. Offsite Kitchen Operations: The Contractor may choose to propose providing facilities for the Dining Service operations relocated to some other location on campus. This alternative to phasing shall provide equal facilities and ability to continuously operate during the school year. If the Contractor chooses to provide offsite facilities they shall provide relocation, rent, retro fitting and health department permitting, inspections and certificates or any other requirements by an AHJ. All proposals for offsite operations for Dining Services shall be reviewed and subject to approval by Harford Community College.
 - g. Dining Services Business Hours and Deliveries
 - 1) 7:30am-5pm Monday – Friday.
 - h. Information Technology Business Hours and Deliveries
 - 1) IT staff may need access to the construction site at all times.
 - 2) Staff work times are 7:30am-5pm Monday – Friday.
3. Substantial Completion:
- 1) The first phase of construction will be considered completed once all Dining Services operations resume in new space and partial occupancy U&O has been granted for space limited to the Dining Services operations. The Contractor shall be responsible for any comments and provisions required for all sign off or certificates from AHJ and their inspectors. Contractor shall submit their proposed phasing and egress plans for AHJ's approval. Subsequent phased work may begin after the Notice to Proceed.
4. Subsequent Phasing Criteria Summary: The new Dining Services operations, now having U&O granted shall not be interrupted in the subsequent phases. Dining Services deliveries after the first phase will occur on the east side of the building along Stadium

Avenue. The Contractor shall provide protected and secure access to the Telecom Room. This existing critical infrastructure must be accessible to Information Technology Staff at all times. Subsequent phases will impact the critical infrastructure running from the Telecom Room, particularly in the existing mechanical room that will be decked over for new restrooms. This outage is to be planned and scheduled for a weeklong campus staff holiday such as spring break or winter break. Outages to critical infrastructure and road closures are subject to approval by owner. Contractor and their subs shall reference the Civil utility plans, the TA series drawings, and the MSE Telecom Survey. The Contractor is to use caution and schedule any excavation to the west and south sides for new foundations that may impact the telecom or fiber optic cables and schedule to coincide with the planned outage. The Contractor shall include all costs related to damage and repair to critical infrastructure.

- a. References: See Phasing Plans & Phased Demolition Plans and any of their references. The Contractor is responsible for following all phasing criteria and is responsible for the detail, sequence, permitting & inspections in all aspects of Phasing.
- b. Utilities: All utilities that are required for Dining Services and Information Technology operations. Reference Civil, MEP, & TA drawings and specifications.
 - 1) The Owner is to be notified and provided with an opportunity onsite for demolition excavation and new work that impacts underground utilities or requires an outage of service.
 - 2) Planned outages for Telcom and Fiber Optic cables shall only occur during HCC's Spring or Winter breaks. The Contractor shall excavate the foundations near the Telcom and Fiber Optic cables with caution and provide support, bracing, protection and follow details for any foundation wall penetrations.
 - 3) Related to or that potentially impacts the critical campus telecommunications / copper phone lines on site including excavation of the west conference room foundations (Area Plan D) and the work related to the installation of the new cable tray/conduit and demo of the existing cable tray that is running through the existing mechanical room, shall be performed in Phase 2 in coordination with a scheduled outage for HCC's Winter or Spring Breaks. Extreme caution is to be used when excavating near areas of potential conflict with copper phone lines and foundation wall. Contractor is to provide support and protection to the cables when exposed. The contractor shall coordinate the new location of the cable tray along the south and west wall in the existing mechanical room with relevant trade to develop a sequence of construction that will allow the walls to be cleared, patched, and removed of all equipment from walls before cable trays and cable work can be performed. The tray and cable will then need to be protected and preserved during the structural demolition and new structure and all other work to complete this room. Reference (TA series drawings, MSE report appendix D and specification 271000).
- c. Campus Deliveries: Access to Stadium Ave. for semi-truck deliveries must be available daily. The general contractor shall provide any outage schedules and coordinate with HCC & their Dining Services & IT staff through both phases. general contractor shall complete work area that allows Dining Services operations and access for deliveries on Stadium Ave. prior to regarding, paving or closing Fighting Owl Blvd. for more than (1) week day.
- d. Life Safety: The Contractor shall be responsible for coordination, permitting and inspection of all aspects of Life Safety, Health Department, and all other inspections required by the AHJ per the Contractor's phasing plans. Protected access and egress from all Dining Services staff and IT staff in areas near work. Contractor is to provide a safety procedure and issue hard hats vest and protective equipment to designated HCC staff.
- e. Dining Services Business Hours and Deliveries

- 1) 7:30am-5pm Monday – Friday.
 - f. Information Technology Business Hours and Deliveries
 - 1) IT staff may need access to the construction site at all times.
 - 2) Staff work times are 7:30am-5pm Monday – Friday.
 5. Commencement of Construction Subsequent Phases:
 - 1) Notice to Proceed: Work of this phase shall commence after the Notice to Proceed.
 - b. Substantial Completion:
 - 1) Later phases will be considered completed once all building and site area meet substantial completion and U&O has been granted for the entire Building.
 - B. Before commencing Work of each phase, submit an updated copy of Contractor's construction schedule, showing the sequence, commencement and completion dates, and move-out and -in dates of Owner's personnel for all phases of the Work.
- 1.7 OWNER-FURNISHED/CONTRACTOR-INSTALLED (OFCI) PRODUCTS
- A. Owner's Responsibilities: Owner will furnish products indicated and perform the following, as applicable:
 1. Provide to Contractor Owner-reviewed Product Data, Shop Drawings, and Samples.
 2. Provide for delivery of Owner-furnished products to Project site.
 3. Upon delivery, inspect, with Contractor present, delivered items.
 - a. If Owner-furnished products are damaged, defective, or missing, arrange for replacement.
 4. Obtain manufacturer's inspections, service, and warranties.
 5. Inform Contractor of earliest available delivery date for Owner-furnished products.
 - B. Contractor's Responsibilities: The Work includes the following, as applicable:
 1. Designate delivery dates of Owner-furnished products in Contractor's construction schedule, utilizing Owner-furnished earliest available delivery dates.
 2. Review Owner-reviewed Product Data, Shop Drawings, and Samples, noting discrepancies and other issues in providing for Owner-furnished products in the Work.
 3. Receive, unload, handle, store, protect, and install Owner-furnished products.
 4. Make building services connections for Owner-furnished products.
 5. Protect Owner-furnished products from damage during storage, handling, and installation and prior to Substantial Completion.
 6. Repair or replace Owner-furnished products damaged following receipt.
 - C. Owner-Furnished/Contractor-Installed (OFCI) Products:
 1. Toilet accessories as indicated on the Drawings and Specifications.
 2. Audio and Video Equipment as indicated on the Drawings.
 3. Salvaged or reused existing kitchen equipment as indicated on the Drawings.

1.8 OWNER-FURNISHED/OWNER-INSTALLED (OFOI) PRODUCTS

- A. The Owner will furnish and install products indicated as Not in Contract (NIC) and Not in Kitchen Equipment Contract (NIKEC). All other fixtures & equipment documented in the drawings shall be provided by GC.
- B. Owner-Furnished/Owner-Installed (OFOI) Products:
 - 1. FF&E, new and existing to be reused furnishings will be stored off site and installed after U&O has been granted to completed phased areas.

1.9 SITE AND PREMISES

- A. Unrestricted Use of Site: Contractor shall make full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project. There are following exceptions:
 - 1. HCC Information Technology designated staff, having been issued PPE and any site safety training shall have access to the Telcom Room. General contractor shall be notified of entry and general contractor shall coordinate work that may impede such access.
 - 2. HCC Dining Services Operations and defined area for life safety and access in existing locations, or general contractor provided offsite location.
- B. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

1.10 COORDINATION WITH OCCUPANTS

- A. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.
 - 1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner acceptance of the completed Work.
 - 2. Obtain a Certificate of Occupancy from authorities having jurisdiction before limited Owner occupancy.
 - 3. Before limited Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of Work.
 - 4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

1.11 WORK RESTRICTIONS – AS NOTED IN BID DOCUMENTS

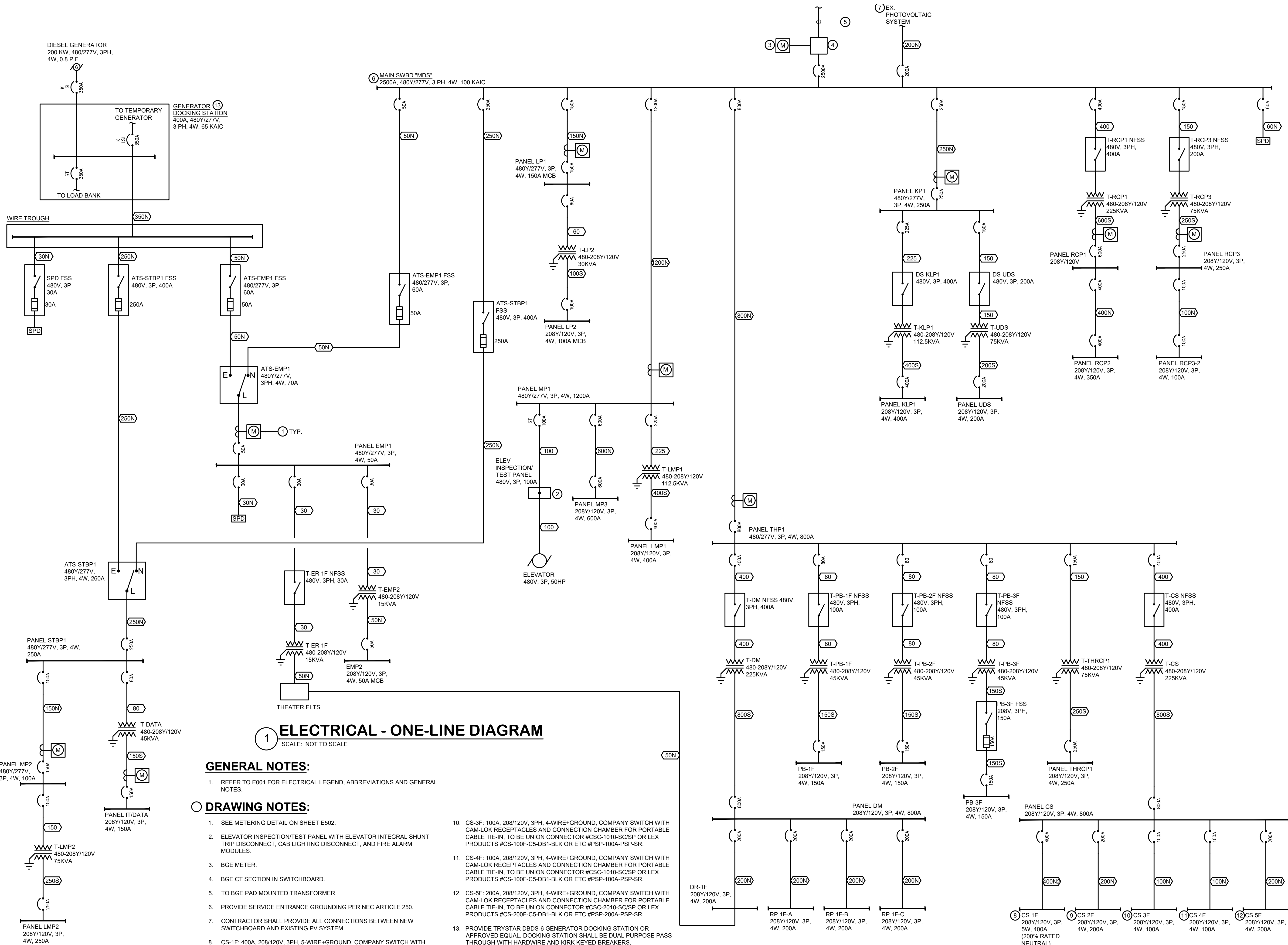
1.12 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 - 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
 - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 - 2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.
 - 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 10 00



ELECTRICAL - ONE-LINE DIAGRAM

SCALE: NOT TO SCALE

GENERAL NOTES:

1. REFER TO E001 FOR ELECTRICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES.

DRAWING NOTES:

1. SEE METERING DETAIL ON SHEET E502.
2. ELEVATOR INSPECTION/TEST PANEL WITH ELEVATOR INTEGRAL SHUNT TRIP DISCONNECT, CAB LIGHTING DISCONNECT, AND FIRE ALARM MODULES.
3. BGE METER.
4. BGE CT SECTION IN SWITCHBOARD.
5. TO BGE PAD MOUNTED TRANSFORMER
6. PROVIDE SERVICE ENTRANCE GROUNDING PER NEC ARTICLE 250.
7. CONTRACTOR SHALL PROVIDE ALL CONNECTIONS BETWEEN NEW SWITCHBOARD AND EXISTING PV SYSTEM.
8. CS-1F: 400A, 208/120V, 3PH, 4-WIRE+GROUND, COMPANY SWITCH WITH CAM-LOK RECEPTACLES AND CONNECTION CHAMBER FOR PORTABLE CABLE TIE-IN. TO BE UNION CONNECTOR #CSC-4020-CISP OR LEX PRODUCTS #CS-400F-C6DB1-BLK OR ETC #PSP-400A-PSP-SR.
9. CS-2F: 200A, 208/120V, 3PH, 4-WIRE+GROUND, COMPANY SWITCH WITH CAM-LOK RECEPTACLES AND CONNECTION CHAMBER FOR PORTABLE CABLE TIE-IN. TO BE UNION CONNECTOR #CSC-2010-SC/SP OR LEX PRODUCTS #CS-200F-C5-DB1-BLK OR ETC #PSP-200A-PSP-SR.
10. CS-3F: 100A, 208/120V, 3PH, 4-WIRE+GROUND, COMPANY SWITCH WITH CAM-LOK RECEPTACLES AND CONNECTION CHAMBER FOR PORTABLE CABLE TIE-IN. TO BE UNION CONNECTOR #CSC-1010-SC/SP OR LEX PRODUCTS #CS-100F-C5-DB1-BLK OR ETC #PSP-100A-PSP-SR.
11. CS-4F: 100A, 208/120V, 3PH, 4-WIRE+GROUND, COMPANY SWITCH WITH CAM-LOK RECEPTACLES AND CONNECTION CHAMBER FOR PORTABLE CABLE TIE-IN. TO BE UNION CONNECTOR #CSC-1010-SC/SP OR LEX PRODUCTS #CS-100F-C5-DB1-BLK OR ETC #PSP-100A-PSP-SR.
12. CS-5F: 200A, 208/120V, 3PH, 4-WIRE+GROUND, COMPANY SWITCH WITH CAM-LOK RECEPTACLES AND CONNECTION CHAMBER FOR PORTABLE CABLE TIE-IN. TO BE UNION CONNECTOR #CSC-2010-SC/SP OR LEX PRODUCTS #CS-200F-C5-DB1-BLK OR ETC #PSP-200A-PSP-SR.
13. PROVIDE TRY STAR DBDS-6 GENERATOR DOCKING STATION OR APPROVED EQUAL. DOCKING STATION SHALL BE DUAL PURPOSE PASS THROUGH WITH HARDWIRE AND KIRK KEYED BREAKERS. MODEL#DBDS-045W-LMF-ACDK2Q.

Murphy & Dittenhafer

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bkm

Burdette, Koehler, Murphy & Associates, Inc.
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1 certify that these documents were prepared or approved by me, and that I am a duly licensed engineer under the laws of the State of Maryland, License No. , Expiration Date

HARFORD COMMUNITY COLLEGE

CHESAPEAKE WELCOME CENTER RENOVATION & EXPANSION - CC-07-MC19-465

401 THOMAS RUN ROAD BEL AIR, MARYLAND, 21015

USING AGENCY APPROVAL

Name Date

Title 100% BID DOCUMENTS

Project Manager Date

Chief of PM&D Date

Mark Description Date 100 % BID DOCUMENTS ADDENDUM #1

03/27/23 05/02/23

DRAWN BY: DKP

CHECKED BY: RAM

PROJECT NO: 20118

03/27/23

ELECTRICAL ONE-LINE DIAGRAM

SHEET E601

BKM# 21008.01

FEEDER SCHEDULE

DESIG	QTY	PHASE CONDUCTORS	NEUTRAL	GROUND	CONDUIT	REMARKS
30	1 SET	(3) #10 AWG	-	-	3/4"	
30N	1 SET	(3) #10 AWG	#10 AWG	#10 AWG	3/4"	
30S	1 SET	(3) #10 AWG	#10 AWG	#10 AWG	3/4"	
50	1 SET	(3) #8 AWG	-	-	3/4"	
50N	1 SET	(3) #8 AWG	#8 AWG	#10 AWG	3/4"	
50S	1 SET	(3) #8 AWG	#8 AWG	#10 AWG	3/4"	
60	1 SET	(3) #6 AWG	-	-	1"	
60N	1 SET	(3) #6 AWG	#6 AWG	#10 AWG	1"	
80	1 SET	(3) #4 AWG	-	#8 AWG	1"	
100	1 SET	(3) #3 AWG	-	#8 AWG	1-1/4"	
100N	1 SET	(3) #3 AWG	#3 AWG	#8 AWG	1-1/4"	
100S	1 SET	(3) #3 AWG	#3 AWG	#8 AWG	1-1/4"	
150	1 SET	(3) #1/0 AWG	-	#6 AWG	1-1/2"	
150N	1 SET	(3) #1/0 AWG	#1/0 AWG	#6 AWG	2"	
150S	1 SET	(3) #1/0 AWG	#1/0 AWG	#6 AWG	2"	
200	1 SET	(3) #3/0 AWG	-	#6 AWG	2"	
200N	1 SET	(3) #3/0 AWG	#3/0 AWG	#6 AWG	2"	
200S	1 SET	(3) #3/0 AWG	#3/0 AWG	#4 AWG	2"	
225	1 SET	(3) #4/0 AWG	-	#4 AWG	2"	
225N	1 SET	(3) #4/0 AWG	#4/0 AWG	#4 AWG	2-1/2"	
225S	1 SET	(3) #4/0 AWG	#4/0 AWG	#2 AWG	2-1/2"	
250	1 SET	(3) 250KCM	-	#4 AWG	2-1/2"	
250N	1 SET	(3) 250KCM	#250KCM	#4 AWG	2-1/2"	
250S	1 SET	(3) 250KCM	#250KCM	#2 AWG	2-1/2"	
300	1 SET	(3) 350KCM	-	#4 AWG	2-1/2"	
300N	1 SET	(3) 350KCM	350KCM	#4 AWG	3"	
350	1 SET	(3) 500KCM	-	#3 AWG	3"	
350N	1 SET	(3) 500KCM	500KCM	#3 AWG	3"	
400	2 SETS	(3) #3/0 AWG	-	#3 AWG	2"	
400N	2 SETS	(3) #3/0 AWG	#3/0 AWG	#3 AWG	2"	
400N2	2 SETS	(3) #3/0 AWG	(2) #3/0 AWG	#3 AWG	2-1/2"	
400S	2 SETS	(3) #3/0 AWG	#3/0 AWG	#2 AWG	2"	
600	2 SETS	(3) #350KCM	-	#1 AWG	2-1/2"	
600N	2 SETS	(3) #350KCM	350KCM	#1 AWG	3"	
600S	2 SETS	(3) #350KCM	350KCM	#2/0 AWG	3"	
800	2 SETS	(3) #600KCM	-	#1/0 AWG	3"	
800N	2 SETS	(3) #600KCM	600KCM	#1/0 AWG	3-1/2"	
800S	2 SETS	(3) #600KCM	600KCM	#3/0 AWG	3-1/2"	
1200N	3 SETS	(3) #600KCM	600KCM	#3/0 AWG	4"	

SCHEDULE NOTES:

1. PHASE CONDUCTORS, NEUTRAL GROUND AND CONDUIT SHOWN IN THE FEEDER SCHEDULE APPLY TO EACH SET WHEN MULTIPLE SETS ARE REQUIRED. ALL CONDUCTORS ARE COPPER UNLESS OTHERWISE NOTED.

2. 600 VOLT CONDUCTORS HAVE BEEN SELECTED IN ACCORDANCE WITH THE AMPACITIES LISTED IN TABLE 310.15(B)(16) OF THE 2014 NEC. THIS TABLE APPLIES TO CONDUCTORS RATED 0-2,000 VOLTS, BASED ON AMBIENT TEMPERATURES OF 26-30° C (78-86° F). INSTALLATION OF RACEWAYS UNDERGROUND OR IN HIGHER AMBIENT AREAS MAY REQUIRE CHANGES TO CONDUCTOR AND CONDUIT SIZES. THE CONTRACTOR SHALL ADJUST CONDUCTOR AND CONDUIT SIZES WHERE REQUIRED TO ACCOMMODATE THESE CONDITIONS. IN NO CASE SHALL CONDUCTOR AND CONDUIT SIZES BE SMALLER THAN THOSE SCHEDULED OR SPECIFIED.

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I certify that these documents were prepared or approved by me, and that I am a duly licensed engineer under the laws of the State of Maryland. License No. Expiration Date

HARFORD COMMUNITY COLLEGE

CHESAPEAKE WELCOME CENTER RENOVATION & EXPANSION - CC-07-MC19-465

401 THOMAS RUN
ROAD BEL AIR,
MARYLAND, 21015

USING AGENCY APPROVAL

Name Date

Title
100% BID DOCUMENTS

Project Manager Date

Chief of PM&D Date

Mark	Date	Description	100 % BID DOCUMENTS					
			ADDENDUM #1					
CD	03/27/23	ADDENDUM #1						
	05/02/23							

DRAWN BY: DKP

CHECKED BY: RAM

PROJECT NO: 20118

03/27/23

ELECTRICAL
FEEDER
SCHEDULE

SHEET
E602

Statement of Special Inspections

Project: *Chesapeake Welcome Center, Renovation & Expansion*

Location: *401 Thomas Run Road, Bel Air, MD*

Owner: *Harford Community College*

Design Professional in Responsible Charge: *Kris R. Thompson*

This *Statement of Special Inspections* is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. It includes a schedule of Special Inspection services applicable to this project as well as the name of the Special Inspection Coordinator and the identity of other approved agencies to be retained for conducting these inspections and tests. This *Statement of Special Inspections* encompass the following disciplines:

☒ Structural ☐ Mechanical/Electrical/Plumbing
☐ Architectural ☐ Other: _____

The Special Inspection Coordinator shall keep records of all inspections and shall furnish inspection reports to the Building Official and the Registered Design Professional in Responsible Charge. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

Interim reports shall be submitted to the Building Official and the Registered Design Professional in Responsible Charge.

A *Final Report of Special Inspections* documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy.

Job site safety and means and methods of construction are solely the responsibility of the Contractor.

Interim Report Frequency:

or ☒ per attached schedule.

Prepared by:

Kris R. Thompson

(type or print name)

Kris R. Thompson

Signature

09/01/22

Date



Owner's Authorization:

Building Official's Acceptance:

Signature

Date

Signature

Date

Schedule of Inspection and Testing Agencies

This Statement of Special Inspections / Quality Assurance Plan includes the following building systems:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Soils and Foundations | <input type="checkbox"/> Spray Fire Resistant Material |
| <input checked="" type="checkbox"/> Cast-in-Place Concrete | <input type="checkbox"/> Wood Construction |
| <input type="checkbox"/> Precast Concrete | <input type="checkbox"/> Exterior Insulation and Finish System |
| <input checked="" type="checkbox"/> Masonry | <input type="checkbox"/> Mechanical & Electrical Systems |
| <input checked="" type="checkbox"/> Structural Steel | <input type="checkbox"/> Architectural Systems |
| <input checked="" type="checkbox"/> Cold-Formed Steel Framing | <input type="checkbox"/> Special Cases |

Special Inspection Agencies	Firm	Address, Telephone, e-mail
1. Special Inspection Coordinator		
2. Inspector		
3. Inspector		
4. Testing Agency		
5. Testing Agency		
6. Other		

Note: The inspectors and testing agencies shall be engaged by the General Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

Quality Assurance Plan

Quality Assurance for Seismic Resistance

Seismic Design Category *A*

Quality Assurance Plan Required (Y/N) *No*

Description of seismic force resisting system and designated seismic systems:

Steel moment frames and reinforced masonry shear walls.

Quality Assurance for Wind Requirements

Basic Wind Speed (3 second gust) (Ultimate) *120 mph*

Wind Exposure Category *C*

Quality Assurance Plan Required (Y/N) *No*

Description of wind force resisting system and designated wind resisting components:

Steel moment frames and reinforced masonry shear walls.

Statement of Responsibility

Each contractor responsible for the construction or fabrication of a system or component designated above must submit a Statement of Responsibility.

Qualifications of Inspectors and Testing Technicians

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all Inspectors and testing technicians shall be provided if requested.

Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge deems it appropriate that the individual performing a stipulated test or inspection have a specific certification or license as indicated below, such designation shall appear below the *Agency Number* on the Schedule.

PE/SE	Structural Engineer – a licensed SE or PE specializing in the design of building structures
PE/GE	Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations
EIT	Engineer-In-Training – a graduate engineer who has passed the Fundamentals of Engineering examination

American Concrete Institute (ACI) Certification

ACI-CFTT	Concrete Field-Testing Technician – Grade 1
ACI-CCI	Concrete Construction Inspector
ACI-LTT	Laboratory Testing Technician – Grade 1&2
ACI-STT	Strength Testing Technician

American Welding Society (AWS) Certification

AWS-CWI	Certified Welding Inspector
AWS/AISC-SSI	Certified Structural Steel Inspector

American Society of Non-Destructive Testing (ASNT) Certification

ASNT	Non-Destructive Testing Technician – Level II or III.
------	---

International Code Council (ICC) Certification

ICC-SMSI	Structural Masonry Special Inspector
ICC-SWSI	Structural Steel and Welding Special Inspector
ICC-SFSI	Spray-Applied Fireproofing Special Inspector
ICC-PCSI	Prestressed Concrete Special Inspector
ICC-RCSI	Reinforced Concrete Special Inspector

National Institute for Certification in Engineering Technologies (NICET)

NICET-CT	Concrete Technician – Levels I, II, III & IV
NICET-ST	Soils Technician - Levels I, II, III & IV
NICET-GET	Geotechnical Engineering Technician - Levels I, II, III & IV

Exterior Design Institute (EDI) Certification

EDI-EIFS	EIFS Third Party Inspector
----------	----------------------------

Other

**CHESAPEAKE WELCOME CENTER, RENOVATION & EXPANSION
SPECIAL INSPECTIONS, MATERIAL TESTING & STRUCTURAL OBSERVATION
ITEMS REQUIRED BY CHAPTER 17 OF THE 2018 IBC**

FABRICATORS

<input type="checkbox"/> Approved Fabricator – Structural Steel
<input type="checkbox"/> Approved Fabricator – Cold-formed Steel
<input type="checkbox"/> Approved Fabricator – Steel Joists
<input type="checkbox"/> Approved Fabricator – Steel Deck

STRUCTURAL STEEL

Item

Detailed Instructions and Frequencies

PRIOR TO WELDING (TABLE N5.4-1, AISC 360):			
Verify welding procedures (WPS) and consumable certificates	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	
Material identification	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify type and grade of material
Welder identification	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	A system shall be maintained by which a welder who has welded a joint or member can be identified.
Fit-up of groove welds	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	
Access holes	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	
Fit-up of fillet welds	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	
DURING WELDING (TABLE N5.4-2, AISC 360):			
Use of qualified welders	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that welders are appropriately qualified.
Control and handling of welding consumables	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify packaging and exposure control.
Cracked tack welds	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that welding does not occur over cracked tack welds.
Environmental conditions	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify wind speed is within limits as well as precipitation and temperature.
WPS followed	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify items such as settings on welding equipment, travel speed, welding materials, shielding gas, type/flow rate, preheat applied, interpass temperature, and proper position.
Welding techniques	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify interpass and final cleaning, each pass is within profile limitations, and quality of each pass.
AFTER WELDING (TABLE N5.4-3, AISC 360):			
Welds cleaned	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that welds have been properly cleaned.

Size, length, and location of welds	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	
Welds meet visual acceptance criteria	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	
Arc strikes	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	
k-area	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	
Backing and weld tabs removed	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	
Repair activities	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	
Document acceptance or rejection of welded joint/member	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	

NONDESTRUCTIVE TESTING (SECTION N5.5, AISC 360):

CJP welds (Risk Cat. II)	<input type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	Perform Ultrasonic Testing on 10% of CJP groove welds in butt, T- and corner joints subject to transversely applied tension loading, in materials 5/16 in. thick or greater.
CJP welds (Risk Cat. III or IV)	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	Perform Ultrasonic Testing on all CJP groove welds subject to transversely applied tension loading in butt, T- and corner joints, in materials 5/16 in. thick or greater.
Access holes (flange > 2")	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	
Welded joints subject to fatigue	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	

PRIOR TO BOLTING (TABLE N5.6-1, AISC 360):

➤ *Not required if only snug-tight joints are specified [per Section N5.6(1) of AISC 360-10].*

Certification of fasteners	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	
Fasteners marked	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that fasteners have been marked in accordance with ASTM requirements.
Proper fasteners for joint	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify grade, type, and bolt length if threads are excluded from the shear plane.
Proper bolting procedure	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that proper procedure is used for the joint detail.
Connecting elements	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify appropriate faying surface condition and hole preparation, if specified, meets requirements.
Pre-installation verification testing	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Observe and document verification testing by installation personnel for fastener assemblies and methods used.
Proper storage	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify proper storage of bolts, nuts, washers, and other fastener components.

DURING BOLTING (TABLE N5.6-2, AISC 360):

➤ *Not required if only snug-tight joints are specified [per Section N5.6(1) of AISC 360-10].*

➤ <i>Not required for pretensioned joints using turn-of-the-nut method with match-marking, direct-tension-indicators, or twist-off type tension control method [per Section N5.6(2) of AISC 360-10].</i>			
Fasteners assemblies	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that fastener assemblies are of suitable condition, paced in all holes, and washers are positioned as required.
Snug-tight prior to pretensioning	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that joints are brought to snug-tight condition prior to pretensioning operation.
Fastener component	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that fastener component is not turned by wrench being prevented from rotating.
Pretensioned fasteners	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that fasteners are pretensioned in accordance with RCSC Specification, progressing systematically from the most rigid point toward the free edges.
AFTER BOLTING (TABLE N5.6-3, AISC 360):			
Document acceptance or rejection of bolted connections	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	
OTHER STEEL INSPECTIONS (SECTION N5.7, AISC 360; Tables J8-1 & J10-1, AISC 341):			
Structural steel details	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	All fabricated steel or steel frames shall be inspected to verify compliance with the details shown in the construction documents, such as braces, bridging stiffeners, member locations, and proper application of joint details at each connection.
Anchor rods and other embedments supporting structural steel	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Inspector shall be on the premises during the placement of anchor rods and other embedments supporting structural steel to verify compliance with construction documents. Verify the diameter, grade, type, and length of the anchor rod or embedded item, and the extent or depth of embedment prior to placement of concrete.
Protected zones	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that no holes or unapproved attachments are made within the protected zone (see Table J8-1 of AISC 341-10).

STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL

Item

Detailed Instructions and Frequencies

STEEL ROOF AND FLOOR DECKS (IBC TABLE 1705.2.2):

Material verification of cold-formed steel deck	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Confirm that identification markings are provided to conform to ASTM standards specified on construction documents.
Floor and roof deck welds	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Visual inspection is required to confirm that weld meets acceptance criteria of AWS D1.3. Welder qualifications must also be verified.
COLD-FORMED STEEL CONSTRUCTION			
Wall, ceiling, and bulkhead framing	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify compliance with member sizes, connections, and details shown in the delegated design shop drawings.
Wind-force-resisting systems or seismic-force-resisting systems	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Inspect welding operations and verify proper attachment of shear walls, diaphragms, drag struts, braces, shear panels and holdowns.

OPEN-WEB STEEL JOISTS CONSTRUCTION			
End connections – welding or bolted	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Visual inspection is required to confirm that weld meets acceptance criteria of AWS D1.3. Welder qualifications must also be verified.
Bridging – horizontal or diagonal	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	verify compliance with the details shown in the construction documents and shop drawings.

CONCRETE CONSTRUCTION

Item

Detailed Instructions and Frequencies

Reinforcing steel, including prestressing tendons	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify prior to placing concrete that reinforcing is of specified type, grade, and size; that it is free of oil, dirt, and rust; that it is located and spaced properly; that hooks, bends, ties, stirrups and supplemental reinforcement are placed correctly; that lap lengths, stagger, and offsets are provided; and that all mechanical connections are installed per the manufacturer's instructions and/or evaluation report.
Cast-in bolts and embeds	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	
Post-installed anchors or dowels	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	All post-installed anchors/dowels shall be specially inspected as required by the approved ICC-ES report.
Use of required mix design	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that all mixes used comply with the construction documents; ACI 318: Ch. 4,

			5.2-5.4; and IBC 1904.3, 1913.2, & 1913.3.
Concrete sampling for strength tests, slump, air content, and temperature	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	
Concrete & shotcrete placement	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	
Curing temperature and techniques	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that the ambient temperature for concrete is kept at > 50° F for at least 7 days after placement. High-early strength concrete shall be kept at > 50° F for at least 3 days. Accelerated curing methods may be used (see ACI 318: 5.11.3). The ambient temperature for shotcrete shall be > 40° F for the same period of time as noted for concrete. Shotcrete shall be kept continuously moist for at least 24 hrs. after shotcreting. All concrete materials, reinforcement, forms, fillers and ground shall be free from frost. In hot weather conditions ensure that appropriate measures are taken to avoid plastic shrinkage cracking and that the specified water/cement ratio is not exceeded.
Formwork	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that the forms are placed plumb and conform to the shapes, lines and dimensions of the members as required by the construction documents.
Reinforcement complying with ASTM A 615 in special moment frames, special structural walls and coupling beams	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that ASTM A 615 reinforcing steel used in these areas complies with ACI 318: 21.1.5.2 by means of certified mill test reports. If this reinforcing steel is to be welded, chemical tests shall be performed in accordance with ACI 318: 3.5.2.

MASONRY CONSTRUCTION

Item

Detailed Instructions and Frequencies

PRIOR TO CONSTRUCTION (ARTICLE 1.15, TMS-602/ACI 530.1-11):			
Review material certificates, mix designs, test results and construction procedures	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that materials conform to the requirements of the approved construction documents. Mix design, test results, material certificates shall be submitted for review. Mortar mix designs shall conform to ASTM C 270 while grout shall conform to ASTM C 476. Material certificates shall be provided for the following: reinforcement, anchors, ties, fasteners, and metal accessories; masonry units, mortar, and grout materials.

			Construction for cold-weather or hot-weather construction shall be reviewed.
AS CONSTRUCTION BEGINS (TABLE 1.19.2, TMS-402/ACI 530-11):			
Proportions of site-prepared mortar	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that mortar is of the type and color specified on the construction documents, that it conforms to ASTM C 270, and that it is mixed in accordance with Article 2.6A of TMS-602/ACI 530.1-11.
Construction of mortar joints	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that mortar joints comply with Article 3.3 B of TMS-602/ACI 530.1-11.
Location of reinforcement, connectors, and anchorages	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that reinforcement is placed in accordance with Article 3.4 of TMS-602/ACI 530.1-11.
Properties of thin-bed mortar for AAC masonry	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that mortar complies with Article 2.1 C of TMS-602/ACI 530.1-11.

PRIOR TO GROUTING (TABLE 1.19.2, TMS-402/ACI 530-11):			
Grout space	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that grout space is free of mortar droppings, debris, loose aggregate, and other deleterious materials and that cleanouts are provided per Article 3.2 D and 3.2 F of TMS-602/ACI 530.1-11. <i>Continuous inspection is required for Risk Category IV buildings.</i>
Grade, type, and size of reinforcement and anchor bolts, and anchorages	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that reinforcement, joint reinforcement, wall ties, anchor bolts, and veneer anchors comply with the construction documents and Section 1.6 of TMS-402/ACI 530-11.
Placement of reinforcement, connectors, and anchorages	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that reinforcement, joint reinforcement, wall ties, anchor bolts and veneer anchors are installed in accordance with the construction documents and Articles 3.2 E, 3.4, and 3.6 A of TMS-602/ACI 530.1-11. <i>Continuous inspection is required for Risk Category IV buildings.</i>
Proportions of site-prepared grout	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that grout is proportioned per ASTM C 476 and has a slump between 8-11 inches. Self-consolidated grout shall not be proportioned onsite. See Articles 2.6 B and 2.4 G.1.b of TMS-602/ACI 530.1-11. <i>Continuous inspection is required for Risk Category IV buildings.</i>

Construction of mortar joints	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that mortar joints are placed in accordance with Article 3.3 B of TMS-602/ACI 530.1-11.
DURING MASONRY CONSTRUCTION:			
Size and location of structural elements	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify locations of structural elements with respect to the approved plans and confirm that tolerances meet the requirements of Article 3.3 F of TMS-602/ACI 530.1-11.
Type, size, and location of anchors, including other details of anchorage of masonry to structural frames, or other construction.	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that correct anchorages and connections are provided per the plans and Sections 1.16.4.3 and 1.17.1 of TMS-402/ACI 530-11. <i>Continuous inspection is required for Risk Category IV buildings.</i>
Welding of reinforcement	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	
Preparation, construction, and protection of masonry during cold weather (<40° F) or hot weather (>90° F).	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that cold weather construction is performed in accordance with Article 1.8 C of TMS-602/ACI 530.1-11 and hot-weather construction per Article 1.8 D of TMS-602/ACI 530.1-11.
Placement of grout	<input checked="" type="checkbox"/> Continuous	<input type="checkbox"/> Periodic	
Placement of AAC masonry units and construction of thin-bed mortar joints	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that mortar is placed in accordance with Article 3.3 B.8 of TMS-602/ACI 530.1-11.
Observation of grout specimens, mortar specimens, and/or prisms	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Confirm that specimens/prisms are performed as required by Article 1.4 of TMS-602/ACI 530.1-11. <i>Continuous inspection is required for Risk Category IV buildings.</i>
MINIMUM TESTING:			
Verification of Slump Flow and Visual Stability Index (VSI) for self-consolidating grout	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Compressive strength tests shall be performed in accordance with ASTM C 1019 for slump flow and ASTM C 1611 for VSI.
Verification of f'_m and f'_{AAC}	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Determine the compressive strength for each wythe by the “unit strength method” or by the “prism test method” as specified in Article 1.4 B of TMS-602/ACI530.1-11 prior to construction. <i>For Risk Category IV buildings this should be verified at every 5,000 ft² of construction.</i>
Verification of proportions of materials in premixed or pre-blended mortar and grout	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Verify that proportions for mortar meet ASTM C 270 and proportions for grout meet ASTM C 476. This applies to <i>Rick Category IV buildings only.</i>

SOILS CONSTRUCTION

Item

Detailed Instructions and Frequencies

Verify that subgrade is adequate to achieve design bearing capacity	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Prior to placement of concrete.
Verify that excavations extend to proper depth and material	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Prior to placement of compacted fill or concrete.
Verify that subgrade has been appropriately prepared prior to placing compacted fill	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	Prior to placement of compacted fill.
Perform classification and testing of compacted fill materials	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	All materials shall be checked at each lift for proper classifications and gradations not less than once for each 10,000 ft ² of surface area.
Verify proper materials, densities and lift thicknesses during placement and compaction	<input type="checkbox"/> Continuous	<input checked="" type="checkbox"/> Periodic	

Notes:

1. For items requiring continuous inspection, a special inspector must be present onsite during the performance of that task.
2. Periodic inspections/tests shall be performed prior to commencing the task, intermittently during the task, and at the completion of the task.

Special Inspectors Shall:

- Be approved by the Building Official prior to performing duties;
- Provide proof of licensure as a special inspector by the state where the work is being performed for each type of inspection;
- Provide inspection reports that meet the requirements of IBC Chapter 17;
- Inspection reports are to be submitted to the code consultant, architect, and engineer within 48 hours of performing inspections;
- A final inspection report shall be submitted following the completion of the project documenting the types of special inspections performed and a statement indicating that the structure is in compliance with the construction documents and applicable codes (see IBC).

SECTION 26 29 13 – MOTOR CONTROLLER

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The Drawings and Division-26 Section, Basic Electrical Materials and Methods, apply to this Section.

1.2 SUMMARY

- A. Furnish and install motor controllers where indicated on the Drawings, where required by the Contract Specifications, and where required for the control and protection of motors as necessary for a complete installation. The work of this section also includes the installation of motor controllers provided by Division 23.
- B. The variable frequency drive (VFD) manufacturer shall supply the drive and all necessary options as herein specified. The manufacturer shall have been engaged in the production of this type of equipment for a minimum of twenty years. VFDs that are manufactured by a third party and “brand labeled” shall not be acceptable. Drive manufacturers who do not build their own power boards and assemblies, or do not have full control of the power board manufacturing and quality control, shall be considered as a “brand labeled” drive. All VFDs installed on this project shall be from the same manufacturer.

1.3 SUBMITTALS

- A. Submit shop drawings and product data for all motor controllers and motor control centers.
- B. Submittals shall include equipment dimensions, power and control wiring diagrams, component descriptions, calculations where required and ratings, and a list of recommended spare parts.
- C. Complete operating and maintenance manuals shall be provided which include technical data sheets, wiring diagrams and information for ordering replacement parts.
- D. The manufacturer shall submit a copy of the specifications with each sub-paragraph noted with the term, "compliance", "deviation", or "alternate".
 - 1. By noting the term "compliance" it shall be understood that the manufacturer is in full compliance with the item specified and will provide exactly the same with no deviations.
 - 2. By noting the term "deviation" it shall be understood that the manufacturer prefers to provide a different component in lieu of that specified. Manufacturer shall indicate all deviations.
 - 3. By noting the term "alternate" it shall be understood that the manufacturer proposes to provide the same operating function but prefers to do it in a different manner. Any alternate shall be fully described as to what the manufacturer proposes to provide.

- E. Harmonic Conditioning and Line Filtering: Submit a detailed description and product data for the harmonic filtration mitigation devices provided for each VFD installed for this project. Harmonic filtering shall be provided as indicated on the drawings and in this specification.
- F. Harmonic Analysis Report: Provide Project-specific calculations and manufacturer's statement of compliance with IEEE 519-2014, Recommended Practice and Requirements for Harmonic Control in Electric Power Systems.
 - 1. List all drives.
 - 2. The VFD manufacturer shall provide calculations; specific to this installation, showing total harmonic voltage distortion (THD) and total demand current distortion (TDD) is no more than that allowed by IEEE 519-2014 at the point of common coupling (PCC). Filters shall be sized based on harmonic calculation results and provided as indicated elsewhere in this specification.
 - 3. The Point of Common Coupling (PCC) and associated available short circuit current (I_{sc}) and peak load (I_L) is indicated on the drawings. All harmonic calculations shall be based on this PCC. The analysis report shall include a technical description of all inputs and outputs from the software/programs used.
 - 4. Submit a detailed description and product data for the harmonic filtration mitigation devices provided for each VFD installed for this project.
- G. Variable Frequency Drive (VFD) submittals shall be submitted under separate, stand-alone submittal package when VFD is provided by Division-23 as part of mechanical equipment.

1.4 QUALITY ASSURANCE

- A. Motor controller components and assemblies shall be furnished and installed in accordance with NFPA 70, National Electrical Code, and shall conform to the requirements of UL 845 and applicable sections of NEMA and ANSI/IEEE standards.
- B. Motor controllers and motor control centers shall be listed and labeled by Underwriters' Laboratories or a Nationally Recognized Testing Laboratory (NRTL).
- C. Source Limitations: Obtain Motor Controllers through one source from a single manufacturer.
- D. VFDs and options shall be UL508 listed as a complete assembly. The base VFD shall be UL listed for 100 kA SCCR without the need for external input fuses.

PART 2 - PRODUCTS

2.1 FRACTIONAL HORSEPOWER STARTERS

- A. Fractional horsepower manual starters shall be used for single phase motors except where indicated. Single phase starters shall provide across the line starting and overload protection. Single pole and double pole starters shall be used as required and shall be rated not less than 1 horsepower.

- B. Single phase manual starters shall feature snap action double-break contacts, motor running indicating light and trip free melting alloy overload elements selected for the specific motor application.
- C. Single phase manual starters located in mechanical and electrical rooms shall be installed in NEMA 1 general purpose enclosures. Starters located outdoors or in wet locations shall be installed in NEMA 4 watertight enclosures. Starters located in finished areas shall be installed in a flush outlet box and furnished with a stainless steel plate.
- D. Manual motor starters shall be toggle-type and shall be arranged so they may be locked with a padlock in the OFF position.

2.2 COMBINATION STARTERS

- A. Combination motor starters shall be provided with an integral motor circuit protector specifically designed for motor applications. The MCP shall have a continuous current rating in accordance with NEC Article 430 and shall provide adjustable short-circuit trip settings. The MCP shall have a minimum short-circuit rating of 42,000 amperes at 480 volts.
- B. An external operating handle for the MCP shall be provided. The handle shall clearly indicate the position of the MCP and shall be padlockable in the OFF or OPEN position. Interlocks shall be provided to prevent opening the door when the external operating handle is in the ON or CLOSED position. An interlock defeater shall be provided for use by authorized personnel.
- C. Magnetic-type motor starters shall be used for single phase motors where indicated and for all three phase motors.
- D. Starters shall be full voltage non-reversing (FVNR) or reduced voltage type as indicated on the Drawings. Starters shall utilize three temperature compensated bimetallic overload relays factory set for the specific motor application. Overload relays shall be field adjustable plus or minus 15 percent of the rated trip current. Solid state overload relays are acceptable.
- E. Starters shall be furnished with the following accessories:
 - 1. Hand-off-auto selector switch.
 - 2. Green pilot light to indicate power available to the starter but motor not on.
 - 3. Red pilot light to indicate motor running.
 - 4. Transformer for 120 volt control power (fused primary and secondary).
 - 5. Overload trip indicator and reset.
 - 6. Undervoltage monitor and release.
 - 7. Coils rated 120 volts A.C.
 - 8. Two (2) normally open and two (2) normally closed auxiliary contacts for customer use.
- F. Reduced Voltage Starter:
 - 1. Solid state starters shall be provided with Class 20 electronic overload and phase loss, current unbalance, undervoltage and overtemperature protection.

- G. Starters shall be capable of withstanding the let-through short-circuit current of the protective device. Current limiters shall be provided when required to achieve adequate protection from high short-circuit currents.
- H. Where the Drawings indicate individual enclosures for starters, the starters shall be provided in NEMA type 1 enclosures except when noted otherwise on the Drawings. Outdoor starters shall be in NEMA 3R enclosures.
- I. Starters to be installed in motor control centers shall conform to these specifications and the section pertaining to motor control centers.

2.3 VARIABLE FREQUENCY DRIVES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. ABB Power Distribution, Inc.; ABB Control, Inc. Subsidiary; Basis of Design: ACH580 with E-Clipse Bypass when bypass is required.
 - 2. Yaskawa Electric America, Inc.
 - 3. Danfoss, Inc.; Danfoss Electronic Drives Division
 - 4. Toshiba International Corporation
- B. Variable Frequency Drives (VFD) shall be of a Pulse Width Modulated (PWM) design with an input power factor greater than 0.95 at all operating speeds and loads. The VFD shall have an efficiency of 96% or greater at rated output.
- C. The VFD shall be microprocessor based and utilize digital input for parameter adjustments. Use of potentiometers for parameter adjustment is not acceptable.
- D. The VFD shall automatically attempt to restart after a malfunction or an interruption of power. The number of attempted restarts shall be customer selectable (0 to 5). If the drive reaches the limit of restarts without successfully restarting and running, restart circuit shall lockout.
- E. A current limit circuit shall be provided to limit motor current to a preset adjustable maximum level by reducing the drive operating speed or acceleration rate when the limit is reached. Range of adjustment shall be from 50 to 110% of controller rated output.
- F. The VFD shall include a digital display and digital input programming capability. The display shall be programmable for indication of output speed in rpm, frequency or percent of base speed; motor current (amperes) and output motor voltage. The display shall also function as a first fault indicator.
- G. Upon receipt of N.O. "dry" contact closure, the VFD shall run at a preset (field adjustable) speed.
- H. The VFD shall provide selection for Hand-Off-Auto control. In Hand mode, the motor shall be started and stopped from the operator's panel. In the Auto mode, the motor shall be started and stopped by remote contact closure. In the Off mode, the motor shall be locked out. The Hand-Off-Auto control shall operate in both the VFD mode and the **bypass mode** (if bypass is provided).

- I. The VFD shall provide selection for Manual ref/Auto ref. In the Man ref. mode, the VFD speed reference shall be set from the operators panel. In the Auto ref. mode, the VFD speed reference shall be set by the external source instrument signal.
- J. The input signal follower circuit shall have selectable differential inputs and accept an electrical speed command from an external source rated at 4-20 mA or voltage signals of 0-10 Vdc.
- K. Electronic motor protection shall be provided. The protection circuit shall provide orderly shutdown.
- L. The VFD shall include a programmable 4-20 ma analog output which shall be capable of indicating output frequency, motor speed, output current, motor torque, motor power or motor voltage. The VFD shall include a minimum of two programmable digital outputs (form C relay contacts) capable of indicating drive run, drive fault, and drive ready. The VFD shall include an interface chip to provide open protocol capability for interface with the Energy Management/ATC system. Coordinate protocol with Energy Management/ATC manufacturer.
- M. The VFD stopping mode functions shall be selectable for coast to rest or stopping at programmed deceleration rate.
- N. In the event of loss of input follower reference signal (transducer failure), the VFD shall go to a preset speed which shall be user adjustable. The VFD shall provide a digital output signal (form C relay contact) to indicate the loss of reference condition.
- O. The input current rating of the VFD shall not be greater than the output current rating. VFDs with higher input current ratings require the upstream wiring, protection devices, and source transformers to be oversized per NEC 430.122. Input and output current ratings must be shown on the VFD nameplate.
- P. The VFD shall include a motor flux optimization circuit that will automatically reduce applied motor voltage to the motor to optimize energy consumption and reduce audible motor noise. The VFD shall have selectable software for optimization of motor noise, energy consumption, and motor speed control.
- Q. The VFD shall include a carrier frequency control circuit that reduces the carrier frequency based on actual VFD temperature that allows higher carrier frequency settings without derating the VFD.
- R. The VFD shall include password protection against parameter changes.
- S. The VFD shall operate within the following ratings and provide the following characteristics:
 - 1. Output frequency range: 1-120 Hz.
 - 2. Frequency resolution: 0.5% of base speed with analog input 0.025% with digital input.
 - 3. Overload rating: 110% for one minute.
 - 4. Voltage Tolerance:
 - a. The VFD shall provide full rated output from an input voltage of 480 V +/-10% or 208V +/- 10%. Coordinate with motors specified.
 - b. The VFD shall continue to operate without faulting from an input voltage of +30% to -35% of nominal voltage.

5. Minimum speed: 0 to 70%.
 6. Maximum speed: 30 to 120%.
 7. Linear accel: 1 to 300 seconds, time adjustable.
 8. Linear decel: 1 to 300 seconds, time adjustable.
 9. Maximum output voltage: adjustable.
 10. Adjustable V/Hz with selectable profiles.
 11. Operating temperature: 32 degrees F to 104 degrees F (0 degrees C to 40 degrees C).
 12. Altitude: 3300 feet (1000 m).
 13. Humidity: 95% non-condensing.
 14. Minimum three frequency avoidance bands, field selectable.
- T. Bypass: Where indicated on the contract documents, provide single enclosure containing a variable frequency drive and bypass system. All VFD with bypass configurations shall be UL Listed by the drive manufacturer as a complete assembly and carry a UL508 label.
1. A complete factory wired and tested bypass system consisting of a door interlocked, padlockable circuit breaker (defeatable), output contactor, bypass contactor, service (isolation) switch and fast acting VFD input fuses. UL Listed motor overload protection shall be provided in both drive and bypass modes. Bypass designs, which have no VFD only fuses, or that incorporate fuses common to both the VFD and the Bypass will not be accepted. The door interlocked, padlockable circuit breaker must disconnect all input power from the drive and all internally mounted options.
 2. The bypass enclosure door and VFD enclosure must be mechanically interlocked such that the disconnecting device must be in the "Off" position before either enclosure may be accessed. The interlock must be defeatable for maintenance activities.
 3. The VFD and bypass package shall have a UL listed short circuit current rating (SCCR) of 100,000 Amps and this rating shall be indicated on the UL data label.
 4. Drive Isolation Fuses - Fast acting fuses shall be provided to disconnect the VFD from the line prior to clearing upstream branch circuit protection to maintain bypass operation capability in the event of a VFD failure. Bypass designs which have no such fuses, or that incorporate fuses common to both the VFD and the bypass, will not be accepted. Third contactor "isolation contactors" are not an acceptable alternative to fuses, as contactors could weld closed and are not an NEC recognized disconnecting device.
 5. Bypass Mode: Field-selectable Automatic or Manual, allows local and remote transfer between power converter and bypass contactor and retransfer, either via manual operator interface or automatic-control system feedback. The bypass system shall be designed for stand-alone operation and shall be completely functional in both Hand and Automatic modes even if the VFD has been removed from the system for repair / replacement. Serial communications shall remain functional even with the VFD removed. Bypass systems that do not maintain full functionality with the drive removed are not acceptable.
 6. Class 10, 20, or 30 (programmable) electronic motor overload protection shall be included.

7. Bypass Controller: Two-contactor-style (bypass and output) bypass allows motor operation via the VFD or the bypass controller; with input isolating switch arranged to isolate the power to the VFD and permit safe troubleshooting and testing, both energized and de-energized, while the motor is operating in bypass mode.
 - a. Bypass Contactor: Load-break, IEC-rated contactor.
 - b. Output Isolating Contactor: Non-load-break, IEC-rated contactor.
 - c. Isolating Switch: Non-load-break switch arranged to isolate the VFD and permit safe troubleshooting and testing of the VFD, both energized and de-energized, while the motor is operating in bypass mode.
8. Bypass Configuration:
 - a. Less than 75 horsepower: Full-voltage (across-the-line) non-reversing.
 - b. 75 horsepower and above: Reduced voltage soft start.
- U. The VFD power circuit shall be fused and isolated internally with respect to ground. Phase loss protection shall be provided to prevent single phasing.
- V. The VFD shall be capable of continued operation during an intermittent loss of power for 0.1 seconds (6 cycles). Opening of the VFD's input and/or output line switches while operating shall not result in damage to the power circuit components.
- W. The VFD shall have an instantaneous electronic trip circuit breaker to protect the VFD from output line-to-line and line-to-ground short circuits.
- X. Surge Suppression: Factory installed as an integral part of the VFD, complying with UL 1449 SPD, Type 1 or Type 2. The VFD shall include a coordinated AC transient surge protection system consisting of 4 MOVs (phase to phase and phase to ground), a capacitor clamp, 1600 PIV Diode Bridge and internal chokes. The MOV's shall have a minimum 125 joule rating per phase across the diode bridge. VFDs that do not include coordinated AC transient surge protection shall include a Surge Protection device Joslyn JSP, SSI or approved equal as an integral component to the VFD package.
- Y. The VFD shall be able to start into a rotating motor (any speed or direction) and accelerate (decelerate) to set speed without tripping or component loss.
- Z. The maximum cable length between the VFD and the motor is 100 feet (30 m). Provide integral Dv/Dt output filters on load side of drive for motor protection where length is greater than 100 feet. Line reactors are not an acceptable substitute for the Dv/Dt output filter.
- AA. Enclosures:
 1. VFD Enclosures: Enclosures shall be UL508, listed as a complete assembly from the factory or shall be evaluated in the field by a Nationally Recognized Testing Laboratory (NRTL) under a field evaluation program. Enclosures shall be suitable for floor or wall mounting as indicated. Enclosure type shall be provided according to environmental conditions at installed location as indicated below:

- a. Dry and Clean Indoor Locations: UL Type (NEMA) 1.
 - b. Outdoor Locations: UL Type (NEMA) 3R.
 - c. Outdoor Corrosive Locations: UL Type (NEMA) 3R Stainless Steel Construction.
 - d. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: UL Type (NEMA) 12.
 - e. Filtered or Non-filtered design as indicated on design drawings.
2. Plenum Rating: UL 1995; NRTL certification label on enclosure, clearly identifying VFD as "Plenum Rated."
 3. See drawings for enclosure type.

2.4 HARMONIC CONDITIONING AND LINE FILTERING

- A. Input Line Conditioning: [Harmonic filtering indicated on the drawings shall be provided in compliance with the following:][Based on the manufacturer's harmonic analysis study and report, provide input filtering, as required, to limit total demand (harmonic current) distortion and total harmonic voltage demand at the defined point of common coupling to meet IEEE 519-2014 recommendations.]
 1. At a minimum, provide an input filter with 5% impedance. 5% impedance may be from dual (positive and negative DC bus) reactors, or 5% swinging AC line reactors. VFDs with only one DC reactor shall add an AC line reactor, no exceptions.
 2. Acceptable additional harmonic filtration mitigation devices:
 - a. Integral AC Line Reactors
 - b. Integral passive harmonic filters
 - c. Active front end
 - d. 12 pulse or 18 pulse PWM design
- B. Output Filtering: Provide dV/dT output filters on load side of drive for motor protection where length exceeds motor manufacturer recommendations or 100 feet, whichever is smaller.
- C. EMI/RFI Filtering: CE marked; certify compliance with IEC 61800-3 for First Environment restricted level (Category C2) with up to 100 feet of motor cable.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install motor starters, controllers and motor control centers as indicated on the Drawings, in strict accordance with the manufacturer's written instructions, and in compliance with recognized industry practices.
- B. Install fuses or current limiters when required by the equipment specifications.
- C. Tighten connections and terminations in accordance with the manufacturer's published torque tightening values or in accordance with UL Standard 486A and B when manufacturer's values are not indicated.
- D. Prior to energizing equipment, check power and control wiring for correct installation. After energizing equipment, check each motor for proper phase rotation, correct where necessary, and demonstrate operation of starter and accessories.
- E. Program VFDs as required for each individual load. Programming shall include preset speeds, restart attempts and delays, overload settings, frequency avoidance bands, etc.
- F. The installation of external filters with VFDs shall include all necessary conduit and wiring between the filter and the VFD. Where VFD bypass switches are provided, filter shall be connected so that it is isolated from the VFD in the bypass mode.
- G. Set all MCPs in accordance with manufacturer's instructions. Set all overloads in accordance with motor manufacturer instructions.

3.2 SPARE PARTS

- A. Provide ten (10) lamps of each type and rating supplied with the specified equipment.
- B. Provide one (1) of each type of fuse and current limiter for each ten (10) installed, but not less than three (3) of each type and rating.
- C. VFD Keypad: Provide one keypad for each type of VFD provided.

END OF SECTION 26 29 13

Potential Kitchen Location

