

Summary of Updates – March 2021 Editions: Formal and Informal Bid Documents, A/E PSA, and Exhibit B

AGREEMENT BETWEEN OWNER AND DESIGN PROFESSIONAL:

ARTICLE 10 MISCELLANEOUS

- 10.1 OWNERSHIP OF TANGIBLE DOCUMENTS The Owner shall receive Ownership of all documents, Drawings, Specifications, electronic data, and information prepared, provided, or procured by the Design Professional or by consultants retained by the Design Professional and distributed to the Owner for this Project, upon the making of final payment to the Design Professional or in the event of termination under Article 8, upon payment for all sums due to the Design Professional under Sections 8.1 and 8.2.
- 10.1.1 COPYRIGHT The Owner shall own any resulting copyright in the Project Construction Documents as a work for hire and shall have the right to use, to reproduce, and to make derivative works of the Construction Documents. If for any reason the Work would not be considered a work made for hire under applicable law, the Design Professional does hereby sell, assign, and transfer to the Owner, its successors and assigns, the entire right, title and interest in and to the Project Construction Documents The Design Professional shall not acquire a copyright for Project Construction Documents but shall be permitted to retain copies including reproducible copies or electronic data of the Drawings, Specifications and other Project documents.
- 10.1.2 USE OF DOCUMENTS IN EVENT OF TERMINATION In the event of a termination of this Agreement pursuant to Article 8, the Owner shall own any resulting copyright and have the right to use, to reproduce, and to make derivative works of the Construction Documents to complete the Project provided payment has been made pursuant to Article 6.
- 10.1.3 OWNER'S USE OF DOCUMENTS AFTER COMPLETION OF PROJECT After completion of the Project, the Owner may reuse, reproduce, or make derivative works from the Documents at the Owner's sole risk.
- 10.1.4 DESIGN PROFESSIONAL'S USE OF DOCUMENTS The Owner hereby grants a limited license to the Design Professional to reuse Construction Documents prepared by it pursuant to this Agreement in its practice, but only in their separate constituent parts and not as a whole.
- ~~10.1.5 Recommend adding terms for use of Owner documents issued to the Design Professional and its consultants into this agreement so we don't have to process outside of agreement...~~
- ~~10.1.6~~ 10.1.5 The Design Professional shall obtain from its consultants, assignment of copyrights and rights of use that correspond to the rights assigned by the Design Professional to the Owner in this Agreement and the Design Professional shall provide evidence that such rights have been secured.

EXHIBIT B REIMBURSABLE GUIDELINES FOR AGREEMENT BETWEEN OWNER AND DESIGN PROFESSIONAL / CONSULTANT:

B. PER DIEM EXPENSES (when authorized):

1. Lodging:* Maximum \$9496.00 per day, including state and local taxes.

TABLE OF CONTENTS and CHEAT SHEETS

00 73 13 INSTITUTION REQUIREMENTS:

ARTICLE 2 – SAFETY OF PERSONS AND PROPERTY

- 2.12 The use of temporary direct-fired heating units is prohibited.

00 74 13 PROJECT REQUIREMENTS:

3. SUMMARY OF WORK

- g. Constructor Supervision and Coordination Staffing

[Use on UIHC projects only]

- 8) The Constructor's Safety / Infection Control Officer shall be represented on site, full time,

from the commencement of Work until the project achieves Substantial Completion, as a ~~working~~ ~~or non-working~~ officer. The Safety/Infection Control Officer shall be responsible for all construction related safety and for maintaining all infection control measure requirements related to the project.

4. TIME

d. Liquidated Damages: ~~Use Select applicable liquidated damages paragraphs Articles below, or type "Not Applicable". Liquidated Damages must be recommended by the Project Manager and approved by the Associate Director. Write dollar amount in words and (numbers)].~~

1) SUBSTANTIAL COMPLETION. The Owner and the Constructor agree that this Agreement ~~shall / shall not~~ provide for the imposition of liquidated damages based on the Date of Substantial Completion.

~~[Delete this paragraph if you choose "shall not" above]~~

2) ~~FINAL COMPLETION. The Owner and the Constructor agree that this Agreement shall not provide for the imposition of liquidated damages based on the Date of Final Completion.~~

~~OR:~~

~~1) SUBSTANTIAL COMPLETION. The Owner and the Constructor agree that this Agreement shall provide for the imposition of liquidated damages based on the Date of Substantial Completion.~~

~~i. The Constructor understands that if the Date of Substantial Completion established by this Agreement, as may be amended by subsequent Change Order, is not attained, the Owner will suffer damages which are difficult to determine and accurately specify. The Constructor agrees that if the Date of Substantial Completion is not attained, the Constructor shall pay the Owner _____ dollars (\$ _____) as liquidated damages and not as a penalty for each Day that Substantial Completion extends beyond the Date of Substantial Completion. The liquidated damages provided herein shall be in lieu of all liability for any and all extra costs, losses, expenses, claims, penalties, and any other damages of whatsoever nature incurred by the Owner, which are occasioned by any delay in achieving the Date of Substantial Completion. The Owner will deduct and retain out of moneys, which may become due hereunder to the Constructor, the amount of such liquidated damages. If the amount due to the Constructor is less than the amount of the liquidated damages suffered by the Owner, the Constructor shall pay the difference upon demand by the Owner.~~

~~2) FINAL COMPLETION. The Owner and the Constructor agree that this Agreement shall not provide for the imposition of liquidated damages based on the Date of Final Completion.~~

~~[Delete this paragraph if you choose "shall not" above]~~

~~OR:~~

~~1) SUBSTANTIAL COMPLETION. The Owner and the Constructor agree that this Agreement shall provide for the imposition of liquidated damages based on the Date of Substantial Completion.~~

~~i. The Constructor understands that if the Date of Substantial Completion established by this Agreement, as may be amended by subsequent Change Order, is not attained, the Owner will suffer damages which are difficult to determine and accurately specify. The Constructor agrees that if the Date of Substantial Completion is not attained, the Constructor shall pay the Owner _____ dollars (\$ _____) as liquidated damages and not as a penalty for each Day that Substantial Completion extends beyond the Date of Substantial Completion. The liquidated damages provided herein shall be in lieu of all liability for any and all extra costs, losses, expenses, claims, penalties, and any other damages of whatsoever nature incurred by the Owner, which are occasioned by any delay in achieving the Date of Substantial Completion. The Owner will deduct and retain out of moneys, which may become due hereunder to the Constructor, the amount of such liquidated damages. If the amount due to the Constructor is less than the amount of the liquidated damages suffered by the Owner, the Constructor shall pay the difference upon demand by the Owner.~~

~~2) FINAL COMPLETION. The Owner and the Constructor agree that this Agreement shall provide for the imposition of liquidated damages based on the Date of Final Completion.~~

- i. The Constructor understands that if the Date of Final Completion established by this Agreement, as may be amended by subsequent Change Order, is not attained, the Owner will suffer damages which are difficult to determine and accurately specify. The Constructor agrees that if the Date of Final Completion is not attained, the Constructor shall pay the Owner _____ dollars (\$ _____) as liquidated damages and not as a penalty for each Day that Final Completion extends beyond the Date of Final Completion. The liquidated damages provided herein shall be in lieu of all liability for any and all extra costs, losses, expenses, claims, penalties, and any other damages of whatsoever nature incurred by the Owner, which are occasioned by any delay in achieving the Date of Final Completion. The Owner will deduct and retain out of moneys, which may become due hereunder to the Constructor, the amount of such liquidated damages. If the amount due to the Constructor is less than the amount of the liquidated damages suffered by the Owner, the Constructor shall pay the difference upon demand by the Owner.

6. USE OF SITE

- i. Temporary ventilation: ~~[Omit 3 for non-UIHC projects Select appropriate article or if Temporary ventilation is not required, type Not Applicable]~~

~~[For non-UIHC projects use the following]~~

- 1) Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases. ~~[Utilize existing ventilation equipment. Extend and supplement equipment with temporary fan units as required to maintain clean air for construction operations.~~ If existing ventilation is approved by the Owner to be used for temporary ventilation, a minimum of MERV 8 filter must be installed at all return/exhaust ducts.
- 2) ~~The use of temporary direct fired heating units is prohibited.~~

[For projects at UIHC use the following]

- 1) Refer to Infection Control Risk Assessment (ICRA) Project Requirements, specification section 01 35 33. ~~[Omit 3 for non-UIHC projects]~~

8. MISCELLANEOUS

- d. Constructor Criminal Background Check ~~and~~ Services Orientation, Photo Identification Badge and Project Site Security Access: [Include on UIHC projects or type Not Applicable].

- 1) The Constructor's and its subcontractors' on-site personnel, including temporary labor or labor from a third-party performing work or delivering material(s) on-site at the University of Iowa Health Care (UIHC) under this Contract, shall ~~be required to~~ successfully complete a criminal background check, and pass the Constructor Services Orientation ~~class~~computer-based training, prior to providing any services and gaining access to the project site.

2) Criminal Background Check Process

- i. The Background Check process will be managed through Gatefeed (~~www.gatefeed.com~~, (www.gatefeed.com, (312) 467-9884, or ~~support@gatefeed.com~~)- support@gatefeed.com) and is required every two years. Individuals should begin the renewal process in advance of the expiration date for their badge to ensure access is not revoked.
- ii. Each vendor will need to designate a Gatefeed Administrator. To become an Administrator:
 - a) Log into Gatefeed at <https://app.gatefeed.com/sessions/new>.
 - 1) Click "Create an Account", complete steps 1 – 3, and set security questions.
 - 2) Send an email to support@gatefeed.com to request to be set up as vendor's Administrator.
 - 3) Administrator will receive notification when set up has been completed. Administrator shall call Gatefeed to receive tutorial. Must be logged into

Gatefeed account prior to calling in – must mention this is for University of Iowa Health Care.

~~iii. Failure of a background check will result in immediate revocation of the worker's access to UIHC. The Owner shall not bear the cost of replacement or change to subcontracts as a result of failure to pass the background check.~~

~~iv-iii.~~ Background checks must meet the standards below. Any ~~employee~~individual whose background check does not meet the stated criteria will be non-compliant and will be unable to take the Contractor Orientation or obtain a badge for access to UIHC.

- 2) a) Acceptable Designations:
 1. 00 – Clean Record, nothing found
 2. 01 – One or more non-violent misdemeanors found

~~v-iv.~~ ~~Employees~~Individuals must have their own unique username and password to take the Orientation. This can be assigned by the Employer or selected by the ~~Employee~~Individual.

3) Services Orientation

~~3)~~ The Contractor-Services Orientation is ~~required bi-annually.~~

- i. ~~Computera~~ computer-based training that is required every two years and may be taken at any computer, tablet, or cell phone with internet access.
- ii. ~~Orientation~~The computer-based training is available in both English and Spanish. ~~Once purchased, the version cannot be changed.~~ Specific version must be chosen at time of purchase.
- iii. Allow approximately 75 minutes to complete orientation.
- iv. Contact Gatefeed for information on managing ~~employees~~individuals within the system.

4) Obtaining aPhoto Identification Badge:

- i. Individuals who meet all requirements may obtain their badge at Capital Management, located in the subbasement of Hospital Parking Ramp 3, Monday through Thursday between the hours of 8 am and 11 am and 1 pm and 3 pm. For additional information, call (319) 356-2330.

~~a) Site access~~Individuals must ~~be coordinated with the UIHC Project Manager who will provide individual's name for access.~~

~~b) Contractors with current badges will retain access currently assigned to their badge at the time the new badge is issued.~~

~~e)a)~~ Must have the following ~~in order~~ to obtain a badge:

1. Passed the Background Check.
2. Passed the ~~Contractor~~Services Orientation
3. Valid Driver's License

~~ii.~~ A photo of an individual will be taken, and badge will be granted.

~~ii.~~ ~~UIHC~~ Capital Management Staff will verify completion of Background Check and ~~Contractor~~Services Orientation.

~~iii.~~ prior to handing out a Photo ~~of employee will be taken, and badge will be granted~~Identification Badge.

~~5)~~ ~~The~~All individuals shall wear their photo identification badge at the breast pocket or lapel

level with their photo and name facing forward, immediately visible to others when on UIHC property. Badges shall be worn above the waist while working on site at UIHC.

~~v. iv. The Owner may revoke a photo identification badge at any time and for any reason.~~

~~vi. y. clipped on; lanyards are prohibited.~~ Anyone not wearing a photo identification badge while on UIHC property will be asked to leave the facility until such time that the photo identification badge is properly displayed on the individual.

~~vi. The Owner may revoke a photo identification badge at any time and for any reason.~~

~~vii. Photo Identification Badges expire two years from the date an individual successfully passes the Contractor Services Orientation. Individuals should begin the renewal process in advance of the expiration date for their badge to ensure access is not revoked.~~

5) Project Site Security Access:

~~i. The Constructor shall complete the UIHC Contractor Access Request form for individuals that have successfully obtained a badge and require security access to the project site for Owner review and approval. The form is located at https://www.facilities.uiowa.edu/sites/www.facilities.uiowa.edu/files/uihc_contractor_security_access_request_0.pdf~~

~~ii. Individuals properly badged that do not obtain project site security access may only enter project sites by being escorted into a secure project site by the Constructor.~~

~~iii. Individuals with badges prior to commencement of the project will retain security access assigned to their badge at the time the security access for this project is added to their badge.~~

~~iv. The Constructor shall be responsible for managing security access rights of all individuals working on this project and 1) shall ensure badges are returned to the Owner when an individual is no longer associated with a company involved with this project and 2) shall ensure project site security access is removed from an individual's badge when an individual completes their work associated with this project.~~

~~v. The Constructor shall ensure security access rights are removed immediately when an individual loses their badge.~~

~~vi. The Constructor shall update the UIHC Contractor Access Request form at any time during the project upon request by the Owner.~~

a. Utility Rebate Requirement: **[Include on projects with energy conservation measures (ECM) or rebate eligible equipment or type Not Applicable].**

1) The Constructor, Subcontractor(s), and Equipment Supplier(s) shall provide on request documentation necessary to allow The University of Iowa to participate in available utility customer incentive programs. See Section 01 77 19 – Contract Closeout for a table of Energy Conservation Measures.

01 35 33 INFECTION CONTROL RISK ASSESSMENT (ICRA) PROJECT REQUIREMENTS:

[This section is required for ALL University of Iowa Hospitals & Clinics projects and shall be edited by the Design Professional.]

The Design Professional shall develop the Owner an approved detailed Interim Infection Control Measures plan for the Work areas, including barrierenclosure placement, barrierenclosure construction, HVAC isolation details, and Negative Air Machine requirements for inclusion in the Construction Documents. This IICM plan must be presented to and approved by the UIHC Infection Control Risk Assessment (ICRA) Committee prior to Bid.

1.1 DEFINITIONS

- A. Airborne Contaminants include dust, smoke and fumes and Airborne Contaminant producing activities include, but are not limited to:
 - 1. Demolition and/or removal of walls, floors, ceilings, and other finish materials.
 - 2. Demolition of plumbing, mechanical and electrical systems and equipment.
 - 3. Finish operations such as sanding, painting, and application of special surface coatings.
 - 4. All other construction activity that may generate dust, smoke, or fumes.
- B. Containment Area: A Primary and/or Secondary Containment Area.
- C. High Efficiency Particulate Air (HEPA): A HEPA filter is an air filter capable of capturing 99.97% of particles passing through the filter that are 0.3 microns in size and larger.
- D. Interim Infection Control Measures (IICM): A detailed plan outlined by the Contract Documents to ensure proper **barrierenclosure** placement, **barrierenclosure** construction, HVAC isolation details, and Negative Air Machine quantity and sizing.

- I. Primary Containment Area: The largest area of project work around which infection control (dust) **barriersenclosures** are built.
- J. Protection Areas: Interior occupied areas within the facility, that are adjacent to a Primary Containment Area, either occupied or used for passage, as well as areas connected to construction area by mechanical system air intake, exhaust, and ductwork.
- K. Secondary Containment Area: Areas of Work within the Protection Area outside of the Primary Containment Area that requires a form of dust control.

1.2 CONSTRUCTOR'S RESPONSIBILITY

- A. Constructor shall provide all **barriersenclosures** necessary to separate all construction activities from non-construction areas of the hospital.
- B. Constructor shall provide and maintain all necessary **barriersenclosures** required to create Primary and Secondary Containment Areas required to perform the Work.

4 SUBMITTALS

[Submittal requirements for this specification section shall be identified as a line item on the submittal log at the end of specification section 01 33 23 – Submittals]

- A. Constructor shall submit the following information:
 - 1. Submit information for Constructor's plan for containment of Airborne Contaminants and IICM for the Owner's review and approval.
 - a. Drawings for each phase of the Work shall indicate, as a minimum, Primary and Secondary Containment Areas, Protection Areas, location of all IICM including but not limited to temporary enclosure and **barrierenclosure** types, Anterooms, location of Negative Air Machines including vent/exhaust location, capped ductwork, and differential pressure monitors.
 - b. Negative Air Machine calculations based on Constructor verified Containment Area dimensions (volume).

PART 2 – PRODUCTS

2.1 MATERIALS

A. HEPA Vacuums:

1. HEPA vacuum shall trap 99.999% of particles 0.12 microns and larger.
2. HEPA Vacuum shall have a minimum airflow of 90 cfm.
3. Acceptable products:
 - a. ISC Sales "Minuteman Model CRV- 99.999%"
 - b. Nilfisk Advance
 - c. Pro-Team "~~Vacor~~-HEPA/ULPA Vacuum"
 - d. Or approved equal.

B. Polyethylene:

1. 6 mil or 8 mil thick reinforced laminated polyethylene film and shall meet requirements of NFPA 701 large scale flammability test and ASTM E84 Class A.
2. Include compatible fire-retardant tape.
3. Acceptable products:
 - a. AmeriCover "Surface Cover" (~~tel: 800.747.6095~~).
 - b. Reef Industries "Griffolyn Type 55 FR" (~~tel: 800.231.6074~~)
 - c. Or approved equal.

C. Adhesive-Faced Contamination Control Mats (sticky walk-off mats):

1. Size of mats shall be the width of the opening and 30" (minimum) depth.
2. Acceptable products:
 - a. ASG "Walk-off Mats" (~~tel: 216.486.6163~~)
 - b. Controlled Environment Equipment "Cleanline Sticky Mat" (~~tel: 207.854.9126~~) or www.ceecusa.com

- c. Liberty Industries "Tacky Mat" ~~(tel: 800.828.5656)~~
- d. Curtain Wall Company "CleanStep" tacky mats ~~(tel: 800.424.8254)~~
- e. AmeriCover "~~Surface Cover~~" ~~(tel: 800.747.6095)~~ Sticky Mat Tacky Mats
- f. Pro Tectii "Pro Tect Tacky Mats"
- g. HD Supply Sticky Mat Dirt Trapper
- h. Or approved equal.

D. Negative Air Machine:

- 1. Provide unit sized to meet room requirements.
- 2. Carbon filtering, when required.
- 3. Units shall include prefilters, primary filters, HEPA - filters and filter static pressure gauges.
- 4. HEPA filters shall be 99.99797% efficient at 0.3-micron particle size.
- 5. Acceptable manufacturers:
 - a. Abatement Technologies ~~(tel:800.634.9094)~~
 - b. ~~Phoenix (tel:800.533.7533)~~
 - c. ~~Dri-Eaz (tel:800.932.3030)~~
 - b. Phoenix
 - c. Dri-Eaz
 - d. Micro-Trap, Inc. ~~(tel:877.646.8208)~~
 - e. ~~Control Resource System Inc~~
 - f.e. NIKRO Industries, Inc. (tel:800.875.6457)
 - f. Advanced Containment Systems, Inc (ACSI)
 - g. Omnitec Design, Inc.
 - h. Or approved equal.

E. Portable Air Scrubber:

- 1. Provide unit sized to meet room requirements
- 2. Units shall include prefilters, primary filters and HEPA - filters
- 3. HEPA filters shall be 99.99797% efficient at 0.3-micron particle size.
- 4. Acceptable manufacturers:
 - a. Abatement Technologies
 - b. Dri-Eaz
 - c. ~~Force Air~~
 - c. Advanced Containment Systems, Inc (ACSI)
 - d. Or approved equal.

F. Zipper Lock Entrance:

- 1. Fire retardant, reinforced vinyl construction with reinforced stitching.
- 2. Acceptable products:
 - a. Curtain Wall Company "Dust Door" ~~(tel: 800.424.8254)~~
 - b. Pro Venture Inc. "Zip-Up" ~~(tel: 978.744.5000)~~
 - c. Zip Wall Heavy Duty Zipper

d. Or approved equal.

G. Temporary Prefabricated Enclosure Units:

1. Provide the enclosure with an inspection window and pressure differential porthole- and HEPA Vacuum.
2. Acceptable products:
 - a. Fiberlock Technologies "Kontrol Kube" with frame #6640, enclosure #6442, wheelbase platform #6443 and Milfish 87 cfm vacuum device and manometer.
 - b. Specialty Tool Manufacturing "MCU-Quick Wall Mobile Containment Unit"; provide with HEPA vacuum connection ~~(tel: 888.718.3878).~~
 - c. Mintie Technologies "ECU EnterRoom Envelope"

d. Or approved equal.

H. Airflow Direction Indicator:

1. Acceptable products:
 - a. Airflow Direction Inc. "ADI-69-V-N" ~~(tel: 888.334.4545)~~
 - b. Austin Ventrues "Model LN102" ~~(tel: 909.043.8172)~~

c. Or approved equal.

I. Dust Catching Device:

1. Disposable, dry, electrostatic cloths or mitts for dust removal.
2. Disposable, wet cloths, presoaked with cleaning solution, for dust removal.
3. Acceptable products:
 - a. Proctor & Gamble "Swiffer Dry", "Swiffer Mitt" or "Swiffer Wet"
 - b. Reckitt Brenckiser "Mop & Glo"
 - c.e. S.C. Johnson & Sons "Pledge Grab It"

f. Or approved equal.

J. Magnehelic Differential Pressure Sensor

1. Dwyer #2000-00
 - a. Range 0 - 0.25" w.c.
 - b. Minor divisions 0.005
 - c. Calibrated for vertical scale position.

d. Or approved equal.

K. Disposable Coveralls, Hair Nets, Beard Nets, Shoe Covers

1. Uline Products ~~(800-295-5510)~~ "Uline Deluxe" https://www.uline.com/BL_1219/Uline-Deluxe-Protective-Clothing
2. Other acceptable manufacturers are:
 - a. 3M
 - b. DuPont
 - c. Enviroguard
 - d. Lakeland Industries, Inc.
 - e. Kimberly-Clark

f. Or approved equal.

PART 3 – EXECUTION

NOTE: The ICRA Committee shall determine which Interim Infection Control Measures Classification(s) to use on the project and the Design Professional shall update this specification based on that direction. Most projects will include Class III or Class IV requirements. Applicable Class requirements shall be included and Class levels that do not apply shall be deleted from the specification section.]

3.1 GENERAL

- A. This project requires the following Interim Infection Control Measures - Classes **[I], [II], [III], [IV], [II and III], [I, III and IV]** of Primary Containment Areas. Constructor shall refer to Drawings for additional requirements for temporary enclosures, ~~barriers~~-IICM, etc. including but not limited to assembly details.

3.4 STANDARD OPERATION PROCEDURES FOR CLASS II PRIMARY CONTAINMENT AREAS – **Not Used** [Edit as necessary, remove "Not Used" and keep "A, B, C in their entirety" below or keep "Not Used" and delete "A, B, C in their entirety" below. Should item #2 below include wording on material used to block off or seal material and should it be airtight?]

- A. Preparation and Operation of Class II Areas
1. To contain dust and debris, install duct tape to seal doors for demolition and/or install Polyethylene temporary enclosure for construction activities that produce large amounts of dust or utilize Temporary Prefabricated Enclosure Units.
 2. Constructor shall block off and seal HVAC supply, return and exhaust terminal, registers, grilles, and diffusers in the rooms affected by construction.
 3. Holes cut or punctured in temporary enclosures (includes walls, ceilings, floors, and/or doors) cannot be left exposed longer than four (4) hours. If work cannot be completed within the four (4) hours, the holes shall be covered.

3.5. STANDARD OPERATION PROCEDURES FOR CLASS III PRIMARY CONTAINMENT AREAS – **Not Used** [Edit as necessary, remove "Not Used" and keep "A in its entirety" below or keep "Not Used" and delete "A in its entirety" below. Design Professional shall also review and update sections highlighted in yellow to ensure they are applicable to the Project.]

- A. Preparation and Operation of Class III Areas
1. Refer to the Drawings for location of Constructor pathways to the Containment Areas. Entry and exit locations to the Containment Areas shall be coordinated with the Owner.
 2. The Constructor shall comply with the following:
 - a. The use of damaged doors and frames is not allowed.
 - b. Swing door into the construction area. Keep Containment Area enclosure door locked at all times.
 - c. Electronic door access associated with Containment Areas, when required by Contract Documents, shall be installed, and connected to the Owner's system; the Constructor will be granted site access through the Owner's building card access system through their contractor identification badge.
 - d. Install an airflow direction indicator (magnehelic) within a temporary ~~barrier (the enclosure)~~ following the manufacturer's installation procedures to indicate if improper direction airflow exists. A pressure differential monitor (magnehelic) shall be installed to indicate negative pressure. The pressure differential monitor shall be installed adjacent to Primary Containment Area enclosure door.
 - e. The location and details of the Containment Area enclosure construction shall be as indicated on the Drawings.
 - f. Materials for constructing the enclosure shall be precut off-site to the greatest extent possible.
 - g. Provide fire rated ~~barriers,enclosures: includes fire rated~~ doors, and doorframes, where required.

3. Constructor shall provide the necessary quantity of Negative Air Machines to maintain each separate project work area at a negative pressure to control the spread of Airborne Contaminants from Containment Areas to adjacent Protection Areas. Refer to Drawings for additional information.
 - a. Negative Air Pressure machines equipped with HEPA filters shall be used in conjunction with a sealed work area to maintain a negative pressure inside the Containment area relative to Protection Area.
 - i. A sufficient quantity of negative pressure ventilation machines equipped with filtration shall be utilized to provide one Work site (Containment Area) air change every 15 minutes. This requirement shall apply to the removal of Airborne Contaminants from the air.
 - ii. The total quantity of Negative Air Machines required is dependent upon the total quantity of simultaneous Containment Areas being occupied by the Constructor.
 1. To calculate total airflow requirement:
 2. Total cubic feet/minute = $\frac{\text{volume of work area (in cubic feet)}}{15 \text{ minutes}}$
 3. To calculate the quantity of units needed for the dust control in a specific work area:
 4. Quantity of units needed = $\frac{\text{total cubic feet/minute}}{\text{capacity of unit in cubic feet/minute}}$
 - iii. Constructor shall change pre-filter and filter media as recommended by the manufacturer for the Negative Air Machines for the duration of the Work within the Containment Area to maintain a negative pressure of 0.1 – 0.2 IN of water gauge.
 - b. Make-up air for the air exhausted from the spaces shall be taken from the existing HVAC system unless indicated otherwise.
 - c. Negative Air Machines shall run continuously.
 - d. Constructor shall vent Negative Air Machines to the outside by removing existing windows and replacing them with vented panels having fittings for exhaust holes, or as detailed by the Drawings and Specifications.
 - e. Negative Air Machines shall be DOP tested and certified prior to being placed into service, and when dropped, damaged, or moved extensively as determined by the Owner.
 - f. Constructor shall thoroughly clean Negative Air Machine and replace both pre-filters and the primary filter before a Negative Air Machine is placed into service.
 - g. Constructor shall encapsulate and remove each Negative Air Machine at the end of use and prior to removing it from the worksite.
 - h. Constructor shall place used filters in a plastic bag prior to disposal.
4. Each phase of construction shall be considered a separate Containment Area.
5. Duct Caps: Block off and seal all existing return, exhaust and supply air ductwork within the Containment Area by capping ducts to withstand airflow, and so they are airtight.
6. Constructor shall monitor and replace containment control mats before they become loaded with dirt.
7. Constructor shall wipe down dust barriersenclosures daily with a moist cloth or dust-catching device.
8. Constructor employee traffic between containment areas and Protection Areas shall be kept to a minimum.
9. Constructor shall keep doors to containment areas closed at all times.

10. All vacuuming of area outside of the work area not within the barriersenclosures shall be done by the Constructor with HEPA vacuums.

D. Clean-up of Class III areas:

1. **BarriersEnclosures** may not be removed from Containment Areas until the Work is inspected by the Owner and thoroughly cleaned by the Constructor.
2. Remove all debris, extra materials not used, and equipment from the Containment Area before beginning final cleaning.
3. Containment Areas shall be vacuumed with HEPA vacuums and/or wet mopped by the Constructor.
4. When Work is complete, the temporary **barriersenclosures** shall be wiped down using a moist cloth or dust catching device before removal. The **barriersenclosures** shall be removed without creating additional dust in the area.
5. Clean temporary **barriersenclosures** installed on air vents, diffusers and registers, before removal.

3.6. STANDARD OPERATION PROCEDURES FOR CLASS IV PRIMARY CONTAINMENT AREAS – **Not Used**
[Edit as necessary, remove "Not Used" and keep "A, B, C, etc. in their entirety" below or keep "Not Used" and delete "A, B, C in their entirety" below. Design Professional shall also review and update sections highlighted in yellow to ensure they are applicable to the Project.]

A. Preparation and Operation of Class IV Areas:

1. Refer to the Drawings for location of Constructor pathways to the Containment Areas. Entry and exit locations to the Containment Areas shall be coordinated with the Owner.
2. The Constructor shall construct an Anteroom and require all construction personnel, supplies and tools to pass through this room and to be vacuumed using a HEPA Vacuum before entering the Containment Area.
3. The Constructor shall completely install all temporary **enclosure-barriersmaterials** required for creating the Containment Area before construction begins.
4. The Constructor shall comply with the following:
 - a. The use of damaged doors and frames is not allowed.
 - b. Swing door into the construction area. Keep Containment Area enclosure door locked at all times.
 - c. Electronic door access, when required, shall be installed, and connected to the Owner's system; the Constructor will be assigned key fobs to unlock the door electronically.
 - d. Install an airflow direction indicator (magnehelic) within a temporary **barrier (the enclosure)** following the manufacturer's installation procedures to indicate if improper direction airflow exists. A pressure differential monitor (magnehelic) shall be installed to indicate negative pressure. The pressure differential monitor shall be installed adjacent to Primary Containment Area enclosure door.
 - e. The location and details of the Containment Area enclosure construction shall be as indicated on the Drawings.
 - f. Materials for constructing the enclosure shall be precut off-site to the greatest extent possible.
 - g. Provide fire rated **barriers-enclosures; includes fire rated** doors, and doorframes, where required.
 - h. Provide two adhesive faced contamination control mats at the construction entry point on the construction side of the enclosure. Constructor employees shall step on both mats when exiting a Containment Area. Carts shall be moved across both mats when exiting a Containment Area. Mats shall be wider than the carts.

7. Each phase of construction shall be considered a separate Containment Area.
8. Duct Caps: Block off and seal all existing return, exhaust and supply air ductwork within the Containment Area by capping ducts to withstand airflow, and so they are airtight.
9. Constructor shall monitor and replace containment control mats before they become loaded with dirt.
10. Constructor shall wipe down dust barriersenclosures daily with a moist cloth or dust-catching device.
11. Constructor traffic between containment areas and Protection Areas shall be kept to a minimum.
12. Constructor shall keep doors to containment areas closed at all times.
13. All vacuuming of area outside of the work area not within the barriersenclosures shall be done by the Constructor with HEPA vacuums.

D. Clean-up of Class IV areas:

1. BarriersEnclosures may not be removed from work areas until the completed project is inspected by the Owner and thoroughly cleaned by the Constructor.
2. Remove all debris, extra materials and equipment from the Containment Area before beginning final cleaning.
3. Work areas shall be vacuumed with HEPA filtered vacuums and/or wet mopped by the Constructor.
4. When construction is complete, the temporary barriersenclosures shall be wiped down using a moist cloth or dust catching device before removal. The barriersenclosures shall be removed without creating additional dust in the area.
5. Clean blockage of air vents, diffusers and registers, before removal. Then remove.