APPENDIX B

INFECTION CONTROL RISK ASSESSMENT

DAILY MONITORING LOG FOR CLASSES III, IV, and V

DATE: _____ TIME: _____ PROJECT: _____

Responsible Person: _____ CONTRACTOR: _____

OBSERVATIONS BY: _____

INFECTION CONTROL INTERVENTION (As indicated on ICRA authorization)	**Yes**	**No**	**N/A**	**Verbal Notification Given To, Corrective Action Taken, Other Comments.**
HEPA Vacuum, personnel & cart cleaning supplies available at the work zone entrance.				
Construction barriers intact and seal is secure, no visual evidence of dust escaping the work zone				
Traffic restricted to construction personnel and traffic control signs posted and intact				
Construction personnel using designated entrances/exits and are following designated travel routes				
Walk off/adhesive mats **clean** & adequate to contain construction dust				
Portable air scrubber working properly ducting intact, filters certified as necessary. No dust accumulation at exhaust location.				**Class III, IV, and V Work:** Particle count outside of site: _____ and % reduction of particles at HEPA exhaust (if exhausting to adjacent space): _____
Negative air pressure (-0.01 to -0.05 WC) at barricade entrance maintained & documented in comments Negative air filters clean, Negative air discharge hoses intact				Pressure differential: _____
All windows closed behind barrier. Debris chute (if applicable) closed if not in use				
HVAC vents remain isolated/filtered				
Daily cleaning of the work zone. Ante Room clean. Entrance/exit & adjacent areas free of dust & debris				
Carts appropriately covered without dust during transport of debris and materials				
No food trash found in work zone, or cavities in the work zone; no visible signs of vermin				
New contractors instructed in all ICRA requirements.				
Additional Comments:				

APPENDIX C

INFECTION CONTROL RISK ASSESSMENT

SUPPLEMENTAL INFECTION CONTROL INTERVENTIONS

Dust disturbances during renovation activity, increased traffic and contractor staff in the restricted areas may increase bacterial and other fungal content in the air. If not contained this disturbance could possibly increase the infection risk.

1. Adhere to signage in restricted areas regarding the requirement for Surgical Attire. Specific requirements will be reviewed and recorded in the ICRA Authorization.
2. Coveralls (and shoe covers, when required) will be put on to enter Restricted Areas and removed in the anteroom. Prior to leaving anteroom clean coveralls/shoe covers will need to be put on to re-enter the Restricted Areas. A clean supply must be available at entrance to each work area.
    a. Coveralls and shoe covers must be worn by personnel in all **Restricted Areas**
    b. All hair must be covered with a cap or hood in case of facial hair.
    c. Identification badges must be visible and clean.
    d. The coveralls, etc. must be removed and discarded when leaving the restricted area.
2. Large bags, backpacks, or other personal items and/or clothing that are not wipeable (i.e., of porous materials) are **not** to be carried into the restricted areas. **All equipment brought into the Restricted Areas must be clean and wiped with disinfectant before entering area.**
3. Dirty equipment/carts should never be moved through the Restricted Areas or in/out of the work zone.
4. Any work done within the Restricted Areas that will create vibration must be prearranged by the RP.
5. Personnel should minimize the number of times they must enter and exit the Work area and travel through the Restricted Areas.
6. Mobile Containment Units will not be set up adjacent to carts containing clean supplies/equipment or OR case carts. These items will need to be relocated by designated personnel (i.e., Nursing Personnel). Floors within a 5-foot radius of the Mobile Containment Unit discharge must be cleaned and disinfected immediately prior to activation of booth. Booths should not be used within 15 feet of a room in which there is an active procedure.

I have read and understand the above Supplemental Infection Control Interventions. I will be responsible to see that all of our workers and subcontract workers will follow these precautions. Document is to be kept with daily logs and Project Manager.

_____

Site Supervisor/Superintendent

APPENDIX D

MOBILE DUST CONTAINMENT UNIT (MCU) USAGE CHECKLIST

Before using the MCU, check the following:		YES	NO
1	Before entering the clean space, have you raised the top extension and cleaned the entire MCU - all surfaces, inside and outside, along with the wheels?		
2	Is the HEPA vacuum in good working order with a **clean** filter and bag?		
3	**Enter date** of most recent annual evaluation (within last 12 months) to document the integrity of the unit and HEPA filter efficiency.	Date:	
4	Are all of the door and top seals in place, with no gaps and in good condition?		
5	Are the power cords and GFCI clean and in good condition?		
6	Are your cords elevated off the floor, or taped to the floor to prevent trip hazards?		
7	Do you clean sticky mats on the floor inside the MCU to clean the soles of your shoes before exiting it?		

* **If there are any NO answers to questions #1 through #6, please correct the condition before proceeding**

With the MCU in place, and <u>before usage</u>:		YES	NO
8	Will the ceiling tiles you are going to remove be fully covered by the MCU		
9	Are all the tiles on the perimeter of the MCU flat and with no penetrations that will affect the sealing of the MCU to the ceiling?		
10	Are there any hospital carts or equipment in the way of setting up the MCU correctly?		
11	Are there any objects on the walls that will affect the MCU placement?		

* **If there are any YES answers to questions #7 through #10, have you addressed it?**
* **If there are any YES answers to questions #7 through #10 that cannot be corrected, DO NOT PROCEED. NOTIFY CONTRACTOR AND/OR CONTRACTOR'S REP IMMEDIATELY**

While the MCU is in use:

12	Ensure the HEPA vacuum is always running while using the MCU
13	Only open the door of the MCU if the HEPA vacuum is running. Minimize opening and closing the door of the MCU in the clean work area
14	If you need to relocate the MCU to a new work location, first move the MCU to a safe area and clean the MCU before proceeding with work in the new work location
15	Wear a coverall when in the MCU. Remove it while in the MCU after your work is done and leave the dirty coverall in the MCU
16	Keep all demolished material in the MCU until the MCU has been moved to a safe working location
17	If asked, immediately shut down and close up all work activity, move the MCU to a safe environment and notify contractor and/or contractor's rep

Responsible Person or Contractor's Representative – contact information:_____

APPENDIX E

ICRA PRE DUST GENERATING ACTIVITY CHECKLIST

Keep this checklist with ICRA posted at site

DATE: _____TIME: _____ PROJECT: _____

Responsible Person: _____ CONTRACTOR: _____

OBSERVATIONS BY: _____

INFECTION CONTROL INTERVENTION (As indicated on ICRA authorization)	Yes	No	N/A	Verbal Notification Given To, Corrective Action Taken, and Comments
HEPA Vacuum, personnel & cart cleaning supplies, cart covers available at the work zone entrance.				
Construction barriers intact, including above ceiling barriers where required. Unused doors taped.				
Traffic restricted to construction personnel and traffic control signs posted and intact.				
ICRA Authorization Form, emergency contacts, and sleeve for daily logs posted at ICRA entrance				
Construction personnel trained on designated entrances/exits.				
Walk off/adhesive mats adequate and clean to contain construction dust.				
Air scrubber machine(s) cleaned, **new filters**, ducting cleaned and intact with date of certification within one year, and required speed setting indicated prior to activation.				
Baseline particle concentration tests conducted and recorded in notes. Take as a percent reduction from outside building entrance particle count. Test at discharge only required if discharging into adjacent spaces or near pedestrian pathways. Outdoor air (building entrance) particle count: _____				Percent reduction: Outside of barrier HEPA OFF: ON: Inside of barrier HEPA OFF: ON: Supply grill outside of barrier: At HEPA Discharge:
Negative air pressure (-0.01 to -0.05) established and documented in notes column.				Pressure differential: _____
Check adjacent pressure sensitive areas (i.e., soiled utility rooms) outside barrier for changes in pressure.				
HVAC supply turned down, returns covered per ICRA Authorization Form.				
Patients removed and supplies/equipment removed or covered.				
Contractors instructed in all ICRA requirements.				

APPENDIX F
GUIDE FOR MEASURING AND ASSESSING PARTICLE COUNTS

What is particle count measurement?

Particle count monitoring uses particle counters to measure dust concentrations in the air. These measurements can be used to evaluate relative indoor air quality or validate infection control protocols.

What's the reason for conducting particle count monitoring?

Particle count monitoring offers healthcare facilities several infection controls benefits:

- It identifies existing infection control issues that need to be considered.
- It helps assess the effectiveness of hospital protocols for infection control during healthcare construction.
- It ensures that dust control measures surrounding construction and maintenance projects are working.
- It demonstrates that the hospital is protecting patients.

This appendix is to be used as a guide for assessing particle count measurement. Since the particle counts in the air outside of the building can vary from day to day due to weather, season and time of day, and since the air handlers and air scrubbing machines are effective at reducing a percentage of particles, the particle count in any given area can vary from day to day. What should not vary significantly is the percent difference of particles from the outside of the building baseline, as long as that reading is taken at the same location, at relatively the same time each day.

Outdoor Baseline – Anytime a percent difference is assessed, the first measurement that should be taken is the particle count outside of the building, approximately 10ft from the entrance door. The particle counter should be on averaging mode and you should record the particles per liter that are ≥ 0.3microns. The counter should be allowed to run for a minimum of 1 minute.

Indoor Points of Measurement

1. Get a reading at the supply air discharge closest to the project site entrance. This is to let you know how well the air handler serving that area is performing.
2. A reading should be taken at waist level 3 feet in front of the construction barrier.
3. A reading should be taken inside of the construction barrier.
4. If you are discharging HEPA scrubbed air into an occupied space, a reading should be taken at the discharge of the HEPA air scrubber.

Percent Difference – Percent difference is calculated by: % Difference = ([Outdoor Concentration – Indoor Concentration] / Outdoor Concentration) x 100.

- According to ASHRAE, MERV 8 is designed to filter 0% of particles smaller than 1 micron, 20% of particles 1-3 microns, and 70% of particles 3-10 microns.
- MERV 14 filters remove 75% of 0.3 to 1 micron, 90% of 1-3 micron, and 95% of 3–10-micron particles. HEPA filtration must remove 99.97% of particles 0.3 microns or larger.

The above percent reductions are achieved directly post filter; there will be some contamination while the air travels down the ductwork and mixes with the air past the discharge. The further away from the discharge you hold the particle counter, the more particles you will count. This is why it so important to get a pre-construction baseline using appendix E and then take weekly (or daily, if required) readings.

For 0.3 microns or greater, the goal is to have 90% (+/-10%) reduction from the outdoor air. A percent reduction of less than 80% outside of the barrier could indicate that dust is escaping from the containment area. Percent reduction less than 80% should be investigated further with documentation of corrective action. A less than 90% reduction for HEPA filtered exhaust could indicate that HEPA is not functioning properly and should be investigated further with documentation of corrective action.

APPENDIX G
CONSTRUCTION/MAINTENANCE/RENOVATION IN THE OR AND PROCEDURE AREAS

Owner: OR Leadership		
Revised by: Infection Prevention		
Responsible party	**Major Step**	**Details**
OR Team and OR Manager/OR Director	1. Identify the work needed in the OR. 2. Place work order with facilities or Clinical Engineering (CE).	Discuss with Help chain Facilities Management WO Link
Facilities	1. Schedule upcoming terminal cleaning with EVS prior to beginning work. 2. Email CE Director and SSIT Director with date work will start, room number, and date terminal cleaning will be done. 3. When work is complete, perform construction clean up.	1. ICRA review with the Responsible person (RP) and area manager. 2. Facilities/ CE to notify EVS Director when work will be done and coordinates with EVS for terminal clean date. 3. Construction clean up including: • Supply and return grills, registers, and diffusers are clean and filters changed. • All debris and attic stock has been removed. • All ceiling tiles are clean and properly in place
EVS terminal cleaning	. Terminal cleaning per EVS protocol . EVS Supervisor to notify Charge RN that terminal clean is complete . EVS supervisor on duty and OR Charge Nurse, NM, or Nursing Admin On call or designee (OPSC) inspect the room for cleanliness using **Infection Control Risk Assessment Final Checklist (Appendix H)**	All surfaces including: • Walls, trim, floors, countertops, and ceilings should be free of dust and dirt, clean, and disinfected. • Lights and Arms • Windows and blinds are clean. • Bathrooms are clean and disinfected: If applicable • Floors, floor coverings, and wall base are clean
OR Charge nurse	Notify Anesthesia Tech, CE, and/or SSIT that work and terminal cleaning have been completed.	Charge nurse notifies the appropriate teams that terminal cleaning is complete and all cleaned equipment can be returned/placed in area. **Facilities:** 924-2267 **Clinical Engineering:** 924-2391 **SS IT:** Page 434-970-8286 and enter a call back phone number.
OR Charge Nurse, Nurse Manager, or Nursing Adm. On call	OR Charge Nurse, NM, or Nursing Adm. On call or designee (OPSC) completes **Infection Control Risk Assessment Final Checklist (Appendix H)** to do final inspection with OR team if applicable. Notify appropriate department of deficiencies.	OR Charge Nurse, NM, or Nursing Adm. on call (with IPC if applicable) review the room/area and verify the room is clean and ready for patient care. If there are any deficiencies, notify the appropriate party. Refer to ICRA authorization form for need for IP&C inspection. **Once complete, fax Infection Control Risk Assessment Final Checklist (Appendix H) to IP&C at 434-924-1225**
OR team, Anesthesia Tech, CE, SSIT	All **clean** equipment returned/placed in area. Room cleanliness to be reviewed by each team member. Notify charge nurse that equipment is back in room.	Returning equipment must be cleaned prior to entering room including the carts used to move the equipment.
Facilities/EVS	**Facilities:** Removes ICRA barrier **EVS:** Cleans under ICRA barrier.	

APPENDIX H
ICRA FINAL TERMINAL CLEAN CHECKLIST

Date of terminal clean: Location:

Date of final inspection: Inspection Outcome: Pass Fail

Inspectors:

Areas for Inspection	Yes	No	N/A	Comments
All surfaces including: walls, trim, floors, countertops, lights, and ceilings should be free of dust and dirt, clean, and disinfected				
All cabinets and drawers are clean inside and out				
Supply and Return grills, registers, and diffusers are clean				
Windows and blinds are clean				
Bathrooms are clean and disinfected				
Floors, floor coverings, and wall base are clean				
All soap dispensers are full and placed correctly according to IP&C Manual (plain and CHG soap)				
All debris and attic stock has been removed				
All ceiling tiles are clean and properly in place				
ADDITIONAL				

APPENDIX I
DUST MITIGATION MEASURES FOR THE EXTERIOR PROJECT SITE

Dust Mitigation Measures for the Exterior Project Site	Date Completed
Contractor	
Any activity that creates dust will be kept continuously wet	
Loose debris will be wet when loaded	
Debris hauled away by trucks will be moist and covered prior to hauling	
Road ways will be kept free of dirt build-up and washed daily	
Contractor has established a daily check list to be filled out by site personnel dealing with site cleanliness and dust control	
Avoid damaging the underground water system (i.e., buried pipes) to prevent soil and dust contamination of the water	
Contractor will stop all dust producing activities if water is not available or if a situation arises leading to uncontrollable dust creation	
Schedule permitting, contractor to stage activities so that multiple dust generating activities are not happening concurrently	
Monitoring	
At the discretion of HE/IPC, air sampling to be performed to monitor air quality and identify any dust mitigation problems	
Unannounced monitoring for dust compliance by HE/IPC, Facilities and project site Manager	
Specific traffic control measures per individual project will be assessed and instituted as part of the Risk Assessment	
Concerns from the department managers who may be affected will be voiced to the contractor through Design and Construction and corrective action will be taken	
Hospital Operating Room personnel have been given the authority to halt the construction if an emergency situation related to vibration develops within the operating rooms	
A contact phone number is in place to answer general questions regarding the project. The phone number is:	

Project Manager **Contractor**

Department of Hospital Epidemiology & Infection Control **Date**