North America's **Building Trades** Unions

#BuildingTradesWhateverItTakes

May 23, 2022

United States Department of Labor
Occupational Safety and Health Administration
Docket Office
Docket Number: OSHA–2020-0004
Room N-3653, U.S. Department of Labor, 200 Constitution Avenue NW, Washington, DC 20210

RE: Post-Hearing Comments/Brief on Occupational Exposure to COVID-19 in Healthcare Settings

Dear Sir or Madam:

Attached is North America's Building Trades Unions' (NABTU's) post-hearing comments/brief on the Occupational Exposure to COVID-19 in Healthcare Settings Standard.

Please contact me if you have any questions and to inform me of the meeting schedule at (301) 578-8500.

Sincerely,

Chris T. Cain

Chris Cain
Director of Safety & Health

NABTU POST-HEARING BRIEF

I. Introduction

North America's Building Trades Unions (NABTU) is filing this combined post-hearing comments and post-hearing brief on behalf of itself, its fourteen affiliated national and international unions, and the three million skilled craft professionals they represent. As evidence in the record and testimony presented at the hearings demonstrated, it is imperative that the Occupational Safety and Health Administration (OSHA) make clear that the healthcare standard covers all employees – including construction employees – when they work in areas of a healthcare facility where they are at significant risk of exposure to COVID-19 infection.

In its comments, the Construction Industry Safety Coalition (CISC) asserted the standard should not cover construction because construction is a "low risk industry."[1] The issue in this rulemaking, however, is not whether the construction industry is generally considered low risk for infection. Instead, the issue is whether, when construction activities are conducted in healthcare facilities, there are circumstances in which construction employees are at significant risk of COVID-19 infection. As CISC and the National Electrical Contractors Association (NECA) acknowledge, OSHA regards "construction work [as] cross[ing] into 'high exposure risk' when it takes place at indoor work sites occupied by people . . . *suspected* of having or *known* to have COVID-19."[2] And NECA further acknowledges that in its recommendations regarding protections for healthcare workers, the Centers for Disease Control and Prevention (CDC) defines "healthcare workers" as including "all paid and unpaid persons working in health-care settings who have the potential for exposure to patients . . . *or contaminated air.*"[3] These are

---

[1] Docket No. OSHA-2020-004-2071, p. 4. References to documents in the record will hereafter be to the last four digits in the docket number (e.g., "Doc. No. 2071").
[2] Doc. No. 2071, p. 4, quoting COVID-19 Control and Prevention: Construction Work, OSHA (available at https://www.osha.gov/coronavirus/control-prevention/construction) (emphasis supplied by CISC); Doc. No. 2128, p. 2 (same).
[3] Doc. No. 2128, p. 2, quoting CDC's Morbidity and Mortality Weekly Report, *Immunization of Health-Care Personnel: Recommendations of the Advisory Committee on Immunization Practices* (emphasis added).

exactly the narrowly-defined circumstances under which we believe the healthcare standard must cover construction workers: when these employees are working in areas occupied by patients, staff, vendors or visitors, or in areas in which they share ventilation systems with such individuals, such that they are potentially exposed to contaminated air.

As we explain in these comments, the overwhelming evidence at the hearings clearly confirmed the scientific consensus that COVID-19 is airborne, and accordingly, that everyone working in areas where they are potentially exposed to contaminated air – including construction workers – is at risk. Moreover, contrary to the impression construction industry representatives attempted to create, construction is not necessarily conducted in hospitals and other healthcare facilities in ways that ensure workers are isolated from contaminated air. OSHA must therefore make clear that the standard covers construction work when it takes place in areas where workers are at risk of exposure.

II. Transmission of COVID-19 is Airborne

Construction workers face possible exposure to SARS-CoV-2 during routine jobs in healthcare settings. As Chris Cain, NABTU Safety and Health Director, testified: "[P]lumbing issues, heating issues, medical gas issues, electrical issues arise in many operations in any healthcare facility, and they should be anticipated. They're not a surprise."[4] When construction workers perform these jobs, they may work in the same areas, walk down the same hallways, ride in the same elevators, and breathe air processed by the same ventilation systems as healthcare workers, patients, visitors, and vendors. Scientific evidence about airborne transmission and testimony about healthcare operational practices illustrate the need to protect construction workers in these settings.

There is overwhelming evidence that COVID-19 is airborne. Dr. Alondra Nelson, head of the White House Office of Science and Technology Policy and Deputy Assistant to the

[4] See Hearing Transcript, April 29, 2022, Doc. No. 2168, at p. 243, lines 7-10.

President, stated in March 2022: “The most common way COVID-19 is transmitted from one person to another is through tiny airborne particles of the virus hanging in indoor air for minutes or hours after an infected person has been there.”[5] Other experts affirmed Dr. Nelson’s assessment in their comments and testimony. A group of experts in occupational safety and health, medicine, epidemiology, industrial hygiene, aerosol science, public health law and other fields submitted comments that referenced key studies on the scientific basis for this understanding of SARS-CoV-2’s primary method of transmission,[6] points they reiterated in their

[5] Nelson A. Let’s Clear the Air On COVID. Office of Science and Technology Policy. OSTP Blog. White House Briefing Room March 23, 2022. https://www.whitehouse.gov/ostp/news-updates/2022/03/23/lets-clear-the-air-on-covid/.

[6] Transmission studies cited by experts in Doc. No. 2033 n.6:
Albarracín D. et al Getting to and Sustaining the Next Normal: A Roadmap for Living with COVID. Accessed April 14, 2022 https://www.covidroadmap.org/
Greenhalgh T, Jimenez JL, Prather KA, Tufekci Z, Fisman D, Schooley R. Ten scientific reasons in support of airborne transmission of SARS-CoV-2. Lancet. 2021 May 1;397(10285):1603-1605. doi: 10.1016/S0140-6736(21)00869-2. Epub 2021 Apr 15.
Klompas M, Milton DK, Rhee C, Baker MA, Leekha S. Current insights into respiratory virus transmission and potential implications for infection contract programs. Annals of Internal Medicine. 2021. doi:10.7326/M21-2780.
Prather KA, Wang CC, Schooley RT. Reducing transmission of SARS-CoV-2. Science. 2020 Jun 26;368(6498):1422-1424. doi: 10.1126/science.abc6197. Epub 2020 May 27. PMID: 32461212.
Morawska L, Cao J. Airborne transmission of SARS-CoV-2: The world should face the reality. Environ Int. 2020 Jun;139:105730. doi: 10.1016/j.envint.2020.105730. Epub 2020 Apr 10. PMID: 32294574; PMCID: PMC7151430.
Coleman KK, Tay DJW, Sen Tan K, et al. Viral load of SARS-CoV-2 in respiratory aerosols emitted by Covid patients while breathing, talking, and singing. Clinical Infectious Diseases. 2021. doi:10.1093/cid/ciab69.
Adenaiye OO, Lai J, Bueno de Mesquita PJ, et al. Infectious SARS-CoV-2 in exhaled aerosols and efficacy of masks during early mild infection. Clinical Infectious Diseases. 2021. doi:10.1093/cid/ciab797.
Milton DK. A rosetta stone for understanding infectious drops and aerosols. Journal of the Pediatric Infectious Diseases Society. 2020;9(4):413-415. doi:10.1093/jpids/piaa079; Lewis D. Superspreading drives the Covid pandemic — and could help to tame it. Nature. 2021;590:544-546. doi: https://doi.org/10.1038/d41586-021-00460-x .
Peng Z, et al. Practical indicators for risk of airborne transmission in shared indoor environments and their application to Covid outbreaks. Environmental Science and Technology. 2022;56:1125–1137. https://doi.org/10.1021/acs.est.1c06531.
Wang CC et al. Airborne transmission of respiratory viruses. Science. 2021;373. DOI: 10.1126/science.abd9149,
Fox-Lewis A. et al. Airborne transmission of SARS-CoV-2 delta variant within tightly monitored isolation facility, NewZealand (Aotearoa). Emerging Infectious Diseases. 2021;28(3). 10.3201/eid2803.212318.

testimony.[7] Others, such as National Nurses United (NNU)[8] and the AFL-CIO[9] submitted additional key evidence about airborne transmission.

Several of these studies have particular implications for construction workers in healthcare settings. Despite the complexities of air sampling for SARS-CoV-2, researchers have found evidence that transmission can occur in the absence of direct contact. An outbreak report from a March 2020 study of a Slovenian cluster of individuals who played squash in the same hall at non-overlapping times "concluded that the mode of transmission between the index patient and the secondary cases in this cluster was either through contaminated common objects or virus aerosol, since all three pairs shared the same squash hall...."[10] This cluster of individuals from the beginning of the pandemic who were not known to have direct contact with each other provided early evidence that SARS-CoV-2 transmission is airborne. This evidence of transmission in the absence of direct contact suggests that, even if construction workers are not physically proximate to patients, healthcare workers, visitors, or vendors for extended periods of time, they share the risk by sharing air. As Dr. Lisa Brosseau testified: "[O]n the basis of the biological plausibility and our physical understanding of aerosol, there is no reason that somebody entering a room where someone else has been for many minutes or hours would not lead to an exposure. It will. That absolutely has to be a possibility."[11]

Additional research on air and surface sampling for SARS-CoV-2 illustrates its widespread dispersal in settings with infected individuals. Examples include:

- A systematic review of 51 observational cross-sectional studies on SARS-CoV-2 transmission in hospitals found: "Air and surface contamination with SARS-CoV-2 are

[7] *See* Doc No. 2156, Transcript of April 28, 2022, Hearing, at: 127, lines 16-20; 151, lines 21-22 & 152, lines 1-4;179, lines 12-15.
[8] Doc. No. 2108
[9] Doc. No. 2120
[10] Brlek, A., Vidovič, Š., Vuzem, S., Turk, K., & Simonović, Z. (2020). Possible indirect transmission of COVID-19 at a squash court, Slovenia, March 2020: case report. *Epidemiology and Infection, 148* (120), 1-3. https://doi.org/10.1017/S0950268820001326.
[11] *See* Doc No. 2156, Transcript of April 28, 2022, Hearing, at 217, lines 8-13.

not limited to close contact with COVID-19 patients or specific hospital areas." In their review of hospital air and surface sampling, authors also found: "Airborne contamination was observed in all major hospital areas and almost every subdivision of them." Although the highest levels of contamination were found in intensive care units (ICUs), surface sampling detected much more widespread contamination throughout facilities.[12]

- A study on airborne dispersal of SARS-CoV-2 in COVID-19 wards found that the "detection of SARS-CoV-2 in central ventilation systems, distant from patient areas, [indicates] that virus can be transported long distances…" Researchers identified SARS-CoV-2 in ventilation exhaust filters that were at least 50 meters from the vent openings of patient rooms.[13]
- A study of university dormitories used for isolation and quarantine for COVID patients revealed widespread contamination. Authors "detected viral RNA on or in 15/21 (71.4%) HVAC filters, 71/125 (56.8%) surface samples, and 4/6 (66.7%) bathroom exhaust grilles in the two dormitories combined."[14]

These data on widespread dispersal of the virus demonstrate that construction workers are at risk when working in healthcare settings with shared air or contact with infected healthcare workers, staff, visitors, or vendors.

Additional testimony on healthcare operational practices further illustrates the risks that construction workers face in healthcare settings. Patients infected with COVID share floors and common areas with others across healthcare facilities. As Lisa Baum of the New York State Nurses Association (NYSNA) explained, it is now "common practice in most hospitals" that "they

[12] Ribaric, N. L., Vincent, C., Jonitz, G., Hellinger, A., & Ribaric, G. (2022). Hidden hazards of SARS-CoV-2 transmission in hospitals: A systematic review. *Indoor Air*, *32*(1), https://doi.org/10.1111/ina.12968.
[13] Nissen, K., Krambrich, J., Akaberi, D., Hoffman, T., Ling, J., Lundkvist, Å., Svensson, L., et al. (2020). Long-distance airborne dispersal of SARS-CoV-2 in COVID-19 wards. *Scientific Reports*, 10(1), 19589.
[14] Pan, J., Hawks, S. A., Prussin, A. J., Duggal, N. K., & Marr, L. C. (2021). SARS-CoV-2 on Surfaces and HVAC Filters in Dormitory Rooms. *Environmental science & technology letters*.

are not designating specific areas for COVID patients."[15] This means, as Liya Robin from NYSNA stated, that "there were no designated COVID floors and because of that, the positive patients were sprinkled all over the building...."[16] Not only are there no designated COVID floors, COVID patients may even be placed in common areas like hallways. Sherri Dayton from the American Federation of Teachers (AFT) testified that "COVID patients are sometimes placed in hallways with only a curtain separating them from everyone else."[17] Since COVID patients may be dispersed throughout healthcare facilities, it is imperative that construction workers entering these settings have COVID protections.

Moreover, even if COVID suspected and infected patients were isolated in negative pressure rooms, they would still need to be regularly transported through common areas for testing, procedures, or other reasons. Diagnostic testing and imaging are important for COVID patient care. As Robert Andruszko from the Communication Workers of America (CWA) testified: "When patients come in with COVID-19 symptoms, many times they are and were fast-tracked for diagnostic imaging tests, including CT and echo MRI. In many cases, the patients are not worked up for COVID-19 until the end. This, after moving through the facilities, needlessly exposing workers as well as other patients."[18] Even after patients are confirmed as being infected, they will still need to be moved throughout the hospital for testing and procedures. As Denise D'Avella from the NYSNA explained: "…COVID patients are transported in the common hallways and transported in elevators that are shared with other employees as well as other patients. They have a surgical mask on them, but that's all."[19] Infected patients breathe while they are transported, expelling potentially infectious virus that can remain airborne for hours. Construction workers who report for work using the same elevators and hallways risk

[15] *See* Doc No. 2153, Transcript of April 27, 2022, Hearing, at 288, lines 20-22.
[16] *See* Doc No. 2153, Transcript of April 27, 2022, Hearing, at 287, lines 18-22.
[17] *See* Doc No. 2168, Transcript of April 29, 2022, Hearing, at 33, line 22 & 34, line 1.
[18] *See* Doc No. 2168, Transcript of April 29, 2022, Hearing, at 112, lines 3-8.
[19] *See* Doc No. 2153, Transcript of April 27, 2022, Hearing, at 290, lines 5-9.

breathing this infected air.

Similarly, healthcare workers who are regularly in contact with COVID positive patients share air with others throughout the healthcare facility and may be asymptomatic or pre-symptomatic. At this point in the pandemic, there is usually not a strict division between those healthcare workers in hospitals who care for COVID infected patients and those who do not. Nurses from the NYSNA testified that they are assigned COVID positive and negative patients simultaneously.[20] As such, when healthcare workers move among patients and throughout the healthcare facility, they face such exposures and carry infection with them. As NNU President Jean Ross testified, "We don't stay put. Nurses move all over the hospital…."[21] Moreover, individuals can be asymptomatic or pre-symptomatic, and as NNU stated and supported with extensive evidence in its pre-hearing comments: "Scientific evidence suggests that asymptomatic and pre-symptomatic cases play a significant role in the spread of Covid-19."[22] Since healthcare workers must be mobile to do their jobs, potentially infected individuals are constantly sharing air throughout facilities.

The science of airborne transmission and testimony about healthcare operational practices demonstrate that anyone working in these facilities is at risk. Since SARS-CoV-2 is transmitted through "tiny airborne particles of the virus [that hang] in indoor air for minutes or hours after an infected person has been there,"[23] it is inevitable that construction workers in healthcare settings will face exposure to the virus unless they work exclusively in areas completely isolated from infected and potentially infected patients, staff, vendors, and visitors and with a separate ventilation system. They need protection to avoid preventable morbidity and mortality from workplace COVID exposure.

---

[20] *See* Doc No. 2153, Transcript of April 27, 2022, Hearing, at 288, lines 20-22 & 289, lines 1-3.
[21] *See* Doc No. 2153, Transcript of April 27, 2022, Hearing, at 251, lines 15-16.
[22] Doc. No. 2108 at p. 10; Appendix of sources at p. 49.
[23] Nelson A. Let's Clear the Air On COVID. Office of Science and Technology Policy. OSTP Blog. White House Briefing Room March 23, 2022. https://www.whitehouse.gov/ostp/news-updates/2022/03/23/lets-clear-the-air-on-covid/.

III. Joint Commission and CMS Rules do not Adequately Address These Issues for Construction Workers

Construction industry representatives participating in this rulemaking contended that it is unnecessary and duplicative for OSHA to extend the healthcare standard to construction workers, since existing rules provide adequate protection. While it is true that construction contractors generally take special precautions when working in hospitals and other healthcare facilities, those precautions are not an adequate substitute for an OSHA standard designed to protect construction workers from COVID.

Healthcare construction is a very specific niche in the overall construction industry. Construction in a hospital setting ranges from inspection and non-invasive procedures to major construction, and include, for example, maintaining HVAC systems, removing ceiling tiles, plumbing, painting, performing electrical work, installing telephone and computer cabling, sanding walls, removing/repairing floor coverings, constructing new walls and structures, creating new duct work, performing new electrical work, and performing heavy demolition.

An ideal healthcare construction team includes more than the owner, contractors, and architects. It also involves managers, nurses, and facilities managers. Every department needs to have a say in how the facility it is built and maintained – their input is vital to a construction team. Knowing how to work collaboratively in a team, listening to different input to come up with a plan that works, and maintaining the safety and wellbeing of hospital staff, visitors, vendors, and patients is what makes healthcare construction such a unique industry.

Hospitals and some other healthcare facilities commonly use a system called Infection Control Risk Assessment (ICRA) to determine the guidelines for a construction project. ICRA is a systematic planning method for evaluating the type of construction activity and the group of patients who could be exposed to infection risks resulting from the construction, to determine the precautions required of the construction contractors. The major objective of these work practices is to prevent the spread of dust and other contaminants from the work area into the

hospital *to protect the patient population from infection.* These practices are not designed to protect construction workers.

An example of an ICRA Matrix is attached as Exhibit A and describes four different classifications or types of construction project activity (Type A-D). They range from inspection and non-invasive activities to major demolition and full-on construction projects. The Matrix also describes four different patient risk profiles (i.e., low risk, medium risk, high risk, highest risk). In planning a construction project, these two sets of factors are matched to determine the prescriptive infection control protocols/controls to deploy *to protect patients*. As is clear from the Matrix, not all work classifications and scenarios require the same safeguards, but instead, the practices vary based on these classifications, the patient population, and the perceived risk. That is, the level of separation between the patient population and the construction project varies depending, in large part, on the amount of dust the project is anticipated to generate. Thus, although construction industry representatives made it sound as if construction workers are always separated from patients, co-workers, vendors, etc., and rigid barriers are always erected to ensure no air is shared between the construction project and the rest of the facility, that is not always required by ICRA and, in our experience, that is simply not the case. Instead, even under ICRA, the level of isolation and separation will depend on the factors outlined in the matrix. For example, during type A construction activities (e.g., small jobs), construction workers are likely to be sharing hallways and elevators – the kinds of common spaces that the healthcare workers testified infected possibly infected patients move through and occupy -- even with high-risk patient profiles (See Class I control procedures on the ICRA Matrix). One unaffiliated commentor, who “previously worked as a safety professional in a research hospital” stated, “construction workers performing maintenance and renovation are also at risk. While certain rooms and corridors with active construction work are restricted access, it is rare that contractors, electricians, plumbers, etc. do not pass-through common areas, medical areas, and patient areas to reach their worksites. I have shared the same elevator with construction crew,

nurses, and postdoctoral researchers all occupying the same 6'x5' elevator car simultaneously. While their exposure is to a lesser degree and frequency, they are still being exposed at a higher rate than when performing construction work in nonhealthcare settings."[24]

Moreover, as noted, ICRA's purpose is to protect *patients* from contamination by the construction project, not to protect the construction workers from contamination by infected patients or staff. As described earlier, the airborne nature of covid infection makes it imperative to protect construction workers operating in healthcare facilities from contaminated air. Even at the highest level of protection ICRA requires, when construction is performed under negative pressure to ensure dust does not flow into the healthcare facility, air may be drawn from the facility itself, thereby exposing the construction workers within the containment area to contamination.

In addition, ICRA is not a government regulation. ICRA precautions are enforced through the Joint Commission, which administers voluntary accreditation programs for hospitals and other healthcare organizations.[25] The CDC also recommends that hospitals use ICRA and hospitals often incorporate these guidelines into construction contracts. Although healthcare facilities accredited by the Joint Commission have strong incentives to ensure their contractors adhere to these guidelines, that is not the same as imposing enforceable regulations designed to address worker protection. Just as the AFL-CIO testified to the importance of having OSHA regulations to protect healthcare workers, rather than relying on CDC guidelines and contractual commitments, it is critical that construction employees working in these facilities also be assured legally enforceable protections.

IV. Application of the Healthcare Standard to Construction Contractors

Due to the demonstrated risks to construction workers, it is imperative that OSHA make clear that the standard covers construction when it is performed a healthcare facility, so

[24] Doc. No. 1975
[25] See www.jointcommission.org.

construction employers have enforceable obligations to ensure their employees can work without risking infection. We believe the standard can easily be applied in those limited circumstances in which construction employees risk exposure to COVID-19. We will highlight a few of the sections which we believe are of particular import, as well as a few which we believe do not appropriately apply to construction employers.

The coordination and communication elements of the proposed standard are critical and must be required of all employers operating on what, for construction contractors, is a multi-employer worksite. It is not sufficient to simply make the host facility owner or manager responsible for managing the contractors, or to permit the construction contractors to rely entirely on the host's COVID-19 plan, without imposing legally enforceable obligations on the construction contractor.

The standard must require the construction employer to have a written plan, as required under paragraph (c) of the Standard. The construction employer may be permitted to rely on relevant portions of the host's COVID-19 plan, rather than developing its own for each project. However, the standard must still require the construction employer to assess whether the work will pose risks of infection to its employees by, at a minimum, determining whether its employees will be working in areas where they will be exposed or potentially exposed to infected patients, staff, or visitors, or that share a ventilation system with such individuals. The standard must require the construction employer to "designate one or more workplace COVID-19 safety coordinators" – in effect, one or more competent persons. Given the established role of competent persons in construction safety, the role and responsibilities of a "workplace COVID-19 safety coordinator" should be familiar and accessible for the construction industry. And construction employers must be required to monitor the workplace to ensure the effectiveness of the plan; to address hazards to its employees identified in the assessment; and to effectively communicate and coordinate not only with the facility owner or operator, but with other employers on the site.

Because the construction employer does not control the healthcare facility or its operations, and does not manage interactions with patients, there are aspects of the standard that do not apply. For example, as we noted in our comments, portions of the standard that deal with patient screening or management or establishing facility-wide protocols do not appropriately apply to contractors operating in these facilities. But contractors must be required to implement the protections that fall firmly within their control, including provision of personal protective equipment, health screening and medical management, and medical removal protection.

V. Conclusion

NABTU thanks OSHA for the opportunity to submit this post-hearing submission in strong support of including construction workers in healthcare settings under this permanent standard. Airborne transmission puts construction workers sharing air with patients, visitors, staff, and vendors in healthcare settings at risk of exposure to SARS-CoV-2. Existing Joint Commission and CMS guidelines are designed to protect patients, not workers, during healthcare construction and are thus insufficient to protect construction workers amid the dangers of the pandemic. Applied to cover construction, the proposed standard will appropriately support vital communication and cooperation between healthcare hosts and construction contractors, while holding construction contractors accountable for ensuring their employees are protected against COVID infection while working in healthcare facilities. Moreover, the health screening, medical management and medical removal protection will ensure that infections are quickly identified and workers protected while recovering. And the recordkeeping requirements will ensure that adequate data are recorded to better understand the burden of COVID-19 among construction workers in healthcare facilities and to respond to any emerging trends. Construction workers in healthcare settings should be included under this permanent standard.

EXHIBIT A

Infection Control Risk Assessment
Matrix of Precautions for Construction & Renovation

Step One:

Using the following table, *identify* the Type of Construction Project Activity (Type A-D)

TYPE A	**Inspection and Non-Invasive Activities**. Includes, but is not limited to: ▪ removal of ceiling tiles for visual inspection limited to 1 tile per 50 square feet ▪ painting (but not sanding) ▪ wall covering, electrical trim work, minor plumbing, and activities which do not generate dust or require cutting of walls or access to ceilings other than for visual inspection.
TYPE B	**Small scale, short duration activities which create minimal dust** Includes, but is not limited to: ▪ installation of telephone and computer cabling ▪ access to chase spaces ▪ cutting of walls or ceiling where dust migration can be controlled.
TYPE C	**Work that generates a moderate to high level of dust or requires demolition or removal of any fixed building components or assemblies** Includes, but is not limited to: ▪ sanding of walls for painting or wall covering ▪ removal of floor coverings, ceiling tiles and casework ▪ new wall construction ▪ minor duct work or electrical work above ceilings ▪ major cabling activities ▪ any activity which cannot be completed within a single workshift.
TYPE D	**Major demolition and construction projects** Includes, but is not limited to: ▪ activities which require consecutive work shifts ▪ requires heavy demolition or removal of a complete cabling system ▪ new construction.

Step 1_____

Step Two:

Using the following table, ***identify* the Patient Risk Groups** that will be affected.
If more than one risk group will be affected, select the higher risk group:

Low Risk	Medium Risk	High Risk	Highest Risk
▪ Office areas	▪ Cardiology ▪ Echocardiography ▪ Endoscopy ▪ Nuclear Medicine ▪ Physical Therapy ▪ Radiology/MRI ▪ Respiratory Therapy	▪ CCU ▪ Emergency Room ▪ Labor & Delivery ▪ Laboratories (specimen) ▪ Newborn Nursery ▪ Outpatient Surgery ▪ Pediatrics ▪ Pharmacy ▪ Post Anesthesia Care Unit ▪ Surgical Units	▪ Any area caring for immunocompromised patients ▪ Burn Unit ▪ Cardiac Cath Lab ▪ Central Sterile Supply ▪ Intensive Care Units ▪ Medical Unit ▪ Negative pressure isolation rooms ▪ Oncology ▪ Operating rooms including C-section rooms

Step 2_____

Step Three: Match the

Patient Risk Group (***Low, Medium, High, Highest***) with the planned **…**
Construction Project Type (***A, B, C, D***) on the following matrix, to find the **…**
Class of Precautions (***I, II, III or IV***) or level of infection control activities required.

Class I-IV or Color-Coded Precautions are delineated on the following page.

IC Matrix - Class of Precautions: Construction Project by Patient Risk

	Construction Project Type			
Patient Risk Group	**TYPE A**	**TYPE B**	**TYPE C**	**TYPE D**
LOW Risk Group	**I**	**II**	**II**	**III/IV**
MEDIUM Risk Group	**I**	**II**	**III**	**IV**
HIGH Risk Group	**I**	**II**	**III/IV**	**IV**
HIGHEST Risk Group	**II**	**III/IV**	**III/IV**	**IV**

Note: Infection Control approval will be required when the Construction Activity and Risk Level indicate that **Class III** or **Class IV** control procedures are necessary.

Step 3_____

Description of Required Infection Control Precautions by Class

	During Construction Project	Upon Completion of Project
CLASS I	1. Execute work by methods to minimize raising dust from construction operations. 2. Immediately replace a ceiling tile displaced for visual inspection	1. Clean work area upon completion of task.
CLASS II	1. Provide active means to prevent airborne dust from dispersing into atmosphere. 2. Water mist work surfaces to control dust while cutting. 3. Seal unused doors with duct tape. 4. Block off and seal air vents. 5. Place dust mat at entrance and exit of work area 6. Remove or isolate HVAC system in areas where work is being performed.	1. Wipe work surfaces with disinfectant. 2. Contain construction waste before transport in tightly covered containers. 3. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area. 4. Remove isolation of HVAC system in areas where work is being performed.
CLASS III	1. Remove or Isolate HVAC system in area where work is being done to prevent contamination of duct system. 2. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. 3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 4. Contain construction waste before transport in tightly covered containers. 5. Cover transport receptacles or carts. Tape covering unless solid lid.	1. Do not remove barriers from work area until completed project is inspected by the owner's Safety Department and Infection Control Department and thoroughly cleaned by the owner's Environmental Services Department. 2. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 3. Vacuum work area with HEPA filtered vacuums. 4. Wet mop area with disinfectant. 5. Remove isolation of HVAC system in areas where work is being performed.
CLASS IV	1. Isolate HVAC system in area where work is being done to prevent contamination of duct system. 2. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. 3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 4. Seal holes, pipes, conduits, and punctures appropriately. 5. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave the work site. 6. All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area. 7. Do not remove barriers from work area until completed project is inspected by the owner's Safety Department and Infection Control Department and thoroughly cleaned by the owner's Environmental Services Department.	1. Remove barrier material carefully to minimize spreading of dirt and debris associated with construction. 2. Contain construction waste before transport in tightly covered containers. 3. Cover transport receptacles or carts. Tape covering unless solid lid 4. Vacuum work area with HEPA filtered vacuums. 5. Wet mop area with disinfectant. 6. Remove isolation of HVAC system in areas where work is being performed.

Step 4. **Identify the areas surrounding the project area, assessing potential impact**

Unit Below	Unit Above	Lateral	Lateral	Behind	Front
Risk Group	Risk Group	Risk Group	Risk Group	Risk Group	Risk Group

Step 5. **Identify specific site of activity eg, patient rooms, medication room, etc.**

_____

Step 6. **Identify issues related to: ventilation, plumbing, electrical in terms of the occurrence of probable outages**.

_____

Step 7. **Identify containment measures, using prior assessment. What types of barriers? (Eg, solids wall barriers); Will HEPA filtration be required?**

_____

(Note: Renovation/construction area shall be isolated from the occupied areas during construction and shall be negative with respect to surrounding areas)

Step 8. **Consider potential risk of water damage. Is there a risk due to compromising structural integrity? (eg, wall, ceiling, roof)**

Step 9. **Work hours: Can or will the work be done during non-patient care hours?**

Step 10. **Do plans allow for adequate number of isolation/negative airflow rooms?**

Step 11. **Do the plans allow for the required number & type of handwashing sinks?**

Step 12. **Does the infection control staff agree with the minimum number of sinks for this project?**
(Verify against AIA Guidelines for types and area)

Step 13. **Does the infection control staff agree with the plans relative to clean and soiled utility rooms?**

Step 14. **Plan to discuss the following containment issues with the project team. Eg, traffic flow, housekeeping, debris removal (how and when),**

_____

_____

_____

Appendix: Identify and communicate the responsibility for project monitoring that includes infection control concerns and risks. The ICRA may be modified throughout the project. Revisions must be communicated to the Project Manager.

Infection Control Construction Permit

	Permit No:
Location of Construction:	Project Start Date:
Project Coordinator:	Estimated Duration:
Contractor Performing Work	Permit Expiration Date:
Supervisor:	Telephone:

YES	NO	CONSTRUCTION ACTIVITY	YES	NO	INFECTION CONTROL RISK GROUP
		TYPE A: Inspection, non-invasive activity			GROUP 1: Low Risk
		TYPE B: Small scale, short duration, moderate to high levels			GROUP 2: Medium Risk
		TYPE C: Activity generates moderate to high levels of dust, requires greater 1 work shift for completion			GROUP 3: Medium/High Risk
		TYPE D: Major duration and construction activities Requiring consecutive work shifts			GROUP 4: Highest Risk

CLASS I	1. Execute work by methods to minimize raising dust from construction operations. 2. Immediately replace any ceiling tile displaced for visual inspection.	3. Minor Demolition for Remodeling
CLASS II	1. Provides active means to prevent air-borne dust from dispersing into atmosphere 2. Water mist work surfaces to control dust while cutting. 3. Seal unused doors with duct tape. 4. Block off and seal air vents. 5. Wipe surfaces with disinfectant.	6. Contain construction waste before transport in tightly covered containers. 7. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area. 8. Place dust mat at entrance and exit of work area. 9. Remove or isolate HVAC system in areas where work is being performed.
CLASS III **Date** **Initial**	1. Obtain infection control permit before construction begins. 2. Isolate HVAC system in area where work is being done to prevent contamination of the duct system. 3. Complete all critical barriers or implement control cube method before construction begins. 4. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 5. Do not remove barriers from work area until complete project is thoroughly cleaned by Env. Services Dept.	6. Vacuum work with HEPA filtered vacuums. 7. Wet mop with disinfectant 8. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 9. Contain construction waste before transport in tightly covered containers. 10. Cover transport receptacles or carts. Tape covering. 11. Remove or isolate HVAC system in areas where work is being performed/
Class IV **Date** **Initial**	1. Obtain infection control permit before construction begins. 2. Isolate HVAC system in area where work is being done to prevent contamination of duct system. 3. Complete all critical barriers or implement control cube method before construction begins. 4. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 5. Seal holes, pipes, conduits, and punctures appropriately. 6. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave the work site.	7. All personnel entering work site are required to wear shoe covers 8. Do not remove barriers from work area until completed project is thoroughly cleaned by the Environmental Service Dept. 9. Vacuum work area with HEPA filtered vacuums. 10. Wet mop with disinfectant. 11. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 12. Contain construction waste before transport in tightly covered containers. 13. Cover transport receptacles or carts. Tape covering. 14. Remove or isolate HVAC system in areas where is being done.

Additional Requirements:

_____ Date Initials	_____Exceptions/Additions to this permit Date Initials are noted by attached memoranda
Permit Request By:	Permit Authorized By:
Date:	Date: