



CONSTRUCTION AND INFECTION CONTROL



CHASE HILDEBRAND

PROJECT MANAGER AT BOLDT CONSTRUCTION

LIVES IN: OSHKOSH, WI

ASSOCIATE MEMBER OF WHEA – CHAPTER III

EDUCATION AND PROFESSIONAL DEVELOPMENT COMMITTEE

WHAT IS THE PURPOSE OF ICRA?

- PROTECT PATIENTS
- PROTECT HOSPITAL STAFF
- PROTECT THE PUBLIC
- PROTECT CONSTRUCTION TEAMS

PROTECT PATIENTS

- TAKE A MOMENT TO THINK OF THE PATIENT POPULATION IN A HOSPITAL
 - DIVERSE EMOTIONS
 - WIDE RANGE OF LIFESTYLES
 - HIGH STRESS

PROTECT PATIENTS

- IMMUNOCOMPROMISED PATIENTS
 - HEALTHCARE-ASSOCIATED INFECTION (HAI)
 - INFECTIOUS AGENTS
 - NEWBORNS OR PREMATURELY BORN BABIES
 - OPEN WOUNDS
 - SPECIALIZED EQUIPMENT

PROTECT HOSPITAL STAFF

- HIGH STRESS WORK ENVIRONMENT
- HAZARDS TO PATIENTS ARE ALSO HAZARDS TO STAFF
- WORKING IN “THEIR HOUSE”

PROTECT THE PUBLIC

- CONSTRUCTION ZONES ARE DANGEROUS
- NEED TO ENSURE THAT HOSPITAL REMAINS SECURE
- UNDERSTAND SECURITY PROTOCOLS
- CONTAINMENTS SHOULD ALWAYS BE REVIEWED BY SECURITY STAFF

PROTECT THE CONSTRUCTION TEAM

- WORK HAZARDS
- COMMON HAZARDS IN HOSPITAL WORK
 - Biohazards / Infectious Agents
 - Chemicals / Lead / Asbestos
 - Magnetic Fields / Radiation
 - Silica

IMPLEMENTING ICRA MEASURES



PROJECT
CONCEPTION



DESIGN



PRE-
CONSTRUCTION



CONSTRUCTION



POST
CONSTRUCTION

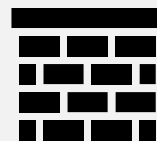
PROJECT CONCEPTION



PROJECT LOCATION



SIZE OF PROJECT
(FOOTPRINT)



PHASING

DESIGN

- NORTH, SOUTH, EAST, WEST
- ABOVE BELOW
- WHAT DOES THIS PROJECT REQUIRE FROM AN MEP STANDPOINT
 - UTILITIES CLOSE BY
 - ADEQUATE SIZING OF UTILITIES

DESIGN

- LAYOUT SHOULD BE DONE WITH ICRA CONTAINMENTS IN MIND
 - ANTE ROOMS
 - CORRIDORS
 - PATIENT AND STAFF PATHS

PRE-CONSTRUCTION



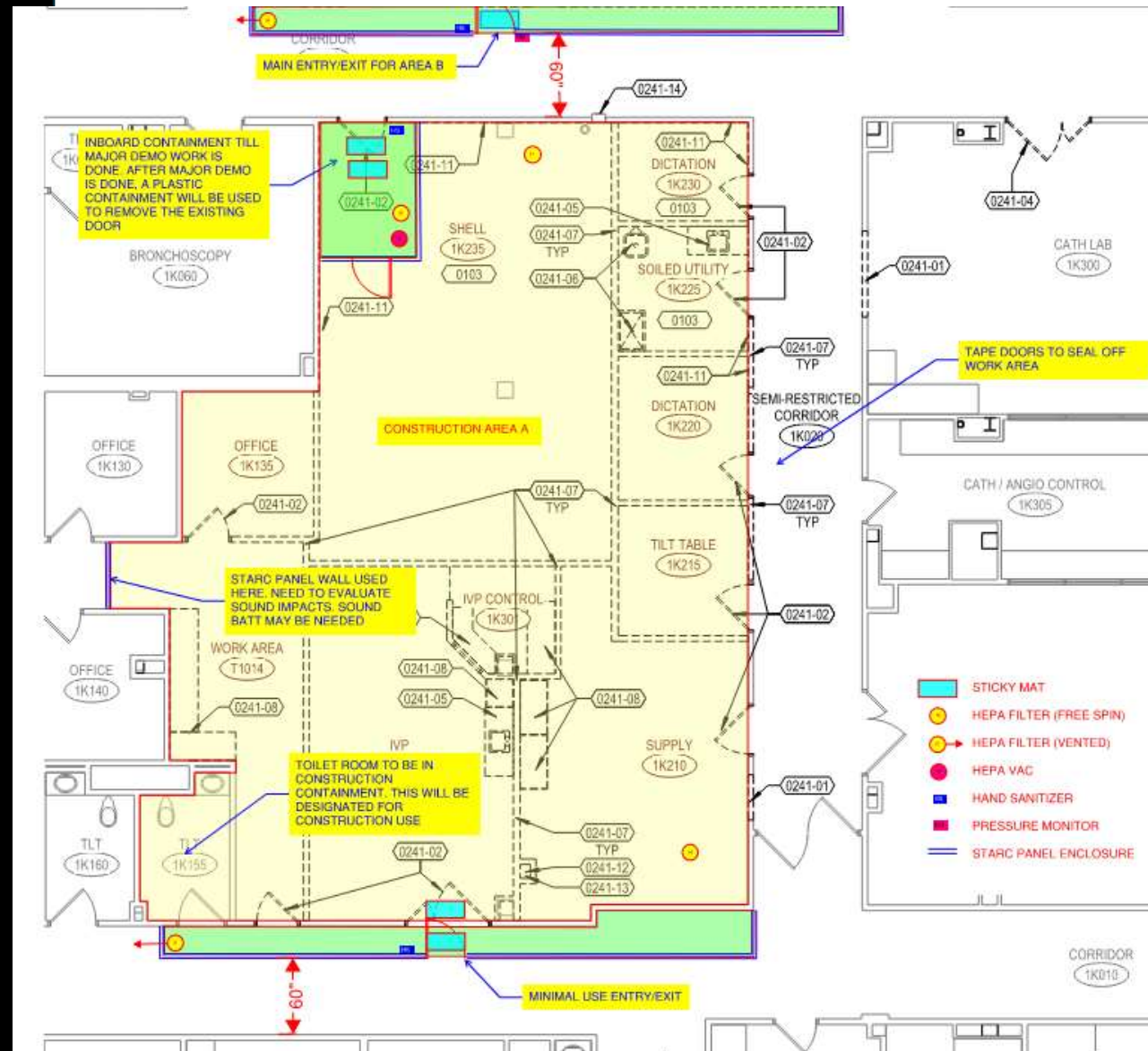
CONTRACTOR TO PROVIDE
FLOOR PLAN SHOWING
AFFECTED AREAS

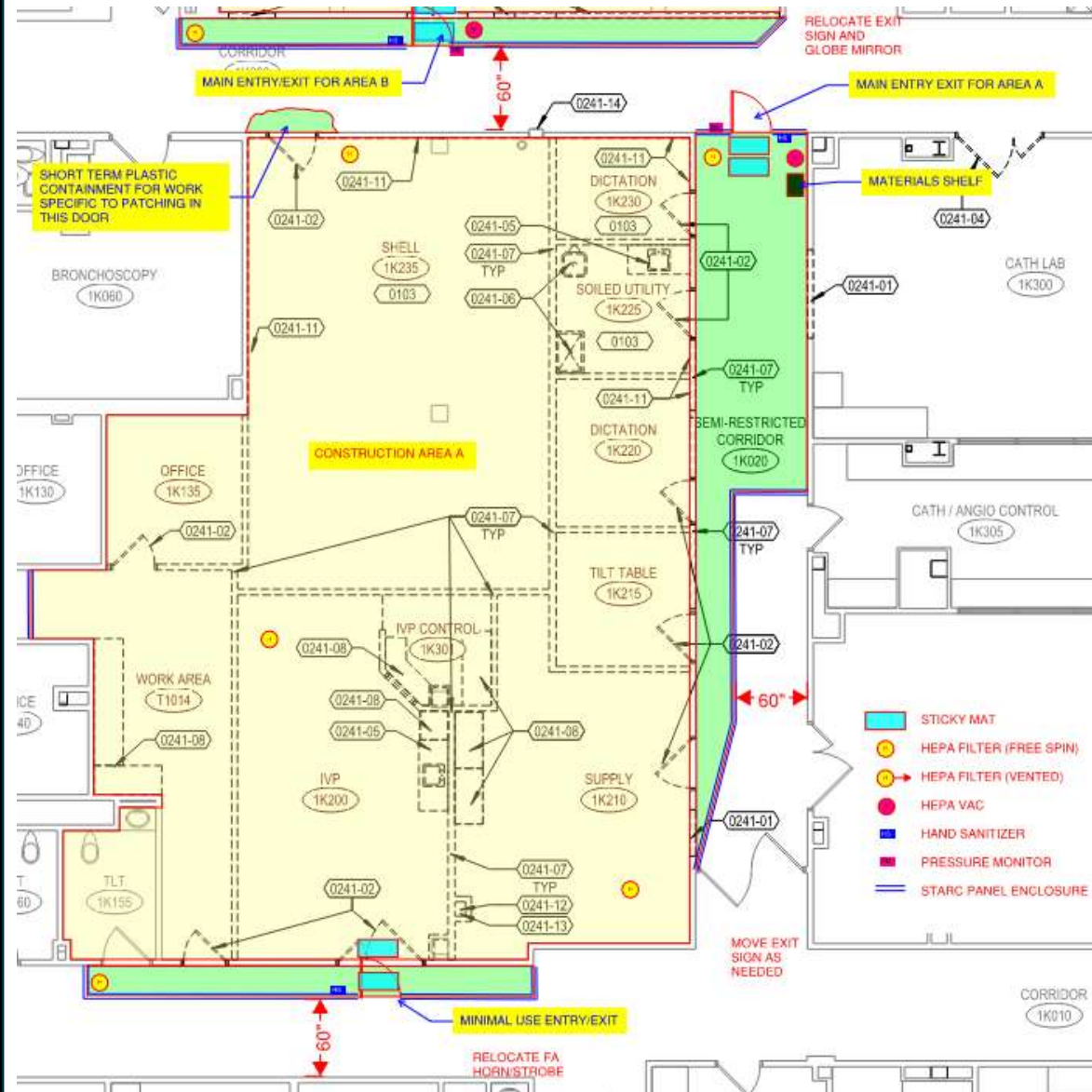


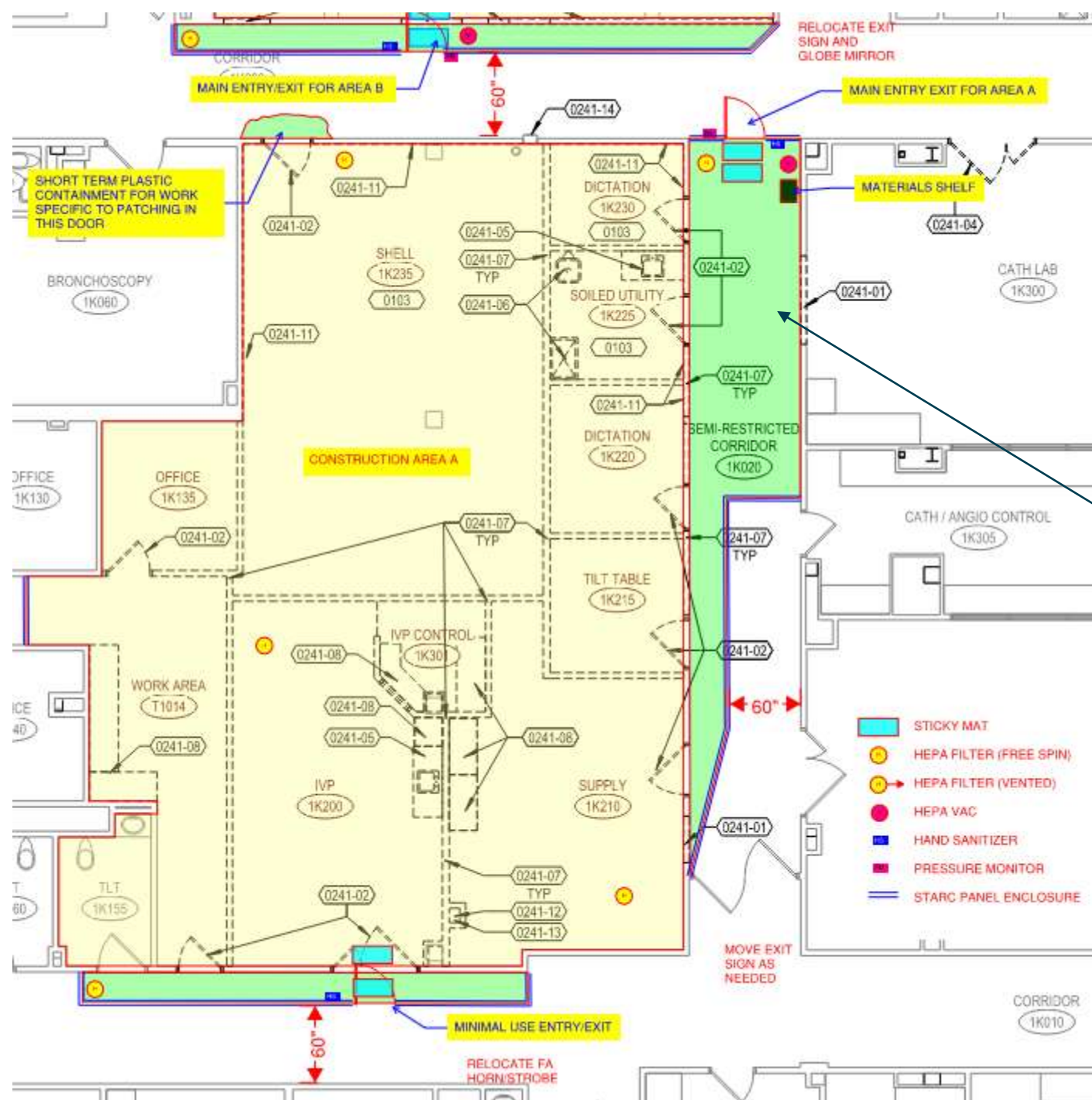
OWNER TO PROVIDE THE
“RIGHT PEOPLE” IN THE
ROOM



REVIEW MEPS AROUND
MAIN AREA

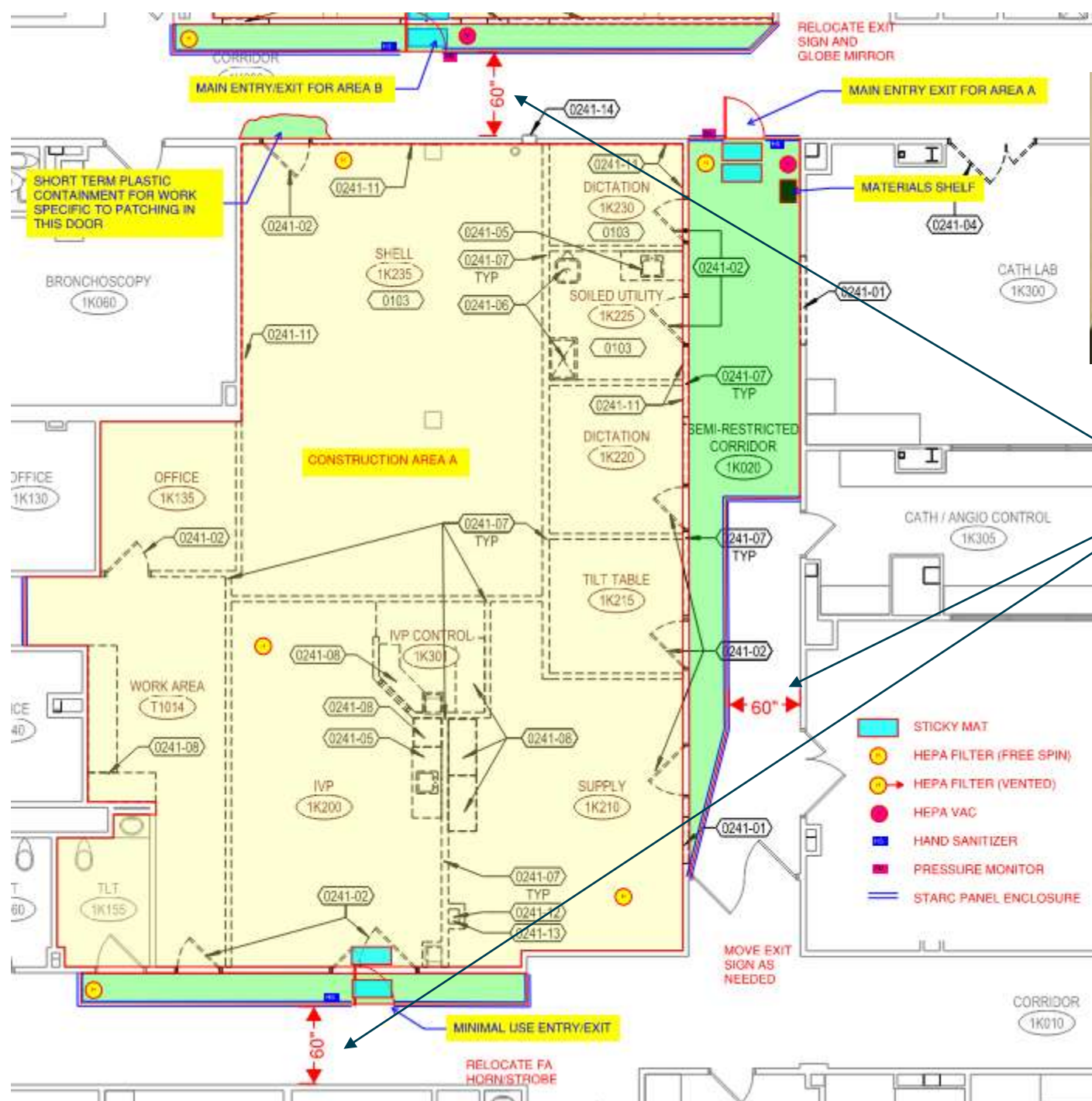






LARGE ANTE
ROOM FOR
PROPER
BUFFER

HVAC WORK



**MAINTAIN
CORRIDOR
WIDTH**

PRE- CONSTRUCTION

- REVIEW MEPS AROUND MAIN AREA
 - DUCT ROUTING
 - ELECTRICAL CONDUITS
 - PLUMBING
 - NEW SCOPE AND DEMO

PRE- CONSTRUCTION

- REVIEW MEPS AROUND MAIN AREA
 - DEAD LEGS
 - DUCT CLEANING
 - SURROUNDING AREAS
 - SHUTDOWNS

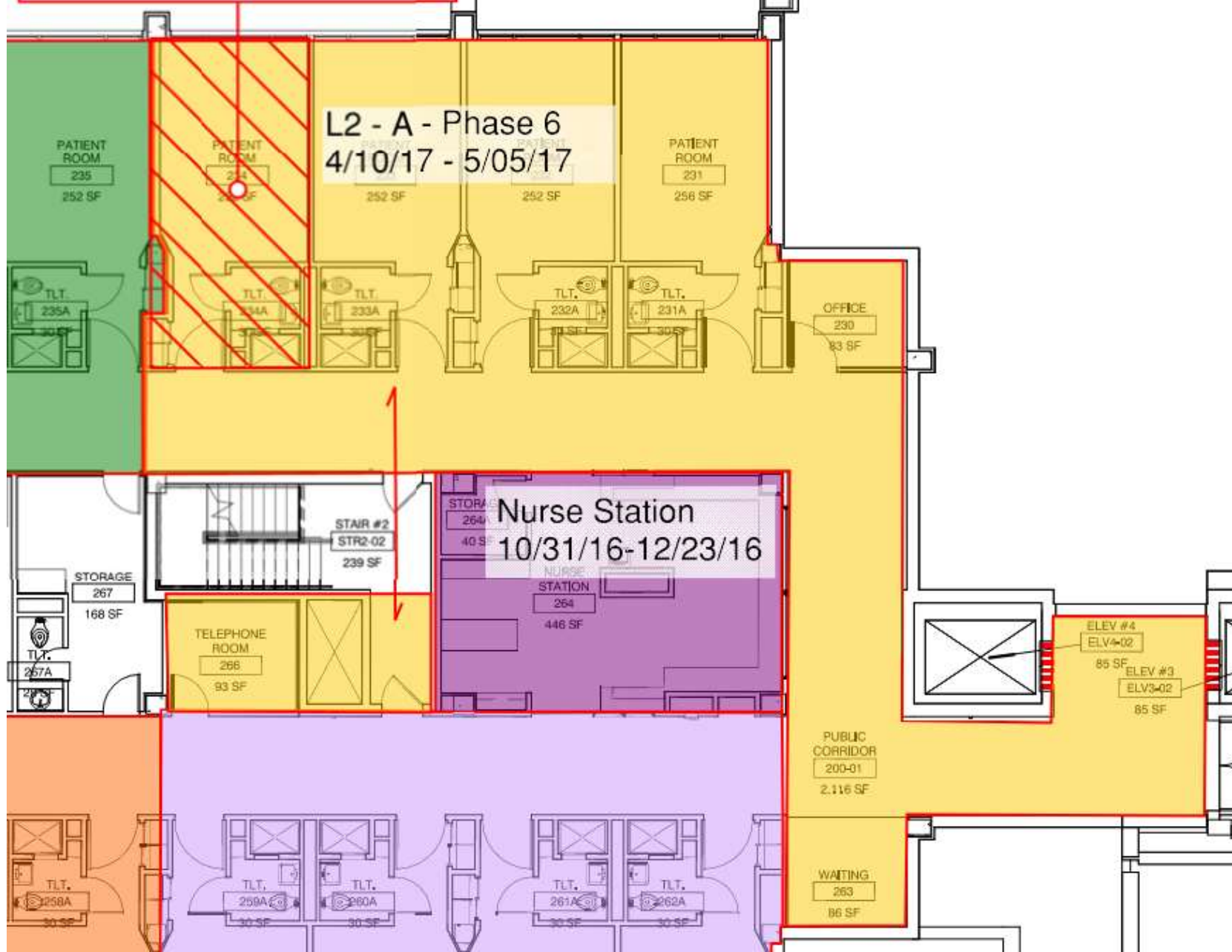
PRE- CONSTRUCTION

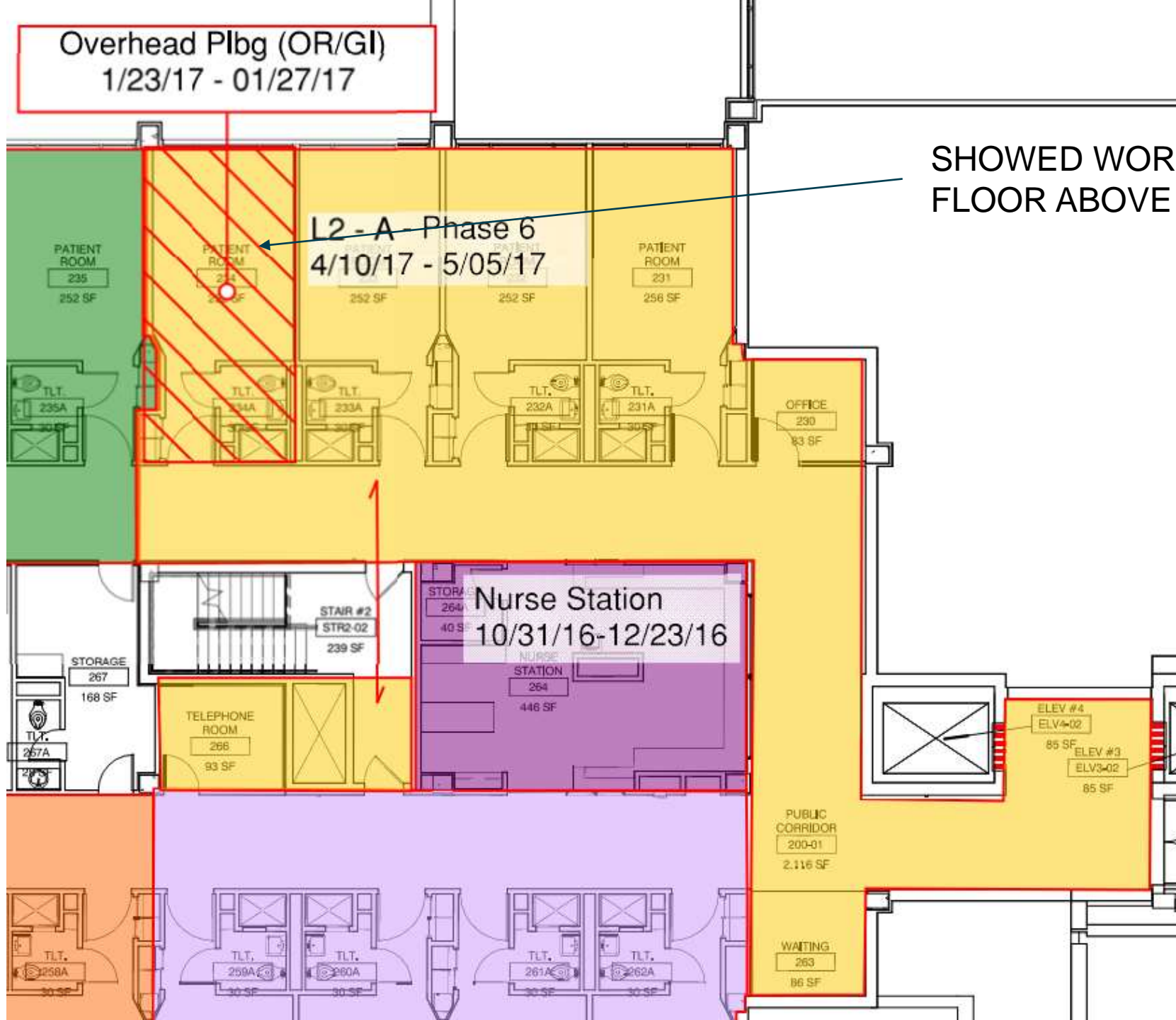
- REVIEW LIFE SAFETY
 - RATED WALLS
 - DAMPERS
 - EGRESS

Overhead Plbg (OR/GI)
1/23/17 - 01/27/17

L2 - A - Phase 6
4/10/17 - 5/05/17

PHASING PLAN EXAMPLE

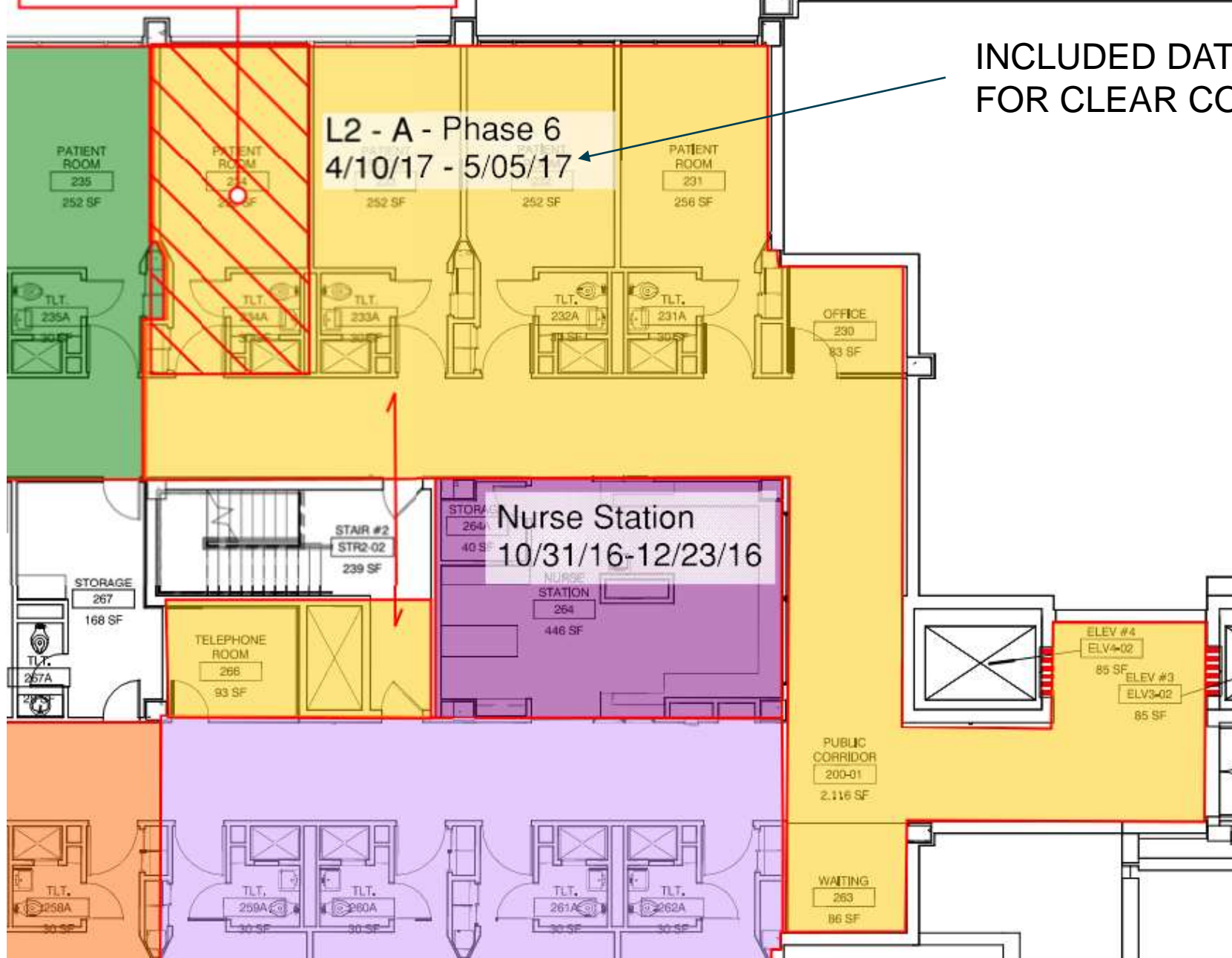




Overhead Plbg (OR/GI)
1/23/17 - 01/27/17

L2 - A - Phase 6
4/10/17 - 5/05/17

INCLUDED DATES FOR EACH PHASE
FOR CLEAR COMMUNICATION

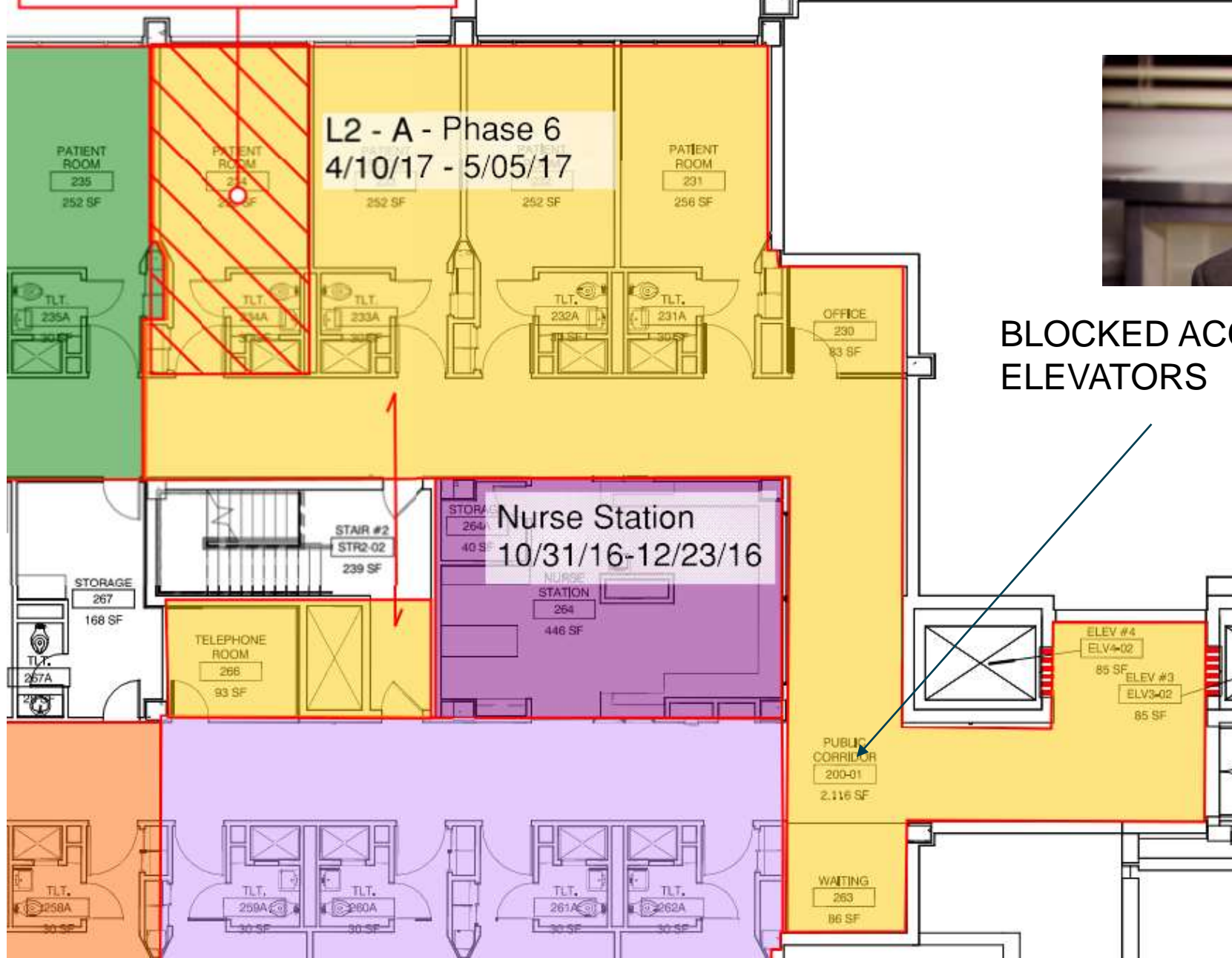


Overhead Plbg (OR/GI)
1/23/17 - 01/27/17

L2 - A - Phase 6
4/10/17 - 5/05/17



BLOCKED ACCESS TO WING FROM
ELEVATORS

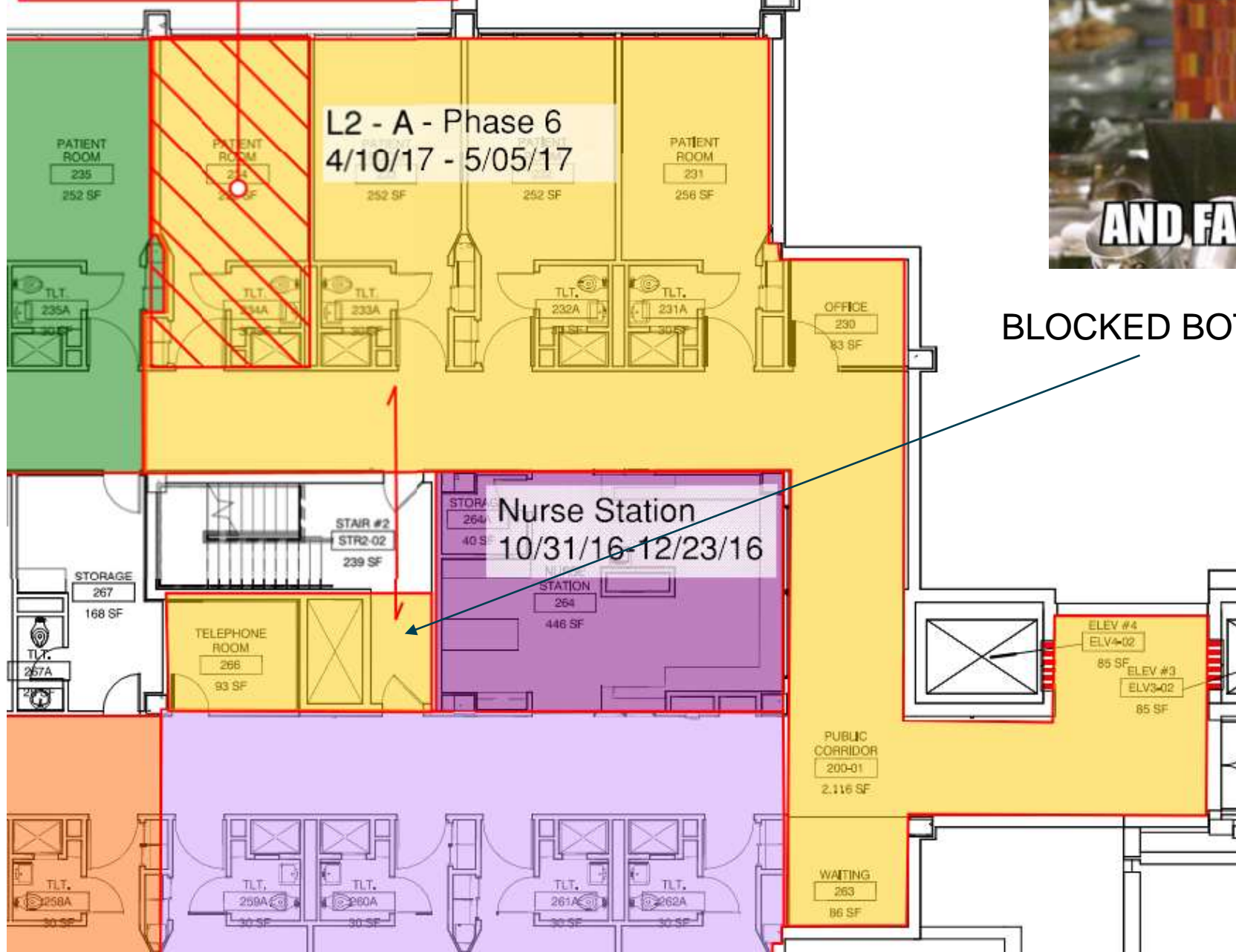


Overhead Plbg (OR/GI)
1/23/17 - 01/27/17

L2 - A - Phase 6
4/10/17 - 5/05/17



BLOCKED BOTH STAIR DOORS



UNDER CONSTRUCTION

- MAINTAIN BARRIERS
 - CLEAN
 - QUIET
 - PROFESSIONAL

UNDER CONSTRUCTION

- CLEAN
 - CONTAINMENT TYPES
 - DRYWALL
 - PANELS
 - PLASTIC



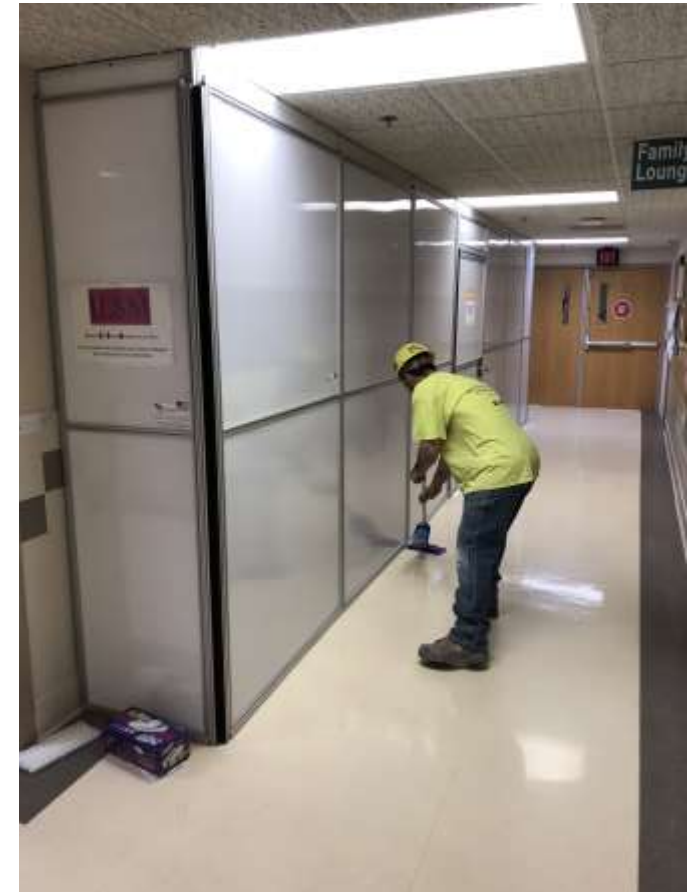
UNDER CONSTRUCTION

- CLEAN
 - EXAMPLE OF STARC
PANELS



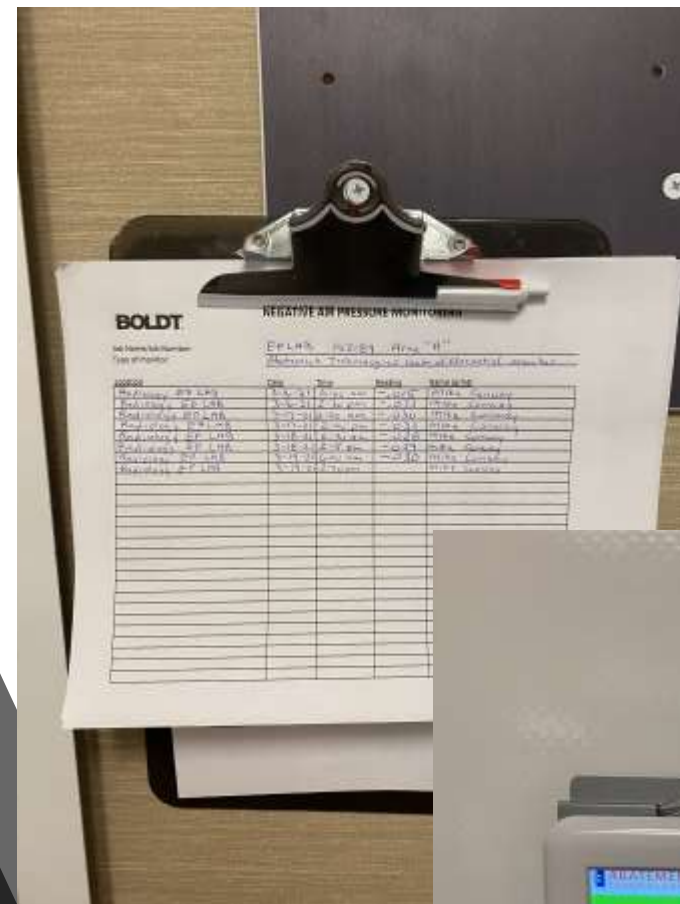
UNDER CONSTRUCTION

- CLEAN
 - EXAMPLE OF EDGE GUARD PANELS



UNDER CONSTRUCTION

- CLEAN
 - NEGATIVE AIR
 - ELECTRONIC MONITORING
 - LOGGING



UNDER CONSTRUCTION

- QUIET
 - INSULATION
 - PHASING / WORKING HOURS
 - WHITE NOISE

UNDER CONSTRUCTION

- PROFESSIONAL
 - CLEAN CLOTHES
 - PROPER LANGUAGE
 - RESPECTFUL

UNDER CONSTRUCTION

- PROFESSIONAL
 - PROVIDE PATIENTS AND STAFF WITH INFORMATION ABOUT WHAT IS GOING ON



SHUTDOWNS

- COORDINATION
 - **RIGHT INFORMATION**, TO THE
 - **RIGHT PEOPLE**, AT THE
 - **RIGHT TIME**

SHUTDOWNS

- PLANING AHEAD
- BRING UP SHUTDOWNS WELL IN ADVANCE
- ALWAYS COVERED IN WEEKLY MEETINGS

MILESTONE

Fri - 05/19

12am 3am 6am

AMHB AHU-05 Fan Install

Sat - 05/20

12am 3am 6am 9am 12pm 3pm 6pm 9pm

Sum - $5\frac{1}{2}$

Mon 05

NOTIFY
HOUSE
TEMP
Occasionally
Equipment
Running
FACILITY
SHUT DOWN
APR 05

Re-lante
AHU-5
Fm. Paboy

Appl's	Stem
Wing	Wing
7 mm	9 mm
1 hr	1 hr



11. *Staphylococcus aureus*



Completed
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CHINESE
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SHUTDOWNS

- HOURLY SCHEDULES DEVELOPED WITH THE PROPER PEOPLE AT THE PROPER TIME

A photograph of a mechanical room with a whiteboard in the center. The whiteboard is titled 'AMHB AHU-05 Fan Install' and shows a weekly schedule from Thursday to Monday. The schedule is divided into hourly slots, with some slots containing blue and red sticky notes. The room contains various mechanical equipment, including pipes, valves, and a large white tank on the left. A black metal cart is in the foreground, and a fire extinguisher is visible on the floor.

SHUTDOWNS

- USE THE HOURLY SCHEDULE IN THE FIELD



SHUTDOWNS

- ICRA AND SHUTDOWNS
 - DO WE KNOW EVERYTHING THIS WILL AFFECT?
 - HAVE MITIGATION EFFORTS BEEN PUT INTO PLACE?
 - HOW ARE WE CONTAINING HAZARDS?

SHUTDOWNS

- ICRA AND SHUTDOWNS
 - MOCK SHUTDOWNS
 - PROPER PEOPLE TO SURVEY AFTERWARDS
 - DID EVERYTHING START BACK UP?
 - WHO VERIFIES?
 - IS SOMEONE AVAILABLE IF SOMETHING DOESN'T START UP?



POST- CONSTRUCTION

- FINAL CLEAN TIMING
- WHEN CAN THE ICRA CONTAINMENTS COME DOWN?
- COMISSIONING / TESTING
- 3RD PARTY VENDORS

POST- CONSTRUCTION

- LESSONS LEARNED
- TURNOVER OF ALL DAILY REPORTS TO OWNER FOR RECORD
- TURNOVER OF LOGS FOR RECORD

QUESTIONS?

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