



CHRISTOPHER BECKLEY

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# HEALTHCARE DESIGN - INTENSIVE CARE UNIT

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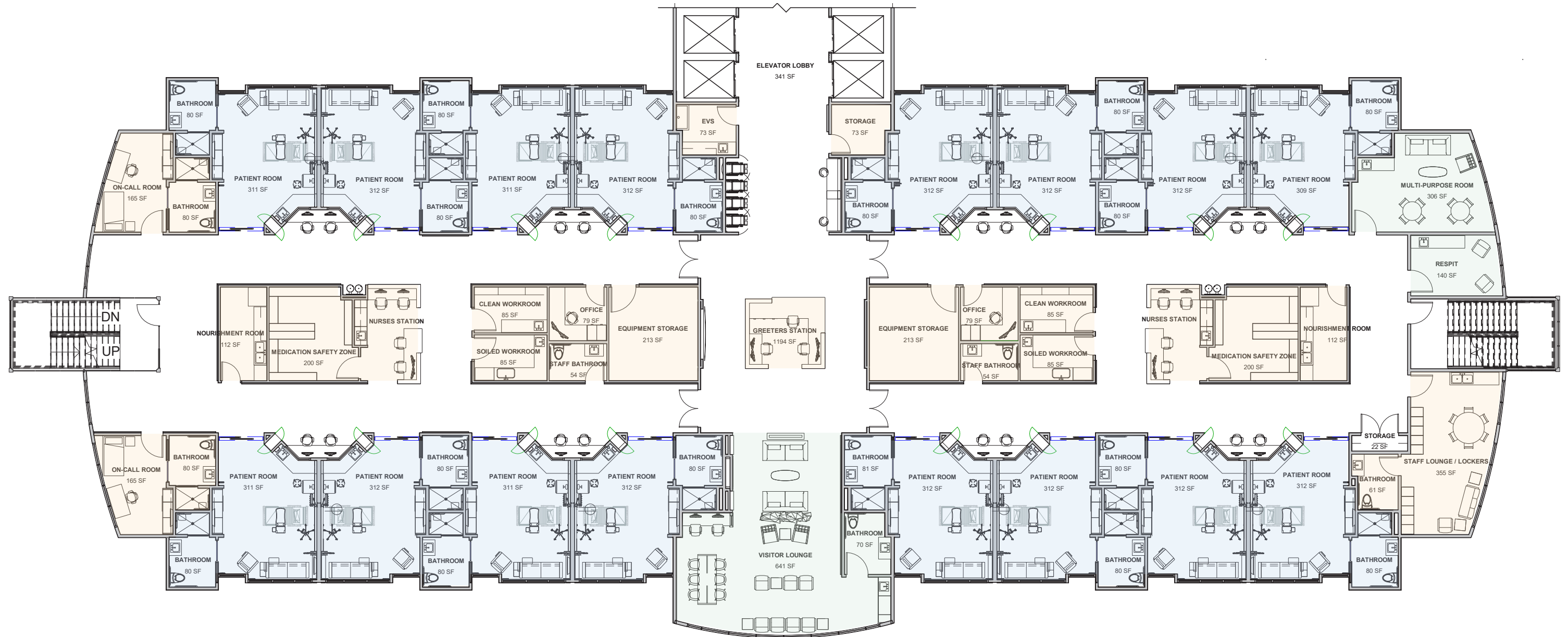




# MISSION STATEMENT

The intensive care unit (ICU) is a department within the hospital where patients with severe or life-threatening illnesses or injuries are provided with constant care and supervision. By researching the functionality of a typical ICU unit and understanding standard requirements, a new design will foster key characteristics that will improve the health and well-being of the admitted patients along with increasing the quality of care by care givers.





PATIENT SPACES
  FAMILY SPACES
  STAFF SPACES

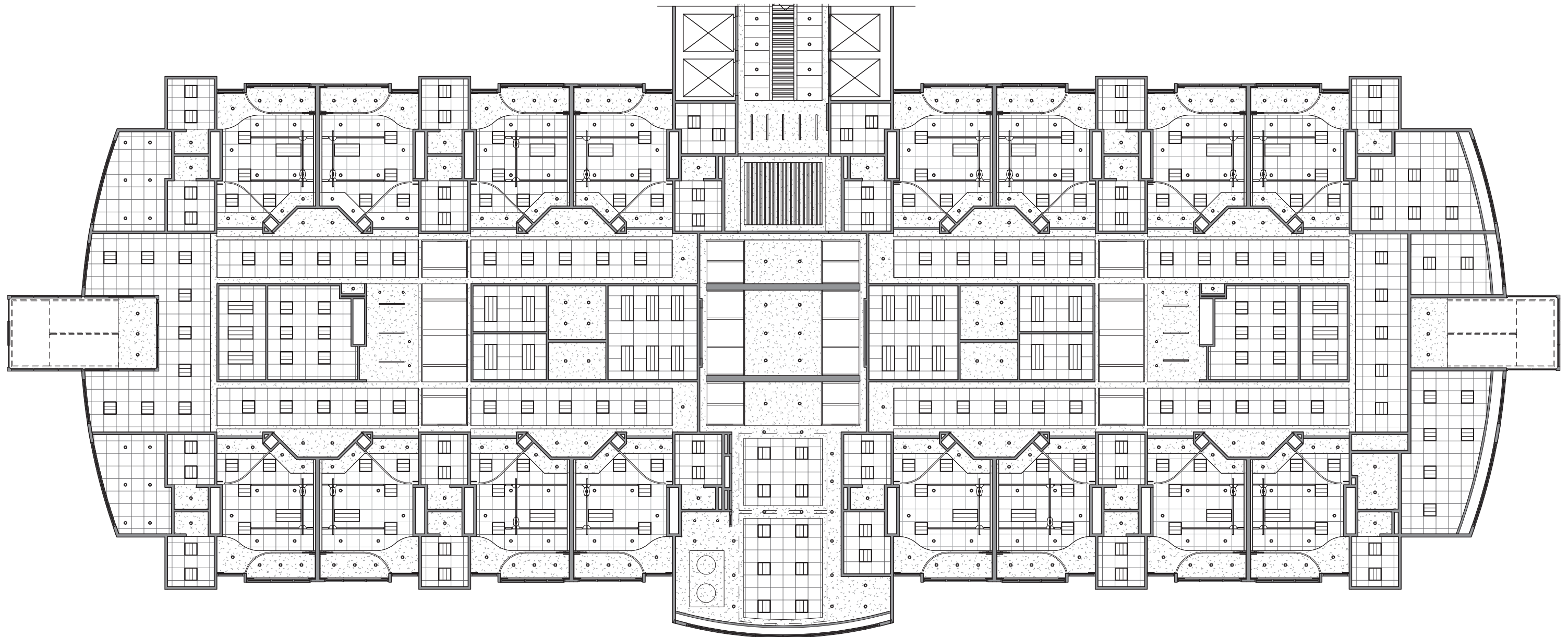
### FLOOR PLAN NOTES

- LOCATED ON 7TH FLOOR (TOP FLOOR) OF A HOSPITAL
- 16 BED UNIT
- EAST WING AND WEST WING (MIRRORED)
  - WEST WING - STAFF ACCOMMODATIONS WITH BATHROOMS
  - EAST WING - STAFF LOUNGE/LOCKERS, RESPIT, MULTI-PURPOSE ROOM
- NATURAL DAYLIGHT
- 8' - 0" WIDE CORRIDORS

# INTENSIVE CARE UNIT FLOOR PLAN

SCALE : 1/16" = 1' - 0"





# INTENSIVE CARE UNIT REFLECTED CEILING PLAN

SCALE : 1/16" = 1' - 0"

## REFLECTED CEILING PLAN NOTES

- MAJORITY OF CEILING IS 2' X 2' ACT FOR ACCESS TO MECHANICAL SYSTEMS
- 9' - 6" TO 10' - 0" CEILINGS WITH 6' - 0" PLENUM
- 2X2 DIFFUSED LIGHT FIXTURES ALONG MAIN CIRCULATION
- RECESSED CANS ARE USED FOR LAYERED LIGHTING TECHNIQUES
- PENDANT LIGHTING FOR DECORATION
- AVOID DUST-COLLECTING SURFACES





## GREETERS STATION / ENTRANCE NOTES

- ELIMINATION OF ENVIRONMENTAL STRESSORS
  - STAFF GREETER TO HELP
  - INFORMATION MONITORS
  - WAYFINDING FOR EACH WING
- SKYLIGHTS TO PROVIDE NATURAL DAYLIGHT
- BLUES AND GREENS ARE RELAXING & HEALING

## GREETERS STATION







## VISITORS LOUNGE NOTES

- LOCATED CENTRALLY ON THE UNIT
- EASILY ACCESSIBLE TO ALL OF THE PATIENT ROOMS
- POSITIVE DISTRACTIONS
  - FIREPLACE
  - COMPUTER BAR
- MINIMUM 3 CHAIRS AND 1 WHEELCHAIR SPACE
- 1.5 SEATS FOR EVERY ADULT CRITICAL CARE BED
- VISITOR BATHROOM
- VISITOR COFFEE BAR

## VISITORS LOUNGE







ALLERMUIR - GRAINGER HIGH WING CHAIR  
ACCENT CHAIR



KI - SOLTICE BARIATRIC CHAIR  
CLOSED ARM



KI - TASK CHAIR - DIEM  
PASSIVE ADJUSTING BACKREST

ALLERMUIR - OMEN 2 SEAT SOFA - WIDE  
FULLY UPHOSTERED, PLASTIC GLIDES



KI - SERENADE GATHERING TABLE  
29" HEIGHT, MODESTY PANEL, 2" TOP  
AND STRINGERS

## FURNITURE SELECTIONS - STAFF & VISITOR SPACES





SHERWIN WILLIAMS PAINT  
SW 6725 PICKLE



AROBORITE LAMINATE  
S-431 CA WILLOW GREY



CORIAN SOLID SURFACE  
LIMESTONE PRIMA



SHERWIN WILLIAMS PAINT  
SW 6727 HOUSEPLANT

**MATERIAL NOTES**

- BLEACH CLEANABILITY
- HIGH DURABILITY
- NEUTRAL COLORS WITH BLUE & GREEN ACCENTS
- SUSTAINABLE (LOW VOC'S)



SHERWIN WILLIAMS PAINT  
SW 7035 AESTHETIC WHITE



PALLAS TEXTILES  
SANDSTONE - OBSIDIAN



MANNINGTON COMMERCIAL  
SHEET VINYL - TITANIUM



SHERWIN WILLIAMS PAINT  
SW 6774 FRESHWATER



SHERWIN WILLIAMS PAINT  
SW 6776 BLUE NILE



MANNINGTON COMMERCIAL  
SHEET VINYL - PERSIAN WALNUT | BALSAM

## FINISH SELECTIONS - STAFF & VISITOR SPACES



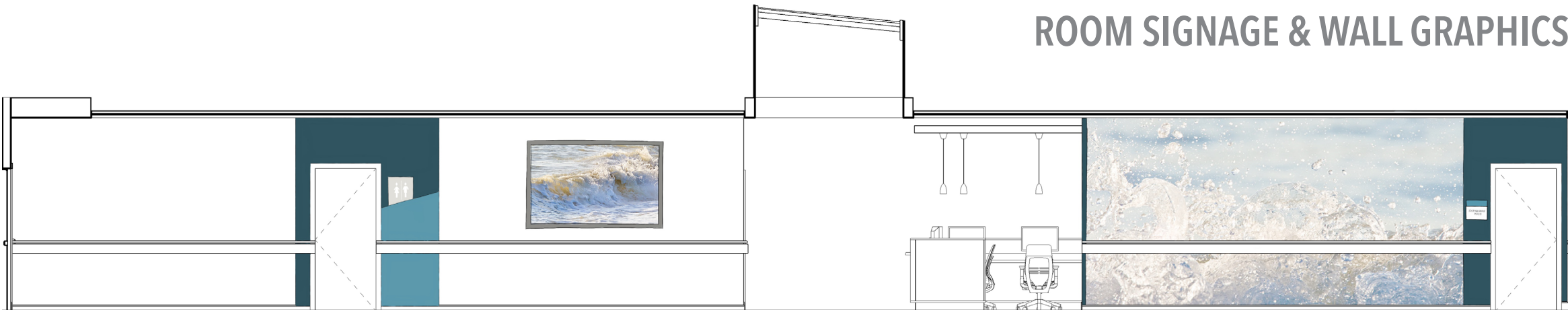
# ROOM SIGNAGE & WAYFINDING



## CIRCULATION NOTES

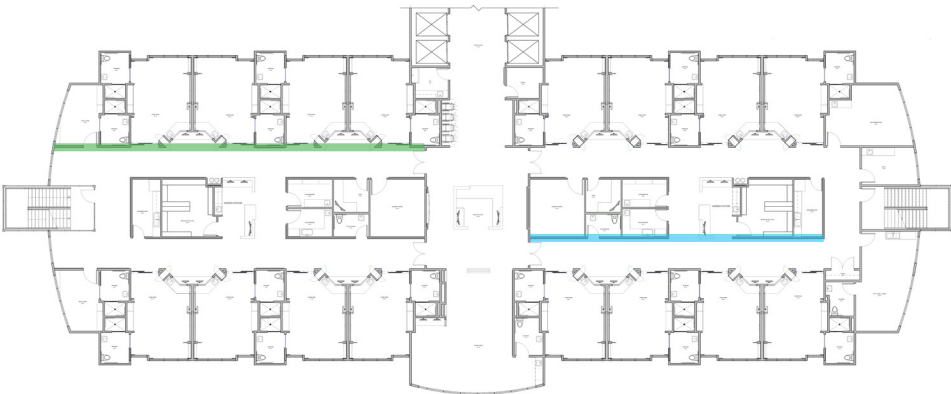
- EAST - BLUES
- WEST - GREENS
- POSITIVE NATURE VIEWS OUTSIDE EACH ROOM
- VARIOUS WAYFINDING TECHNIQUES
- EVIDENCE-BASED ARTWORK CAN:
  - REDUCE STRESS
  - DE-STRESSOR FOR STAFF
  - IMPACT BRANDING OF HOSPITAL
  - ADD TO APPEAL OF ENVIRONMENT
- HANDRAILS ALONG CORRIDORS @ 36"

# ROOM SIGNAGE & WALL GRAPHICS



# MAIN CIRCULATION

## WALL GRAPHICS, ROOM SIGNAGE, & WAYFINDING





## NURSES STATION NOTES

- CENTRALIZED AND DECENTRALIZED NURSES STATIONS
- HANDWASHING SINK AND ADDITIONAL CASEWORK STORAGE
- MEDICATION SAFETY ZONE LOCATED WITHIN THE CENTRALIZED NURSES STATION
  - OUT OF CIRCULATION PATH
- CLEAN WORKROOM AND SOILED WORKROOM LOCATED ACROSS FROM NURSES STATION
- SIGNAGE ALONG MAIN COORIDOR
- WAYFINDING LOCATED IN THE CENTER OF THE CORRIDOR WITH MAP



## CENTRALIZED NURSES STATION

### ROOM SIGNAGE & WAYFINDING





# CRITICAL CARE PATIENT ROOM

## KEY RESEARCH / DESIGN STRATEGIES

### OVERALL LAYOUT

- SPACE FOR CLEARLY DEFINED PATIENT / FAMILY / CAREGIVER ZONES
- BATHROOM DOOR VISIBLE TO THE PATIENT WHILE IN BED
- ADEQUATE NUMBER OF PATIENT ROOMS AND BATHROOMS DESIGNED SPECIFICALLY FOR BARIATRIC PATIENTS
- SUFFICIENT SPACES FOR THE USE OF BEDSIDE ELECTRONIC MEDICAL RECORDS
- REDUCE PATIENT STRESS, PAIN, ANXIETY, AND DELIRIUM WITH NATURE VIEW IN PATIENTS LINE OF SIGHT

### LAYOUT - STAFF ZONE

- ORGANIZED AND UNCLUTTERED WORKSPACE

### LAYOUT - PATIENT ZONE

- DIRECT AND SHORT VISUAL SIGHT LINE TO PATIENT FROM CORRIDOR / DECENTRALIZED NURSING STATION
- SPACE FOR PREPARATION FOR CLINICAL PROCEDURES
- SPACE FOR PEOPLE AND EQUIPMENT IN CODE BLUE RESPONSE
- REDUCE NOISE BY BED LOCATION / ORIENTATION TO MOVE PATIENT HEAD AWAY FROM DOOR

### LAYOUT - FAMILY ZONE

- FAMILY SPACE POSITIONED IN LINE OF SIGHT OF STAFF SO THEY CAN BE INCLUDED IN CONVERSATION
- FURNITURE CONFIGURED TO FACILITATE COMMUNICATION
- IMPROVE FAMILY PRESENCE AND ENGAGEMENT IN PATIENT CARE

### MATERIALS

- SMOOTH SURFACES WITH MINIMUM PERFORATIONS AND CREVICES TO REDUCE RISK OF CONTAMINATION
- MINIMUM RIDGES OR REVEALS THAT COULD COLLECT DUST
- HIGH DURABILITY FOR ALL MATERIALS
- REDUCING NOISE

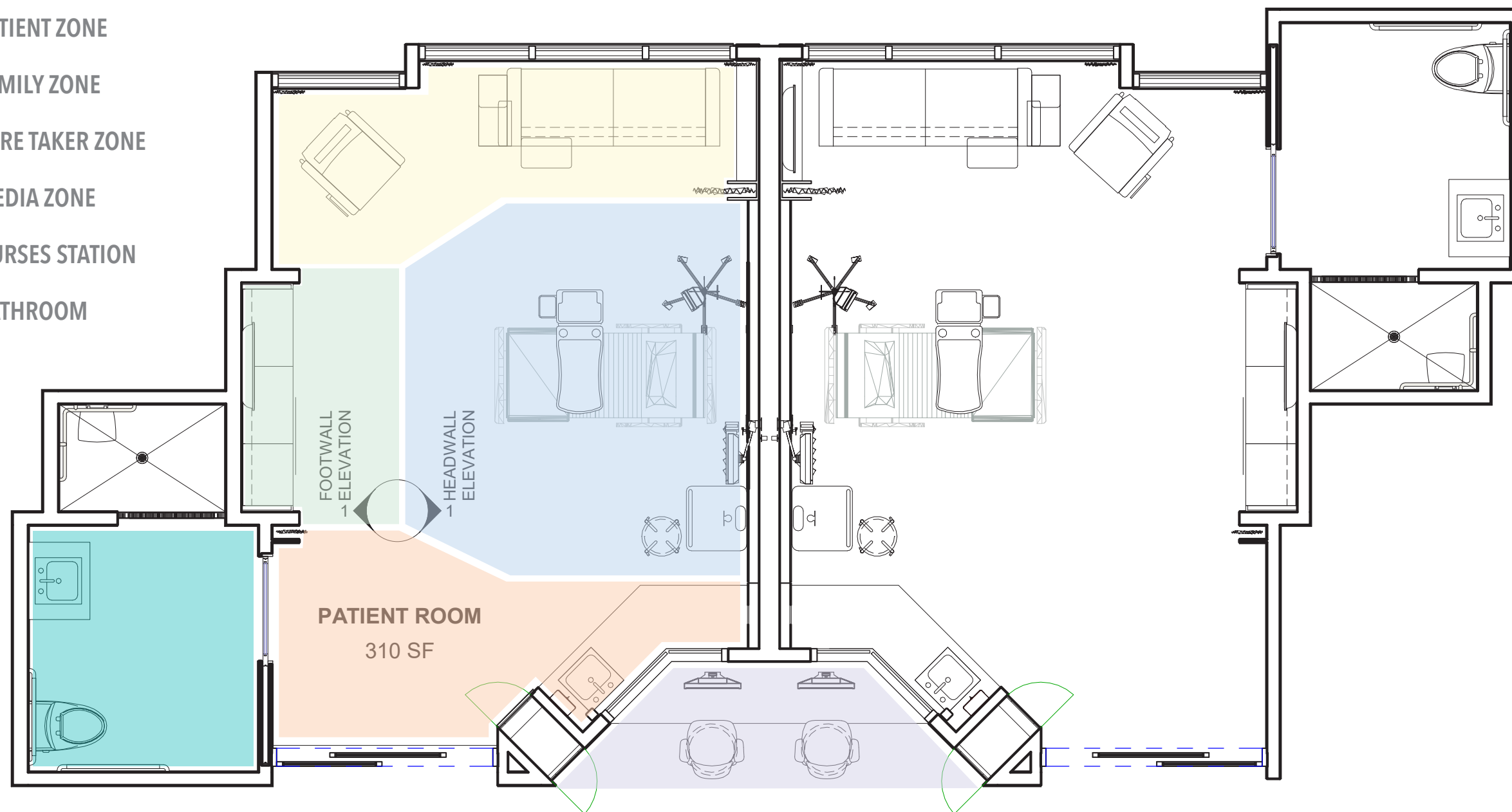


Source: American Society for Healthcare Engineering. (2018). Guidelines for design and construction of hospitals and outpatient facilities. Chicago, IL.

Source: (Dijkstra, Pieterse, & Pruyn, 2006; Lee et al., 2004; Miller, Hickman, & Lemasters, 1992; Schneider, Prince-Paul, Allen, Silverman, & Talaba, 2004; Tse, Ng, Chung, & Wong, 2002; Ulrich, 1984; Ulrich, 1999; Ulrich, Lunden, Eltinge, 1993)

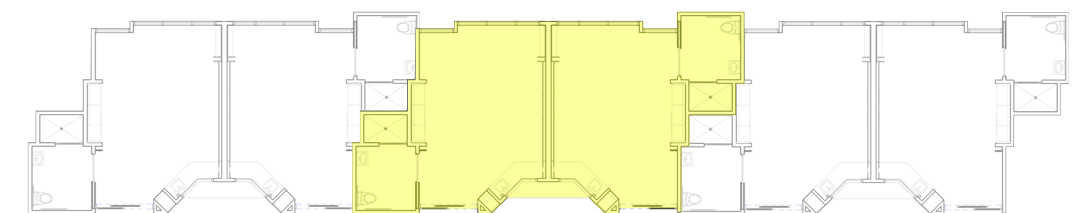
Source: (Annonio, Graham, Ross, 2010; Brown & Gallant 2006; Hendrich, Fay, & Sorrells, 2004; Zimring & Seo, 2012)

- PATIENT ZONE
- FAMILY ZONE
- CARE TAKER ZONE
- MEDIA ZONE
- NURSES STATION
- BATHROOM

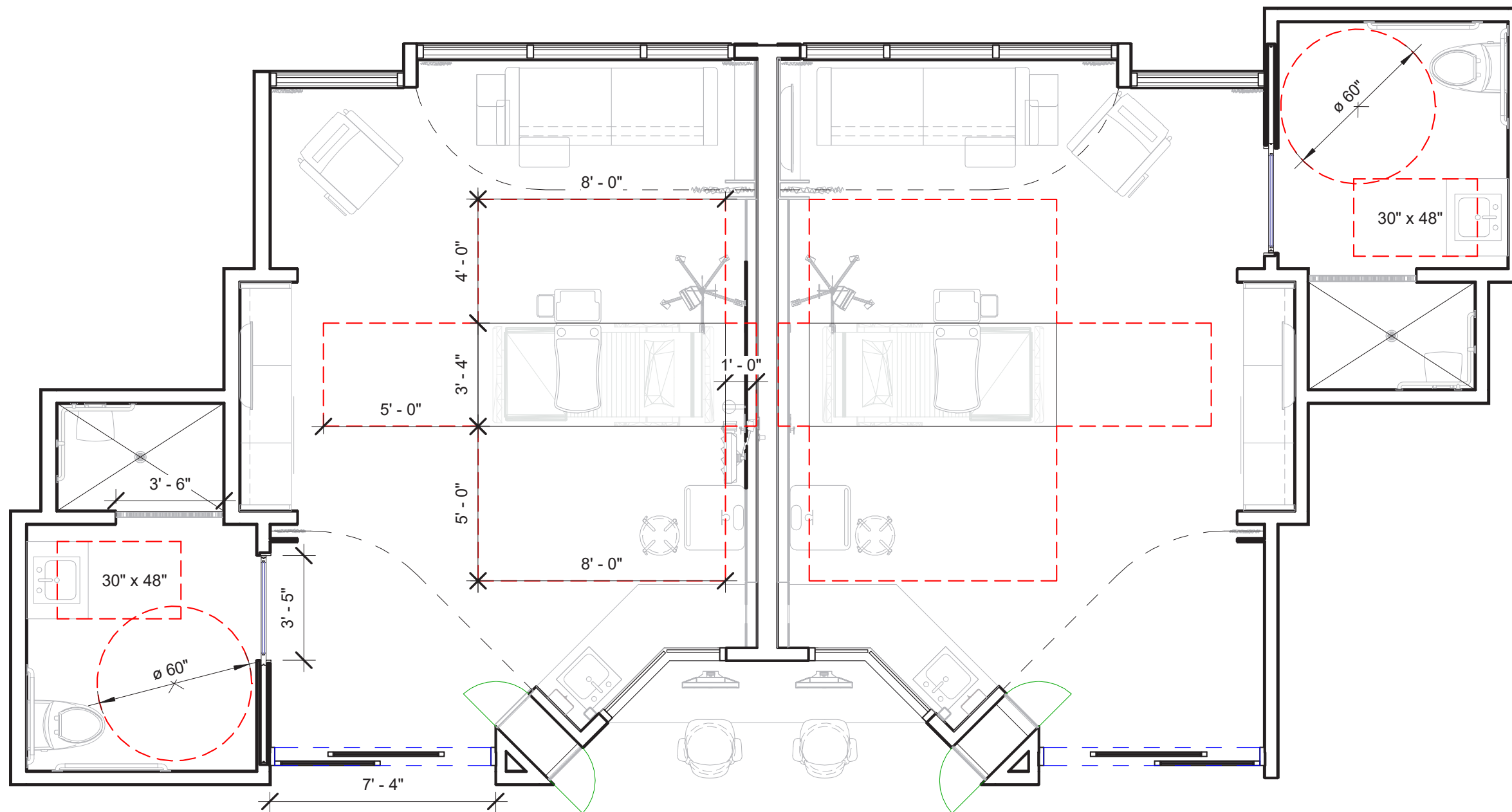


# CRITICAL CARE ROOM FLOOR PLAN

SCALE : 1/4" = 1' - 0"





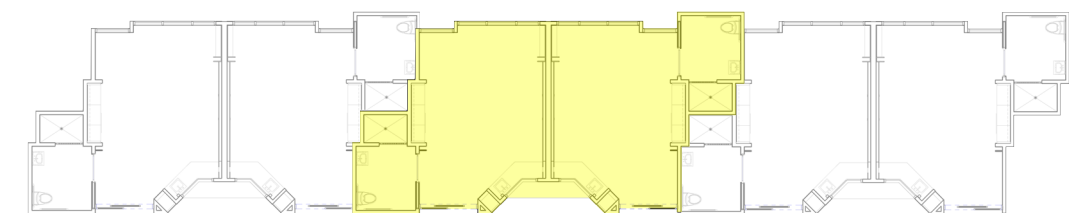


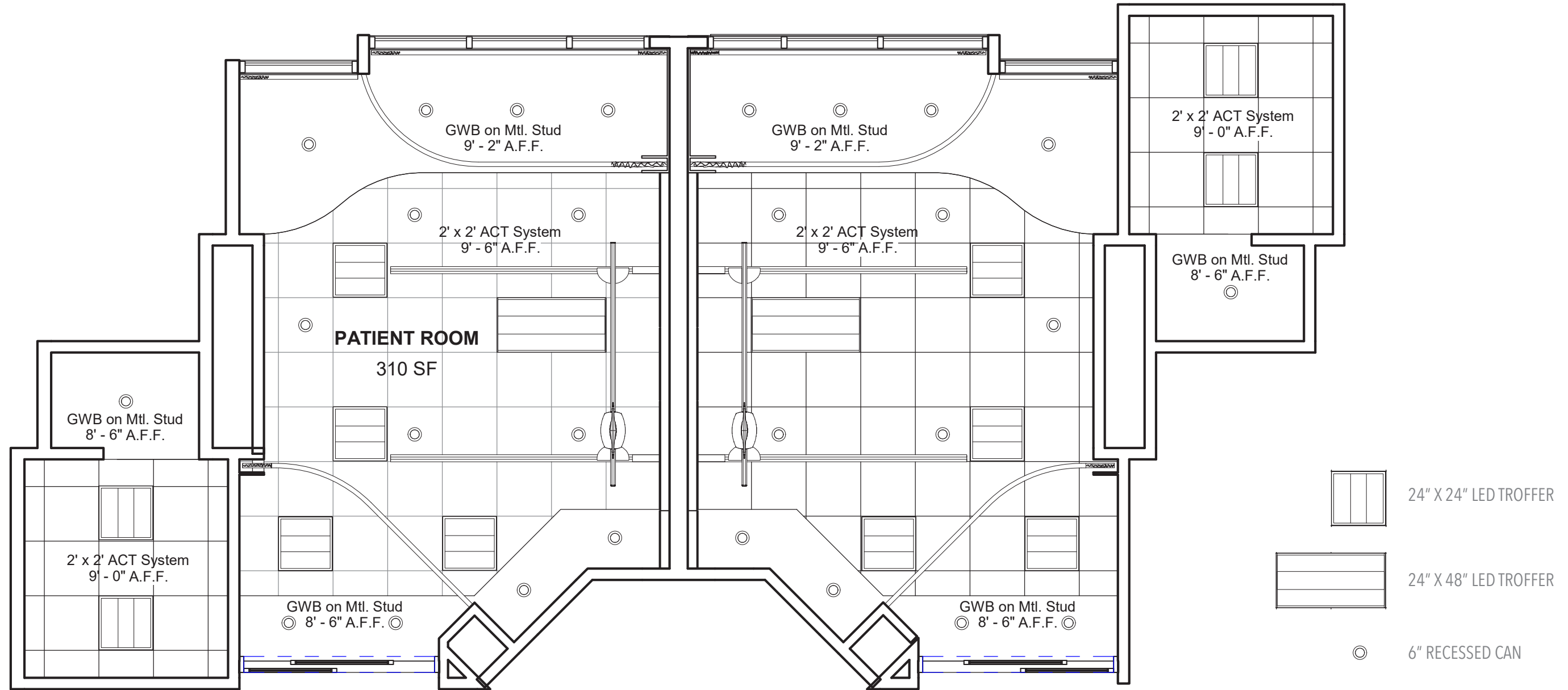
## FGI STANDARDS / REQUIREMENTS

- Handrails and grab bars shall be included in the patient room, patient toilet room and patient care unit corridors.
- A hand washing station shall be provided in the patient room in addition to that in the toilet room. Located adjacent to the entrance of room.
- In patient care units, the patient toilet room shall serve no more than one patient room.
- Patient toilet room shall be equipped with a toilet, hand washing station, and a bedpan rinsing device.
- Each patient room shall have a separate wardrobe, locker, or closet suitable for storing personal items and garments.
- Minimum of 16 electrical receptacles in a critical care unit patient room, convenient to head of bed with one on each wall.
- 1 Nurse call device required at the patient station, staff assistance station and the emergency call station
- 3 Oxygen outlets required per patient bed
- 3 Vacuum outlets required per patient bed
- 1 Medical Air outlet required per patient bed
- Minimum 13' Headwall
- Sliding doors must not have floor tracks
- Minimum door opening is 45.5"
- Minimum door height is 83.5"

## ROOM ANNOTATIONS

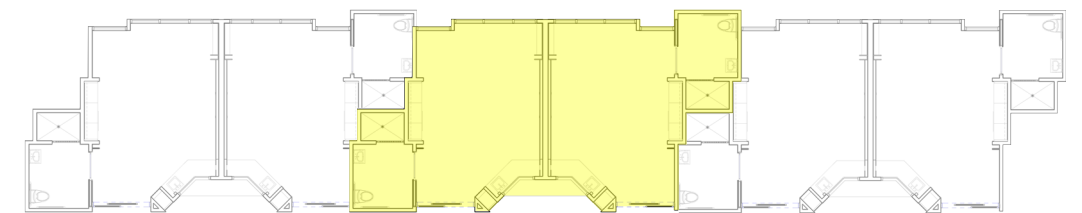
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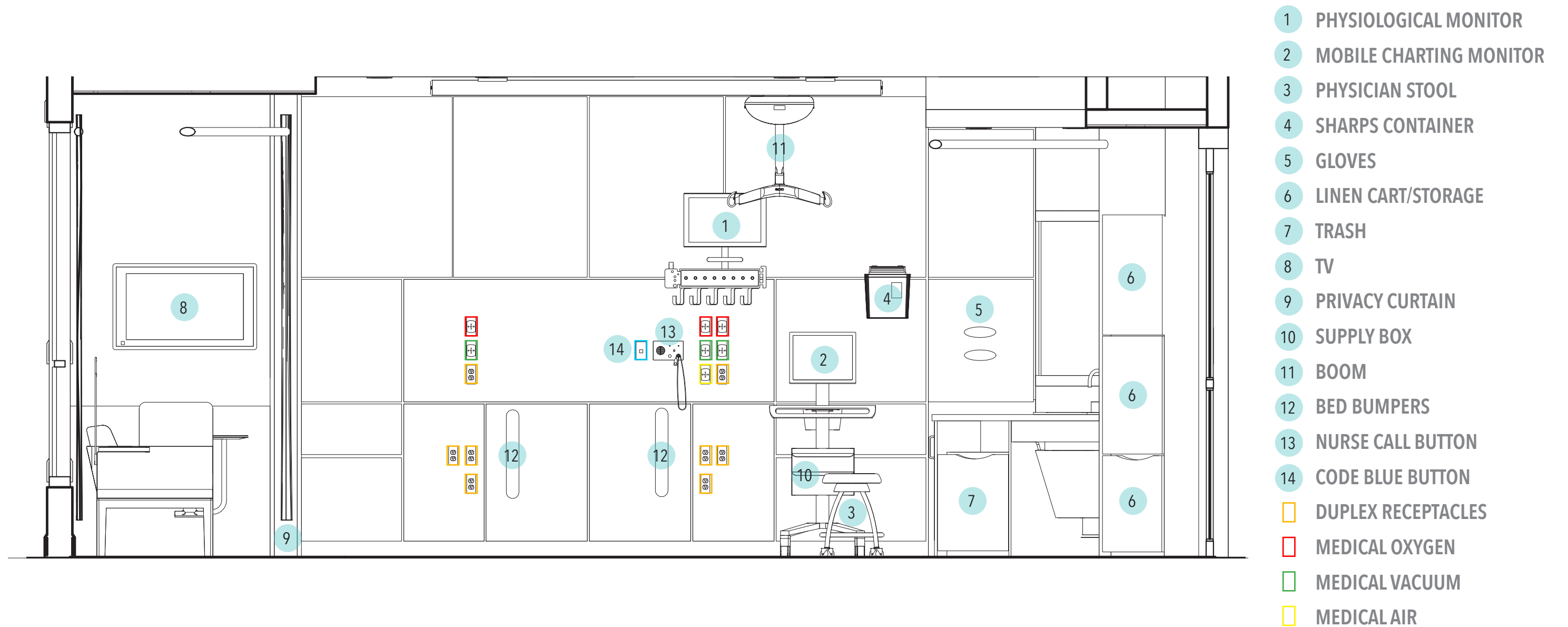


# REFLECTED CEILING PLAN

SCALE : 1/4" = 1' - 0"

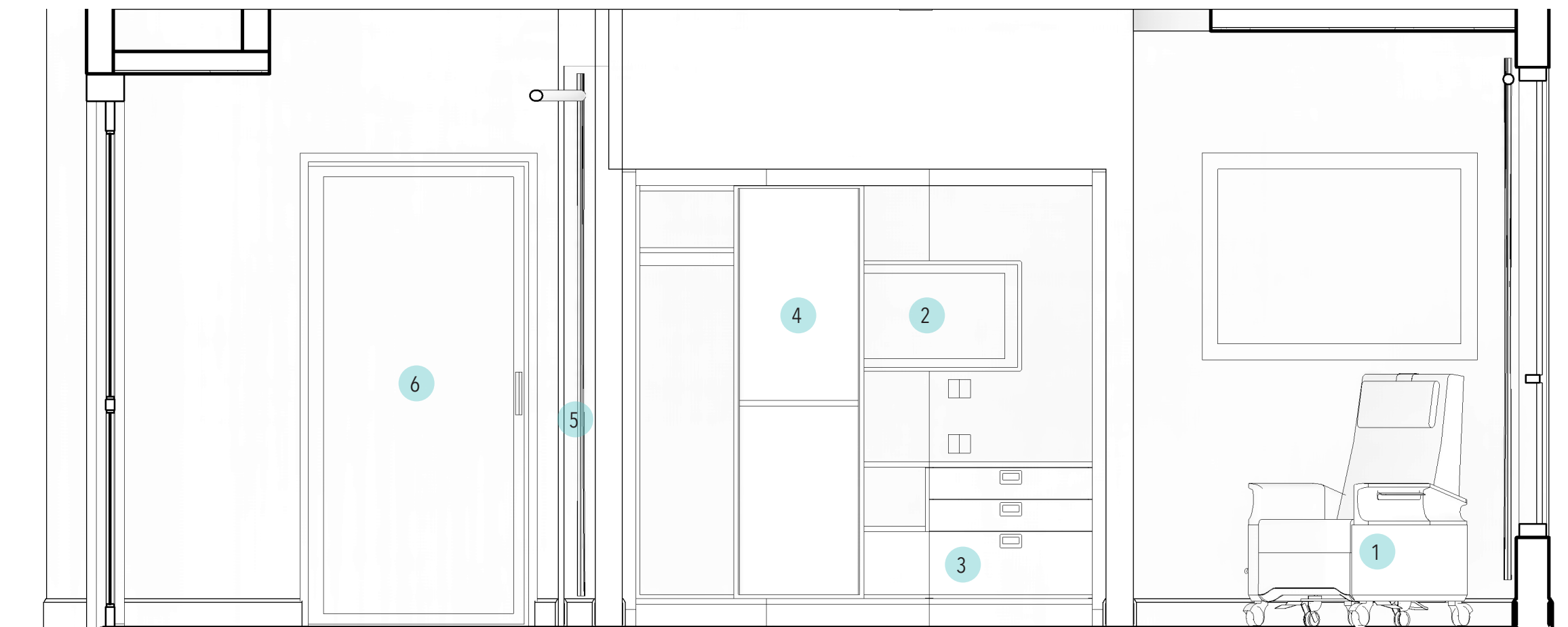






# INTERIOR ELEVATION - HEADWALL

SCALE : 1/2" = 1' - 0"



- 1 PATIENT CHAIR
- 2 TV
- 3 STORAGE
- 4 WHITE BOARD
- 5 PRIVACY CURTAIN
- 6 BATHROOM POCKET DOOR

## INTERIOR ELEVATION - FOOT WALL

SCALE : 1/2" = 1' - 0"





SHERWIN WILLIAMS PAINT  
SW 0020 PEACOCK PLUME



AROBORITE LAMINATE  
S-431 CA WILLOW GREY



CORIAN SOLID SURFACE  
LIMESTONE PRIMA



SHERWIN WILLIAMS PAINT  
SW 7035 AESTHETIC WHITE



LAB DESIGNS LAMINATE  
610 TX HARD ROCK MAPLE



DESIGN TEX - CUBICLE  
SALT WAVES 8036-801



MANNINGTON COMMERCIAL  
SHEET VINYL - TITANIUM



DESIGN TEX - UPHOLSTERY  
SORANO 3403 - 104



MANNINGTON COMMERCIAL  
SHEET VINYL - PERSIAN WALNUT | BALSAM

## FINISH SELECTIONS - PATIENT ROOM



STEELCASE HEALTH - OPUS  
WARDROBE W/ SLIDING DOOR  
AND STORAGE



STEELCASE HEALTH - EMPATH  
RECLINER W/ FIXED ARMS & HEADREST



STEELCASE HEALTH - VERGE  
21" STOOL W/ CASTERS



STEELCASE HEALTH - POCKET  
MONITOR MOUNT W/ TWO BIN UNIT



STEELCASE HEALTH - SURROUND 94W  
BOTH ARM, LEFT 11" END TABLE,  
TABLET RAIL, COAT HANGER

## FURNITURE SELECTIONS - PATIENT ROOM





## CRITICAL CARE PATIENT ROOM RENDERING





## CRITICAL CARE PATIENT ROOM RENDERING





CRITICAL CARE PATIENT ROOM RENDERING



THANK YOU!