U.S. Department of Veterans Affairs

Surgical and Endovascular Services Space Design Standards

A Compendium

Submitted to: VHA Healthcare Environment and Facilities Programs (19HEFP)
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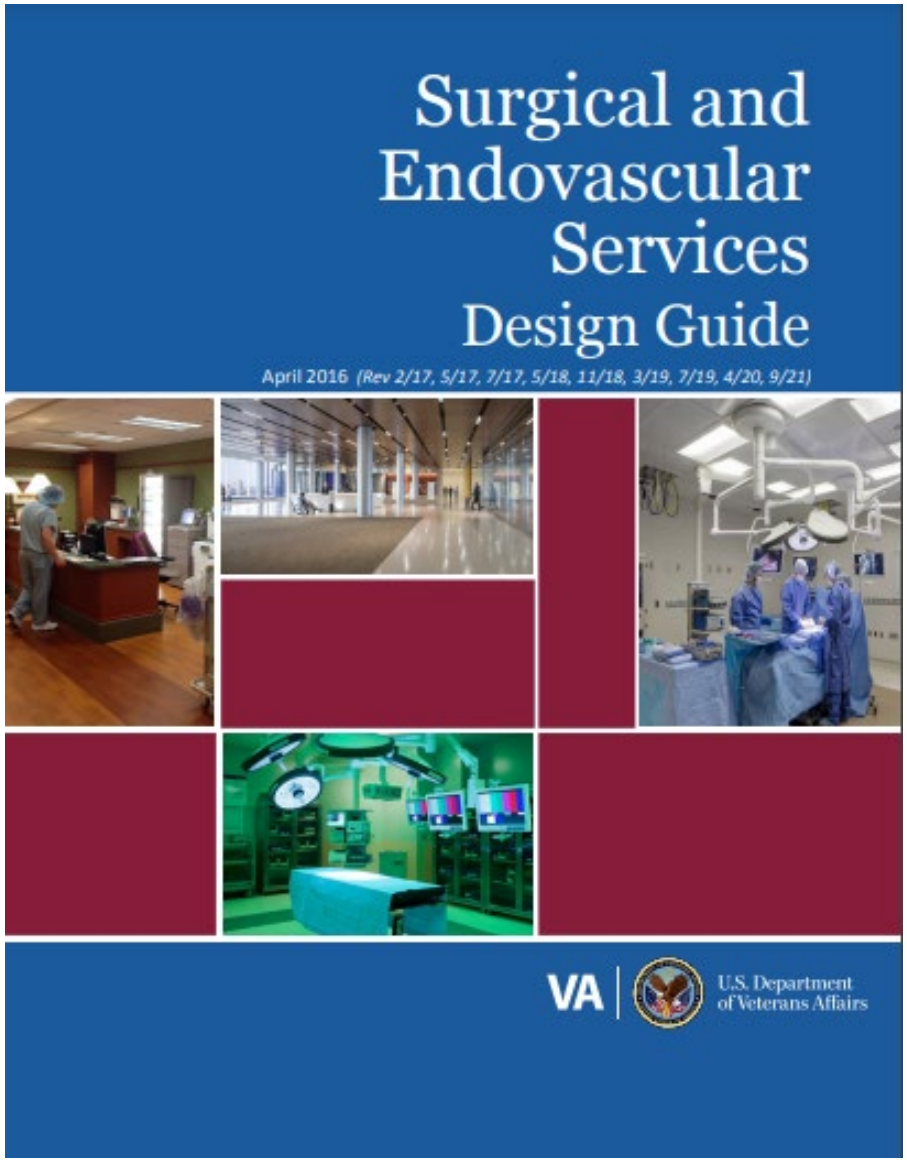
Office: CFM Facilities Standards Service (003C2B)

Surgical and Endovascular Services Space Design Standards



- Lessons Learned: Site Tours
  - Advocate Sherman Hospital
  - University of Chicago Medical Center
  - Rush University Medical Center
- Functional Flow Diagrams
- Final Layouts of Design Standards
- SEPS Chapter 286
- Resources:

http://www.cfm.va.gov/til/dGuide/dgSurg.pdf

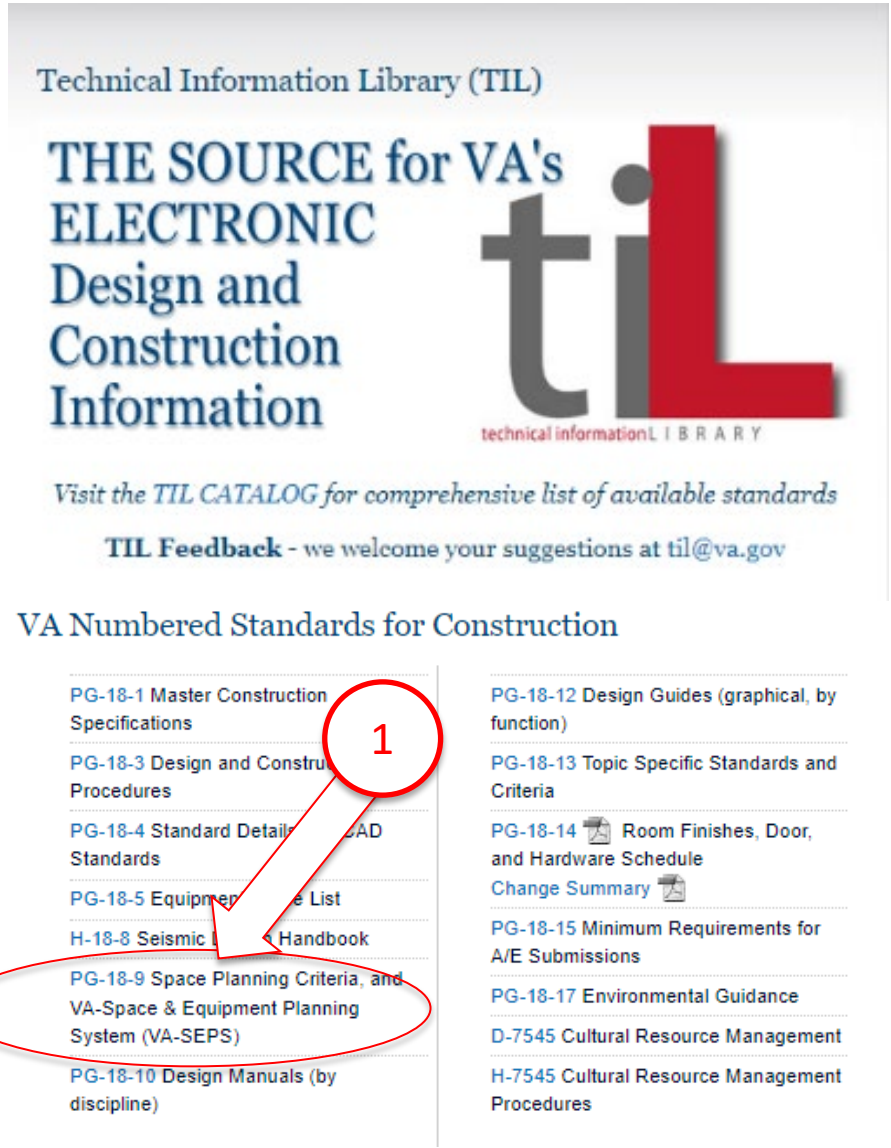
http://www.cfm.va.gov/til/space/spChapter286.pdf

https://www.cfm.va.gov/til/dGuide/dgSurgAppendixA.pdf

https://www.cfm.va.gov/til/dGuide/dgSurgAppendixB.pdf

https://www.cfm.va.gov/til/dGuide/dgSurgAppendixC.pdf

Surgical and Endovascular Services Space Design Standards



Technical Information Library (TIL)

THE SOURCE for VA's ELECTRONIC Design and Construction Information

Visit the TIL CATALOG for comprehensive list of available standards

TIL Feedback - we welcome your suggestions at til@va.gov

VA Numbered Standards for Construction

- PG-18-1 Master Construction Specifications
- PG-18-3 Design and Construction Procedures
- PG-18-4 Standard Details & CAD Standards
- PG-18-5 Equipment Guide List
- H-18-8 Seismic Design Handbook
- PG-18-9 Space Planning Criteria, and VA-Space & Equipment Planning System (VA-SEPS)
- PG-18-10 Design Manuals (by discipline)
- PG-18-12 Design Guides (graphical, by function)
- PG-18-13 Topic Specific Standards and Criteria
- PG-18-14 Room Finishes, Door, and Hardware Schedule
  Change Summary
- PG-18-15 Minimum Requirements for A/E Submissions
- PG-18-17 Environmental Guidance
- D-7545 Cultural Resource Management
- H-7545 Cultural Resource Management Procedures

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SPACE & FACILITY PLANNING

THE SOURCE for VA's ELECTRONIC Design and Construction Information

TIL Feedback - we welcome your suggestions at til@va.gov

The updating of VA Space Planning Criteria will continue incrementally as needed to keep the Criteria current with health care industry benchmarks and best design practice, to provide state-of-the-art facil... supporting the delivery of world class health care to veterans.

Please call or email Office of Constru... & Facilities Management, Facilities Standards Service, Gary M. Fisch... Senior Architect, 202-632-4898 for assistance.

- VA-Space and Equip... Planning System (VA-SEPS)
- Space Planning Criteria for VA Facilities PG-18-9
- Equipment Guide List PG-18-5

Substance Abuse Clinic (202) DELETED - merge... Mental Health Clinic (260)	n/a
Surgical/Endovascular Service (286)	2022-03
Veterans Assistance Unit (218)	2022-03
Veterans Canteen Service (VCS) (206)	2022-03
Voluntary Service (290)	2022-03
Women Veterans Clinical Service (WVCS) (Models 2 and 3) (258)	2022-03

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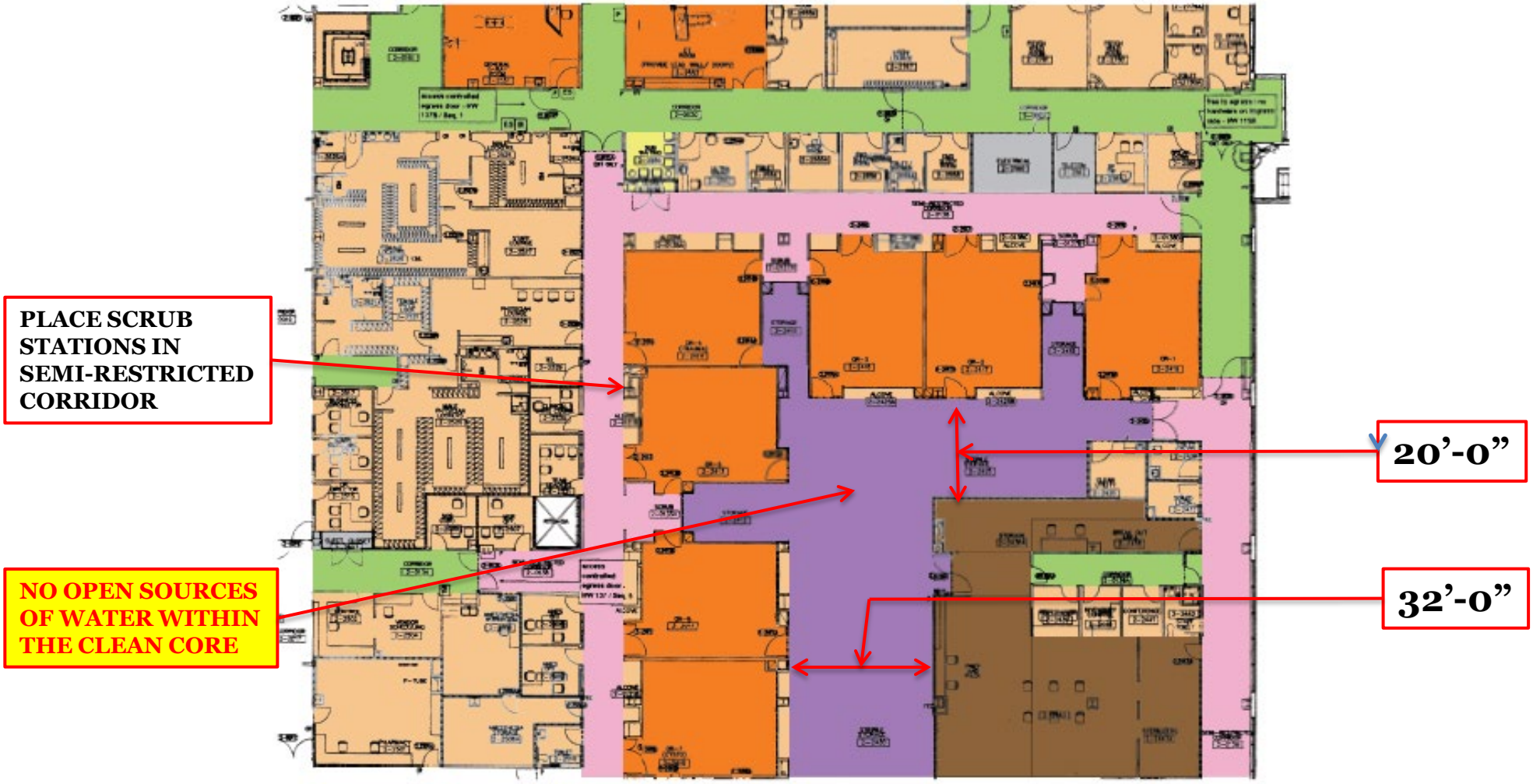
3

The purpose of the VA Surgical Service Planning and Design Guide:

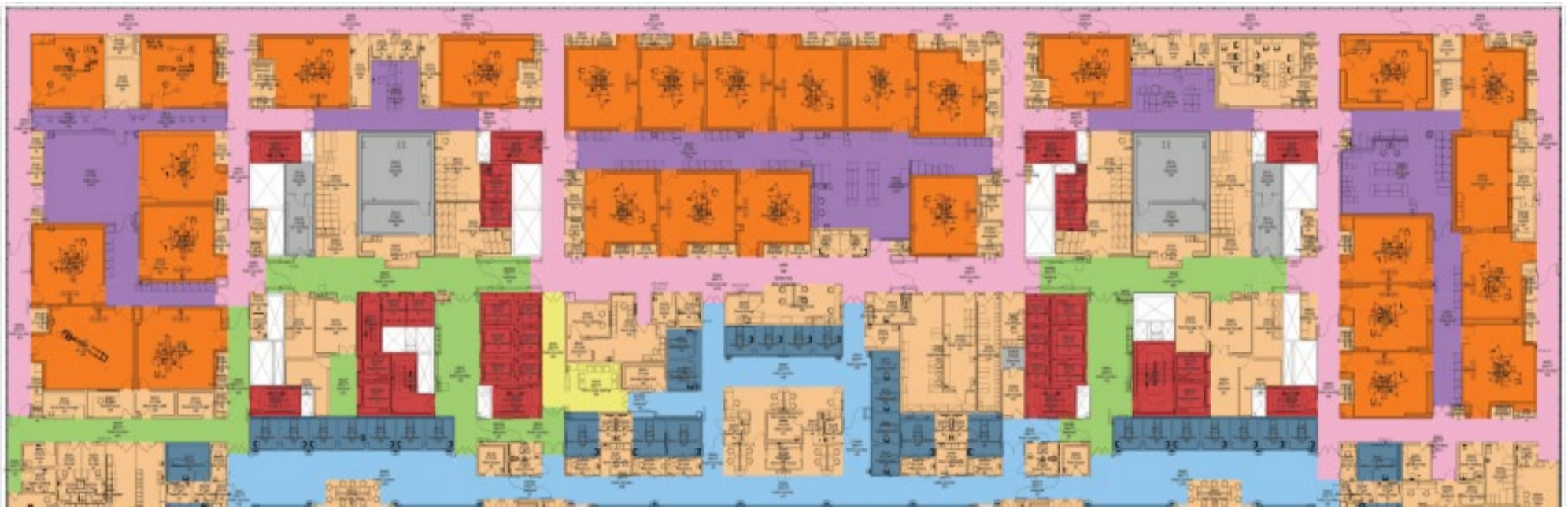
- Define the principles for VA 'Best Practice' in healthcare planning and Design.
- Establish a framework within which of the functional spaces of the hospital and OP facility can be planned and designed to facilitate safe, effective and efficient healthcare delivery to Veterans.

Lessons Learned: Advocate Sherman Hospital



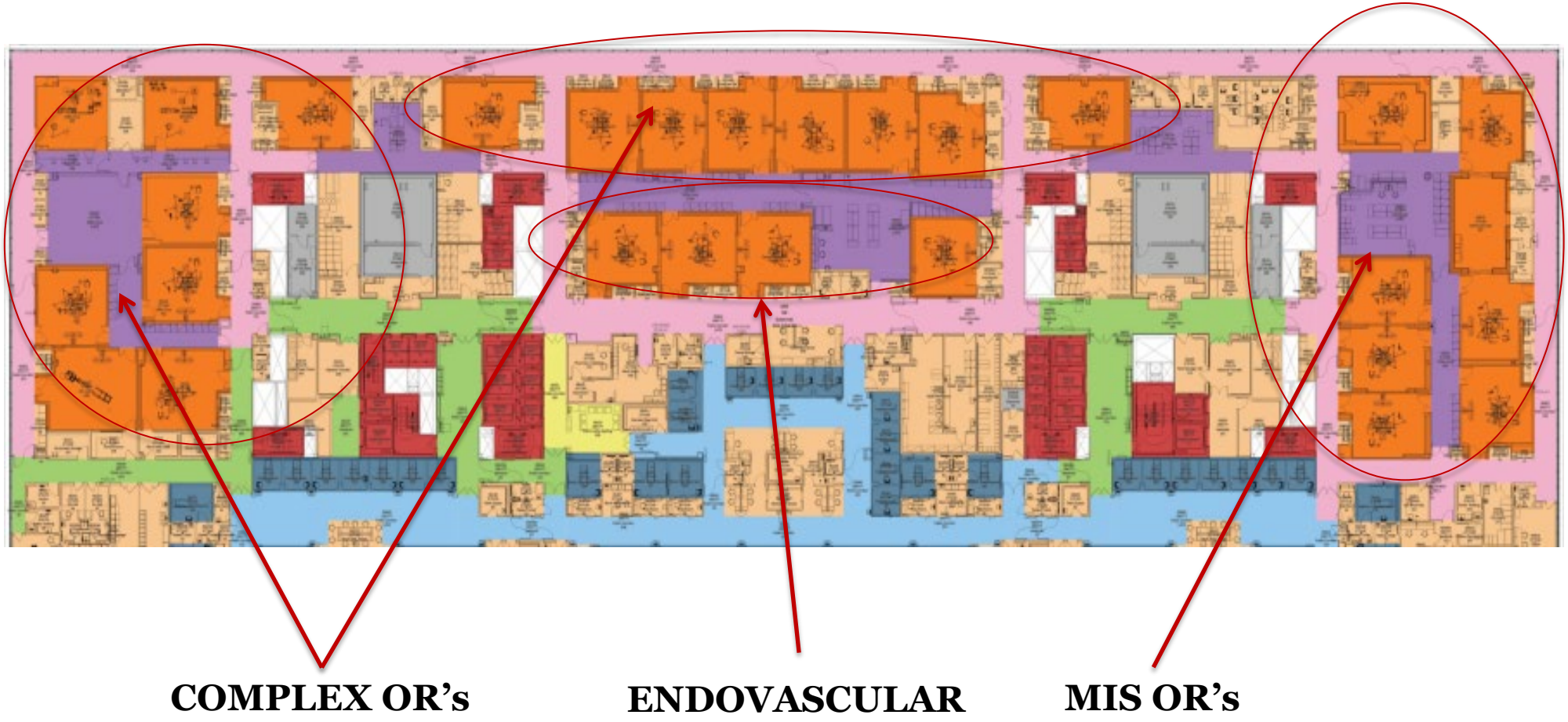
RECOMMENDED MINIMUM CLEAN CORE WIDTH OF 20'-0"

Lessons Learned: University of Chicago Medical Center



TOO LONG

Lessons Learned: University of Chicago Medical Center



Lessons Learned: Rush University Medical Center

Lessons Learned: Rush University Medical Center

Lessons Learned:

- PLACE SCRUB STATIONS IN SEMI-RESTRICTED CORRIDOR
- UTILIZED SURGERY PODS OF 4 TO 6 OR's MAXIMUM
- ADAQUATE STORAGE SPACE IS CRITICAL, THERE'S NEVER ENOUGH
- SEMI-RESTRICTED CORRIDORS SHOULD BE WIDER OR PROVIDE ALCOVES
- OR SIZES HAVE GROWN TO ACCOMMODATE NEW TECHNOLOGIES
- AVOID TRIP HAZARDS KEEP THE FLOOR CLEAN FROM CLUTTER, CABLES, HOSES, ETC.
- DON'T ACCESS HYBRID OR/CATH/EP/IR EQUIPMENT ROOM (ICR) FROM PROCEDURE ROOM, ACCESS FROM SEMI-RESTRICTED CORRIDOR
- RATIO OF PATIENT PREP-RECOVERY and PACU TO OR's HAS INCREASED
  Prep-Recovery: (3.0 Bays Per Each OR/Endovascular Procedure Room)
  PACU: (2.5 Bays Per Each OR/Endovascular Procedure Room)

Lessons Learned (cont'd):

- ENDOVASCULAR SUITES ARE INTEGRATED: IR, EP, CATH AND VASCULAR SURGERY
- INTEGRATED SUITE SOLUTIONS CAN BE STACKED WITH CLEAN CORES ALIGNED ATOP ONE ANOTHER.
- CATH-EP-IR AND VASCULAR LABS TO REFLECT SAME CONFIGURATION AS SURGERY SUITES
- COMPONENT EQUIPMENT ROOMS (ICR) FOR HYBRID OR'S & ENDOVASCULAR PROCEDURE ROOMS SHALL NOT BE ACCESSIBLE FROM WITHIN THE PROCEDURE ROOM
- ALL ENDOVASCULAR PROCEDURE ROOMS SIZES HAVE GROWN TO ACCOMMODATE NEW TECHNOLOGIES
- DOCUMENTATION: PROVIDE ADEQUATE DATA JACKS AND OUTLETS (**CART-CL** - Clinical Assessment, Reporting, and Tracking System, VSP, **MACLAB** - Hemodynamic Recording System , ARK - Graphics, ETC.)
- FAST TRACKING THE AMBULATORY SURGERY PATIENT BY PASSING PACU AND GOING DIRECTLY TO PHASE II RECOVERY MAY HELP WITH BACK LOG S IN PACU AND EXPEDITE DISCHARGE TO HOME.

2005 Surgery Design Guide

General @ 450-650 NSF

Specialty @ 600-800 NSF

2016 Surgery Design Guide

General @ 650 NSF

Transplant @ 750 NSF

CV @ 750 NSF

Neuro @ 750 NSF

Ortho @ 750 NSF

Robotic @ 750 NSF

Uro-Cysto @ 650 NSF

Hybrid @ 900 NSF

2011
Cardiovascular Laboratory Service Design Guide

Cath Lab @ 650 NSF 

EP Lab @ 650 NSF 

2016
Surgery Design Guide
(Includes Endovascular Services)

Cath Lab @ 850 NSF 

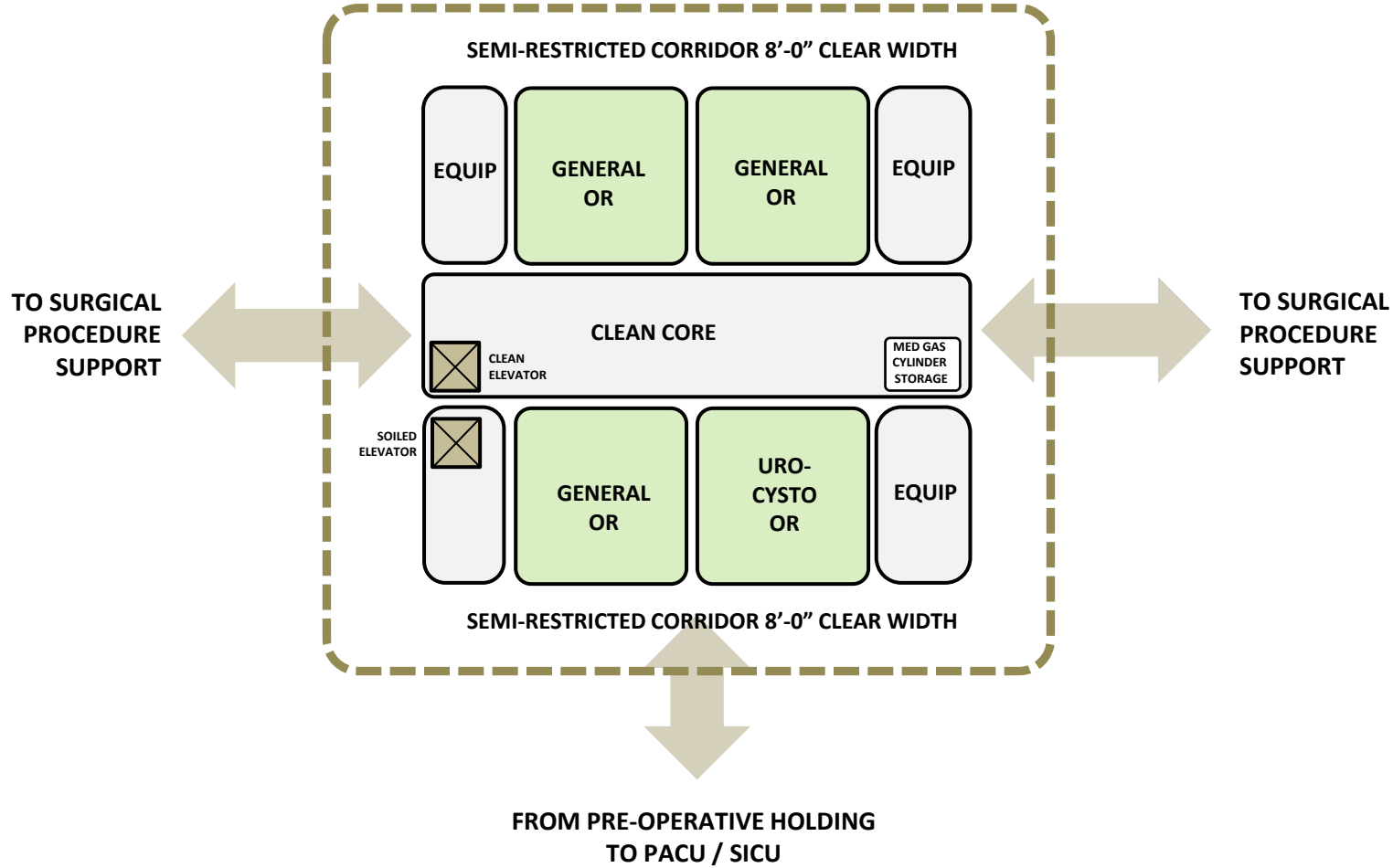
EP Lab @ 900 NSF 

2008
Radiology Design Guide

IR Special Procedure Room @ 500 NSF 

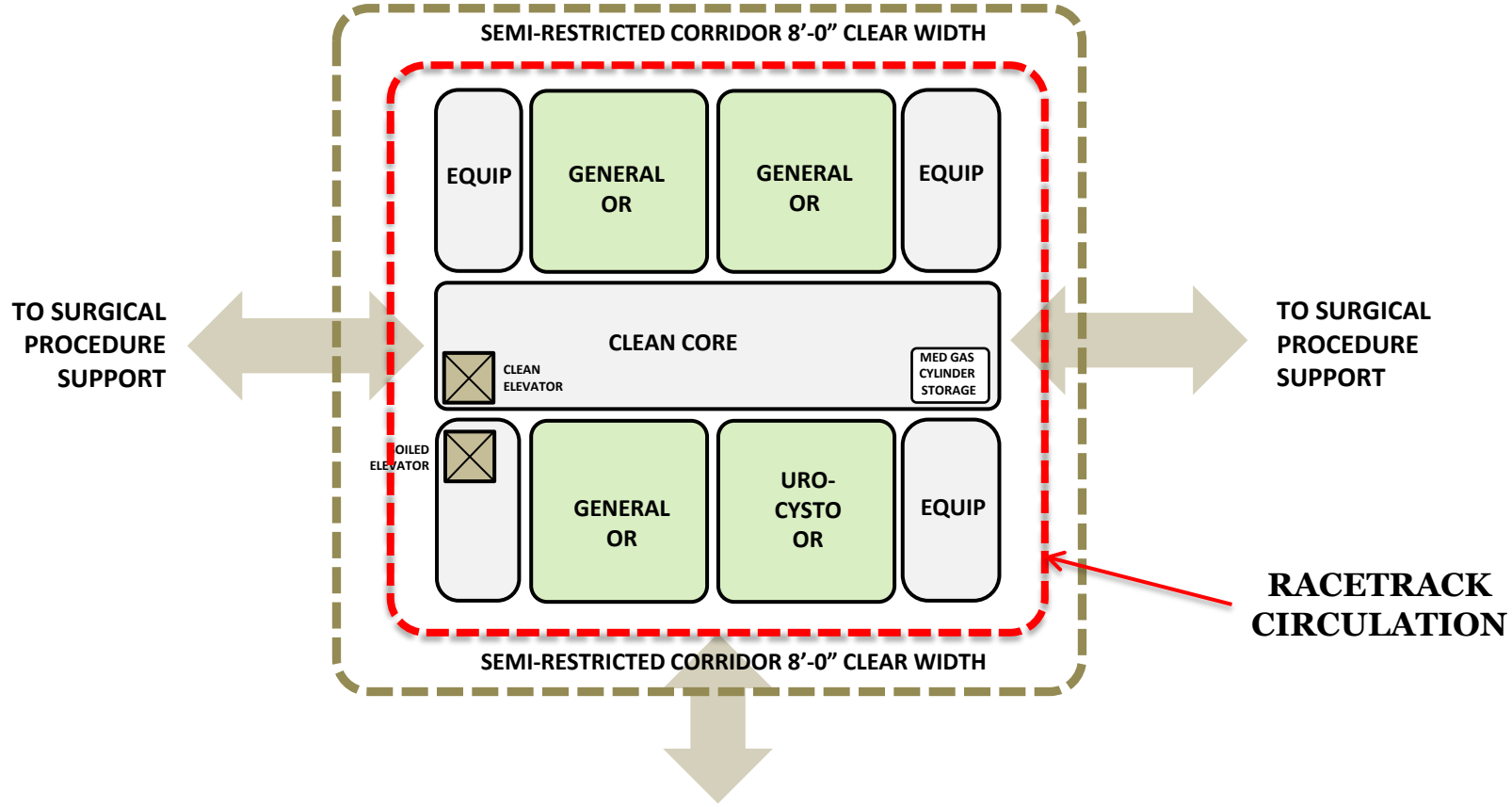
IR Vascular Procedure Room (EVAR Hybrid) @ 850 NSF 

Typical Configuration for Standard IP and OP Facilities



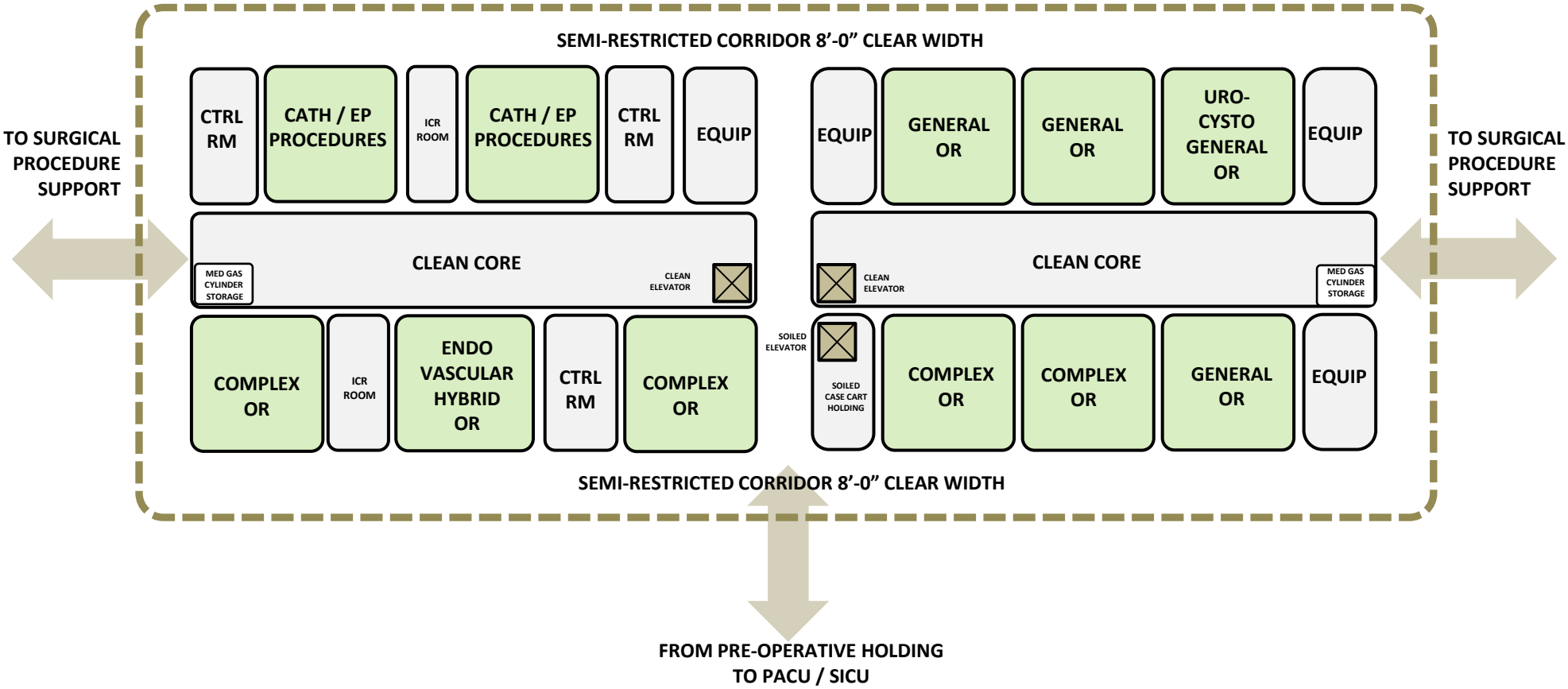
Standard / Ambulatory (OP) / Surgical Suite Organization

Typical Configuration for Standard IP and OP Facilities



Standard / Ambulatory (OP) / Surgical Suite Organization

"VHA medical facilities with invasive procedure complexity levels of Inpatient Complex or Inpatient Intermediate are expected to include endovascular surgery hybrid operating rooms in design if not already available at the facility."



Intermediate / Complex / Interventional Suite - Pods Organization

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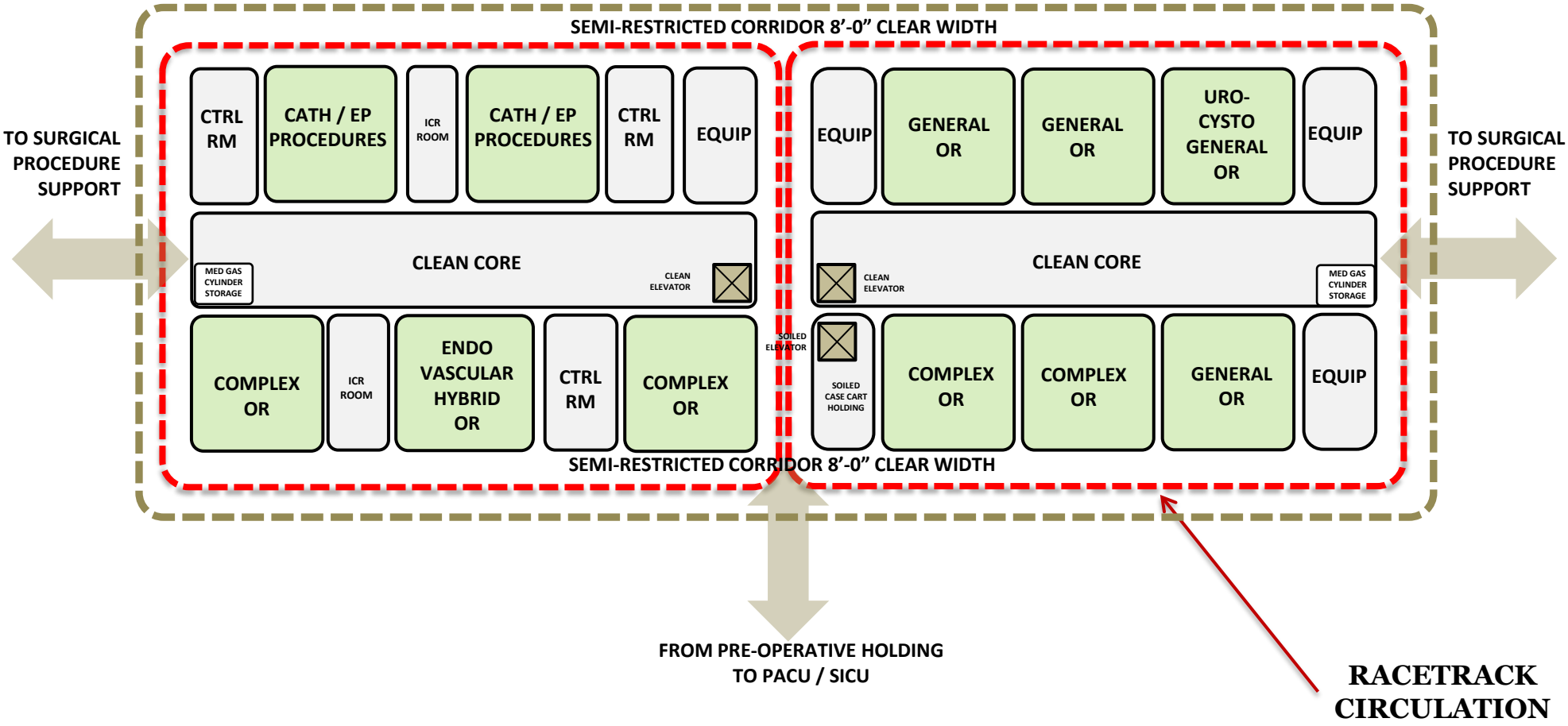

Intermediate / Complex / Interventional Suite - Pods Organization

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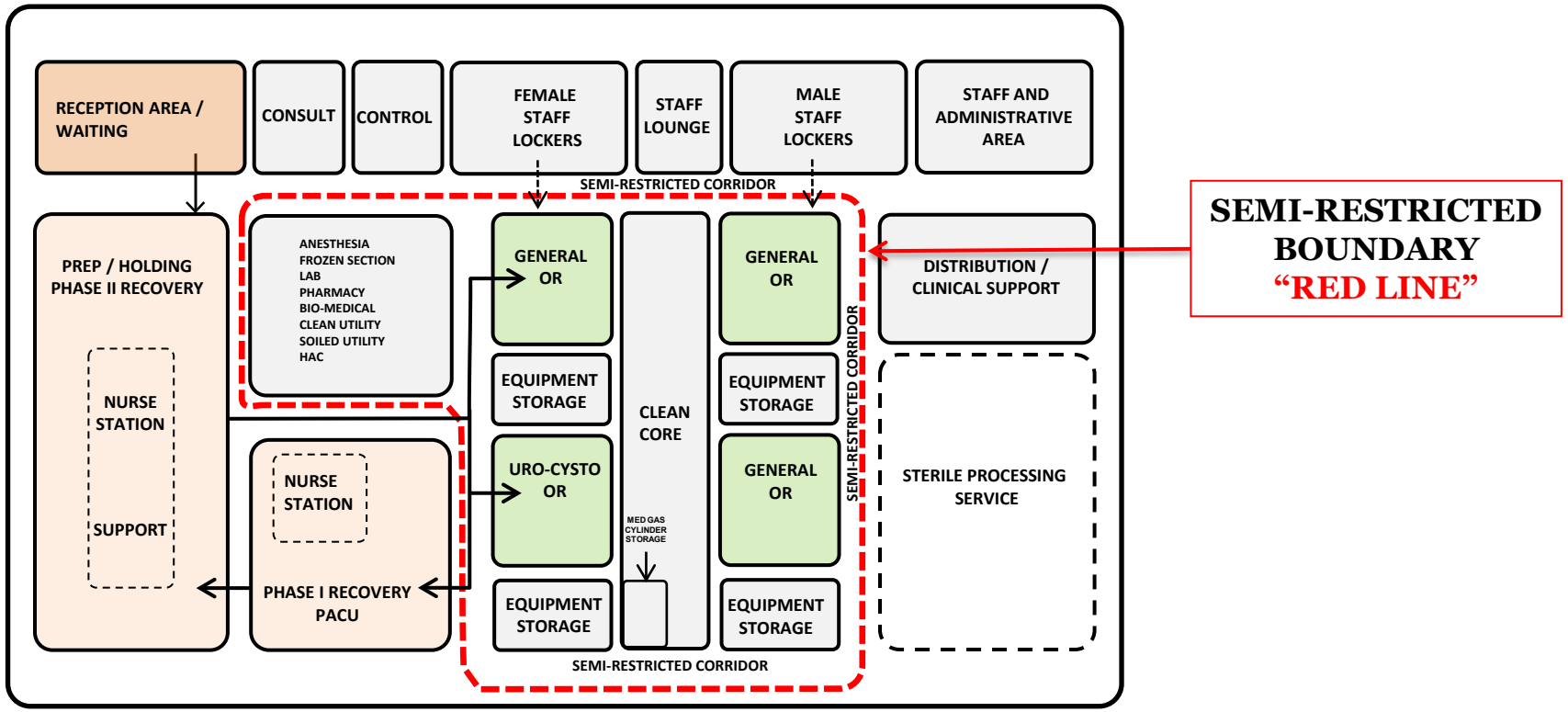
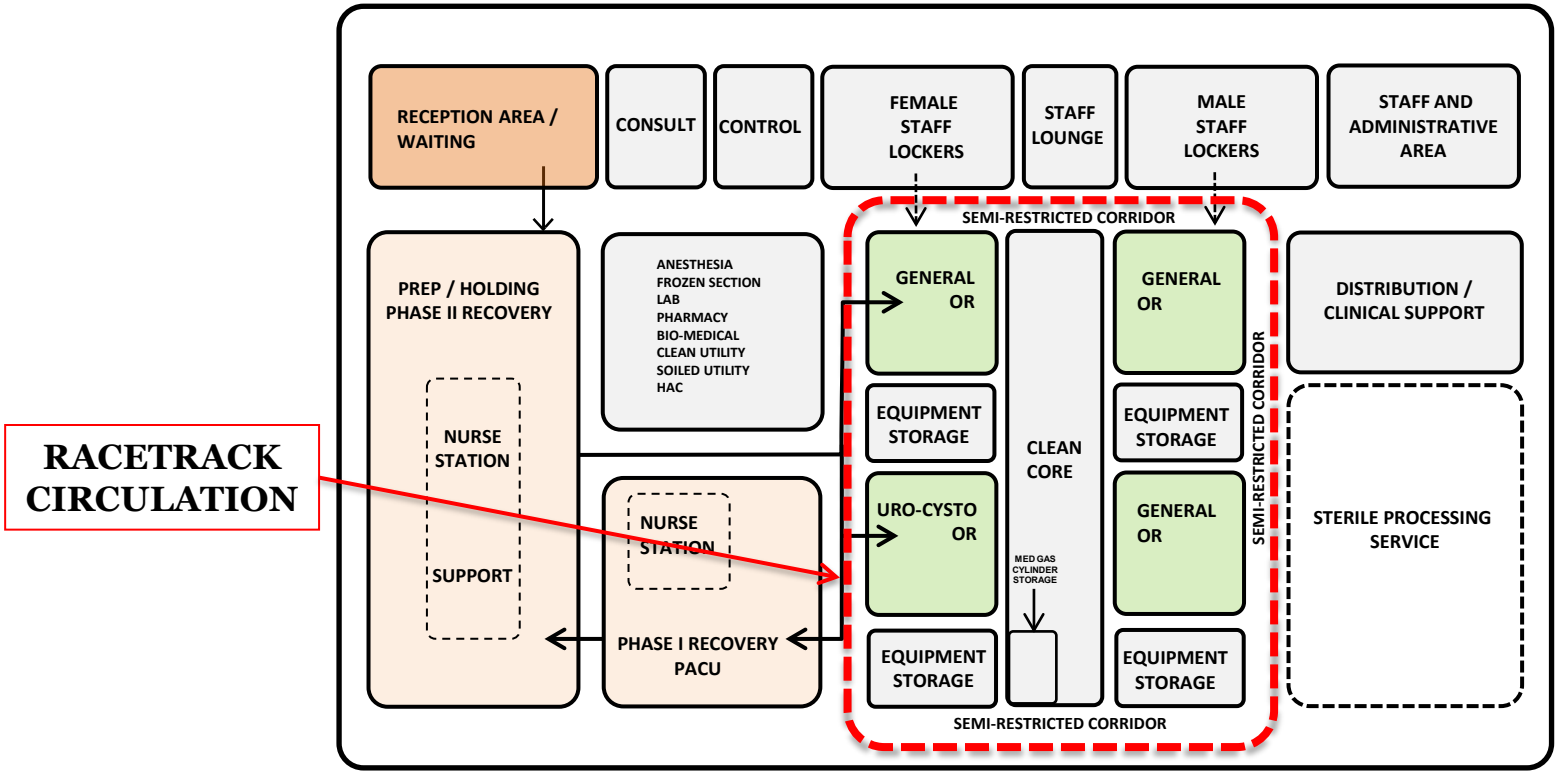


Standard/Ambulatory Surgical Suite

Typical Configuration for Standard IP and OP Facilities



Standard/Ambulatory Surgical Suite

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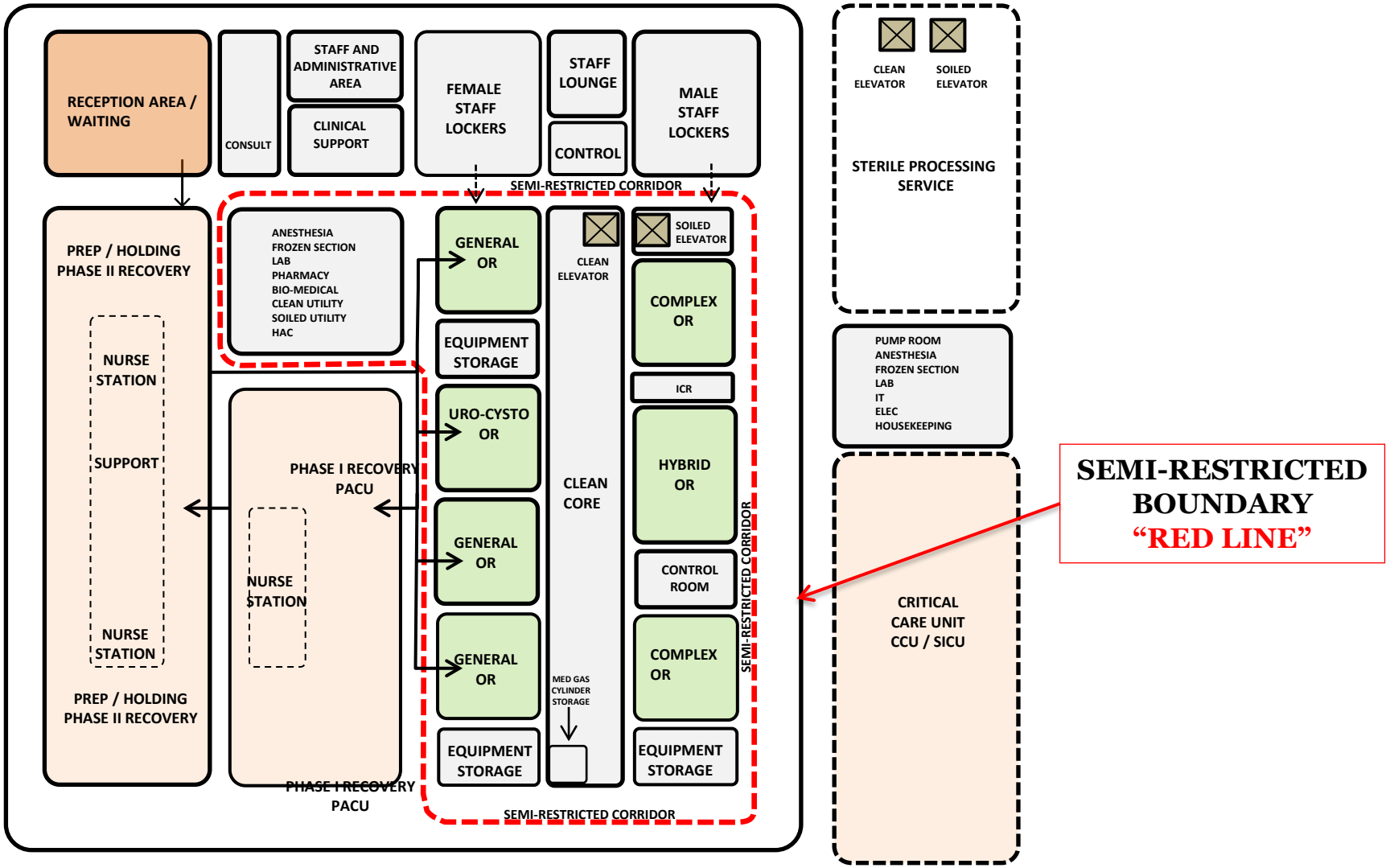
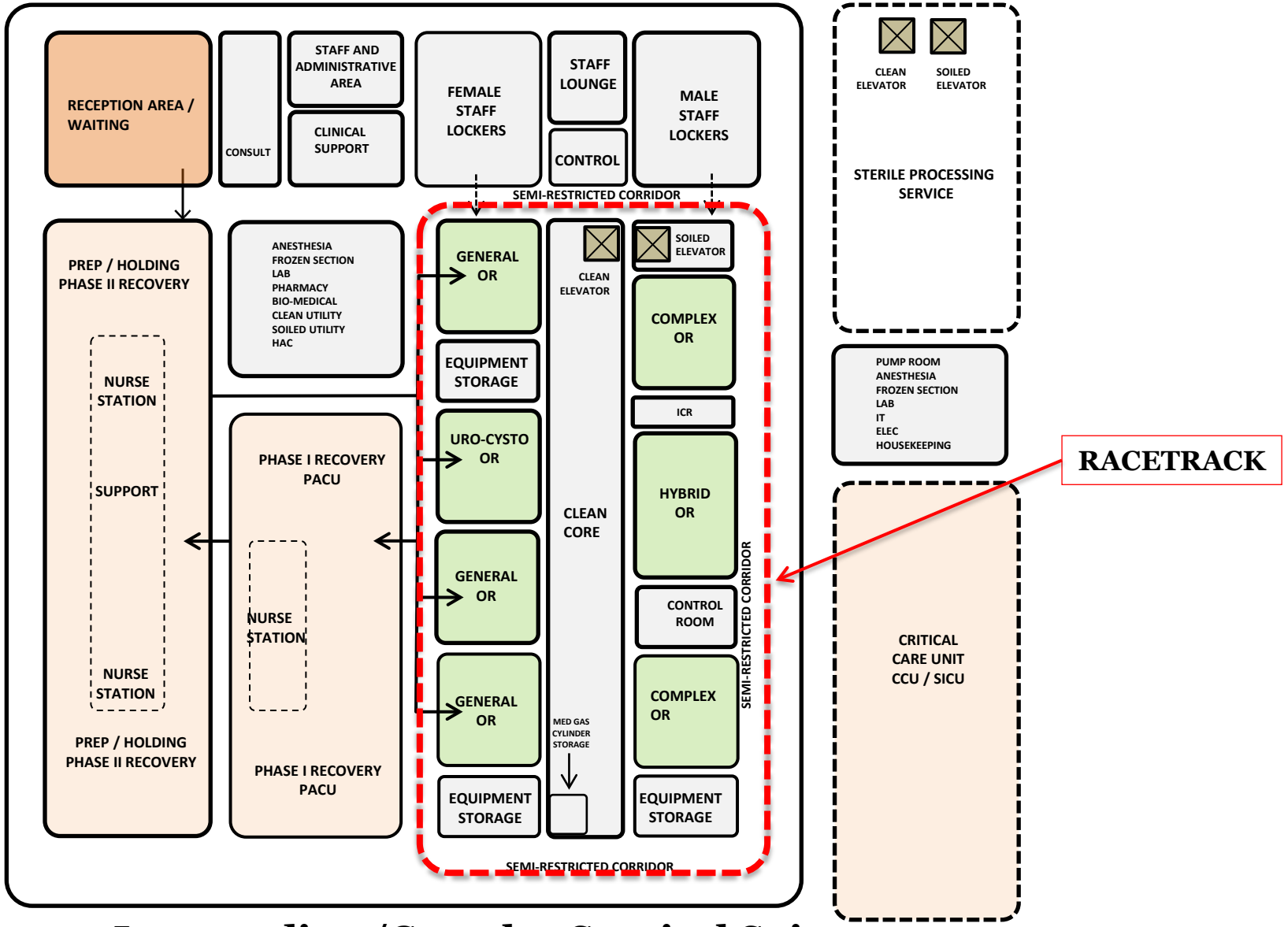


Intermediate/Complex Surgical Suite

FUNCTIONAL DIAGRAM

"VHA medical facilities with invasive procedure complexity levels of Inpatient Complex or Inpatient Intermediate are expected to include endovascular surgery hybrid operating rooms in design if not already available at the facility."



Intermediate/Complex Surgical Suite

FUNCTIONAL DIAGRAM

Surgical and Endovascular Services Space Design Standards

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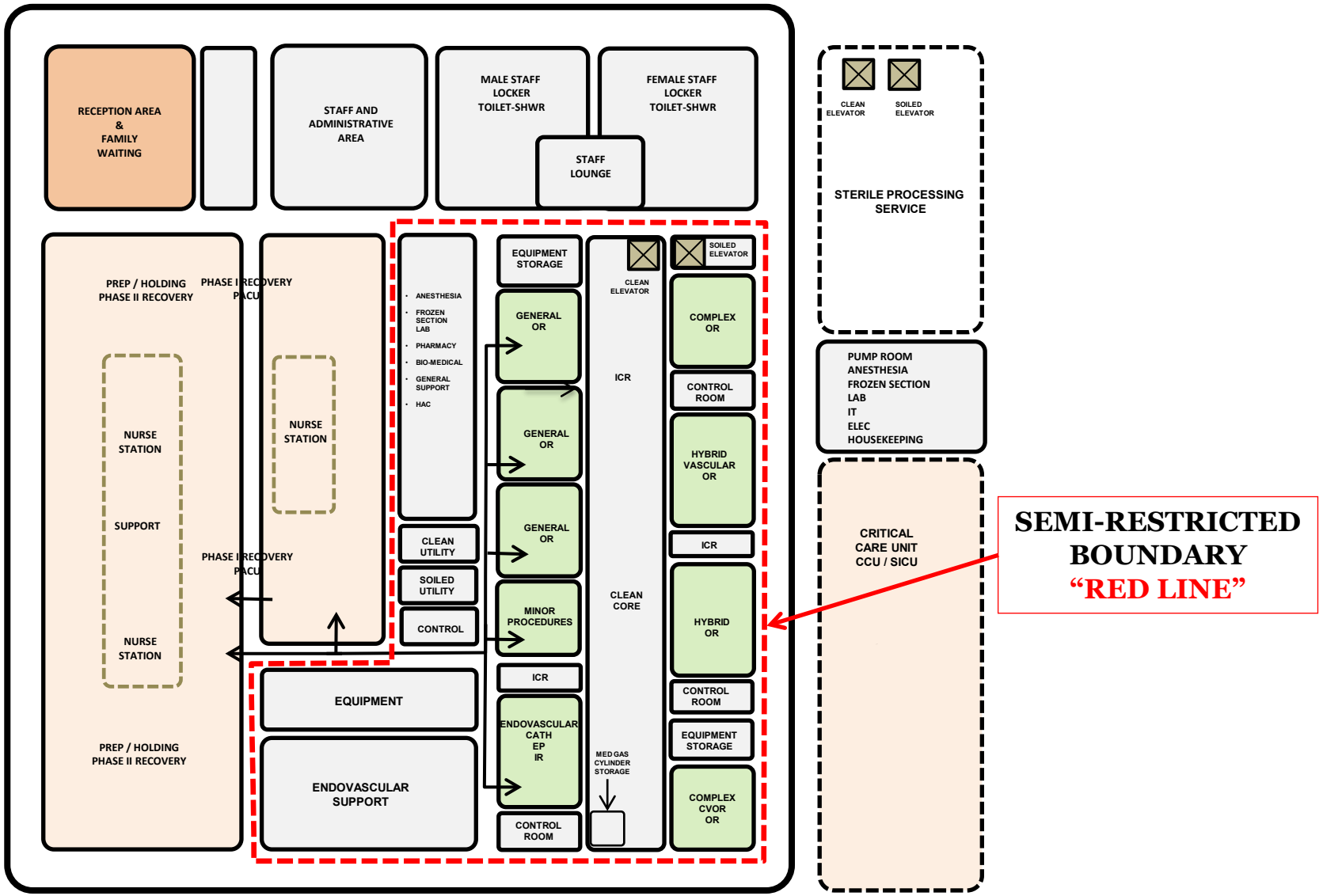

Complex Integrated Interventional Suite

FUNCTIONAL DIAGRAM

Surgical and Endovascular Services Space Design Standards

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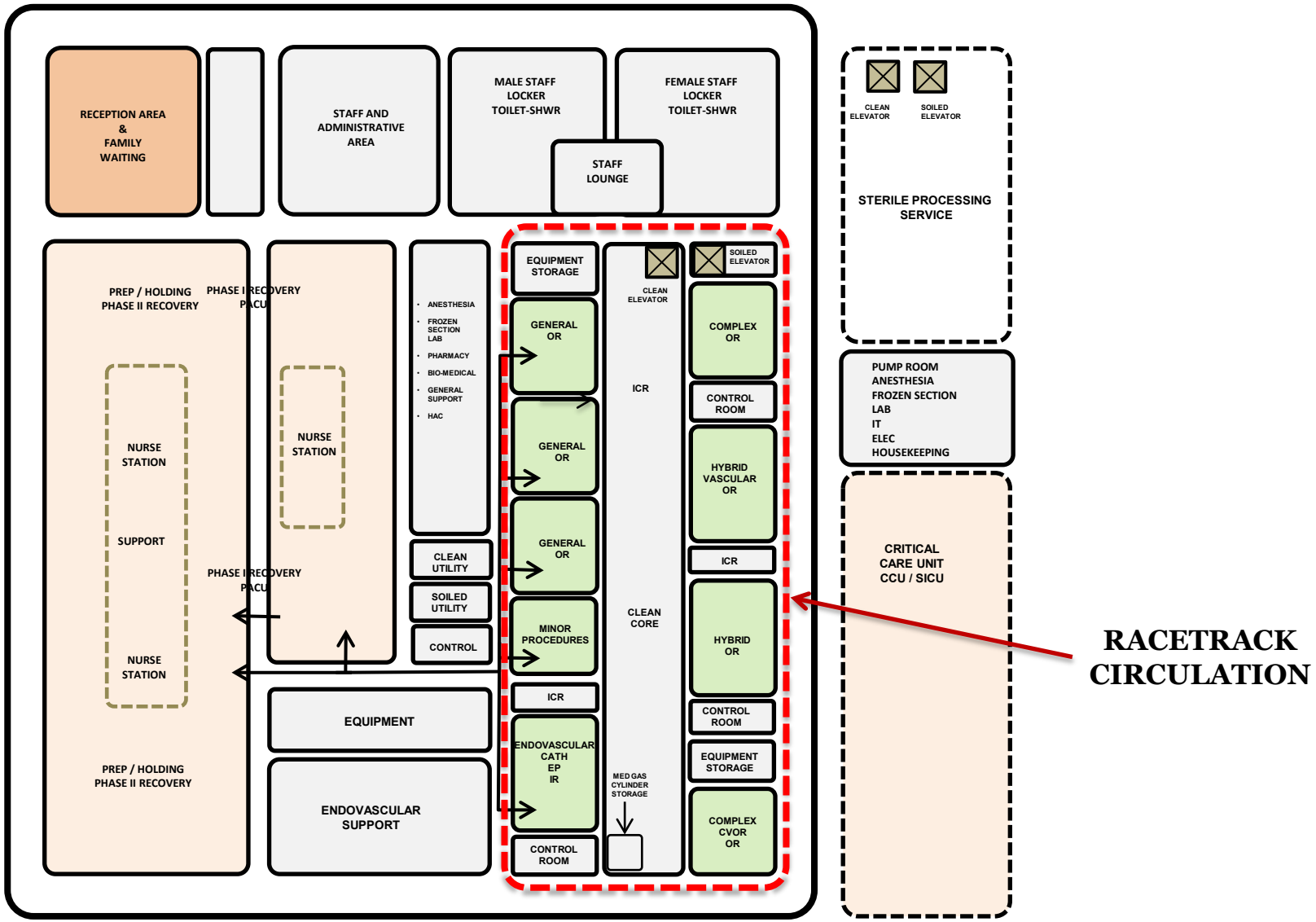
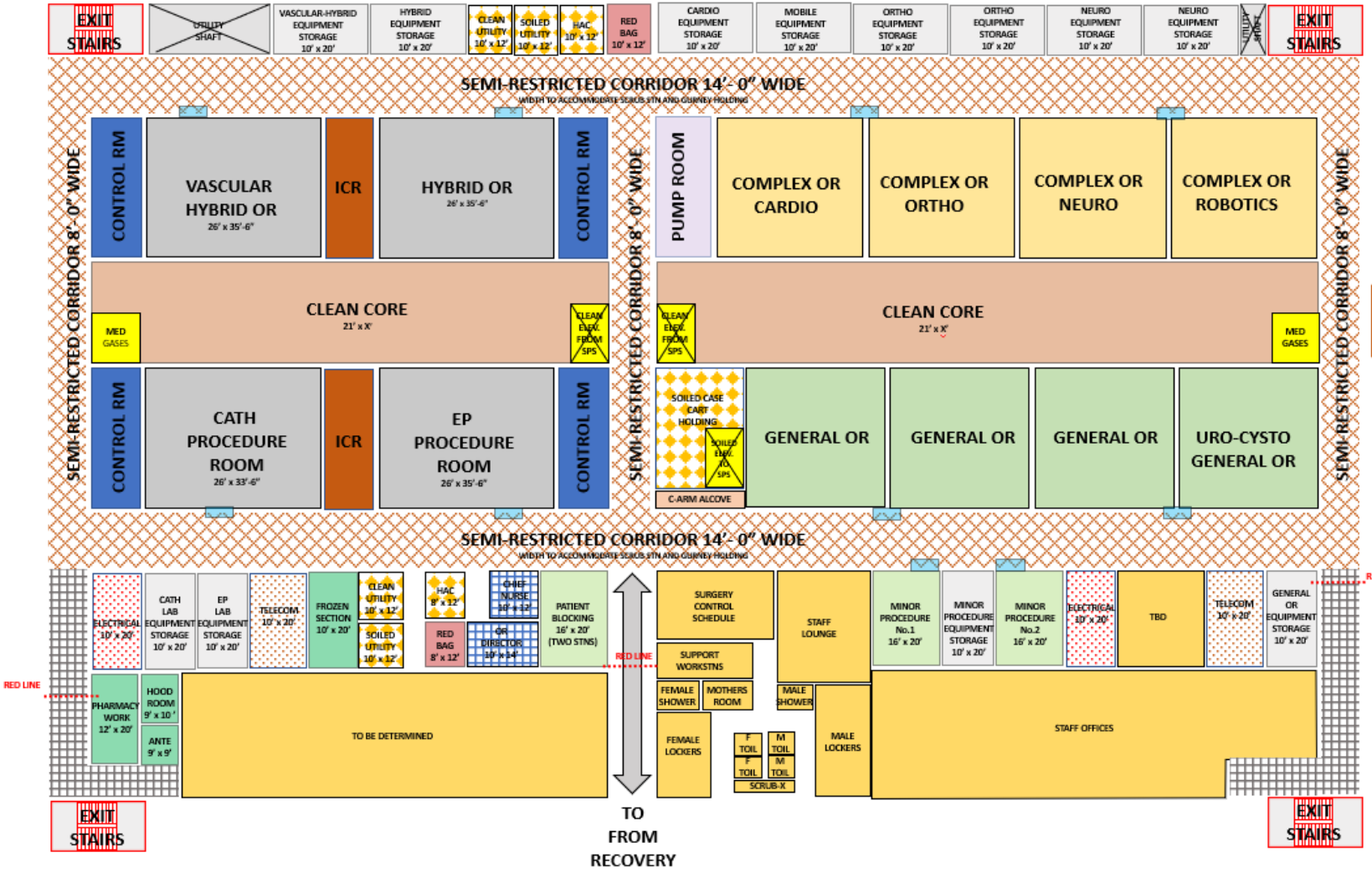


Complex Integrated Interventional Suite

FUNCTIONAL DIAGRAM

Surgical and Endovascular Services Space Design Standards



APPROXIMATE NSF FOR EACH TYPE PROCEDURE ROOM

Hybrid OR:	26' x 35.5'	923.0 NSF
Vas. Hybrid:	26'x 35.5'	923.0 NSF
Complex OR:	26' x 29.83'	775.5 NSF
General OR:	26' x 26'	676.0 NSF
Cath Lab:	26' x 33.5'	871.0 NSF
EP Lab:	26' x 25.5"	923.0 NSF
IR Lab:	26' x 33.5'	871.0 NSF

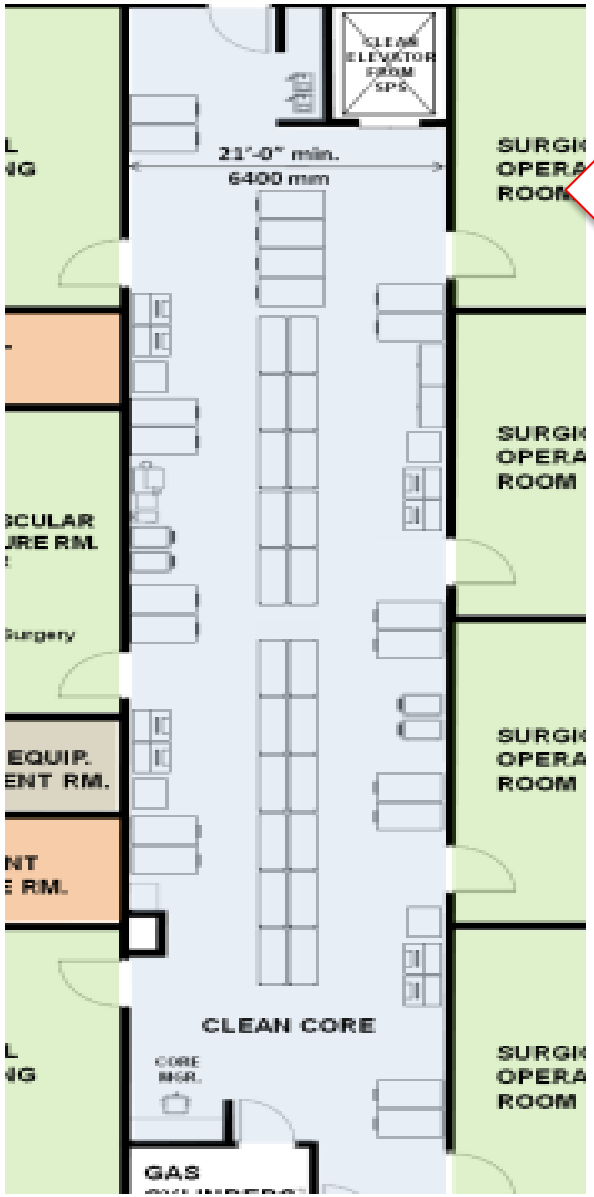
HYPOTHETICAL INTEGRATED INTERVENTIONAL PLATFORM LESS PHASE I and PREP-PHASE II RECOVERY

What are Surgical Complexities

In general, each VHA medical facility with an inpatient surgical program is to have an infrastructure-based surgical complexity designation. The designations are as follows:

- **Standard facilities:** provide surgical procedures characterized as having minimal risk, such as breast biopsies, appendectomies, and hernia repair.
- **Intermediate facilities:** provide more advanced procedures, such as gastric resections, prostatectomies, hip replacements, and spine surgery, and complex general surgery procedures.
- **Complex facilities:** provide procedures such as cardiac surgery, neurosurgery, complex thoracic procedures, and complex general surgery procedures.

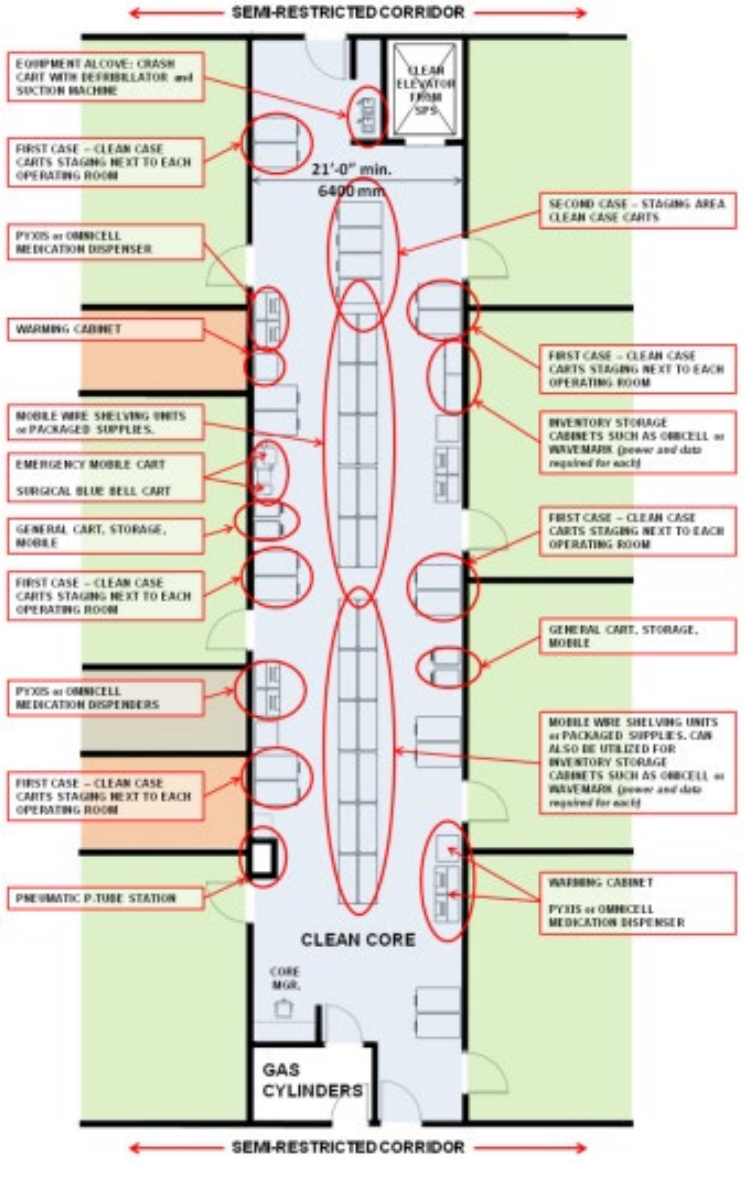
Surgical and Endovascular Services Space Design Standards



Clean core configuration utilizing a width of 21'-0" (6401 mm) servicing an integrated interventional platform consisted of both surgical and endovascular procedure rooms.

Clean Core Width 21'-0" Minimum

The same clean core configuration with equipment location components identified. It should be noted that the equipment shown can be oriented differently as to meet local preferences.



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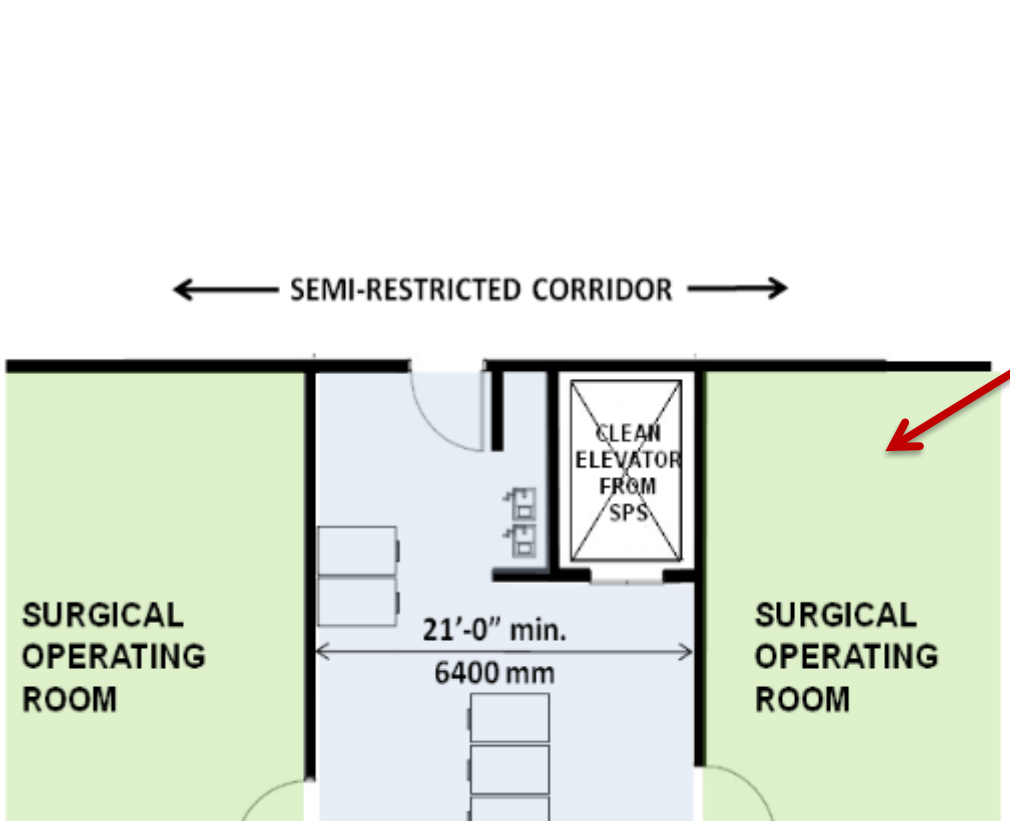
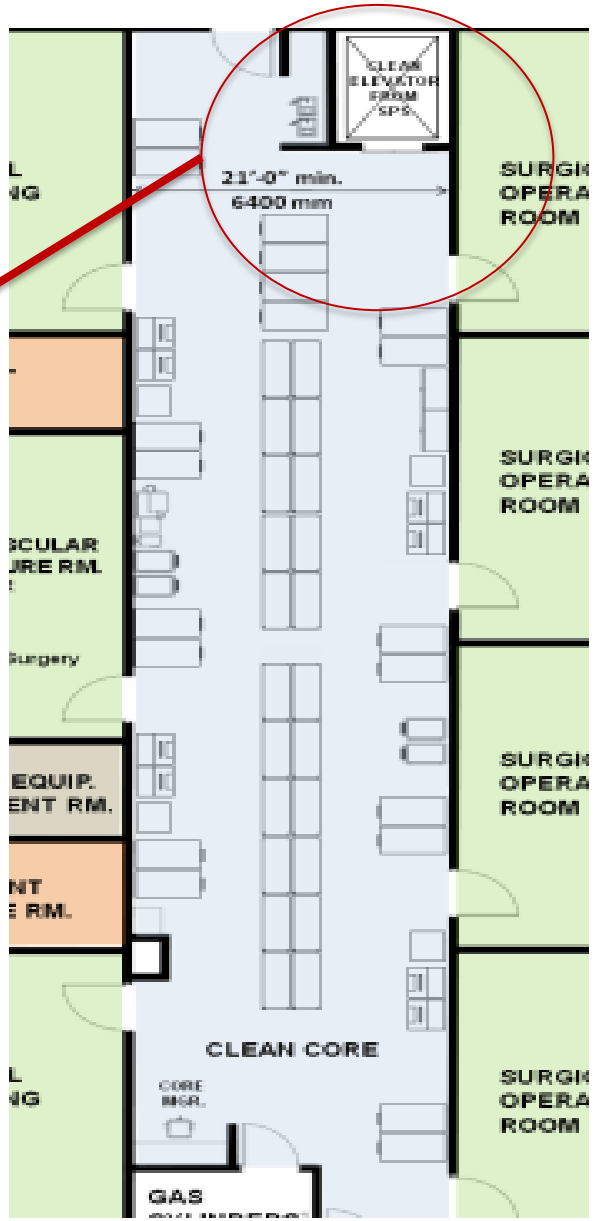
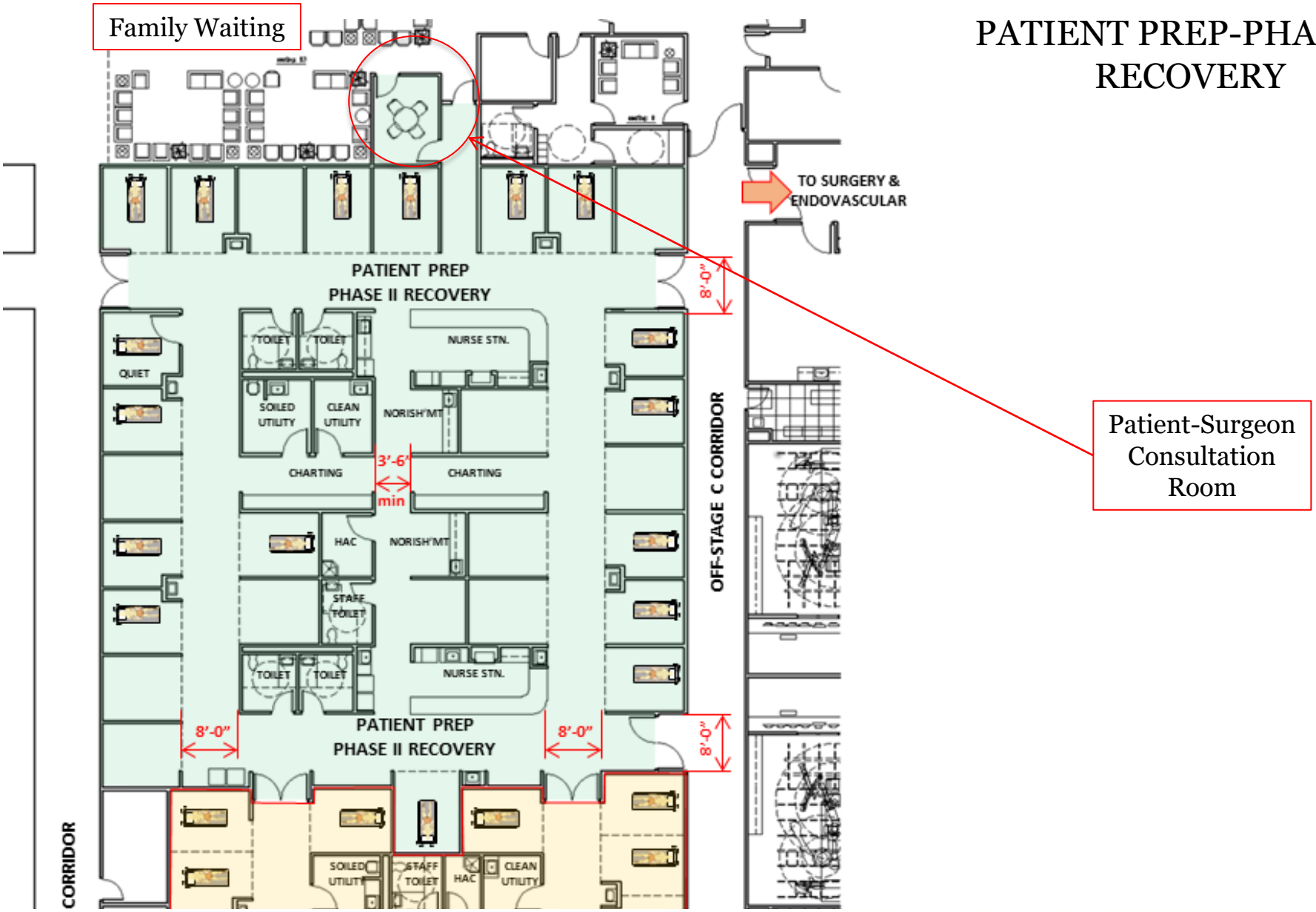


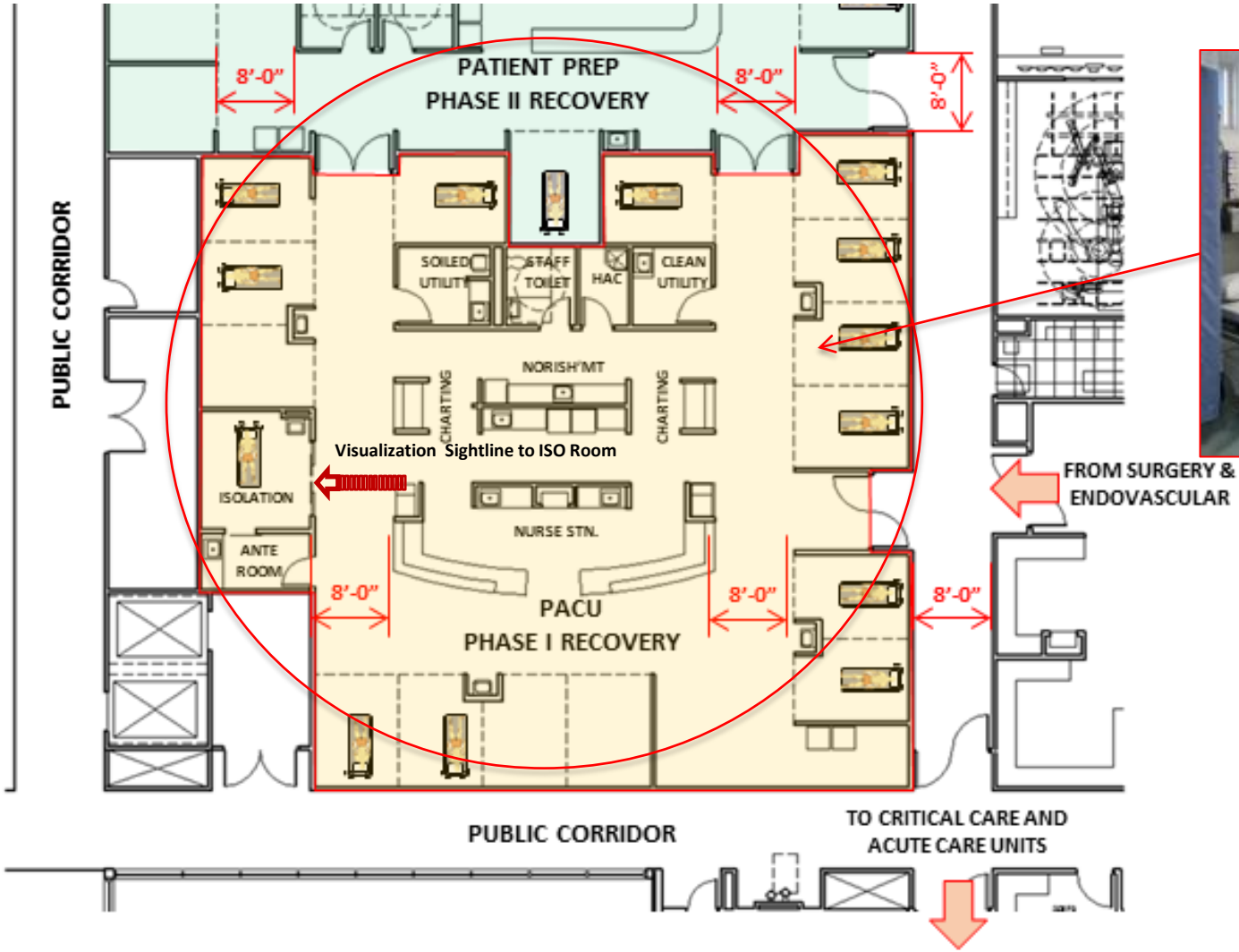


Clean Core Width
21'-0" Minimum

PATIENT PHASE I RECOVERY
and
PATIENT PREP-PHASE II RECOVERY


Family Waiting
PATIENT PREP-PHASE II RECOVERY
TO SURGERY & ENDOVASCULAR
PATIENT PREP
PHASE II RECOVERY
TOILET
TOILET
NURSE STN.
QUIET
SOILED UTILITY
CLEAN UTILITY
NORISH'MT
CHARTING
3'-6" min
CHARTING
HAC
NORISH'MT
STAFF TOILET
TOILET
TOILET
NURSE STN.
8'-0"
8'-0"
8'-0"
8'-0"
PATIENT PREP
PHASE II RECOVERY
OFF-STAGE C CORRIDOR
CORRIDOR
SOILED UTILITY
STAFF TOILET
HAC
CLEAN UTILITY
Patient-Surgeon Consultation Room

PATIENT RECOVERY
PHASE I / PACU

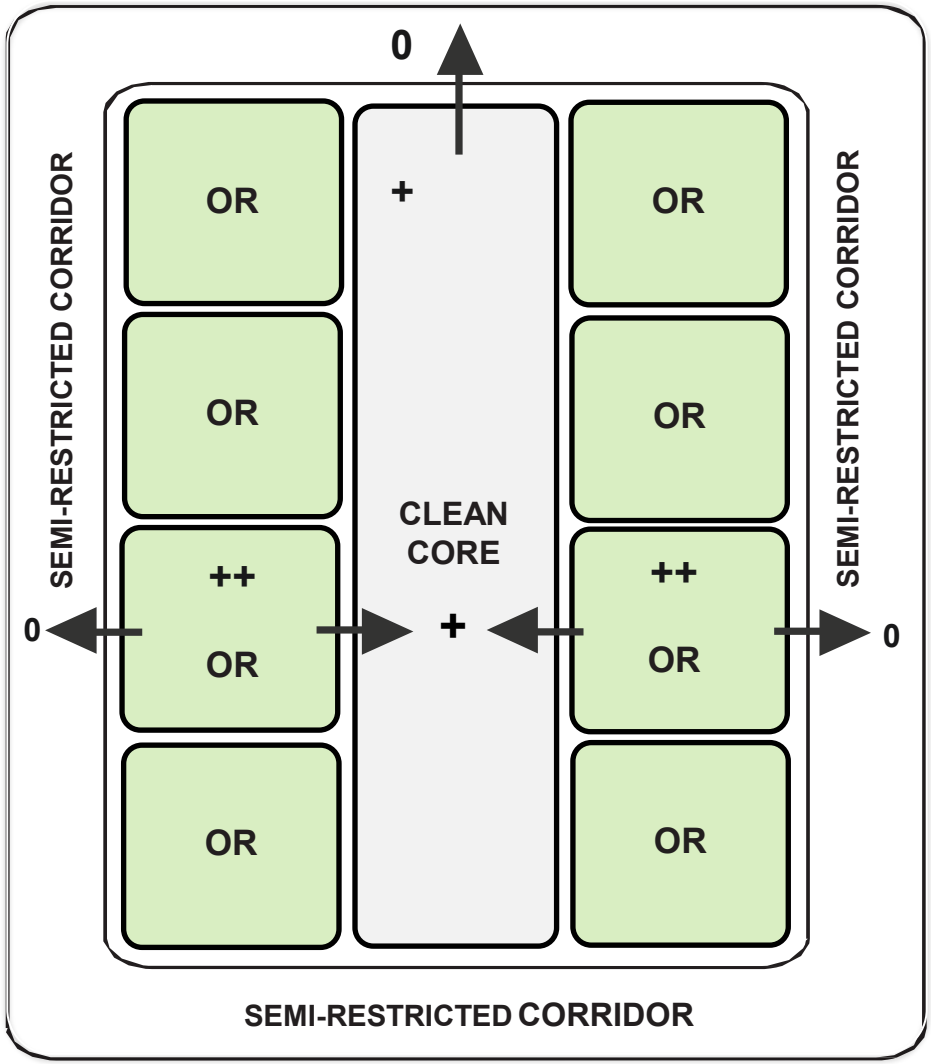


→ **DIRECTION OF AIR FLOW**

+ **POSITIVE PRESSURE**

- **NEGATIVE PRESSURE**

Note:
Semi-Restricted Corridor has Positive Pressure relationship regarding all Areas Outside of the Race Track

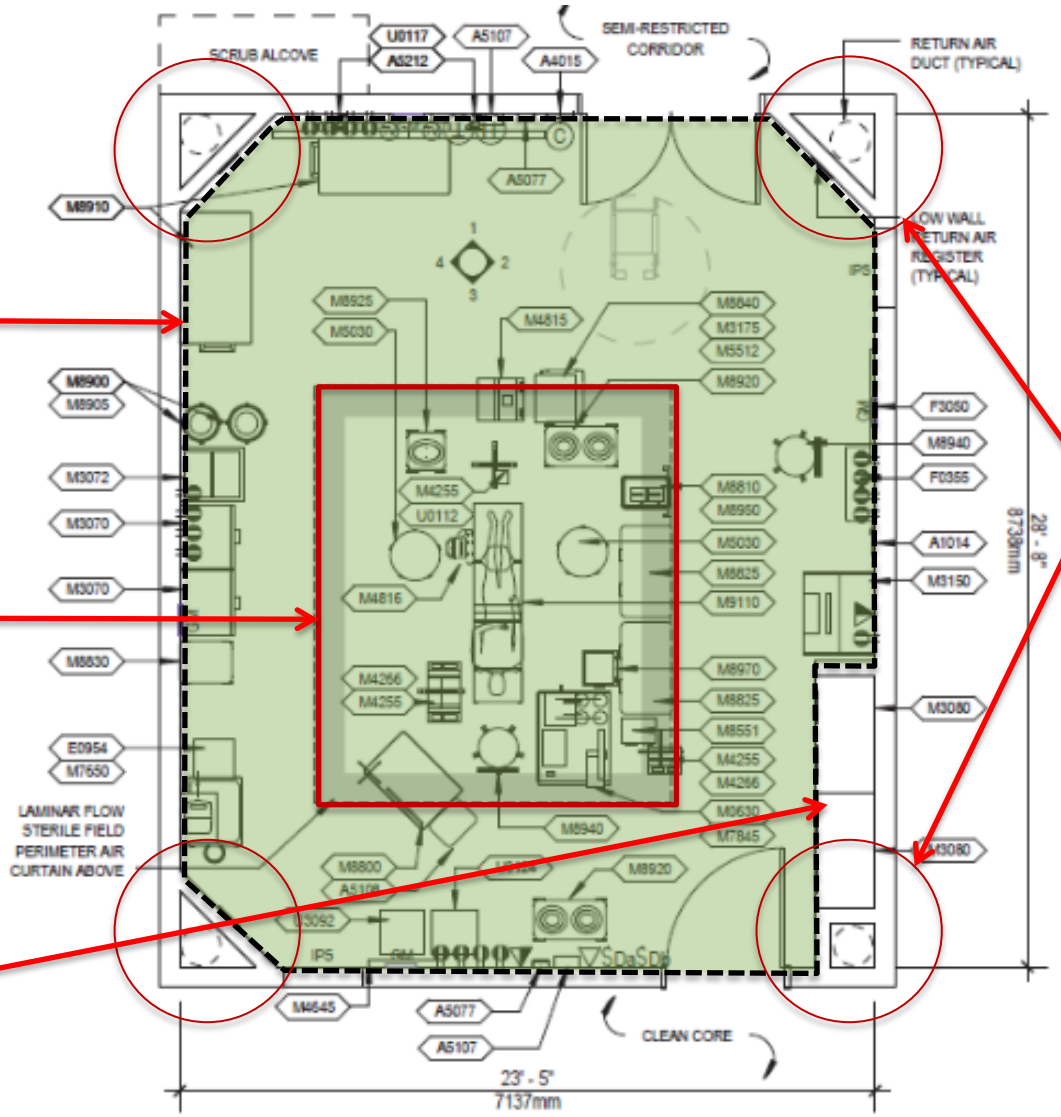


Air Pressurization – Relationship Diagram

BOUNDARY of NET SQUARE FEET

BOUNDARY of STERILE FIELD

BUILT-IN CABINETRY (stainless steel)

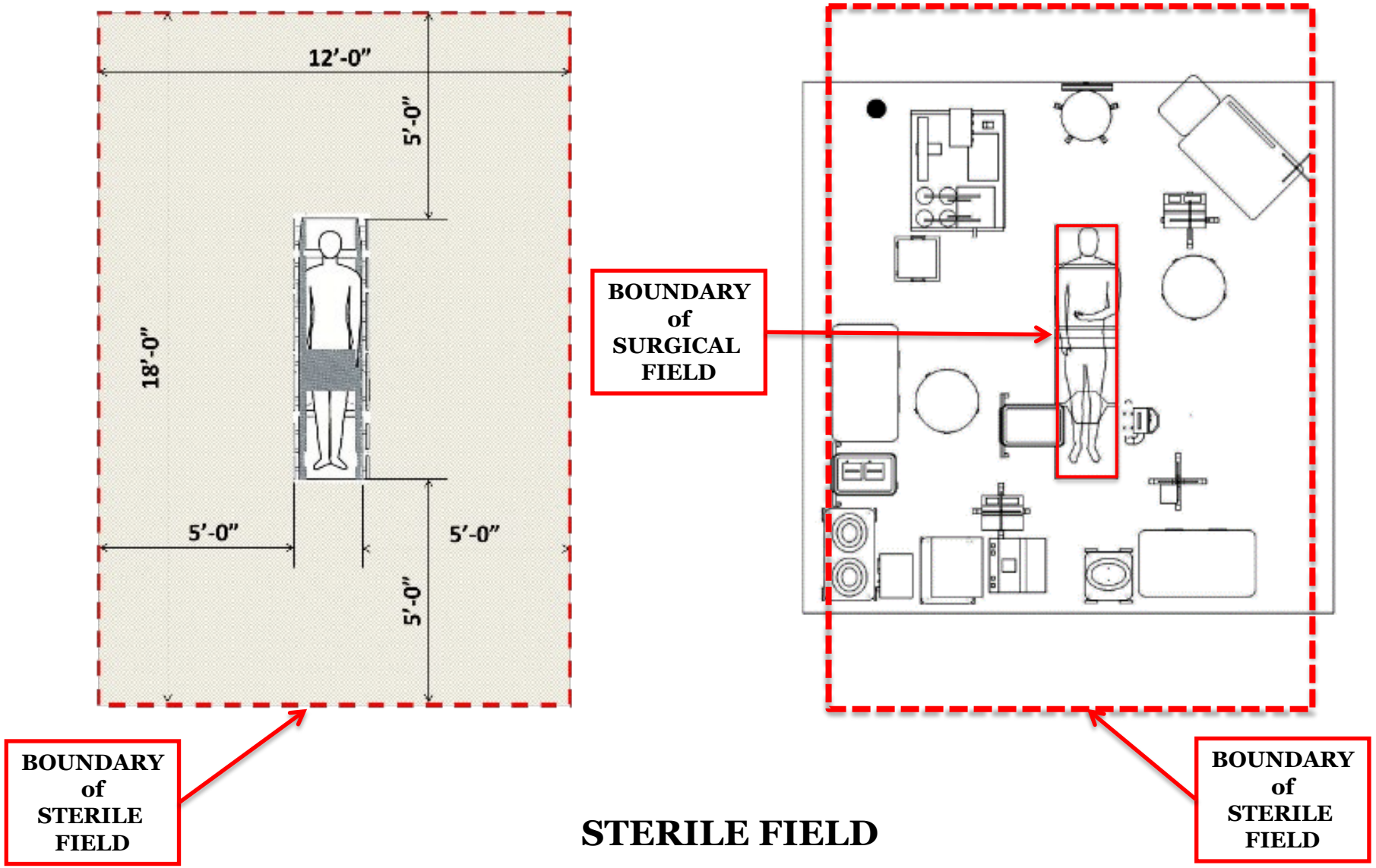


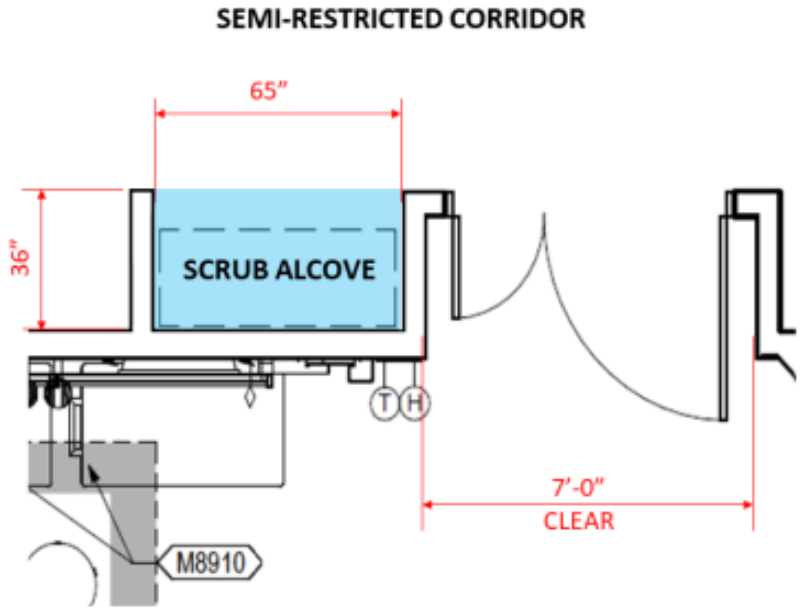
LOW AIR RETURN FOUR REQUIRED

Net square feet (NSF) is typically used in a room-specific space program refers to the usable or assignable square footage within a room or area (inside wall-to-wall dimensions).

The term "sterile field" is used to describe the sterile zone in the Operating Room, approximately five feet around the perimeter of the procedure table which includes the space surrounding the site of the patient's incision.

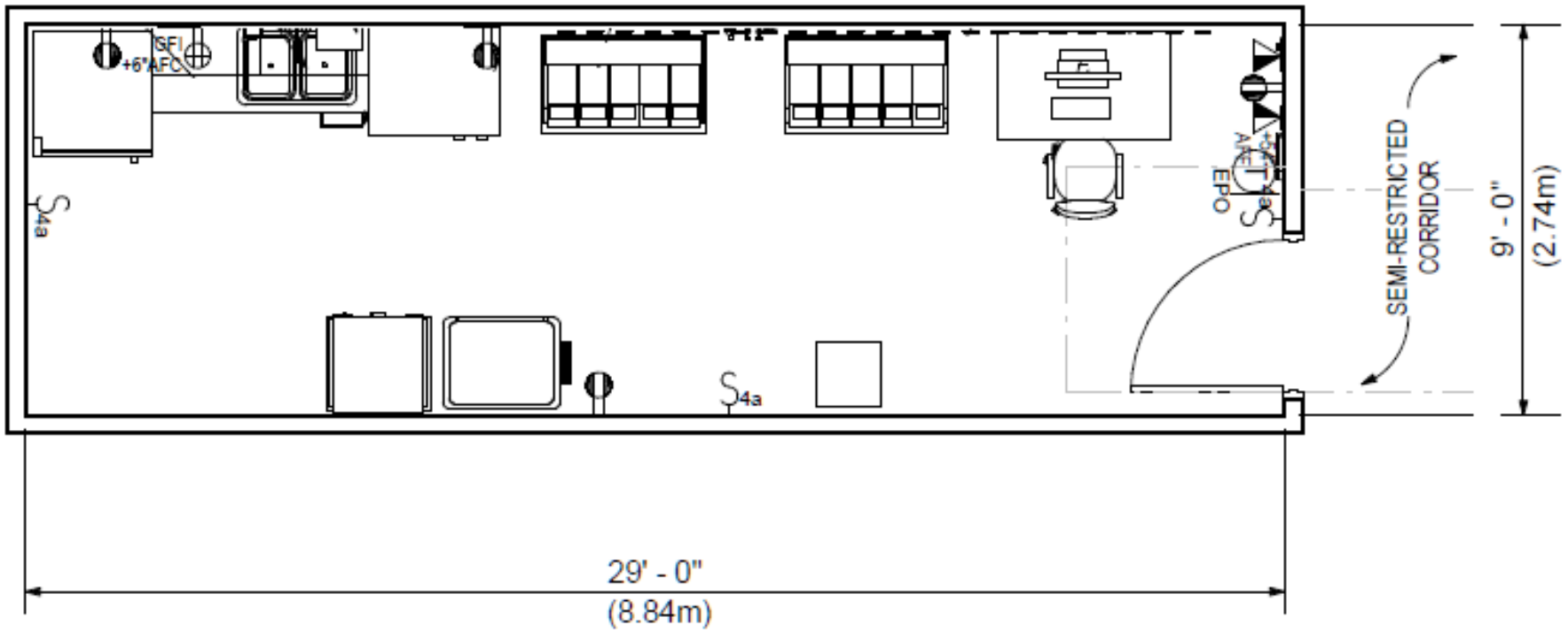
NET SQUARE FEET


12'-0"
5'-0"
18'-0"
5'-0"
5'-0"
5'-0"
BOUNDARY of SURGICAL FIELD
BOUNDARY of STERILE FIELD
BOUNDARY of STERILE FIELD
STERILE FIELD



Scrub Sink Area (Alcove):

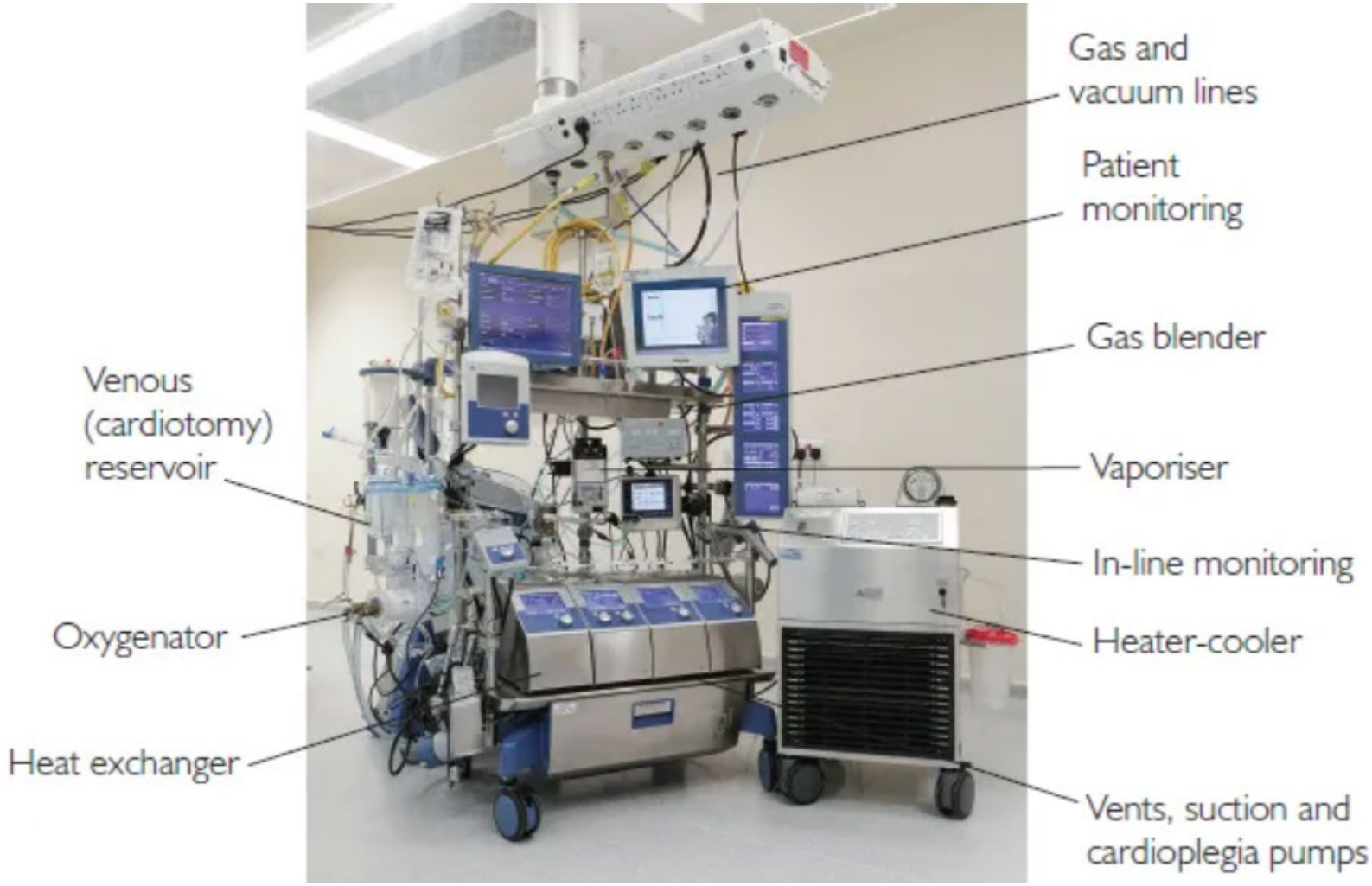
The Scrub Sink Area is an alcove located in the semi-restricted area at or between entrances to a single surgical operating room or between the entrances at two adjacent surgical operating rooms and/or endovascular procedure rooms. It is acceptable for one Scrub Sink Area to be shared between two Operating Rooms; however, when Operating Rooms are laid out in a same-handed arrangement, it is advisable to provide a separate scrub sink alcove for each OR and/or Endovascular Procedure Room.



Floor Plan: Heart–lung Machine Room or "the pump room"

Cardiopulmonary Bypass (**CPB**) is a technique in which a machine temporarily takes over the function of the heart and lungs during surgery, maintaining the circulation of blood and the oxygen content of the patient's body. The CPB pump itself is often referred to as a heart–lung machine or "the pump".

Cardiopulmonary bypass pumps are operated by perfusionists. CPB is a form of extracorporeal circulation. Extracorporeal membrane oxygenation is generally used for longer-term treatment.



The Heart–lung Machine Room or "the pump room" is located adjacent to or proximal to both the cardiothoracic and hybrid operating rooms and is not directly accessible to either room as there is an open source of water within the pump room that may contribute to pathogens entering the OR's.

Safe Patient Handling in Surgery and Endovascular Environments

- The working environment in OR's and Endovascular Procedure Rooms are often distinguished by demanding work processes and limitations on available space.
- OR's are packed with all kinds of equipment, so staff will often have limited room in which to lift and/or move the patient.
- When dealing with bariatric patients, it is not uncommon to need the assistance of 4–6 people to complete the move in the best and gentlest manner possible.
- Patients in OR's are generally under the influence of painkillers and/or anesthetics, they are rarely capable of assisting themselves when they are being lifted, moved and positioned.
- All in all, OR's and Endovascular Procedure Rooms are often the setting for complex moves – turning patients onto their stomach, for example – and procedures that typically involve multiple staff.

Why Introduce Patient Lifts in Surgical OR's and Endovascular Procedure Rooms?

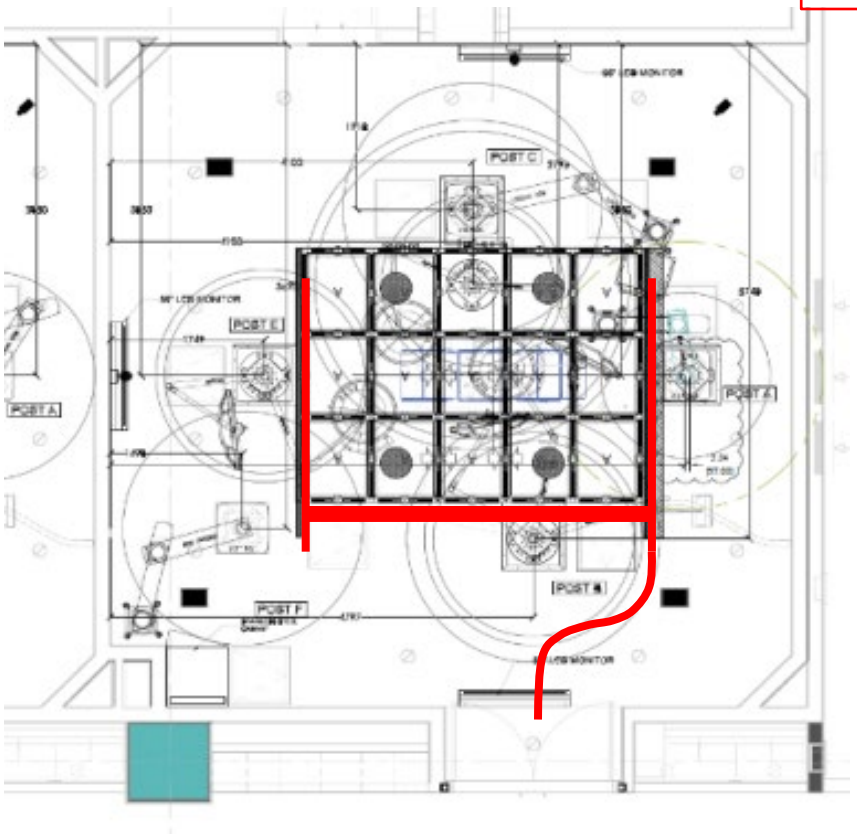
Safe Patient Handling in Perioperative and Procedural Settings:

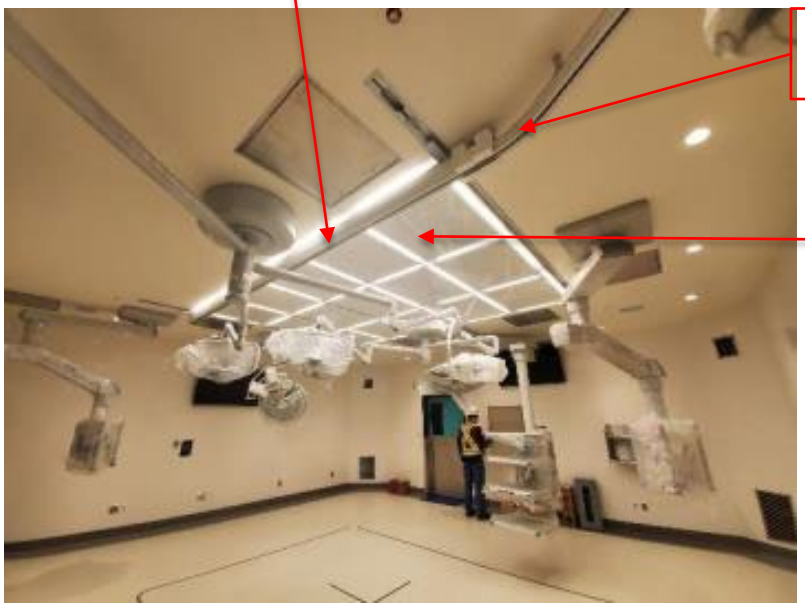
VHA Directive 1611 section 4. h. (12) requires: that planning, design of phases of new and renovation construction, which includes major, minor, NRM, and station-level equipment projects must incorporate appropriate and necessary safe patient handling and mobility equipment at all facilities. In general, perioperative and procedural settings must be outfitted with ceiling mounted patient lifting devices capable of safely handling 1,000 lb. (454 kg) loads

MANY LIFTING & HANDLING TASKS

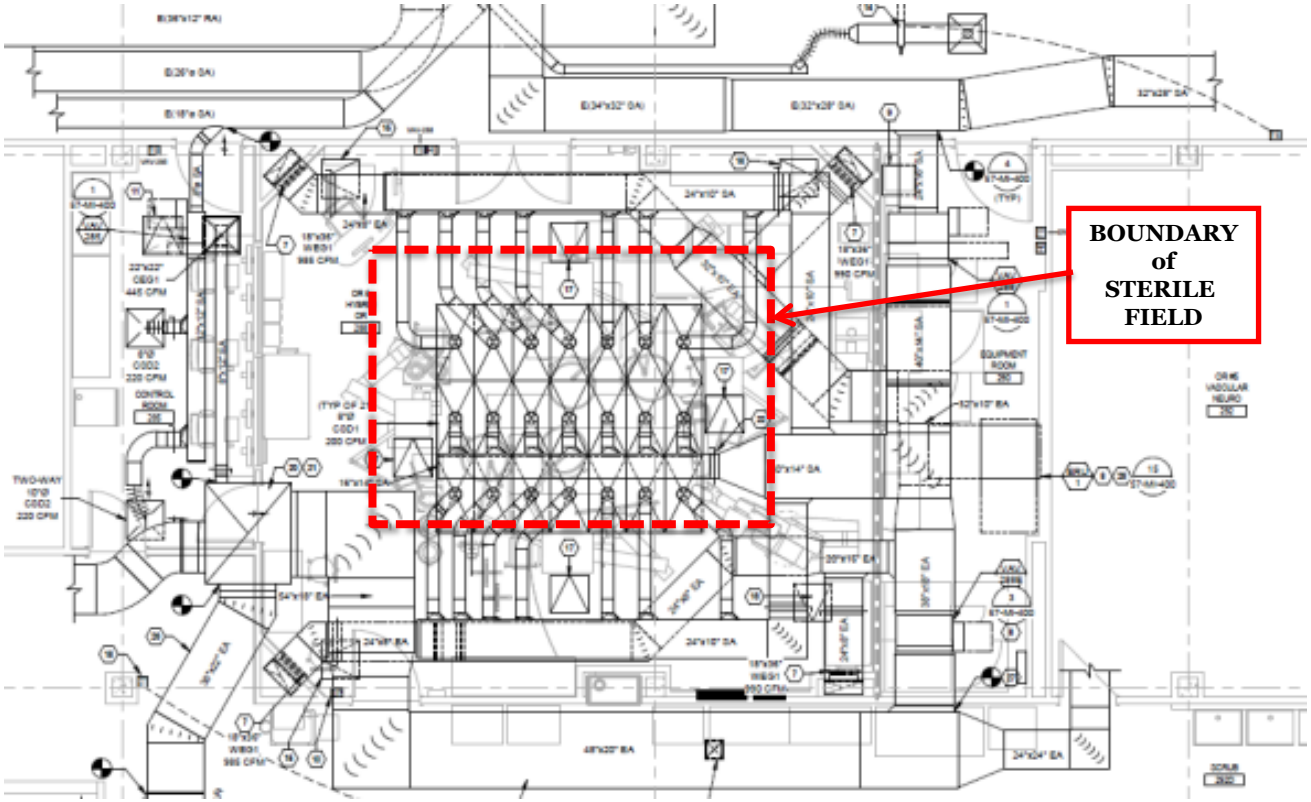
- SIDE POSITIONING
- PRONE POSITIONING
- LIFTING OF EXTREMITIES
- LIFTING OF PELVIS
- LIFTING OF PATIENT FROM GURNEY TO THE OR TABLE AND BACK AGAIN
- LIFTING UP LEGS AFTER SPINAL SEDATION
- LIFTING THE TORSO (E.G. FOR POSITIONING OF BOLSTERS)
- GENERAL LIFTING AND HANDLING OF BARIATRIC PATIENTS

PATIENT LIFT

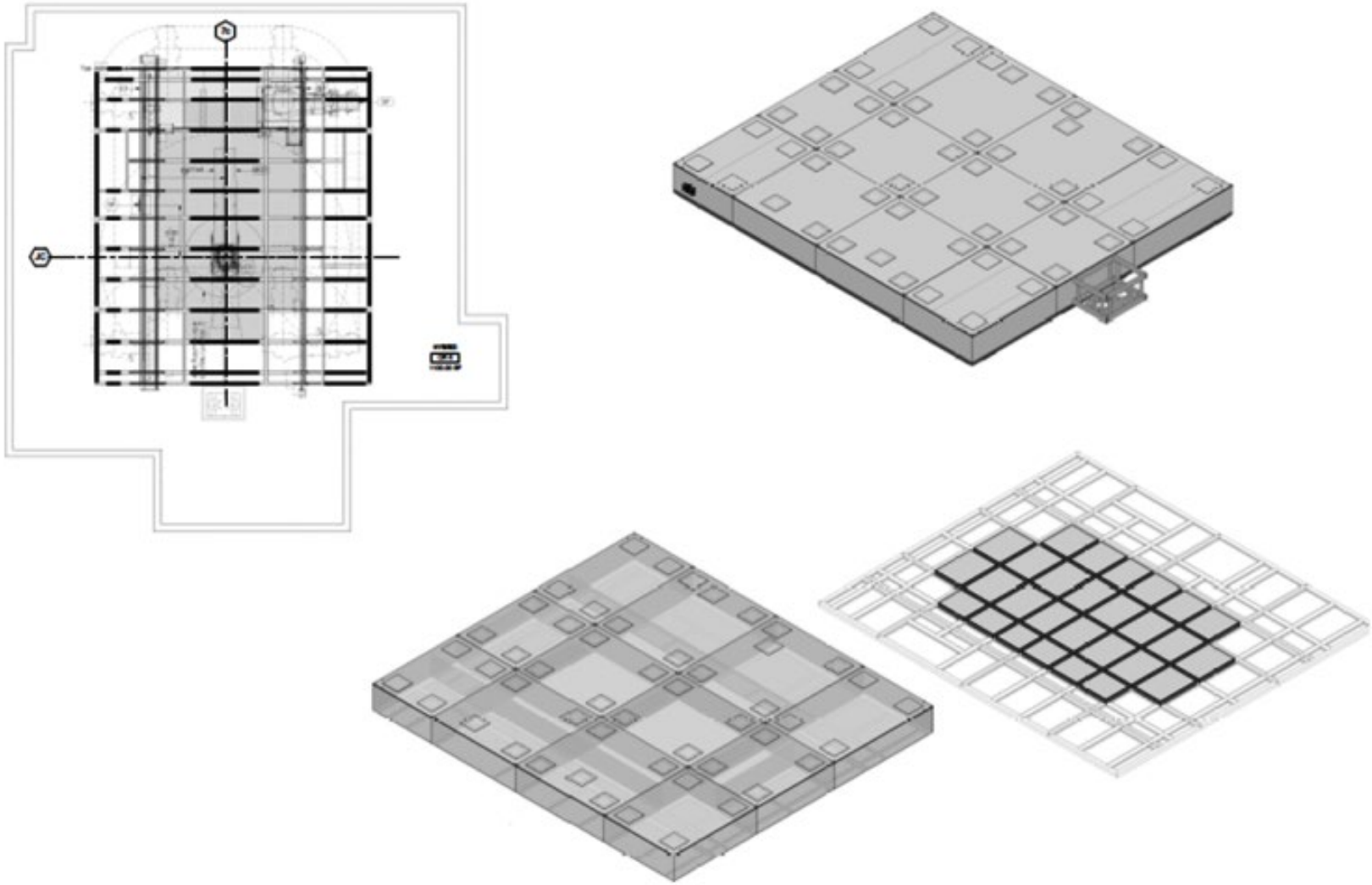




Unidirectional Air Delivery in Surgical and Endovascular Environments

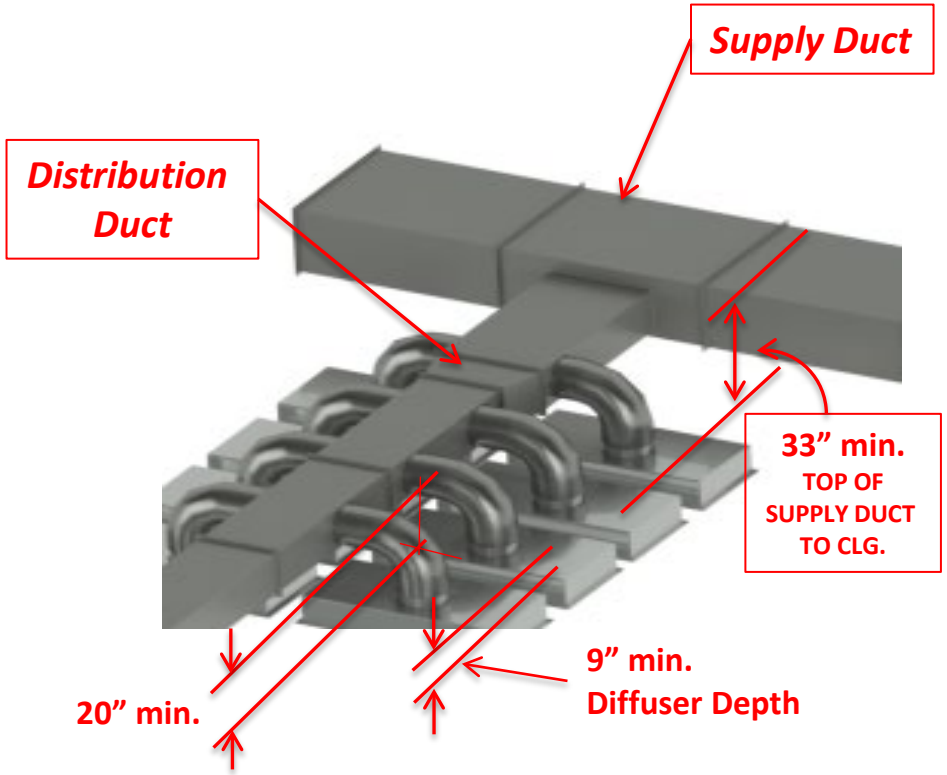


HVAC - Traditional Laminar Array)
VAMC Tucson Hybrid OR



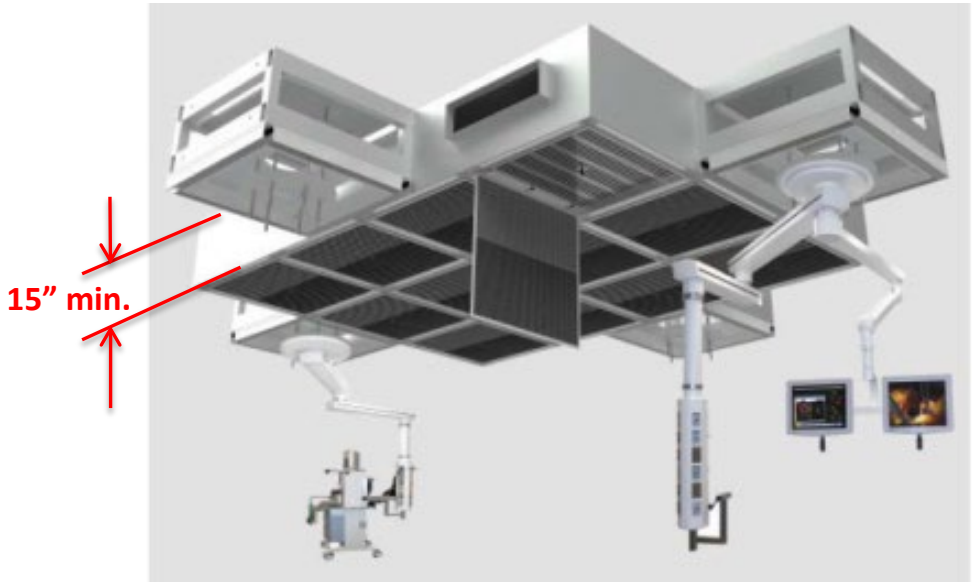
HVAC - Manifold Laminar Array)
VAMC West Roxbury Hybrid OR

Traditional Laminar Array



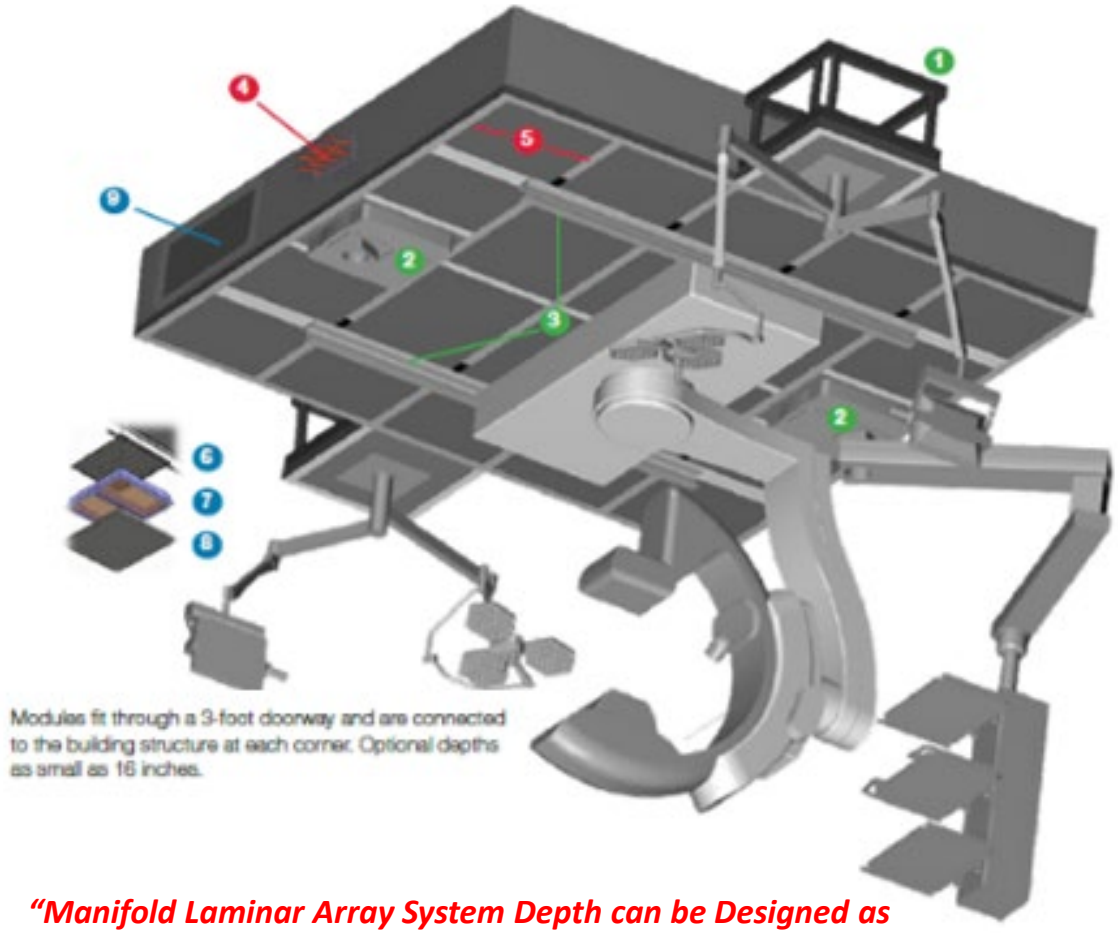
“Traditional Laminar Array System Depth Typical Depth Utilizing 10” diameter hard duct”
20 inches plus the Supply Duct and Distribution

Manifold Laminar Array



“Manifold Laminar Array System Depth can be Designed as Shallow as 15 inches”

HVAC CHALLENGES - CONSIDERATIONS



"Manifold Laminar Array System Depth can be Designed as Shallow as 12 to 15 inches"

Structural

1. Fixed boom mounts provide flexibility to choose surgical lighting and monitor locations.
2. Fully-integrated equipment and lighting boom mounts facilitate boom manufacturer requirements (each is sealed inside an alcove away from the laminar air stream).
3. Imaging rail mounts to support imaging equipment gantry and C-Arm.

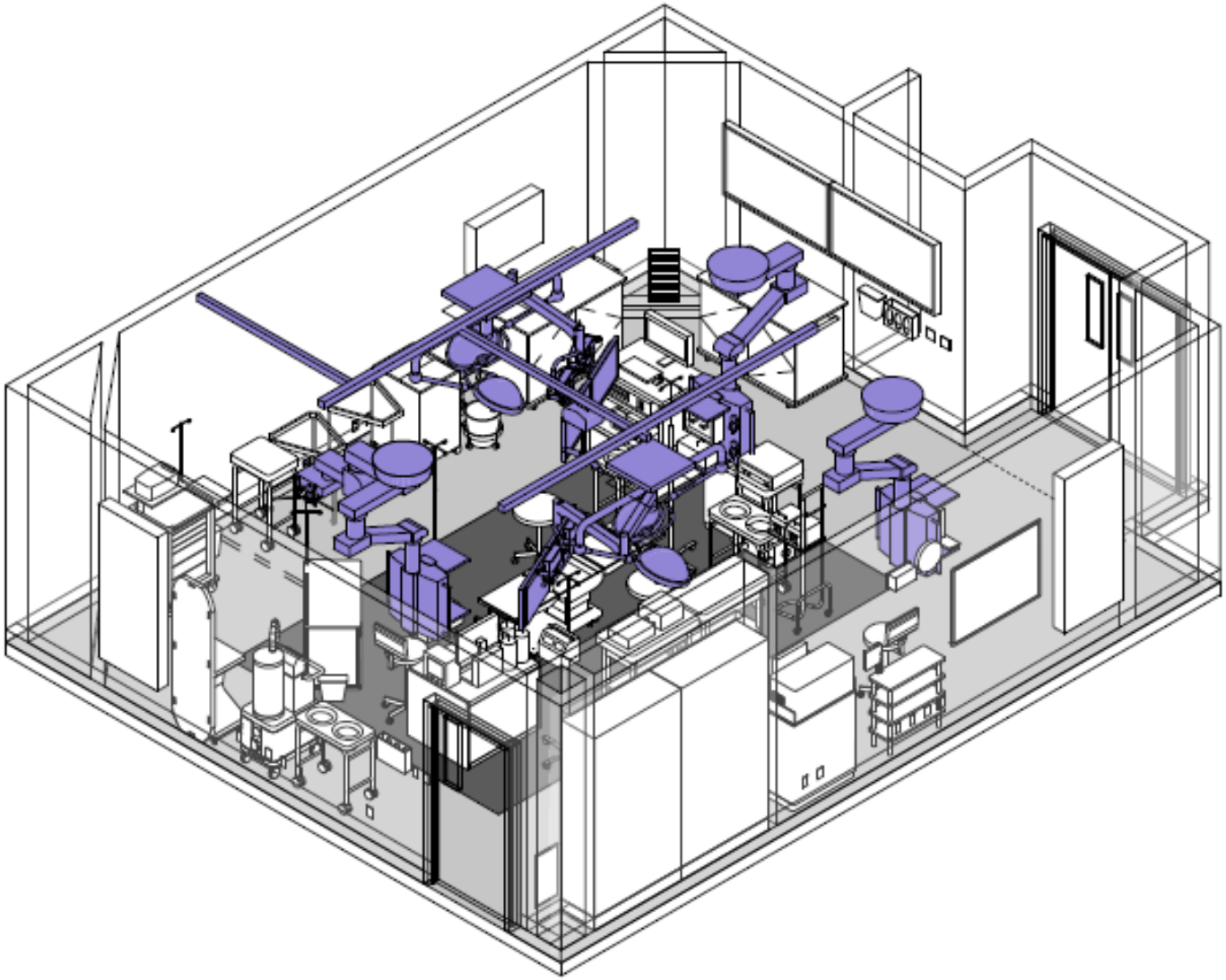
Architectural / MEP

4. Medical gases and electrical connection panels simplifies field connection to medical gas and electrical equipment boom(s).
5. Fully-integrated flush lighting minimizes airflow blockage compared to traditional light troffers, provides as much as 250 foot candles of light in the area of the procedure table and sterile field.

Air Delivery

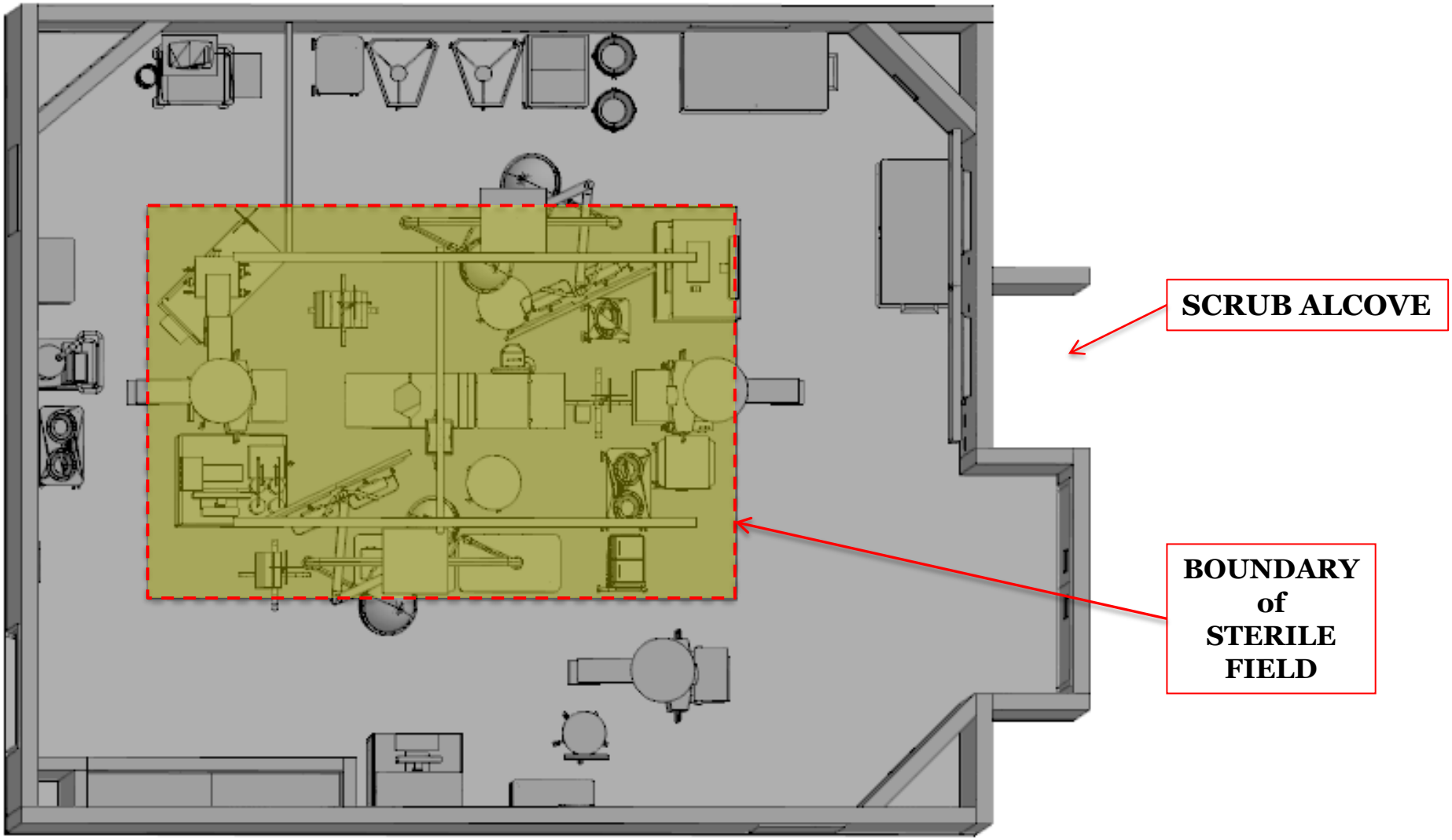
6. Equalizers balance the airflow which can be adjusted with filters in place.
7. HEPA filtration.
8. Screened diffuser screen optimizes laminar airflow to the operating table.
9. Side or top duct connections provide flexibility to meet site access restrictions.

HVAC CHALLENGES (Manifold Laminar Array System)



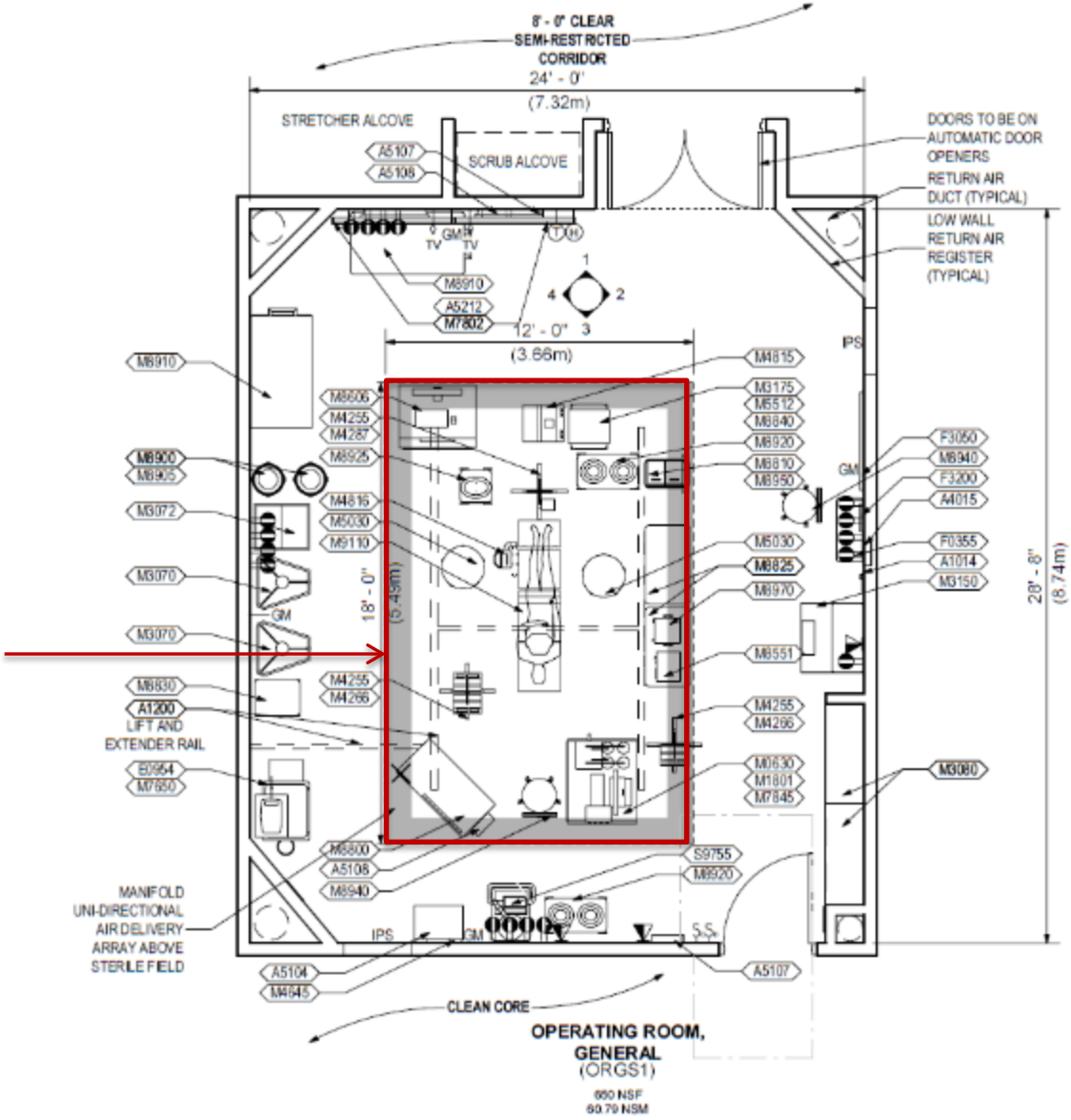
AXONOMETRIC VIEW

OPERATING ROOM, GENERAL (ORGS1) 650 NSF



OPERATING ROOM, GENERAL (ORGS1) 650 NSF

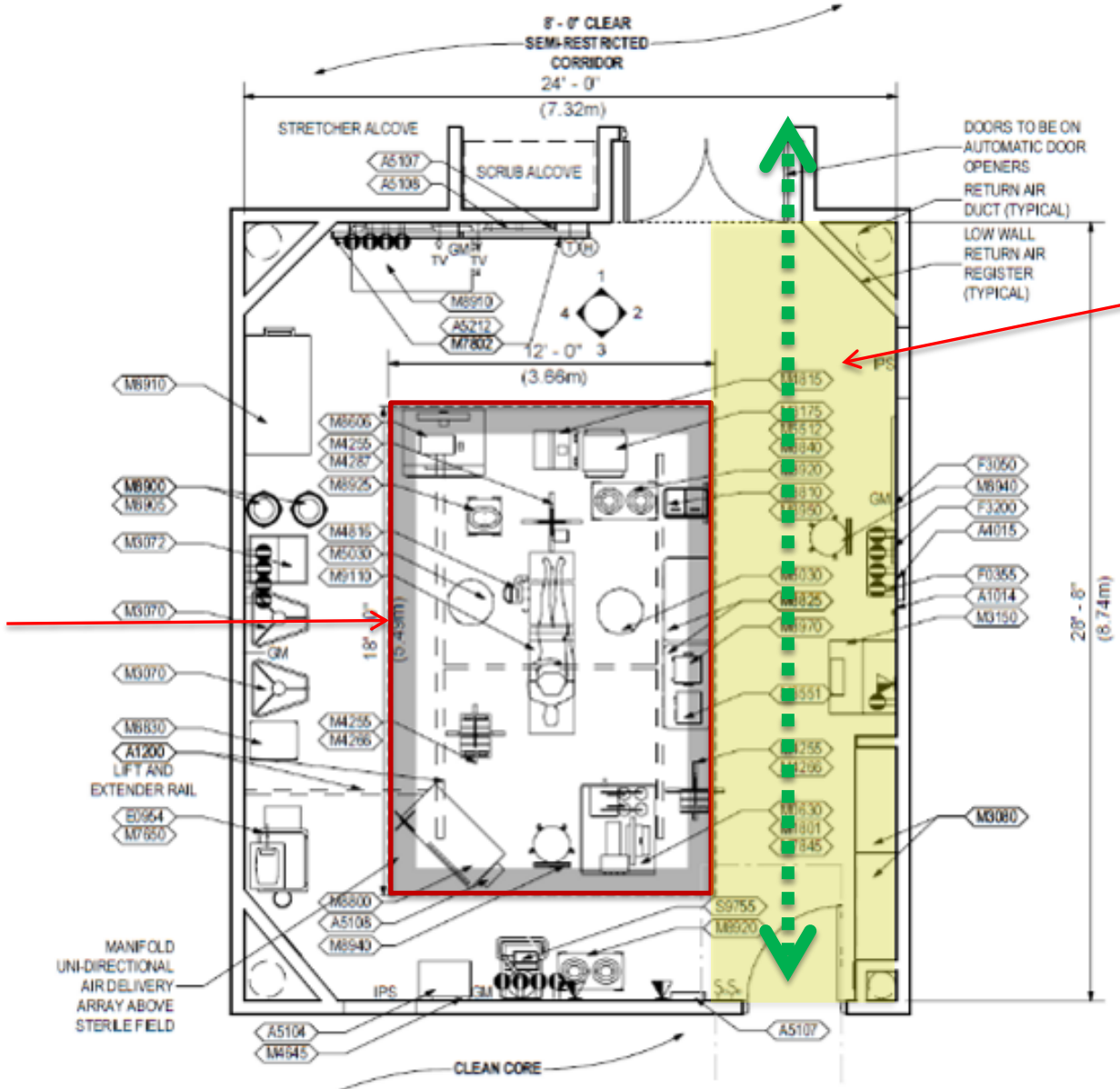
BOUNDARY of STERILE FIELD



The term "sterile field" is used to describe the sterile zone in the Operating Room, approximately five feet around the perimeter of the procedure table which includes the space surrounding the site of the patient's incision.

FLOOR PLAN

OPERATING ROOM, GENERAL (ORGS1) 650 NSF



CIRCULATION ZONE

BOUNDARY of STERILE FIELD

FLOOR PLAN

OPERATING ROOM, GENERAL (ORGS1) 650 NSF

ABBREVIATED JSN EQUIPMENT LIST

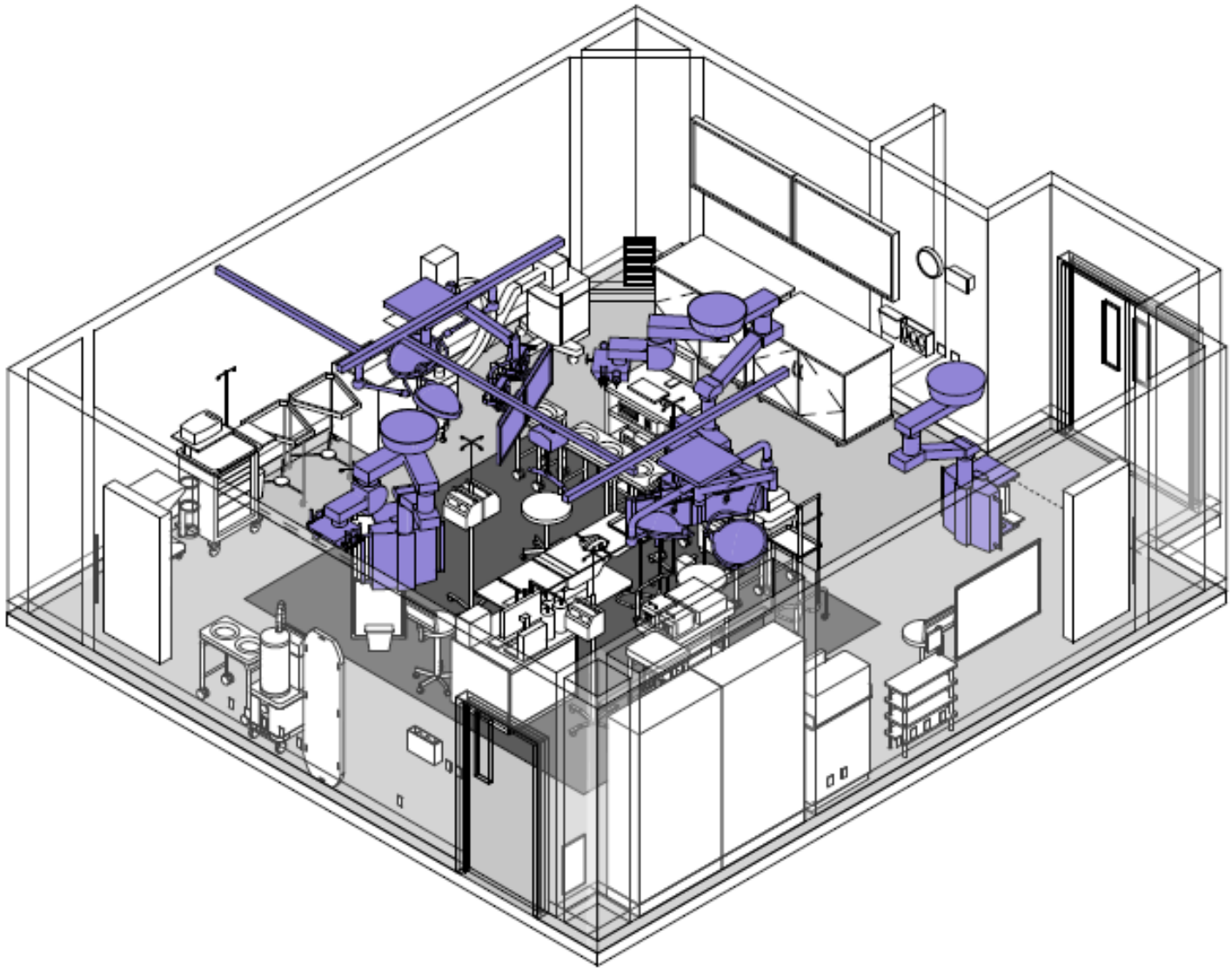
4.5. OPERATING ROOM, GENERAL (ORGS1)
JSN Legend

JSN	DESCRIPTION
A1014	TELEPHONE, WALL MOUNTED, 1 LINE, WITH SPEAKER
A1120	COLUMN, SERVICE, PREFAB, SURGICAL, CEILING MOUNTED
A1122	COLUMN, EQUIPMENT ARM, CEILING MOUNTED, SURGERY
A1130	CABINET, CONTROL, NITROGEN
A4015	ELAPSE TIME CLOCK
A5077	DISPENSER, HAND SANITIZER, HANDS- FREE
A5104	CART, WASTE DISPOSAL, MOBILE W/FOOT PEDAL
A5107	DISPENSER, GLOVE, WALL-MTD
A5108	WASTE DISPOSAL UNIT, SHARPS
A5212	BRACKET, TELEVISION WALL MTD, TILT/ANGLE
E0954	CART, EMERGENCY, MOBILE
F0355	FOOTSTOOL, STRAIGHT
F3050	WHITE BOARD, DRY ERASE
F3200	CLOCK, BATTERY, 12IN
M0630	ANESTHESIA APPARATUS, 3 GAS
M0750	FLOWMETER, AIR, CONNECT W 50 PSI SUPPLY
M0755	FLOWMETER, OXYGEN, LOW FLOW
M0765	REGULATOR, VACUUM
M1801	COMPUTER, MICROPROCESSING, W/FLATPANEL MONITOR
M3070	HAMPER, LINEN
M3072	FRAME, INFECTIOUS WASTE BAG W/LID
M3080	CABINET, INSTRUMENT, CRS, 2 GLASS DOOR, 6 SHELF
M3150	DISTRIBUTION SYSTEM, MEDICATION, AUTOMATIC
M3175	ELECTROSURGICAL UNIT, DUAL OUTPUT
M4255	STAND IV
M4266	PUMP, VOLUMETRIC, INFUSION, MULTIPLE LINES
M4280	COMPRESSION DEVICE, EXTREMITY PUMP
M4287	IRRIGATION SYSTEM, SURGICAL
M4645	PATIENT TRANSFER DEVICE
M4815	HYPO/HYPERTHERMIA UNIT, MOBILE
M4816	WARMING UNIT, PATIENT
M5030	STOOL, SURGEON, REVOLVING
M5512	LASER, SMOKE EVACUATOR
M7475	LIGHT, SURGICAL, CEILING MOUNTED, SINGLE, LARGE
M7490	LIGHT, SURG, CEILING MTD, DUAL, UNEQUAL DIA HEADS
M7650	DEFIBRILLATOR/MONITOR/RECORDER AUTO
M7801	MONITOR, HD, LCD, FP, MEDICAL GRADE, 26 INCH
M7802	MONITOR, HD, LCD, FP, MEDICAL GRADE, 55 INCH
M7845	MONITOR, PHYSIOLOGICAL, BEDSIDE
M8551	LIGHT SOURCE, FIBEROPTIC HEADLAMP
M8606	ENDOSCOPY CART, FIBEROPTIC, W/VIDEO ACCESSORY
M8800	CART, ANESTHESIA
M8810	STAND, MAYO
M8825	TABLE, INSTRUMENT/DRESSING
M8830	TABLE, INSTRUMENT/DRESSING
M8840	TABLE, INSTRUMENT/DRESSING
M8900	CARRIAGE, PAIL
M8905	PAIL, UTILITY
M8910	CART, SURGICAL CASE
M8920	STAND, BASIN, DOUBLE
M8925	STAND, BASIN, SINGLE
M8940	STOOL, ANESTHESIA, WITH BACK
M8950	WARMER, BLOOD
M8970	WARMER, BLOOD
M9110	TABLE, OPERATING, 5 OR 6 SECTION, TRAUMA
S9755	SUCTION SYSTEM, SURGICAL, MOBILE ROVER UNIT
U0100	INTEGRATED OPERATING ROOM SYSTEM

DETAILED JSN EQUIPMENT LIST

4.5. OPERATING ROOM, GENERAL (ORGS1)
Equipment List

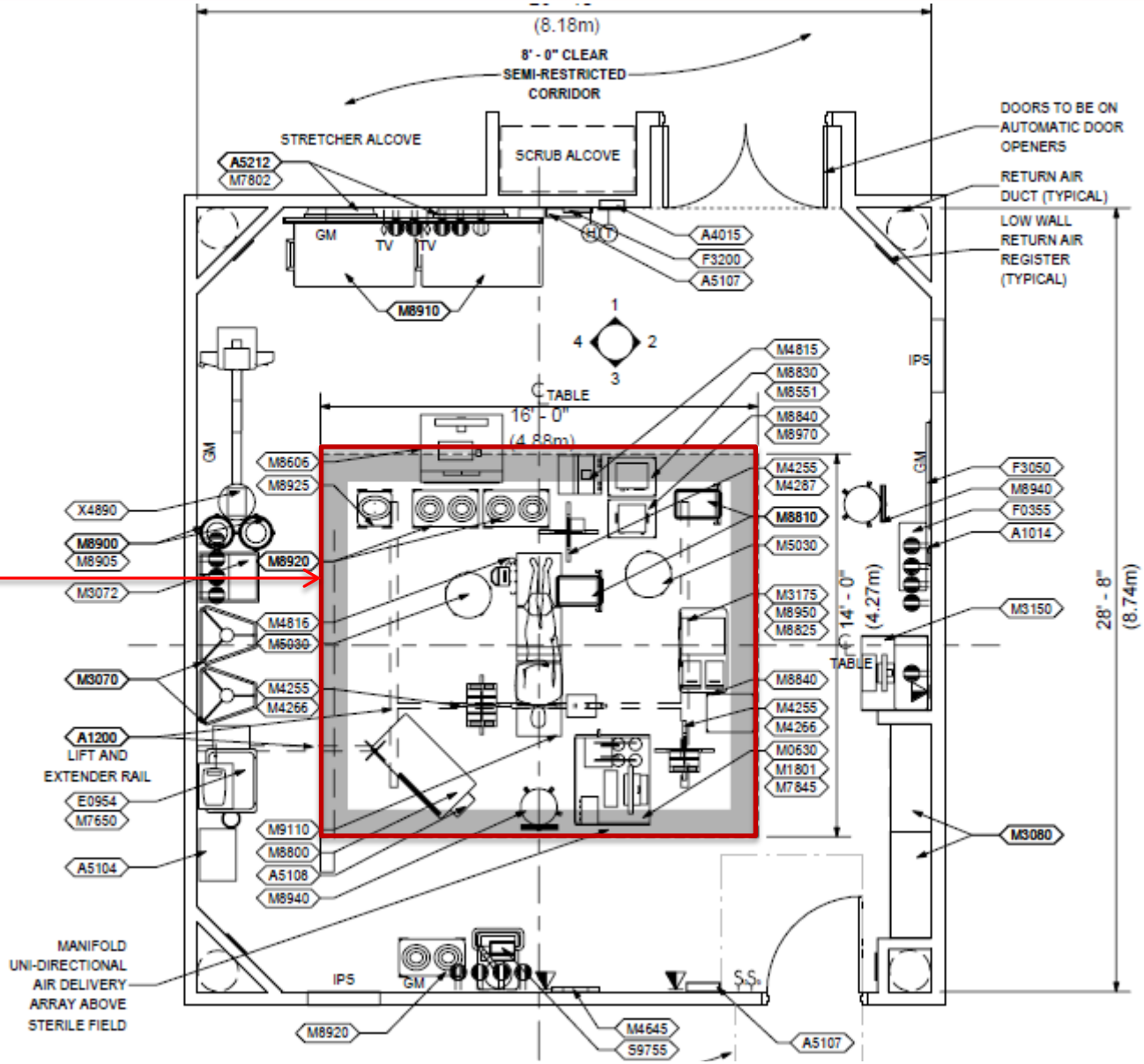
JSN	NAME	QTY	ACQ/INS	DESCRIPTION
A1014	Telephone, Wall Mounted, 1 Line, With Speaker	1	C / C	Telephone, wall mounted, 1 line, with speaker.
A1120	Column, Service, Prefab, Surgical, Ceiling Mounted	1	C / C	Prefabricated surgical service column. Strong 18 gauge stainless steel shell ceiling mounted unit with the following services: oxygen, nitrous oxide, nitrogen, medical air, medical vacuum, gas evacuation, electrical outlets, monitoring connectors, and IV holders. Specify type of column (fixed or retractable) and number of outlets required for each service. Size will vary with number of service outlets required. Designed to be used in the operating room, recovery and ICU-CCU rooms.
A1122	Column, Equipment Arm, Ceiling Mounted, Surgery	2	C / C	A ceiling mounted retractable equipment arm for use in the OR. Designed to provide equipment placement support, power receptacles including low-voltage panels, gas outlets and flat screen mounting for a surgical suite. Unit will provide a range of motion of up to 330 degrees with arm providing additional vertical movement. Units are custom configured with multiple options available. Price is based on a unit with two (double) retractable arms. Also available are units for use in anesthesia, ICU and ER.
A1130	Cabinet, Control, Nitrogen	1	C / C	Nitrogen control cabinet. Unit consists of supply cut-off valve, supply pressure gauge, pressure regulator (adjustable 0 to 200 PSI), outlet pressure gauge, nitrogen outlet and connection to surgical gas column. Specify recessed or surface mounting. Designed for powering surgical pneumatic tools.
A4015	Clock, Elapsed Time, Electric	1	C / C	Elapsed time digital electric clock. Single display time that can be used either as a clock or elapsed time indicator. Clock consists of buttons to set minutes, and hours for the time. For use in operating and delivery room, and medical service columns. Analog or digital displays may be provided as specified by the user.
A5077	Dispenser, Hand Sanitizer, Hands-Free	2	V / V	A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated.
A5104	Cart, Waste Disposal, Mobile w/Foot Pedal	1	V / V	One-handed disposal. Lids lift or slide open easily with foot-operated pedal. Lids may remain closed when not in use to reduce exposure to contents and Type 1 violations. Ergonomic handle is telescopic when transporting and retractable when stationary. Heavy containers can be removed from the side with minimal lifting. OSHA 29 CFR 1910.130, "During use, sharps disposal containers must be maintained upright throughout use".
A5107	Dispenser, Glove, Surgical/Examination, Wall Mntd	2	V / V	Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a white baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting.



AXONOMETRIC VIEW

OPERATING ROOM, ORTHOPEDIC (OROS1) 750 NSF

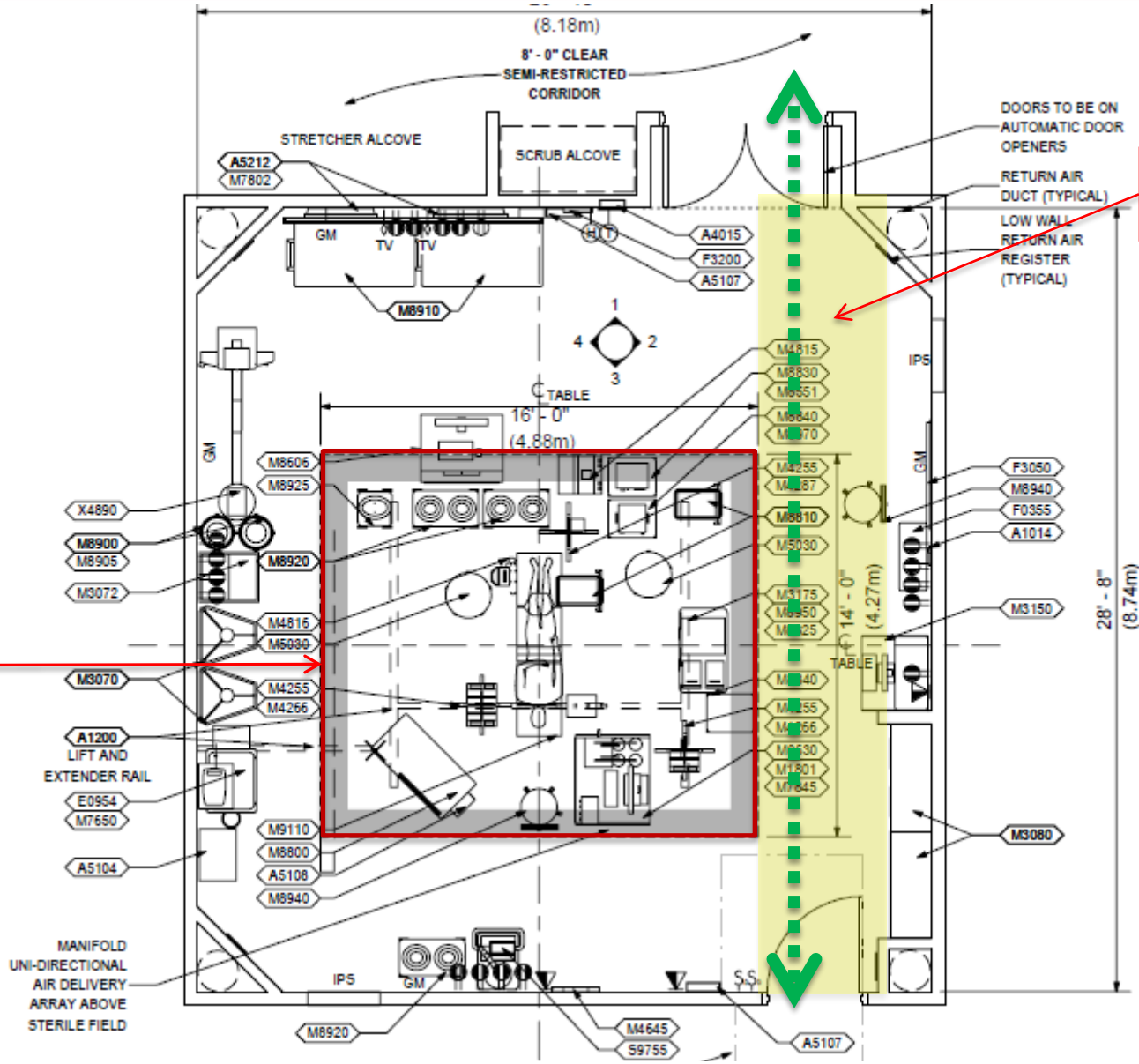
BOUNDARY of STERILE FIELD



The term "sterile field" is used to describe the sterile zone in the Operating Room, approximately five feet around the perimeter of the procedure table which includes the space surrounding the site of the patient's incision.

FLOOR PLAN

OPERATING ROOM, ORTHOPEDIC (OROS1) 750 NSF



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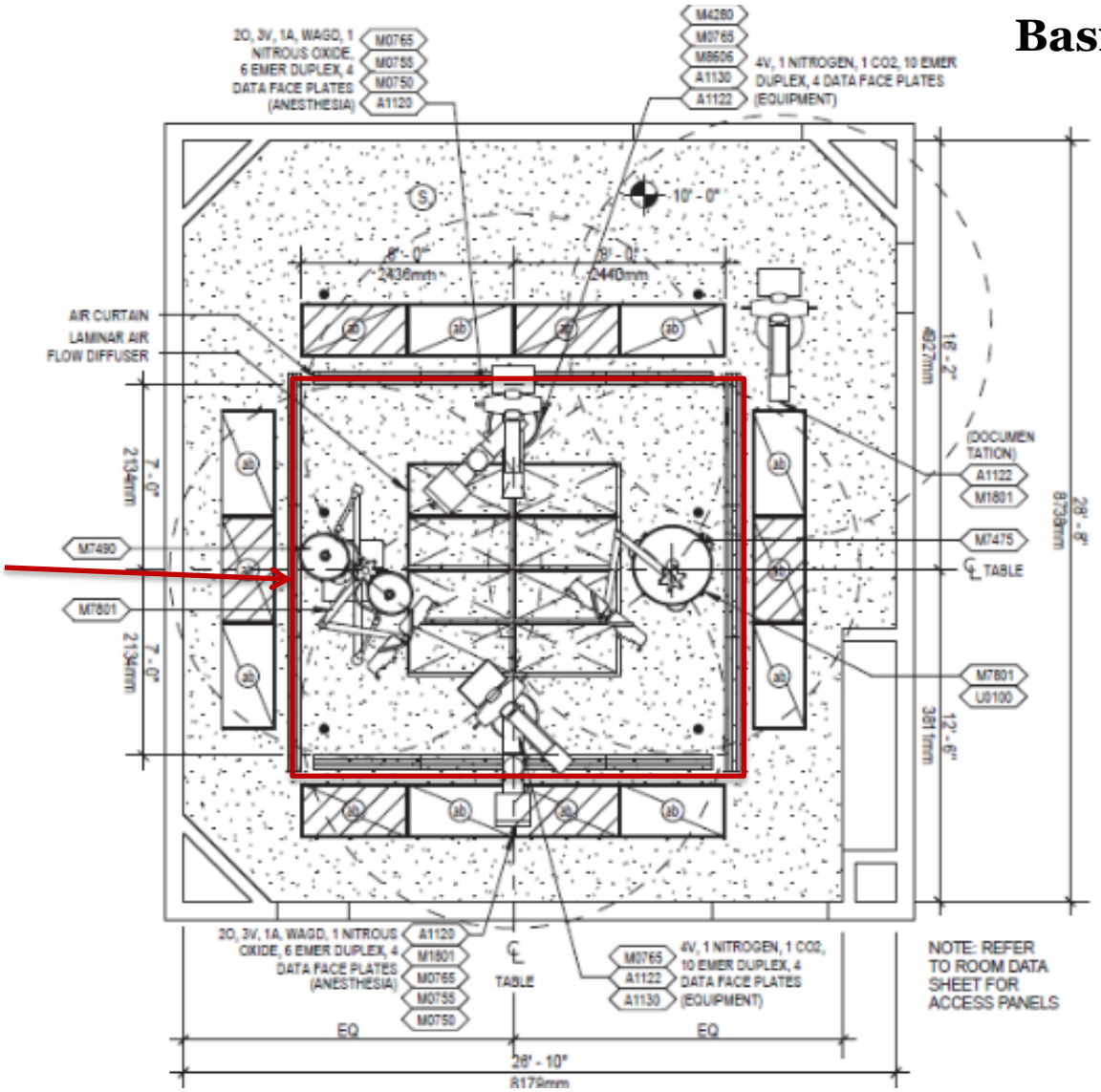
FLOOR PLAN

OPERATING ROOM, ORTHOPEDIC (OROS1) 750 NSF

Basic Laminar Array with Air Curtain

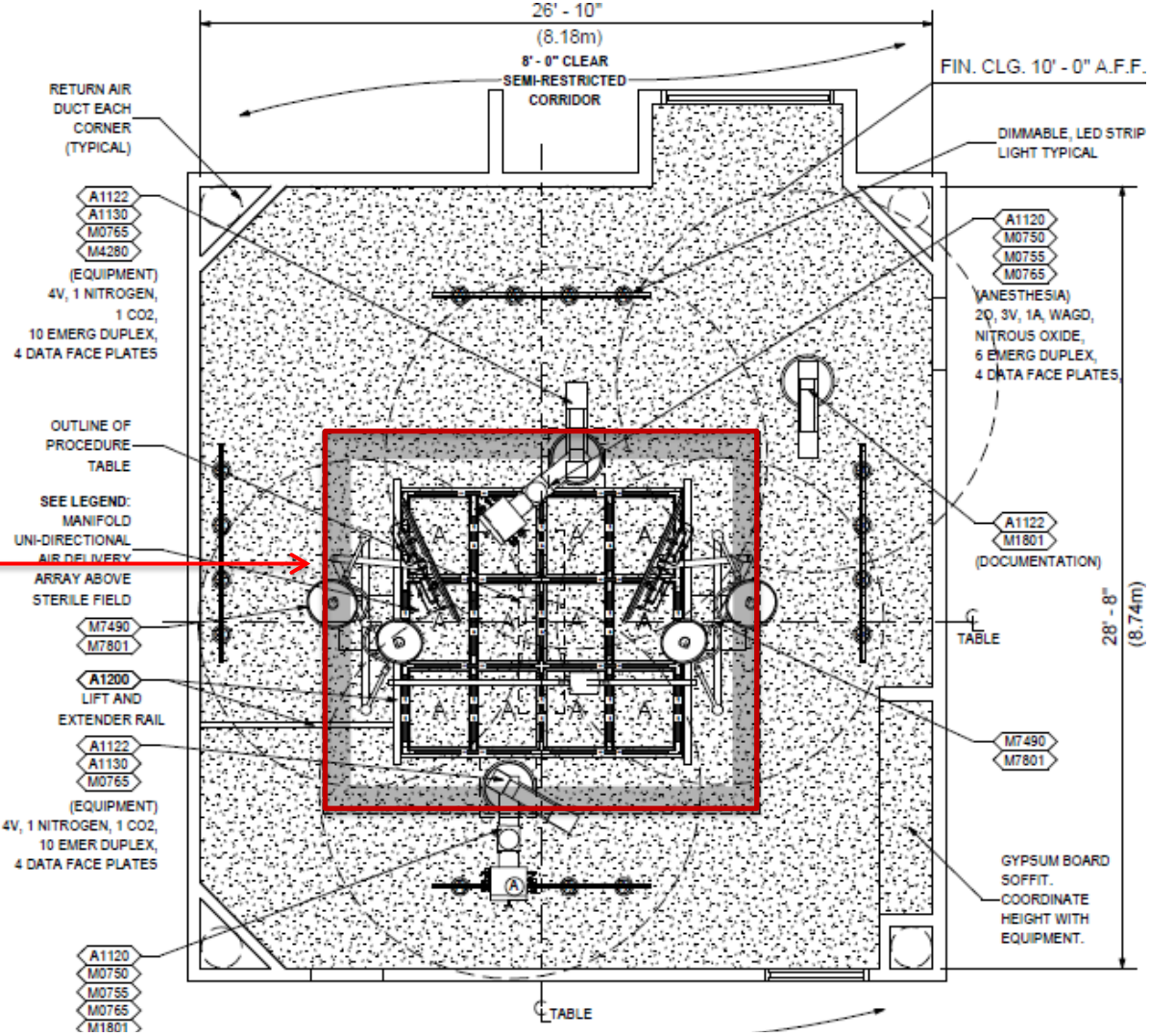
BOUNDARY of STERILE FIELD



REFLECTED CEILING PLAN

OPERATING ROOM, ORTHOPEDIC (OROS1) 750 NSF

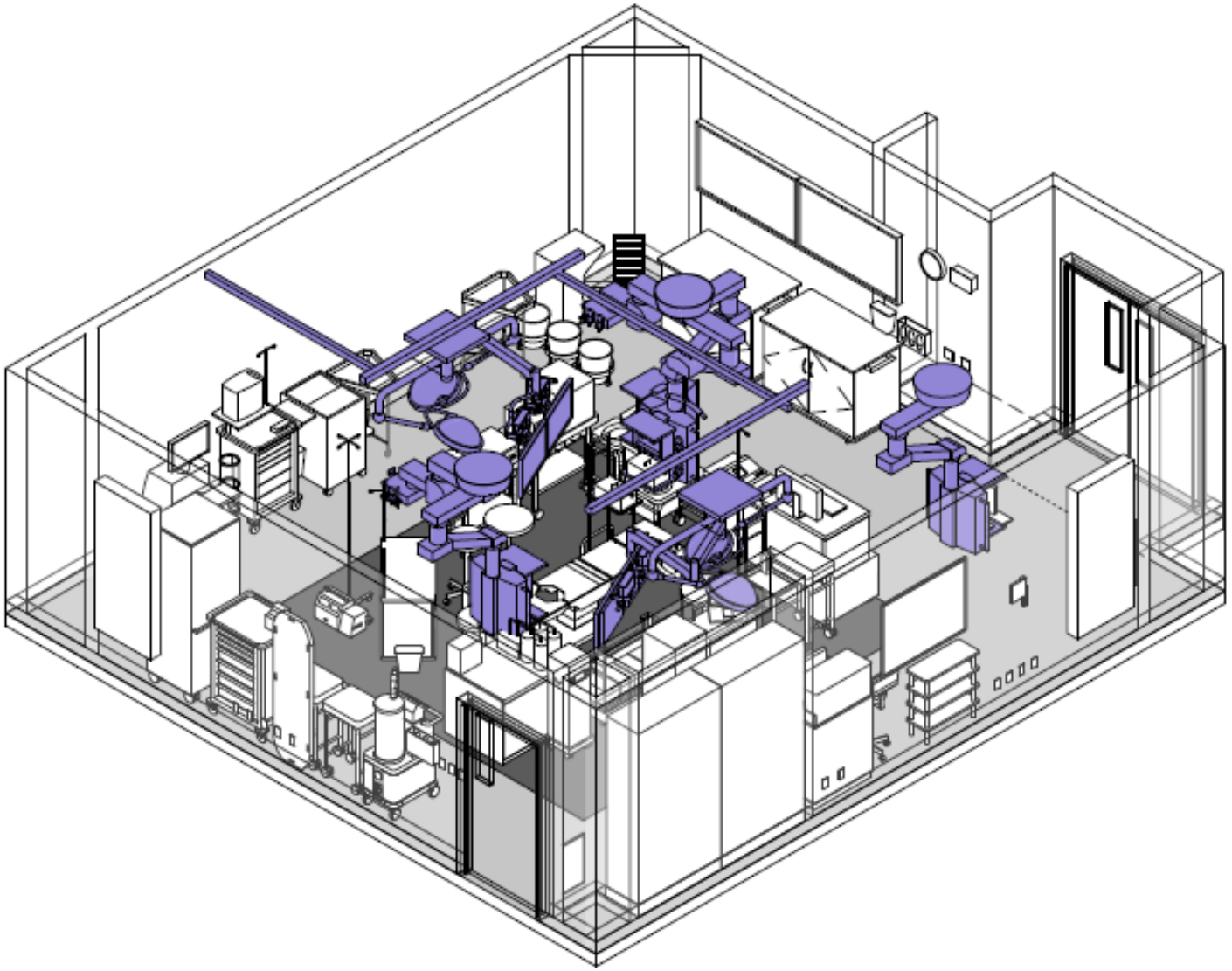
BOUNDARY of STERILE FIELD



Manifold Laminar Array

REFLECTED CEILING PLAN

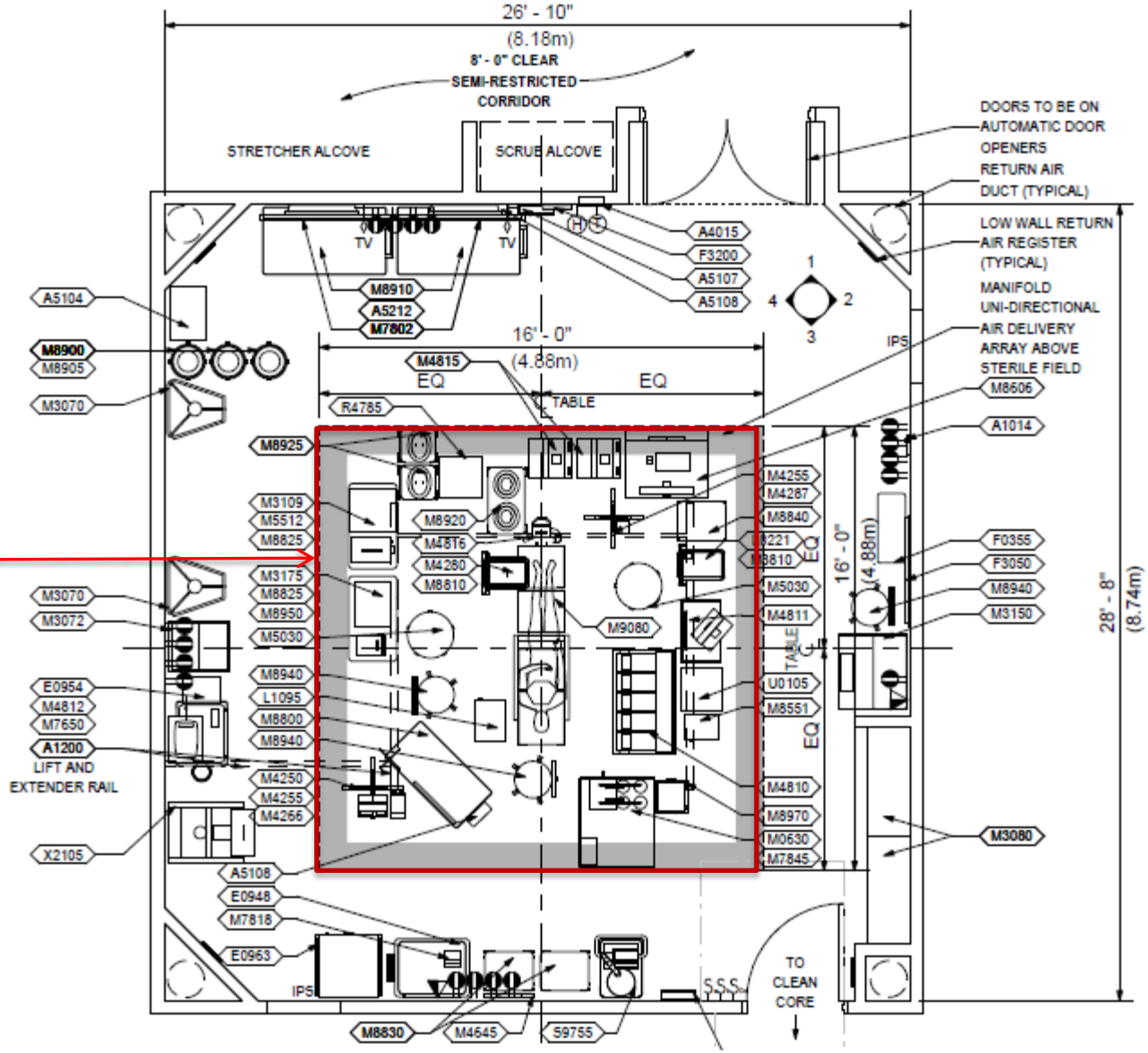
OPERATING ROOM, ORTHOPEDIC (OROS1) 750 NSF



AXONOMETRIC VIEW

OPERATING ROOM, CARDIOTHORACIC (ORCT1) 750 NSF

BOUNDARY of STERILE FIELD



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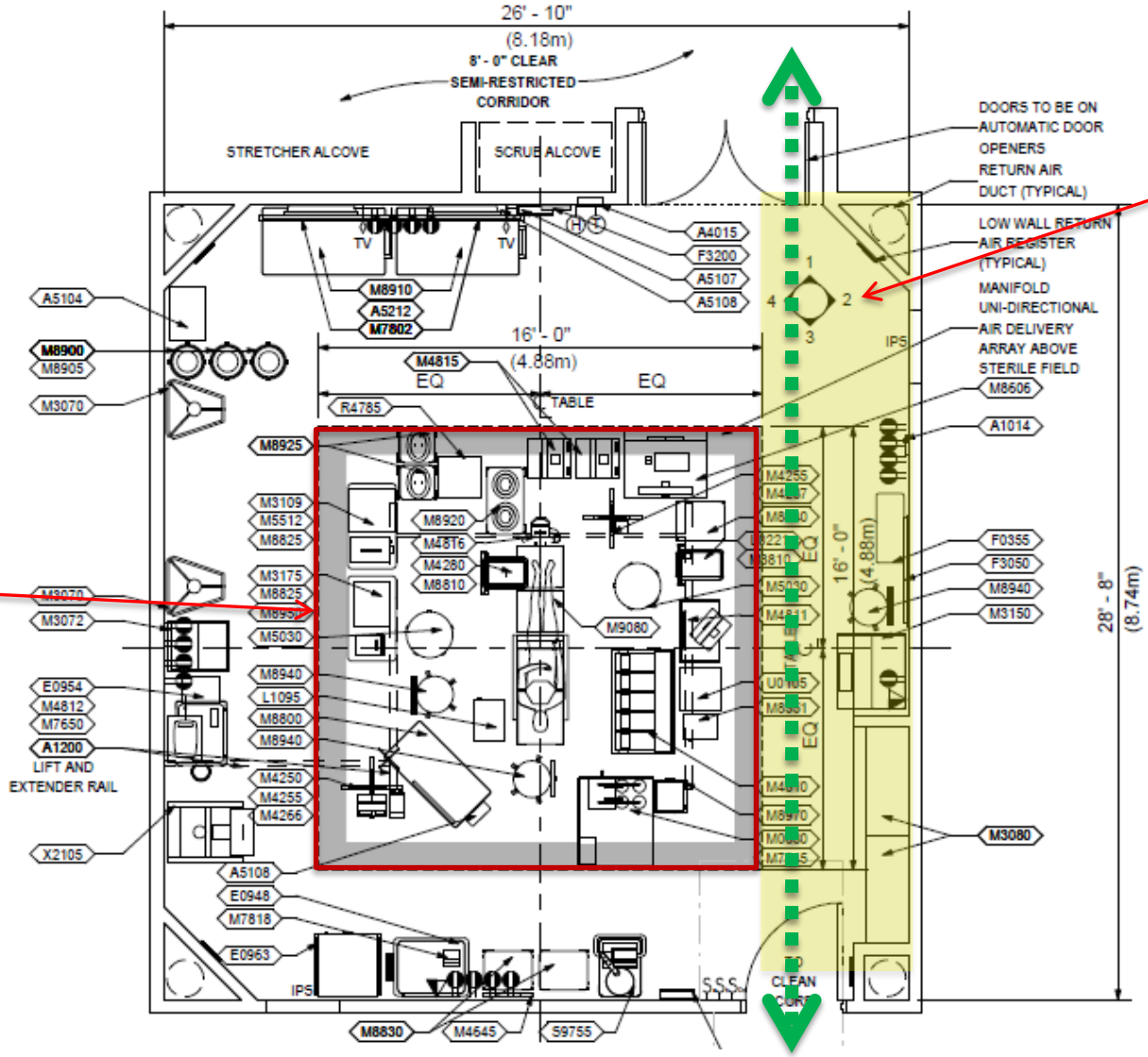
FLOOR PLAN

OPERATING ROOM, CARDIOTHORACIC (ORCT1) 750 NSF



CIRCULATION ZONE

BOUNDARY of STERILE FIELD

The term "sterile field" is used to describe the sterile zone in the Operating Room, approximately five feet around the perimeter of the procedure table which includes the space surrounding the site of the patient's incision.

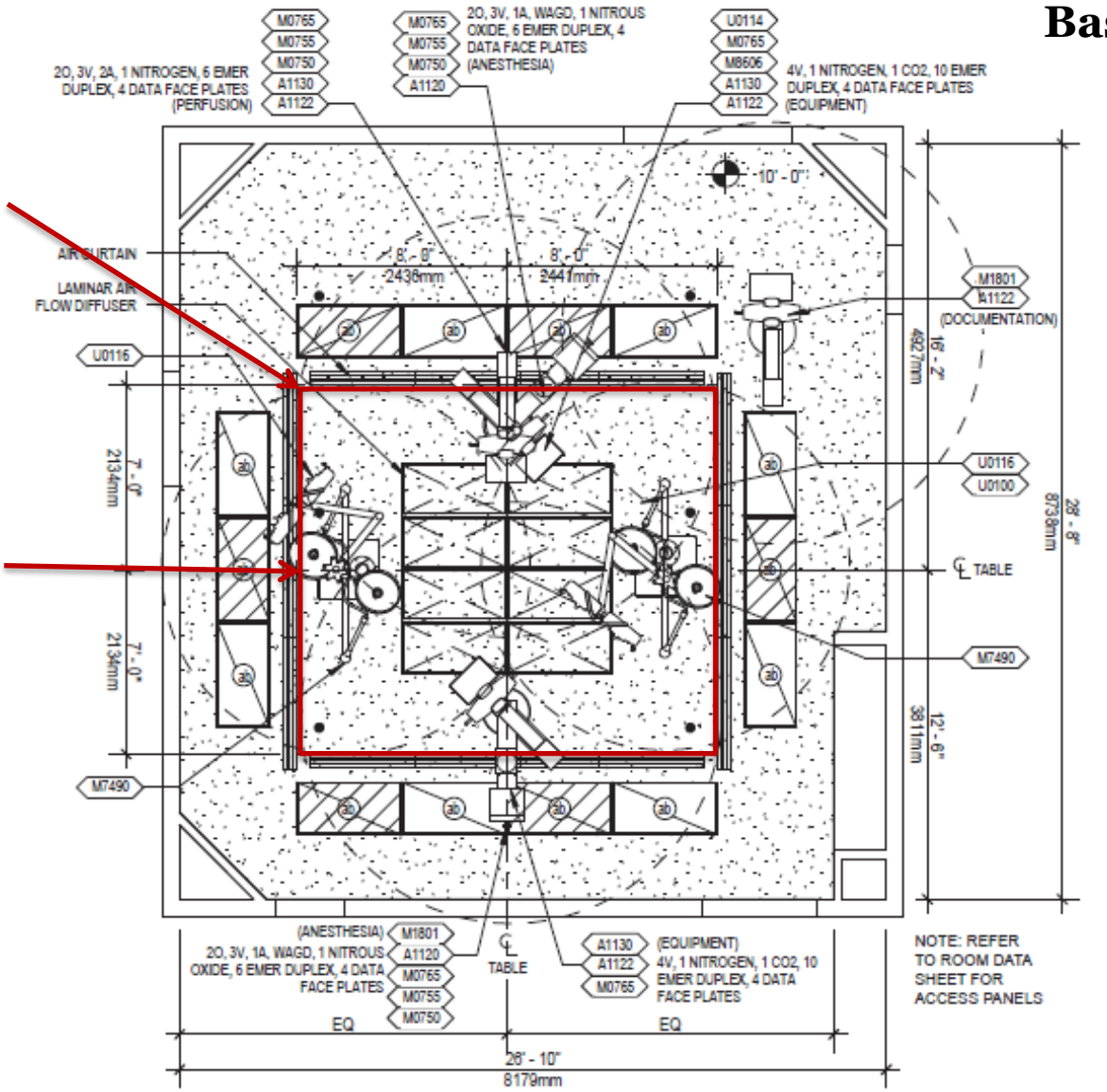
FLOOR PLAN

OPERATING ROOM, CARDIOTHORACIC (ORCT1) 750 NSF

Basic Laminar Array with Air Curtain

PERIMETER AIR CURTAIN

BOUNDARY of STERILE FIELD

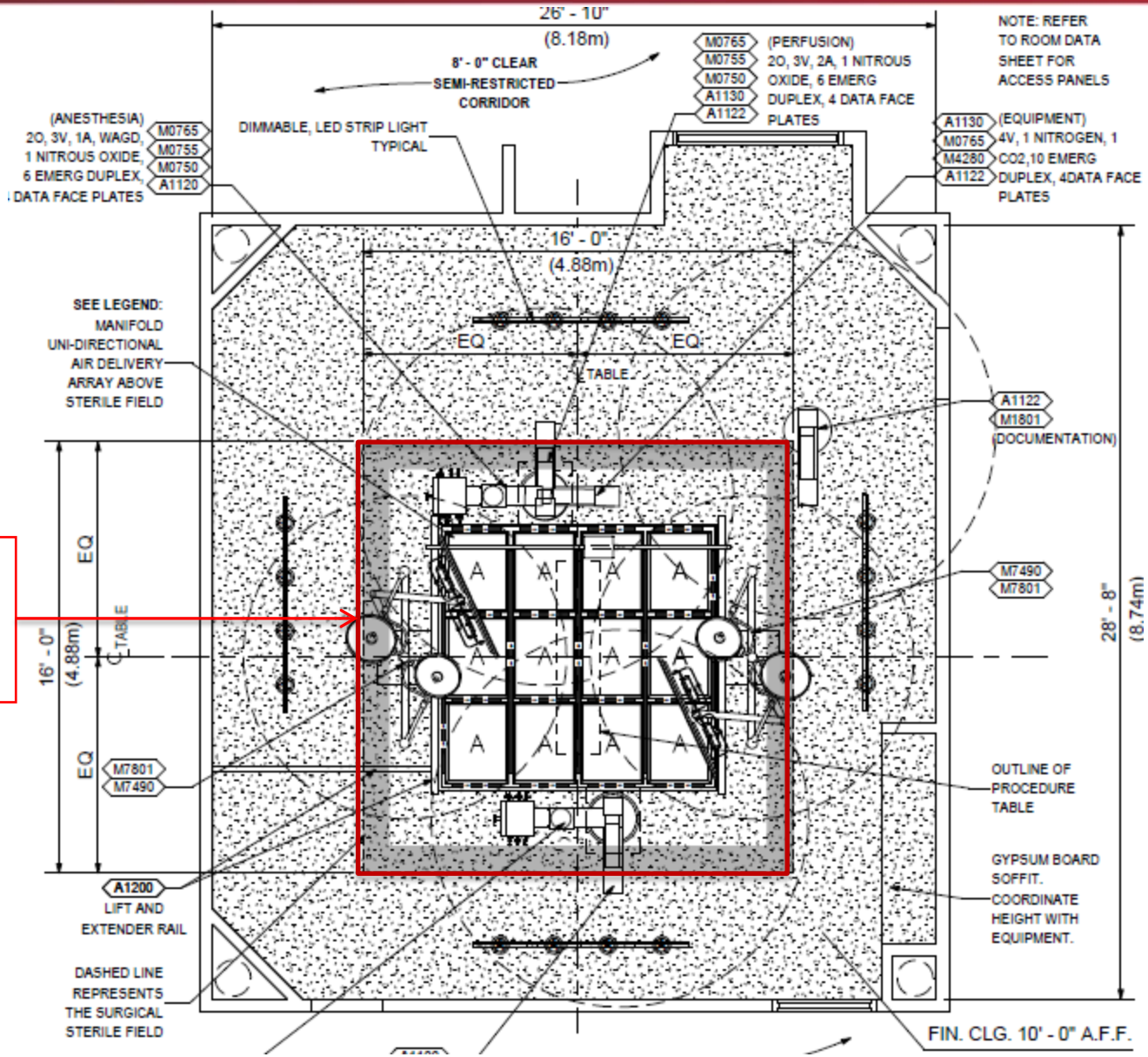


REFLECTED CEILING PLAN

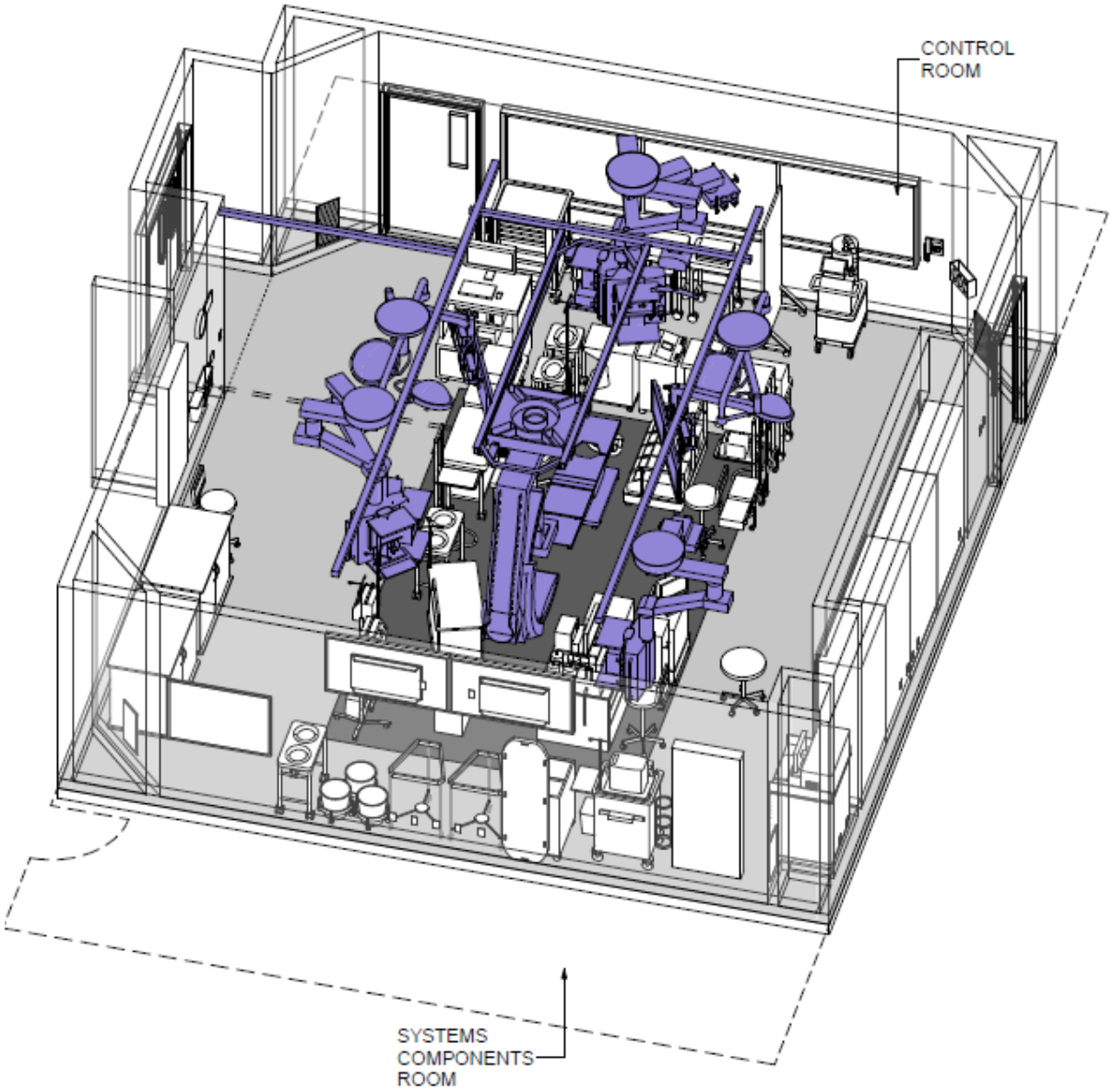
OPERATING ROOM, CARDIOTHORACIC (ORCT1) 750 NSF

Manifold Laminar Array

BOUNDARY of STERILE FIELD



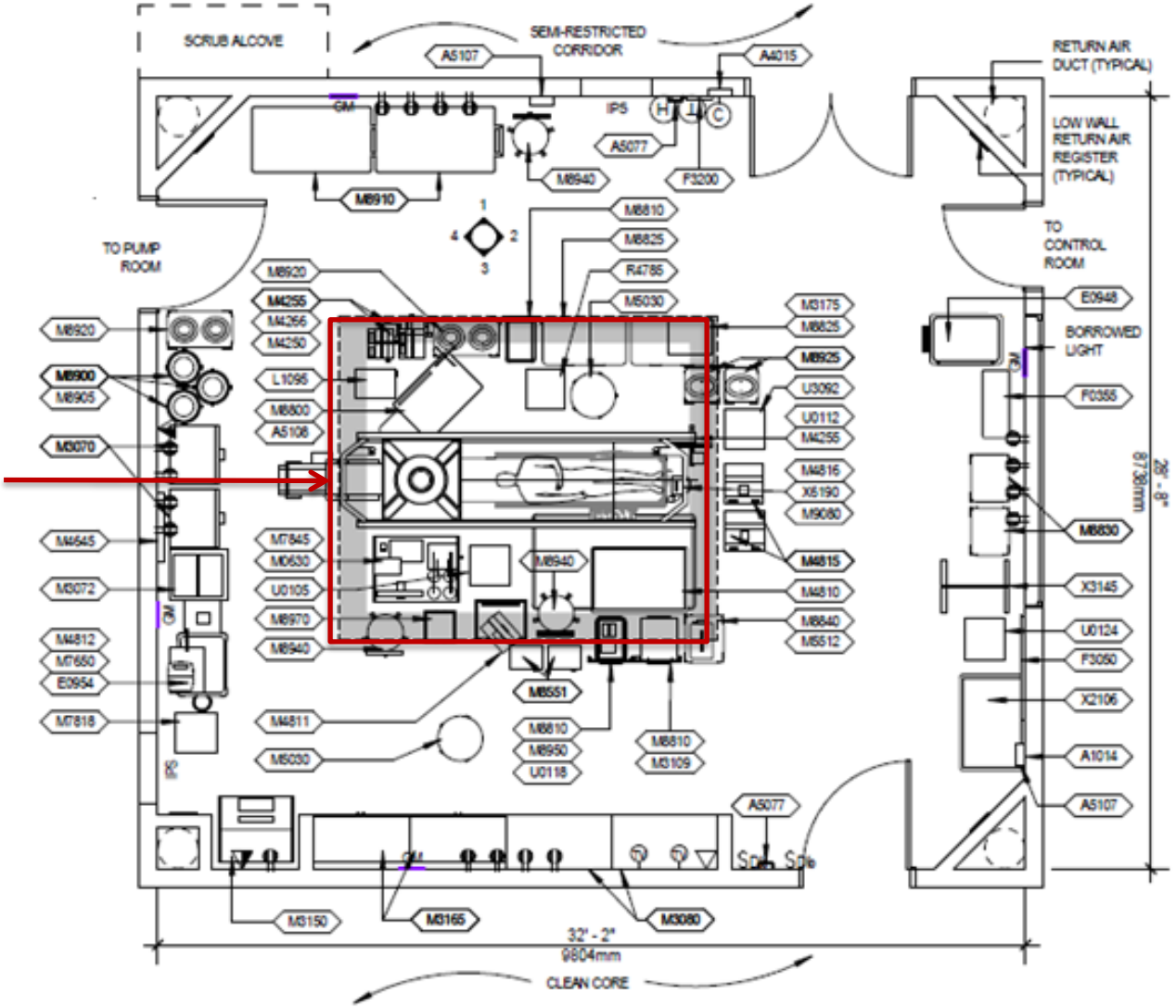
OPERATING ROOM, CARDIOTHORACIC (ORCT1) 750 NSF



AXONOMETRIC VIEW

OPERATING ROOM, MONOPLANE HYBRID (ORHY1) 900 NSF

BOUNDARY of STERILE FIELD



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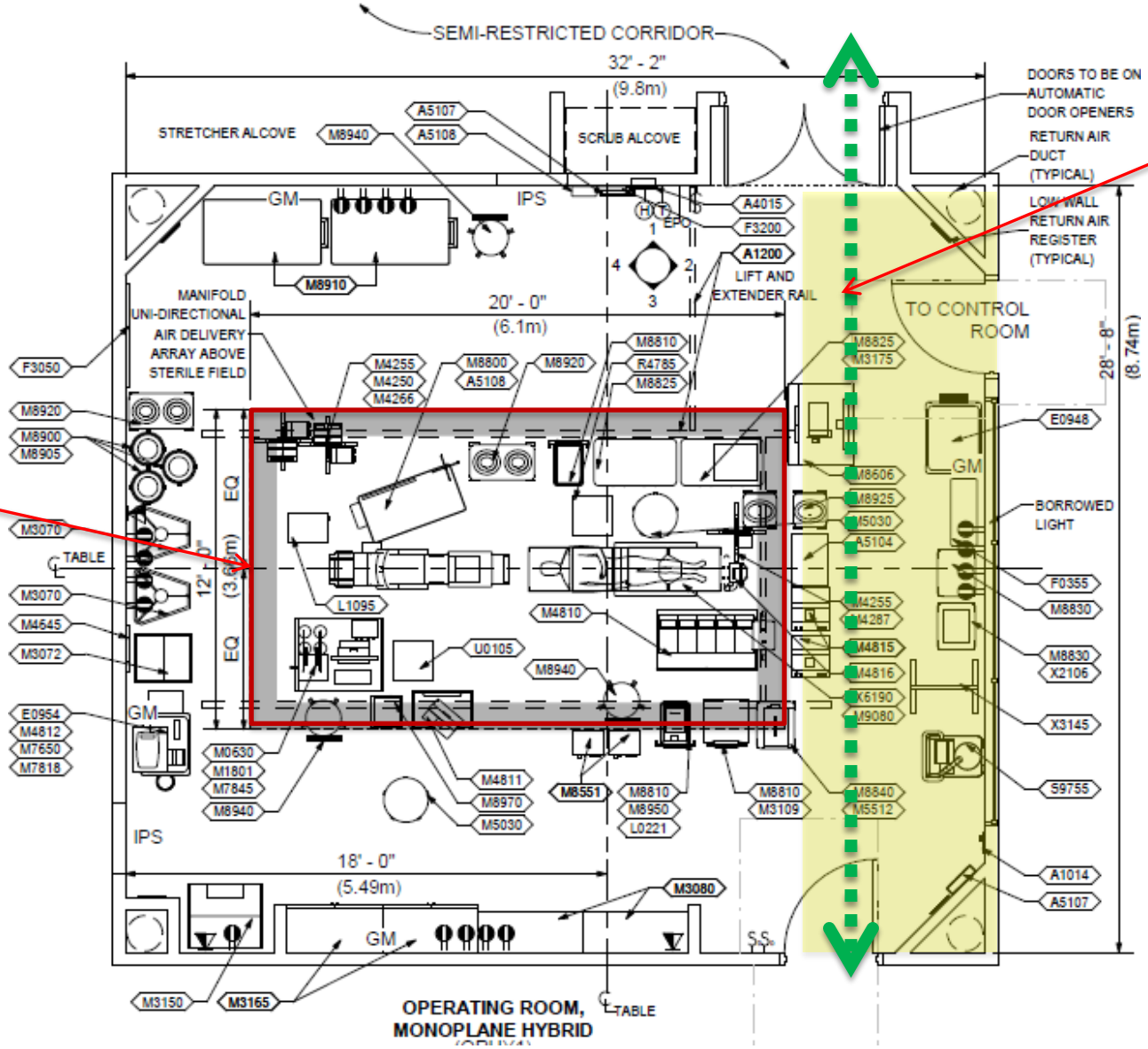
FLOOR PLAN

OPERATING ROOM, MONOPLANE HYBRID (ORHY1) 900 NSF

BOUNDARY of STERILE FIELD



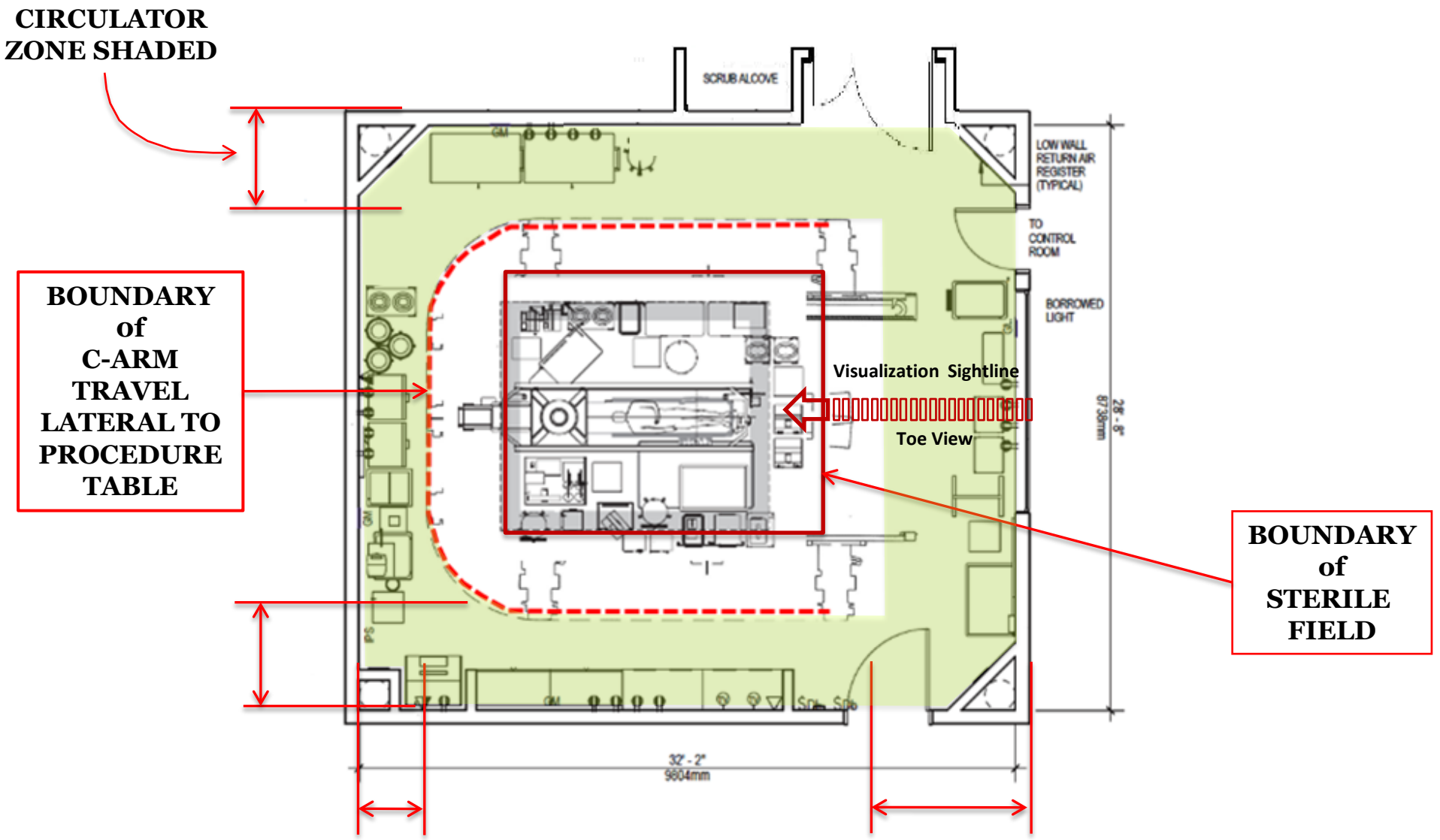
CIRCULATION ZONE

The term "sterile field" is used to describe the sterile zone in the Operating Room, approximately five feet around the perimeter of the procedure table which includes the space surrounding the site of the patient's incision.

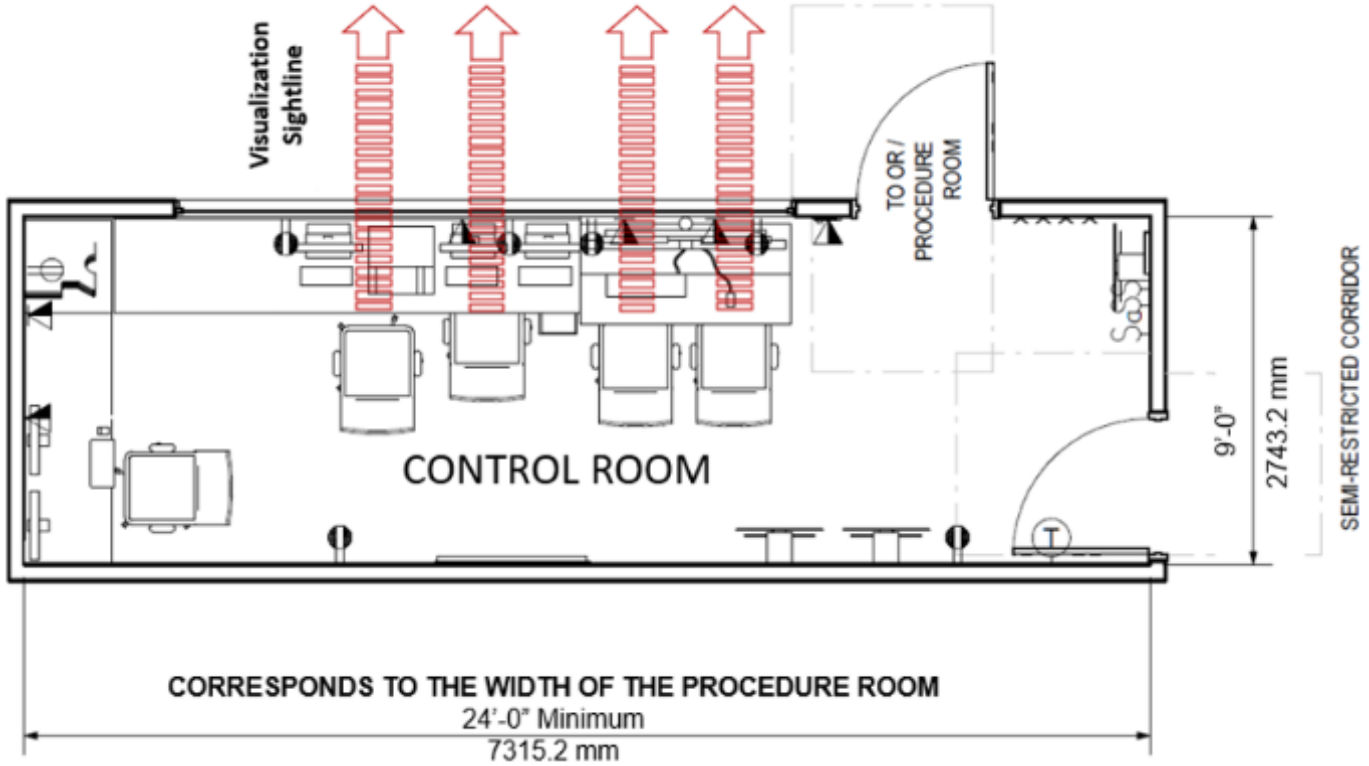
FLOOR PLAN

OPERATING ROOM, MONOPLANE HYBRID (ORHY1) 900 NSF

VAMC KANSAS CITY
OPERATING ROOM, MONOPLANE HYBRID 1,000 NSF



OPERATING ROOM, MONOPLANE HYBRID (ORHY1) 900 NSF



Control Room:

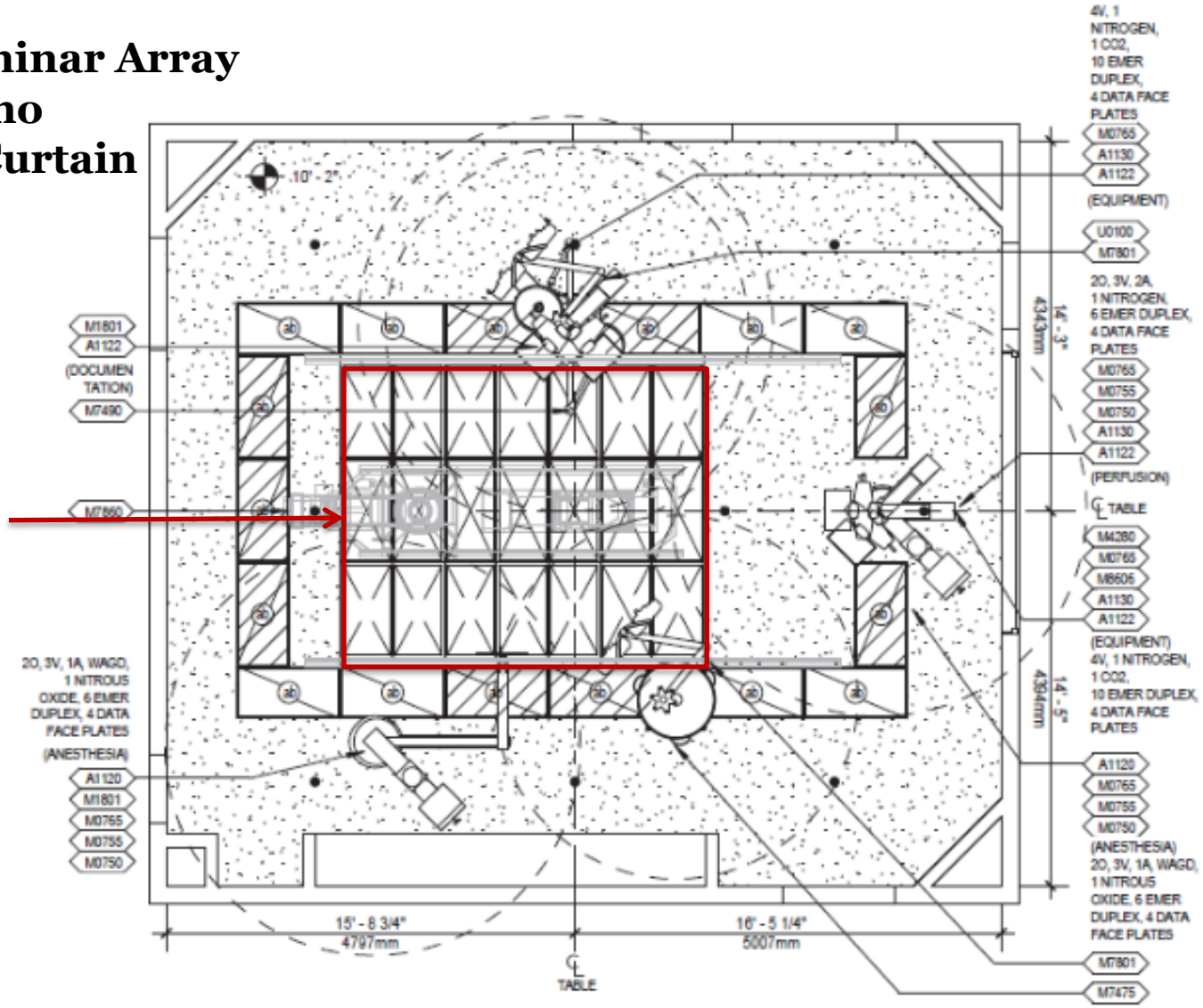
The Control Room is directly accessible from the Hybrid OR as well as from the semi-restricted corridor. The counter at the view window is minimum 2 ft. 6 in. (max 3'-0") depth to facilitate control modules associated with the imaging equipment as well as charting workstations. Minimum depth of Control Room shall not be less than 9'-0". Width of Control Room shall match that of Procedure Room.

Planning Tips:

Avoid combining endovascular procedure room control rooms! Control rooms should be internal to the endovascular procedure rooms (cardiac catheterization lab, electrophysiology lab, interventional radiology lab, vascular lab and hybrid OR's) and separate from the outside corridor. Provide one control room per each endovascular procedure room. This facilitates communication between control room staff and those in the procedure room The one-to-one ratio reduces potential miscommunication.

Basic Laminar Array no Air Curtain

BOUNDARY of STERILE FIELD And LAMINAR FLOW ARRAY



Laminar Flow Array Over the sterile field Imaging Equipment Gantry Creates Turbulence.

It is the Mechanical Engineer Consultant's responsibility to design the laminar array in such a manner as to Minimize Turbulence and maintain the sterile field.

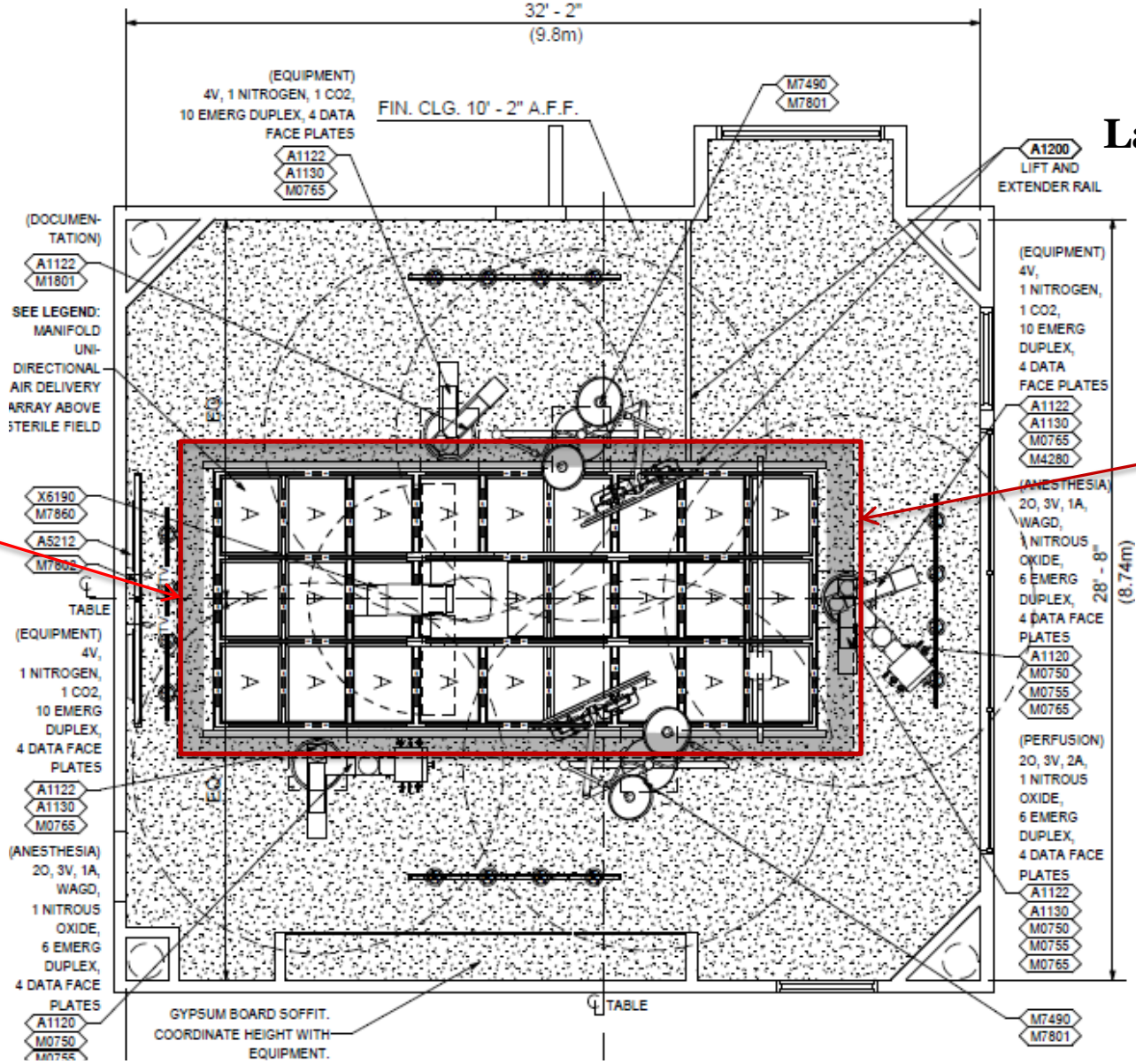
OPERATING ROOM RCP, MONOPLANE HYBRID (ORHY1) 900 NSF

FINISHED CEILING 10’-0” AFF

BOUNDARY of STERILE FIELD

Manifold Laminar Array

BOUNDARY of STERILE FIELD And LAMINAR FLOW ARRAY



OPERATING ROOM RCP, MONOPLANE HYBRID (ORHY1) 900 NSF

JSN	DESCRIPTION
A1014	TELEPHONE, WALL MOUNTED, 1 LINE, WITH SPEAKER
A1120	COLUMN, SERVICE, PREFAB, SURGICAL, CEILING MOUNTED
A1122	COLUMN, EQUIPMENT ARM, CEILING MOUNTED, SURGERY
A1130	CABINET, CONTROL, NITROGEN
A4015	ELAPSE TIME CLOCK
A5077	DISPENSER, HAND SANITIZER, HANDS-FREE
A5107	DISPENSER, GLOVE, SURGICAL/ EXAMINATION, WALL MTND
A5108	WASTE DISPOSAL UNIT, SHARPS
A5212	BRACKET, TELEVISION WALL MTD, TILT/ANGLE
E0948	CART, GENERAL STORAGE, MOBILE
E0954	CART, EMERGENCY, MOBILE
F0355	FOOTSTOOL, STRAIGHT
F3050	WHITE BOARD, DRY ERASE
F3200	CLOCK, BATTERY, 12IN
L1095	CELL SAVER, AUTOLOGOUS BLOOD RECOVERY
M0630	ANESTHESIA APPARATUS, 3 GAS
M0750	FLOWMETER, AIR, CONNECT W/ 50 PSI SUPPLY
M0755	FLOWMETER, OXYGEN, LOW FLOW
M0765	REGULATOR, VACUUM
M1801	COMPUTER, MICROPROCESSING, W/ FLAT PANEL MONITOR
M3070	HAMPER, LINEN
M3072	FRAME, INFECTIOUS WASTE BAG W/LID
M3080	CABINET, INSTRUMENT, CRS, 2 GLASS DOOR, 6 SHELF
M3109	ELECTROSURGICAL UNIT, DUAL OUTPUT
M3150	DISTRIBUTION SYSTEM, MEDICATION, AUTOMATIC
M3165	CABINET, CATHETER STORAGE
M3175	ELECTROSURGICAL UNIT, DUAL OUTPUT
M4250	PUMP SYRINGE, INFUSION
M4255	STAND IV
M4266	PUMP, VOLUMETRIC, INFUSION, MULTIPLE LINES
M4645	PATIENT TRANSFER DEVICE
M4810	HEART/ LUNG MACHINE, BYPASS, MODULAR
M4811	PUMP, INTRA-AORTIC, BALLOON
M4812	PACEMAKER, SINGLE CHAMBER, EXTERNAL, TEMPORARY
M4815	HYPO/HYPERTHERMIA UNIT, MOBILE
M4816	WARMING UNIT, PATIENT
M5030	STOOL, SURGEON, REVOLVING
M5512	LASER, SMOKE EVACUATOR
M7475	LIGHT, SURGICAL, CEILING MOUNTED, SINGLE, LARGE
M7490	LIGHT, SURG, CEILING MTD, DUAL, UNEQUAL DIA HEADS
M7650	DEFIBRILLATOR/ MONITOR, ACUTE CARE
M7818	MONITOR, TRANSPORT
M7845	MONITOR, PHYSIOLOGICAL, BEDSIDE
M7860	MONITORING SYSTEM, CARDIAC CATHETERIZATION LAB
M8551	LIGHT SOURCE, FIBEROPTIC HEADLAMP
M8606	ENDOSCOPY CART, FIBEROPTIC, W/ VIDEO ACCESSORIES
M8800	CART, ANESTHESIA
M8810	STAND, MAYO
M8825	TABLE, INSTRUMENT/DRESSING
M8830	TABLE, INSTRUMENT/DRESSING
M8840	TABLE, INSTRUMENT/DRESSING
M8900	CARRIAGE, PAIL
M8905	PAIL, UTILITY
M8910	CART, SURGICAL CASE
M8920	STAND, BASIN, DOUBLE
M8925	STAND, BASIN, SINGLE
M8940	STOOL, ANESTHESIA, WITH BACK
M8950	WARMER, BLOOD
M8970	WARMER, BLOOD
M9080	TABLE, OPERATING, PEDESTAL, 5 SECTION
R4785	ICE MAKER, SURGICAL SLUSH
U0100	INTEGRATED OPERATING ROOM SYSTEM
U0105	EXTRACORPOREAL SUPPORT SYSTEM
U0112	IRRIGATION SYSTEM, SURGICAL

ABBREVIATED EQUIPMENT LIST

OPERATING ROOM, MONOPLANE HYBRID (ORHY1) 900 NSF

JSN	NAME	QTY	ACQ/INS	DESCRIPTION
A1014	Telephone, Wall Mounted, 1 Line, With Speaker	1	C / C	Telephone, wall mounted, 1 line, with speaker.
A1120	Column, Service, Prefab, Surgical, Ceiling Mounted	2	C / C	Prefabricated surgical service column. Strong 18 gauge stainless steel shell ceiling mounted unit with the following services: oxygen, nitrous oxide, nitrogen, medical air, medical vacuum, gas evacuation, electrical outlets, monitoring connectors, and IV holders. Specify type of column (fixed or retractable) and number of outlets required for each service. Size will vary with number of service outlets required. Designed to be used in the operating room, recovery and ICU-CCU rooms.
A1122	Column, Equipment Arm, Ceiling Mounted, Surgery	4	C / C	A ceiling mounted retractable equipment arm for use in the OR. Designed to provide equipment placement support, power receptacles including low-voltage panels, gas outlets and flat screen mounting for a surgical suite. Unit will provide a range of motion of up to 330 degrees with arm providing additional vertical movement. Units are custom configured with multiple options available. Price is based on a unit with two (double) retractable arms. Also available are units for use in anesthesia, ICU and ER.
A1130	Cabinet, Control, Nitrogen	3	C / C	Nitrogen control cabinet. Unit consists of supply cut-off valve, supply pressure gauge, pressure regulator (adjustable 0 to 200 PSI), outlet pressure gauge, nitrogen outlet and connection to surgical gas column. Specify recessed or surface mounting. Designed for powering surgical pneumatic tools.
A4015	Clock, Elapsed Time, Electric	1	C / C	Elapsed time digital electric clock. Single display time that can be used either as a clock or elapsed time indicator. Clock consists of buttons to set minutes, and hours for the time. For use in operating and delivery room, and medical service columns. Analog or digital displays may be provided as specified by the user.
A5077	Dispenser, Hand Sanitizer, Hands-Free	2	V / V	A touch free wall-mounted hand sanitizer dispenser. For use throughout a healthcare facility. Unit does not include the sanitizing liquid. Units are battery operated.
A5107	Dispenser, Glove, Surgical/Examination, Wall Mntd	2	V / V	Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a white baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting.

DETAILED EQUIPMENT LIST

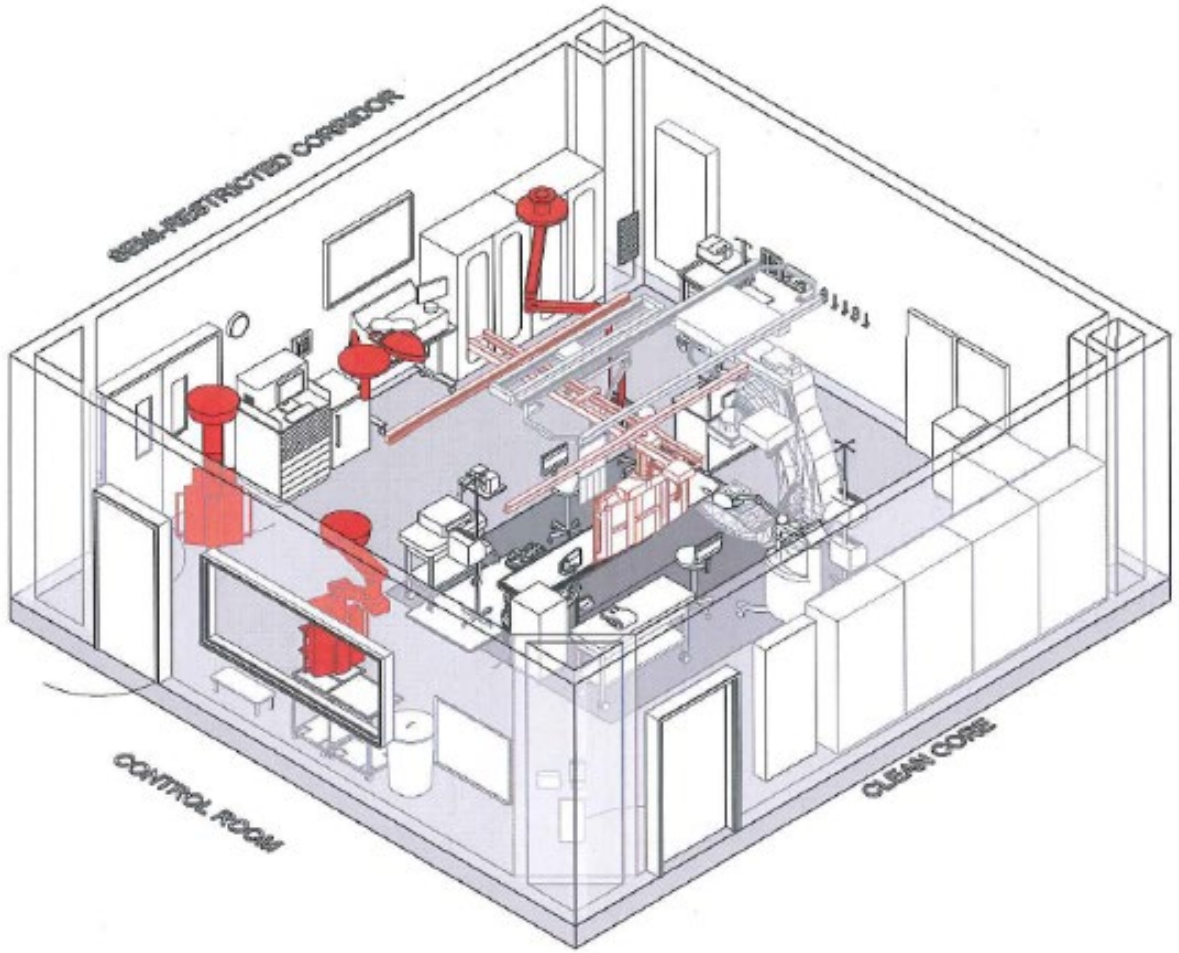
OPERATING ROOM, MONOPLANE HYBRID (ORHY1) 900 NSF

PRIOR TO PROCEDURE
OPERATING ROOM, MONOPLANE HYBRID 900 NSF

TAVR PROCEDURE IN PROGRESS
OPERATING ROOM, MONOPLANE HYBRID 900 NSF

VAMC DETROIT
OPERATING ROOM, MONOPLANE HYBRID 900 NSF

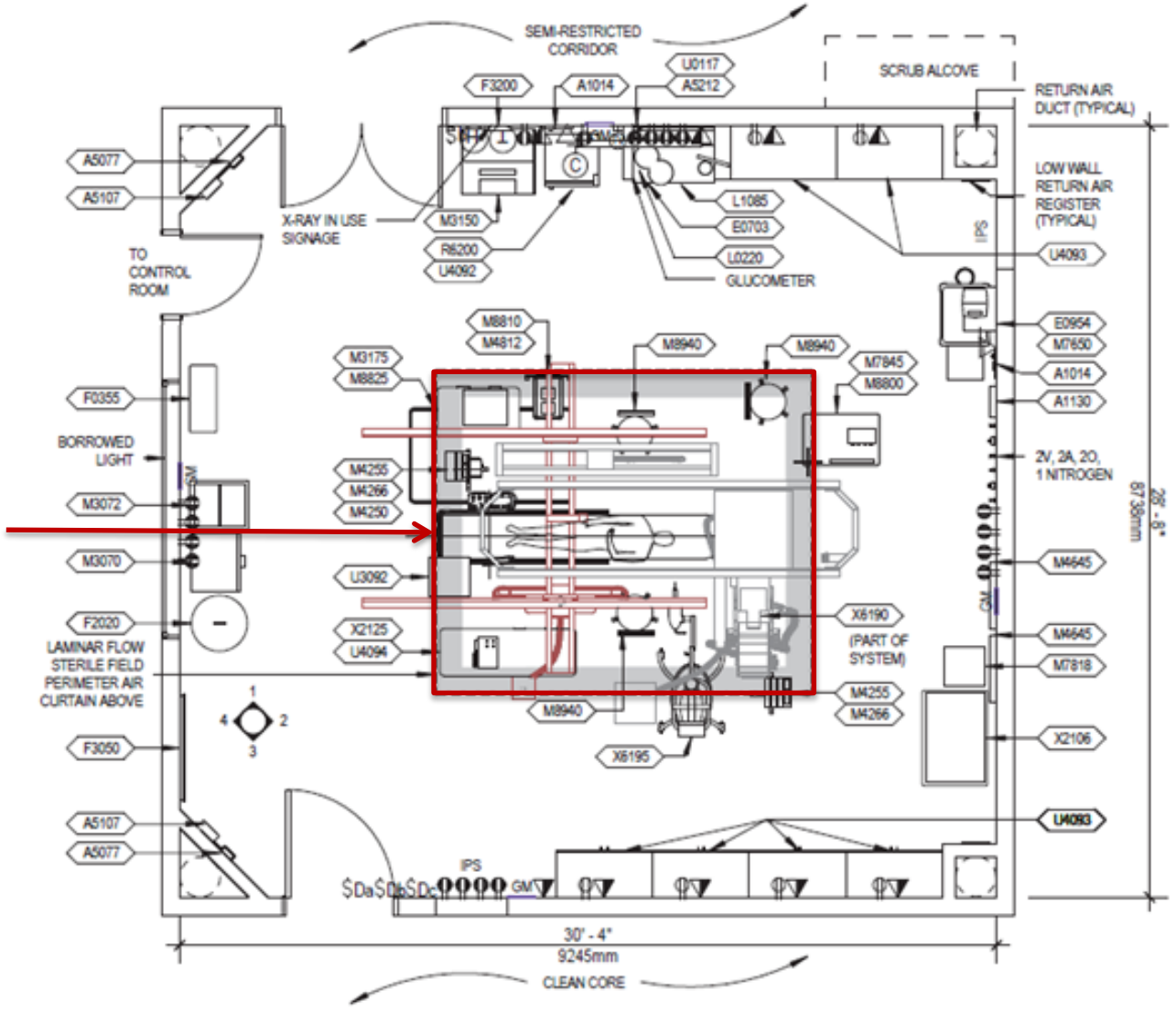
VAMC BOSTON – WEST ROXBURY
OPERATING ROOM, MONOPLANE HYBRID 1,100 NSF



AXONOMETRIC VIEW

CARDIAC CATHETERIZATION & IR LAB (XCCE1) 850 NSF

BOUNDARY of STERILE FIELD



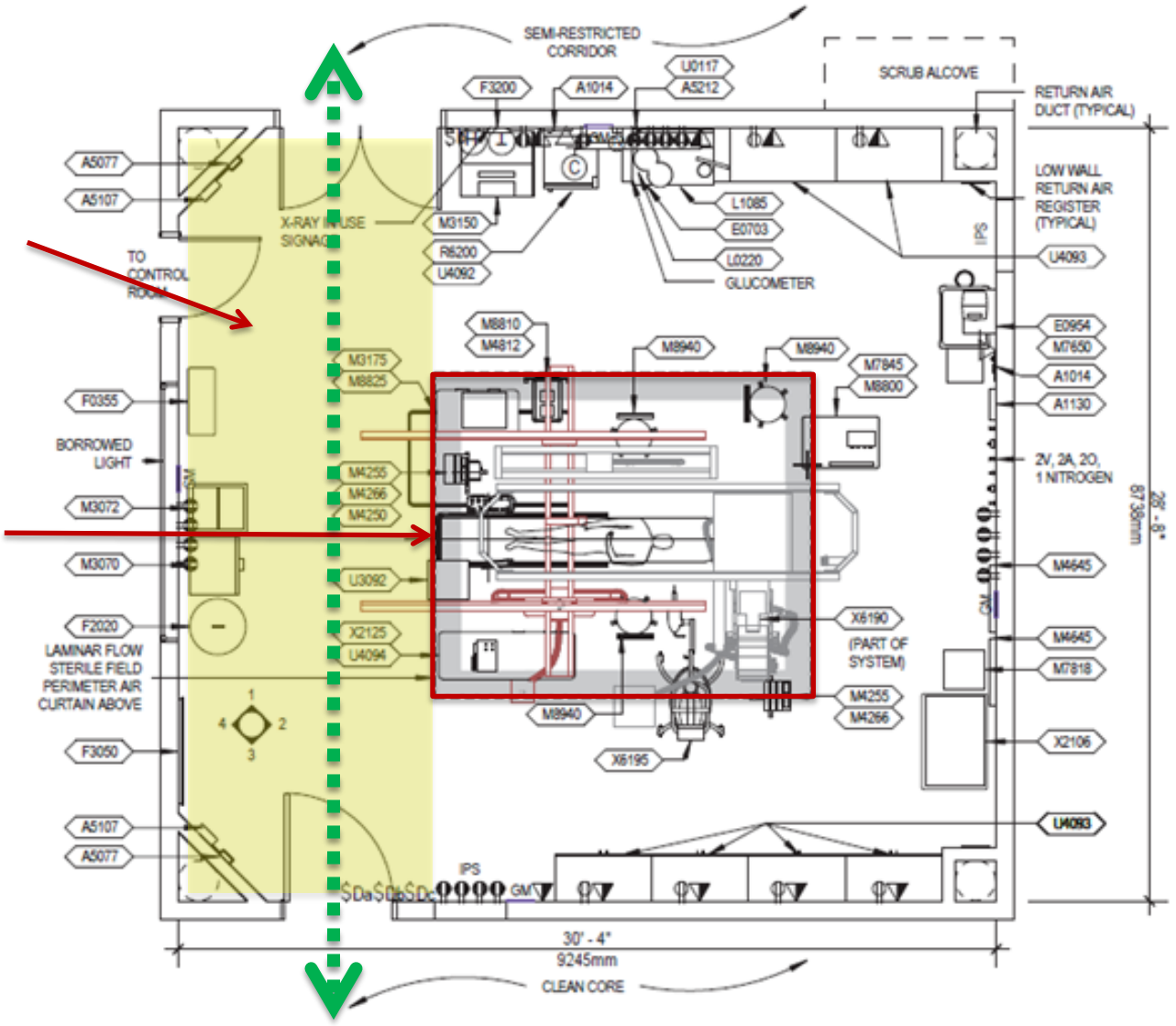
The term "sterile field" is used to describe the sterile zone in the Operating Room, approximately five feet around the perimeter of the procedure table which includes the space surrounding the site of the patient's incision.

FLOOR PLAN

CARDIAC CATH - IR - VASCULAR LAB (XCCE1) 850 NSF

CIRCULATION ZONE

BOUNDARY of STERILE FIELD

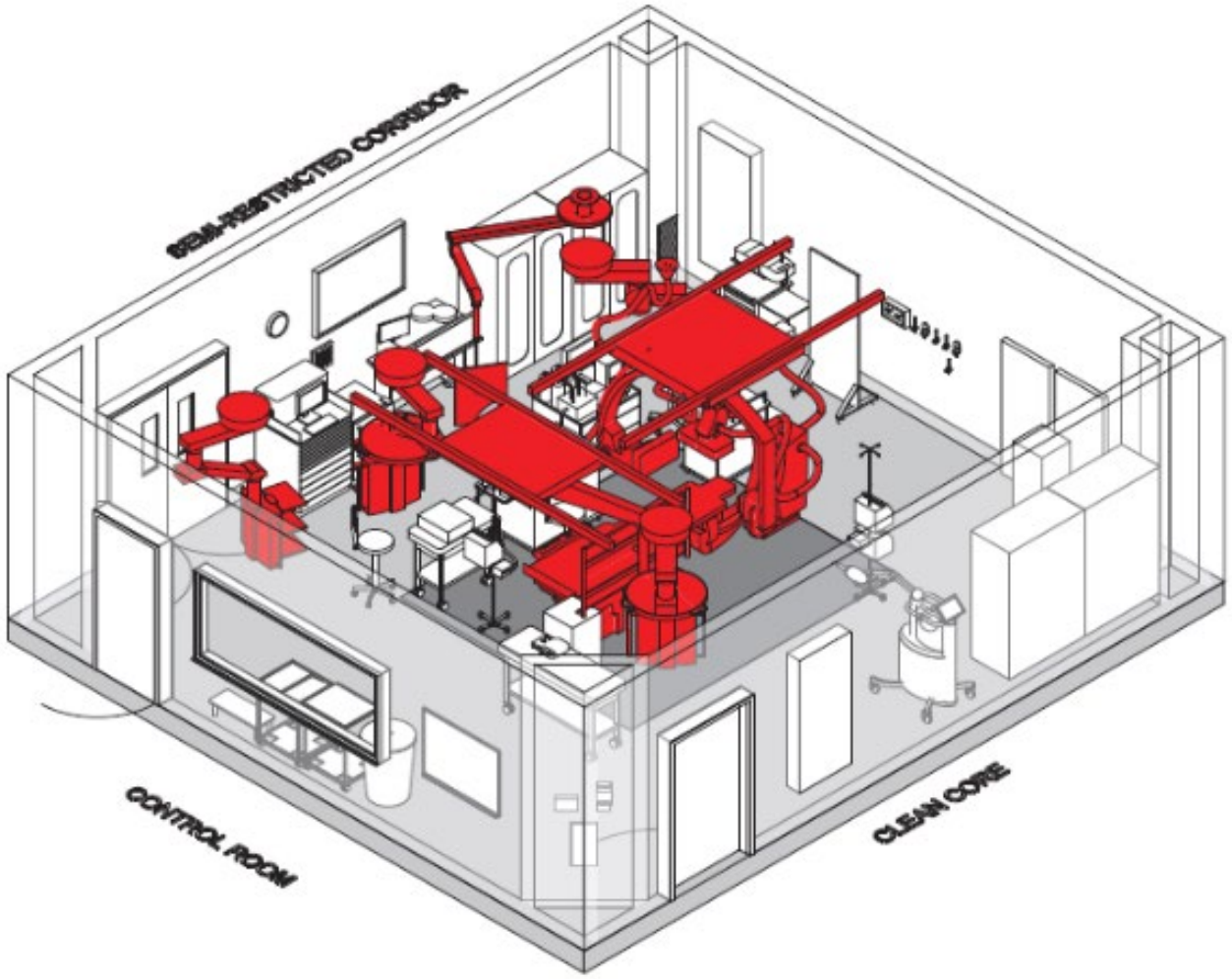


The term "sterile field" is used to describe the sterile zone in the Operating Room, approximately five feet around the perimeter of the procedure table which includes the space surrounding the site of the patient's incision.

FLOOR PLAN

CARDIAC CATH - IR - VASCULAR LAB (XCCE1) 850 NSF

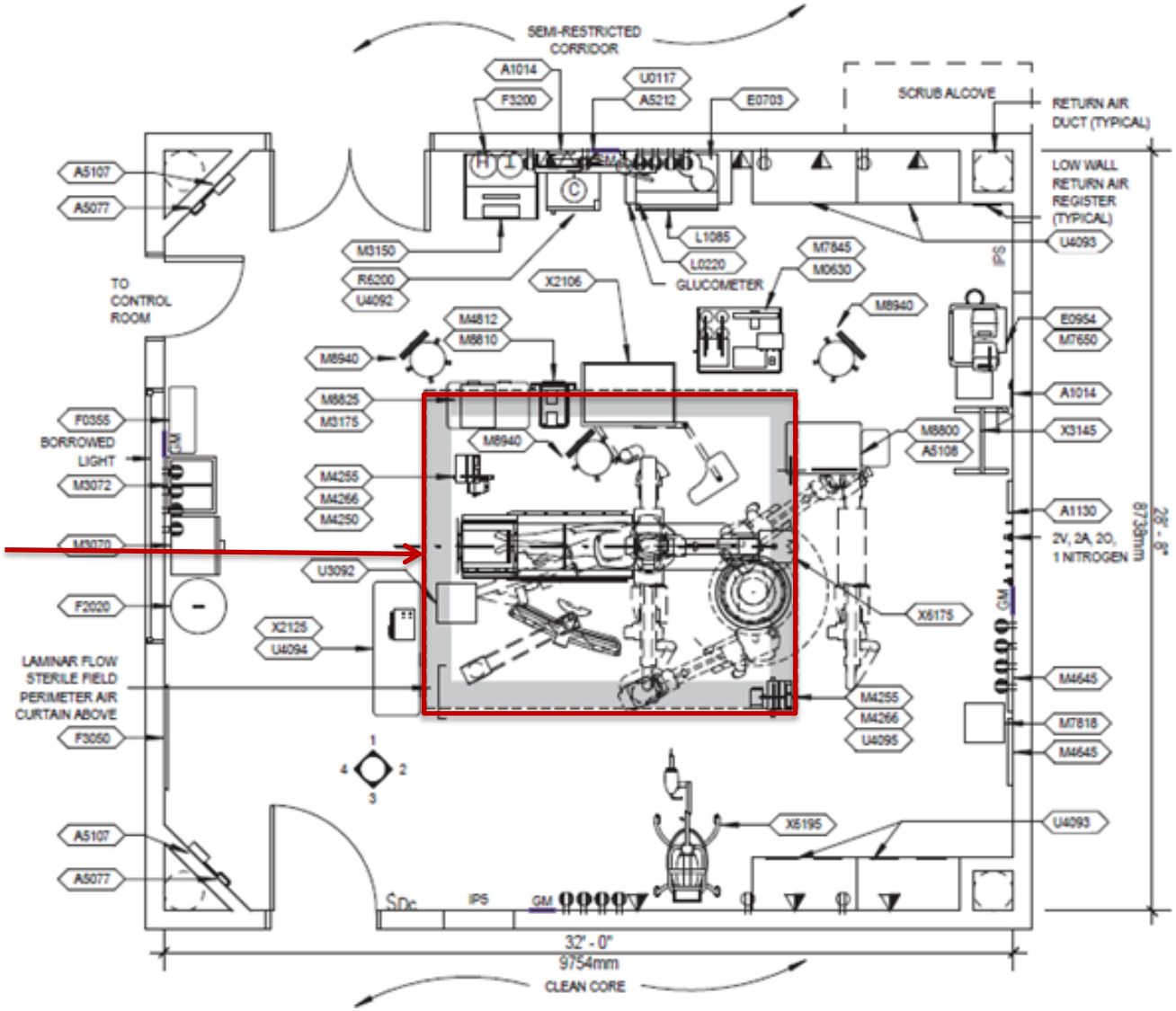
VAMC MINNEAPOLIS
CARDIAC CATHETERIZATION LAB 809 NSF



AXONOMETRIC VIEW

ELECTROPHYSIOLOGY LAB (XCEP1) 900 NSF

BOUNDARY of STERILE FIELD



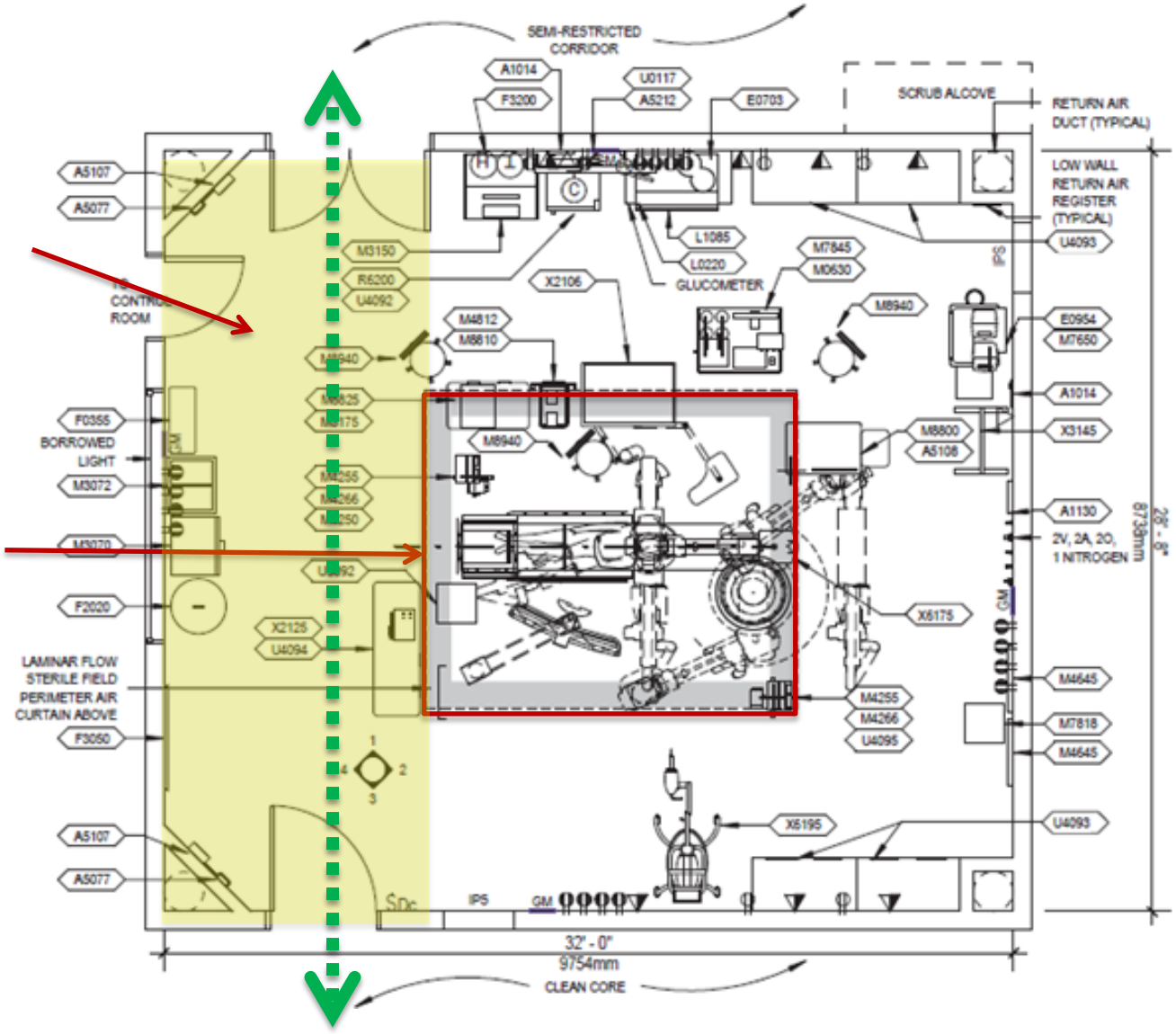
The term "sterile field" is used to describe the sterile zone in the Operating Room, approximately five feet around the perimeter of the procedure table which includes the space surrounding the site of the patient's incision.

FLOOR PLAN

ELECTROPHYSIOLOGY LAB (XCEP1) 900 NSF

CIRCULATION ZONE

BOUNDARY of STERILE FIELD

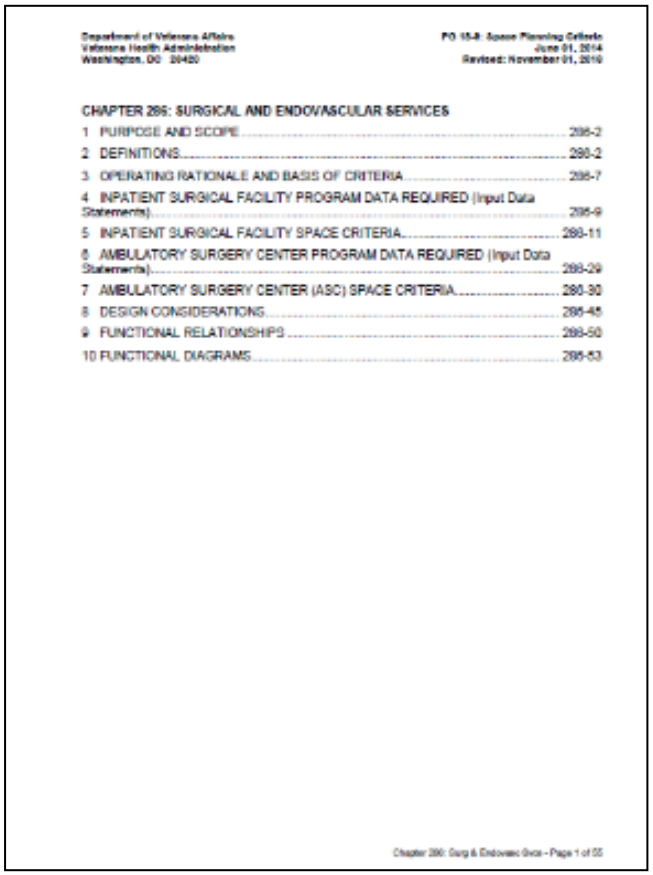


The term "sterile field" is used to describe the sterile zone in the Operating Room, approximately five feet around the perimeter of the procedure table which includes the space surrounding the site of the patient's incision.

FLOOR PLAN

ELECTROPHYSIOLOGY LAB (XCEP1) 900 NSF

Surgical and Endovascular Services Space Design Standards



Department of Veterans Affairs
Veterans Health Administration
Washington, DC 20420

PG 18-9: Space Planning Criteria
June 01, 2014
Revised: November 01, 2016

CHAPTER 286: SURGICAL AND ENDOVASCULAR SERVICES

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SEPS Chapter 286

FA 3: Inpatient Surgical Facility Pre-Operative Holding / Phase II Recovery Patient Area:

FA 3: Inpatient Surgical Facility Pre-Operative Holding / Phase II Recovery Patient Area:

1. **Locker / Changing Room, Male Patient (LR002) 90 NSF (8.4 NSM)**
   Provide one for the Inpatient Surgical Facility Pre-Operative Holding / Phase II Recovery Patient Area if Standard, Intermediate or Complex surgical complexity is authorized

2. **Toilet, Pre-Operative Holding / Phase II Recovery Male Patient (TPG01) 60 NSF (5.6 NSM)**
   Provide one for the Inpatient Surgical Facility Pre-Operative Holding / Phase II Recovery Patient Area if Standard, Intermediate or Complex surgical complexity is authorized.
   Allocated NSF accommodates one accessible toilet @ 25 NSF, one accessible wall-hung lavatory @ 13 NSF, ABA clearances, and circulation.

3. **Locker / Changing Room, Female Patient (LR002) 90 NSF (8.4 NSM)**
   Provide one for the Inpatient Surgical Facility Pre-Operative Holding / Phase II Recovery Patient Area if Standard, Intermediate or Complex surgical complexity is authorized.

4. **Toilet, Pre-Operative Holding / Phase II Recovery Female Patient (TPG01) 60 NSF (5.6 NSM)**
   Provide one for the Inpatient Surgical Facility Pre-Operative Holding / Phase II Recovery Patient Area if Standard, Intermediate or Complex surgical complexity is authorized.
   Allocated NSF accommodates one accessible toilet @ 25 NSF, one accessible wall-hung lavatory @ 13 NSF, ABA clearances, and circulation.

5. **Patient Bay, Pre-Operative Holding / Phase II Recovery (RRPR1) 140 NSF (13.1 NSM)**
   Minimum five if Standard, Intermediate or Complex surgical complexity is authorized; provide an additional three per each Inpatient Surgical Facility Surgical Operating Room and Endovascular Procedure Room, of any type, greater than two.

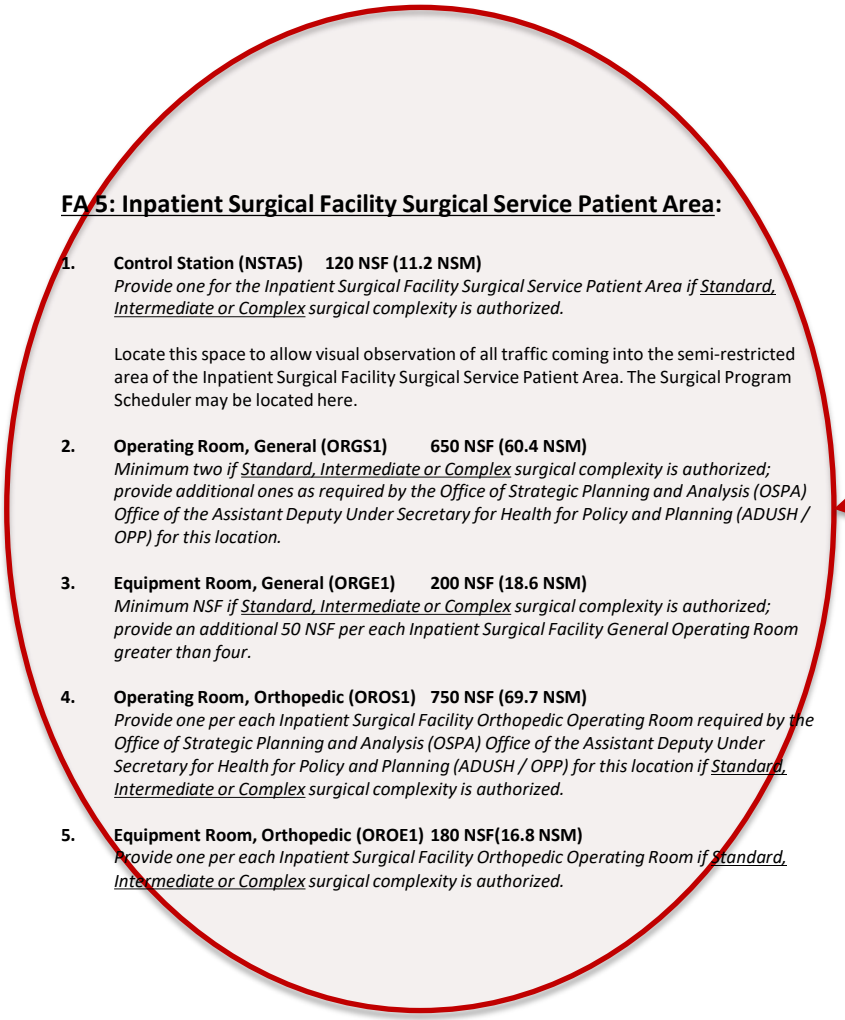
6. **Patient Room, Pre-Operative Holding / Phase II Recovery (RRPR2) 140 NSF (13.1 NSM)**
   Provide one for the Inpatient Surgical Facility Pre-Operative Holding / Phase II Recovery Patient Area if Standard, Intermediate or Complex surgical complexity is authorized.

7. **Toilet, Pre-Operative Holding / Phase II Recovery Patient (TPG01) 60 NSF (5.6 NSM)**
   Minimum one if Standard, Intermediate or Complex surgical complexity is authorized; provide an additional one for every increment of six Inpatient Surgical Facility Pre-Operative Holding / Phase II Recovery Patient Bays greater than five. Allocated NSF accommodates one accessible toilet @ 25 NSF, one accessible wall-hung lavatory @ 13 NSF, ABA clearances, and circulation.

5. **Patient Bay, Pre-Operative Holding / Phase II Recovery (RRPR1) 140 NSF (13.1 NSM)**
Minimum five if Standard, Intermediate or Complex surgical complexity is authorized; provide an additional three per each Inpatient Surgical Facility Surgical Operating Room and Endovascular Procedure Room, of any type, greater than two.

6. **Patient Room, Pre-Operative Holding / Phase II Recovery (RRPR2) 140 NSF (13.1 NSM)**
Provide one for the Inpatient Surgical Facility Pre-Operative Holding / Phase II Recovery Patient Area if Standard, Intermediate or Complex surgical complexity is authorized.

FA 5: Inpatient Surgical Facility Surgical Service Patient Area:



FA 5: Inpatient Surgical Facility Surgical Service Patient Area:

1. **Control Station (NSTA5) 120 NSF (11.2 NSM)**
   Provide one for the Inpatient Surgical Facility Surgical Service Patient Area if Standard, Intermediate or Complex surgical complexity is authorized.

   Locate this space to allow visual observation of all traffic coming into the semi-restricted area of the Inpatient Surgical Facility Surgical Service Patient Area. The Surgical Program Scheduler may be located here.

2. **Operating Room, General (ORGS1) 650 NSF (60.4 NSM)**
   Minimum two if Standard, Intermediate or Complex surgical complexity is authorized; provide additional ones as required by the Office of Strategic Planning and Analysis (OSPA) Office of the Assistant Deputy Under Secretary for Health for Policy and Planning (ADUSH / OPP) for this location.

3. **Equipment Room, General (ORGE1) 200 NSF (18.6 NSM)**
   Minimum NSF if Standard, Intermediate or Complex surgical complexity is authorized; provide an additional 50 NSF per each Inpatient Surgical Facility General Operating Room greater than four.

4. **Operating Room, Orthopedic (OROS1) 750 NSF (69.7 NSM)**
   Provide one per each Inpatient Surgical Facility Orthopedic Operating Room required by the Office of Strategic Planning and Analysis (OSPA) Office of the Assistant Deputy Under Secretary for Health for Policy and Planning (ADUSH / OPP) for this location if Standard, Intermediate or Complex surgical complexity is authorized.

5. **Equipment Room, Orthopedic (OROE1) 180 NSF(16.8 NSM)**
   Provide one per each Inpatient Surgical Facility Orthopedic Operating Room if Standard, Intermediate or Complex surgical complexity is authorized.

FA 5: Inpatient Surgical Facility Surgical Service Patient Area:

1. **Control Station (NSTA5) 120 NSF (11.2 NSM)**
   Provide one for the Inpatient Surgical Facility Surgical Service Patient Area if Standard, Intermediate or Complex surgical complexity is authorized.

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5. **Equipment Room, Orthopedic (OROE1) 180 NSF(16.8 NSM)**
   Provide one per each Inpatient Surgical Facility Orthopedic Operating Room if Standard, Intermediate or Complex surgical complexity is authorized.

Storage Rooms:

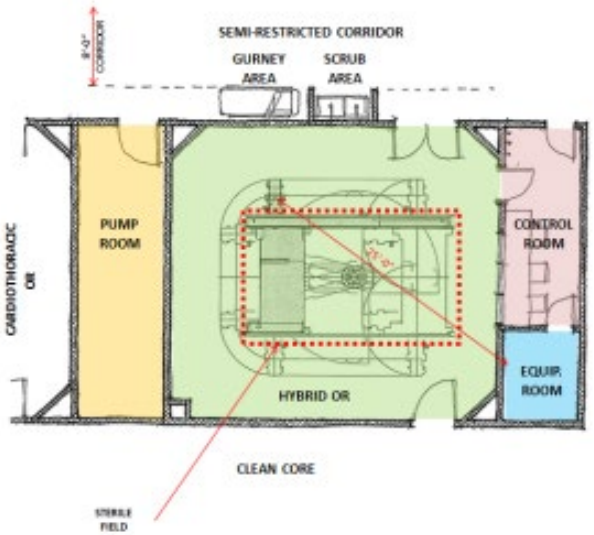
It cannot be over emphasized that storage rooms for surgical operating rooms as well as for endovascular procedure rooms are a necessity for equipment supporting procedures such as: OR tables, Wilson Ortho Tables, microscopes, telemetry equipment, as well as a plethora of miscellaneous surgical and endovascular support equipment.

- *Storage rooms for complex OR's shall be **180 NSF** each*
- *Storage Rooms for Hybrid OR's shall be **200 NSF** each*
- *Storage Rooms for Endovascular Procedure Rooms shall be **100 NSF***
- *Storage Rooms for Four (4) General OR's shall be **200 NSF***

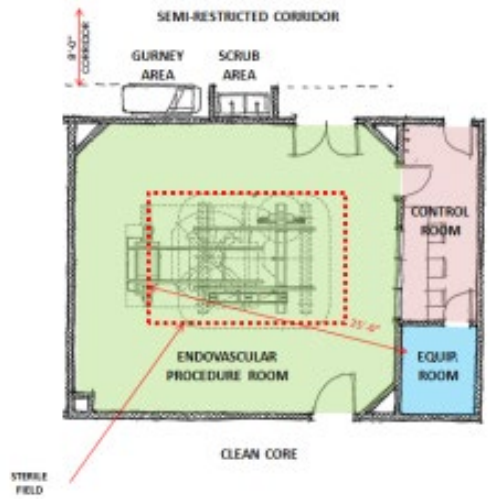
Refer to SEPS Chapter 286 for exact square footage required

Key Plan Examples:

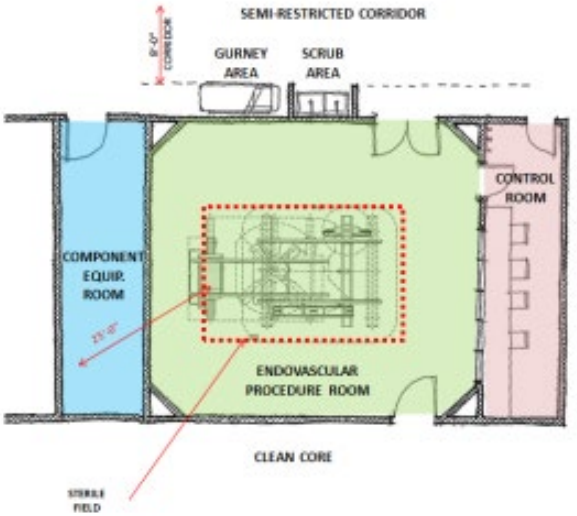
KEY PLAN HYBRID OR
(MONOPLANE, BIPLANE AND ROBOTIC PHENO)
900 NSF



KEY PLAN ENDOVASCULAR PROCEDURE ROOMS
(CATHETERIZATION-ELECTROPHYSIOLOGY-VASCULAR-IR LAB)
850 NSF



KEY PLAN ENDOVASCULAR PROCEDURE ROOMS
(CATHETERIZATION-ELECTROPHYSIOLOGY-VASCULAR-IR LAB)
850 NSF

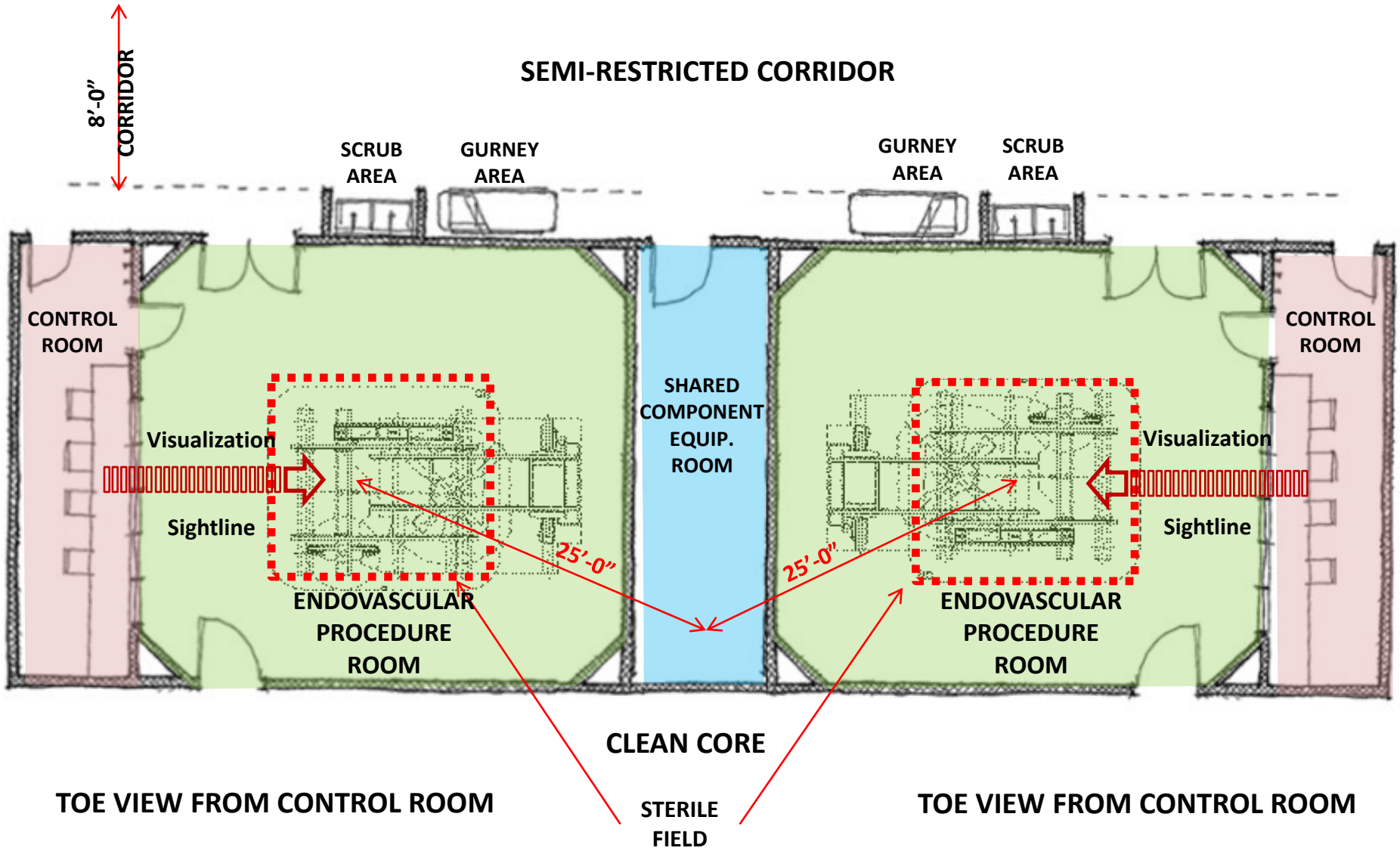


Procedure Rooms are: 850 NSF
Hybrid OR is: 900 NSF

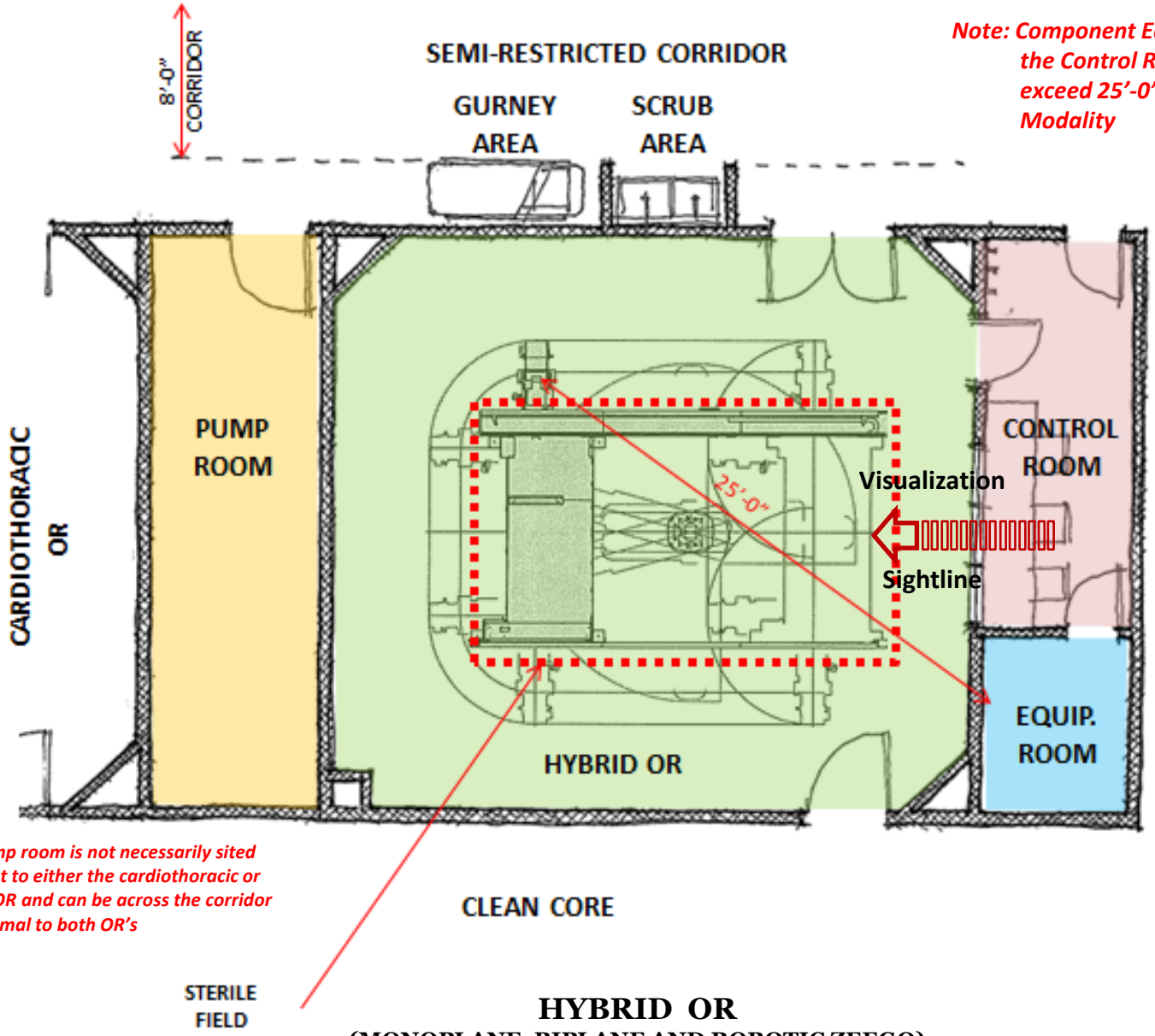
HYBRID OR & ENDOVASCULAR PROCEDURE ROOM CONFIGURATIONS

Planning Note:

Hybrid OR's and Endovascular Procedure Rooms may be adjacent, however it is not advisable to have a single control room that supports multiple procedure rooms, though the imaging equipment component room for two procedures may be co-located within a single room. *An Example follows:*



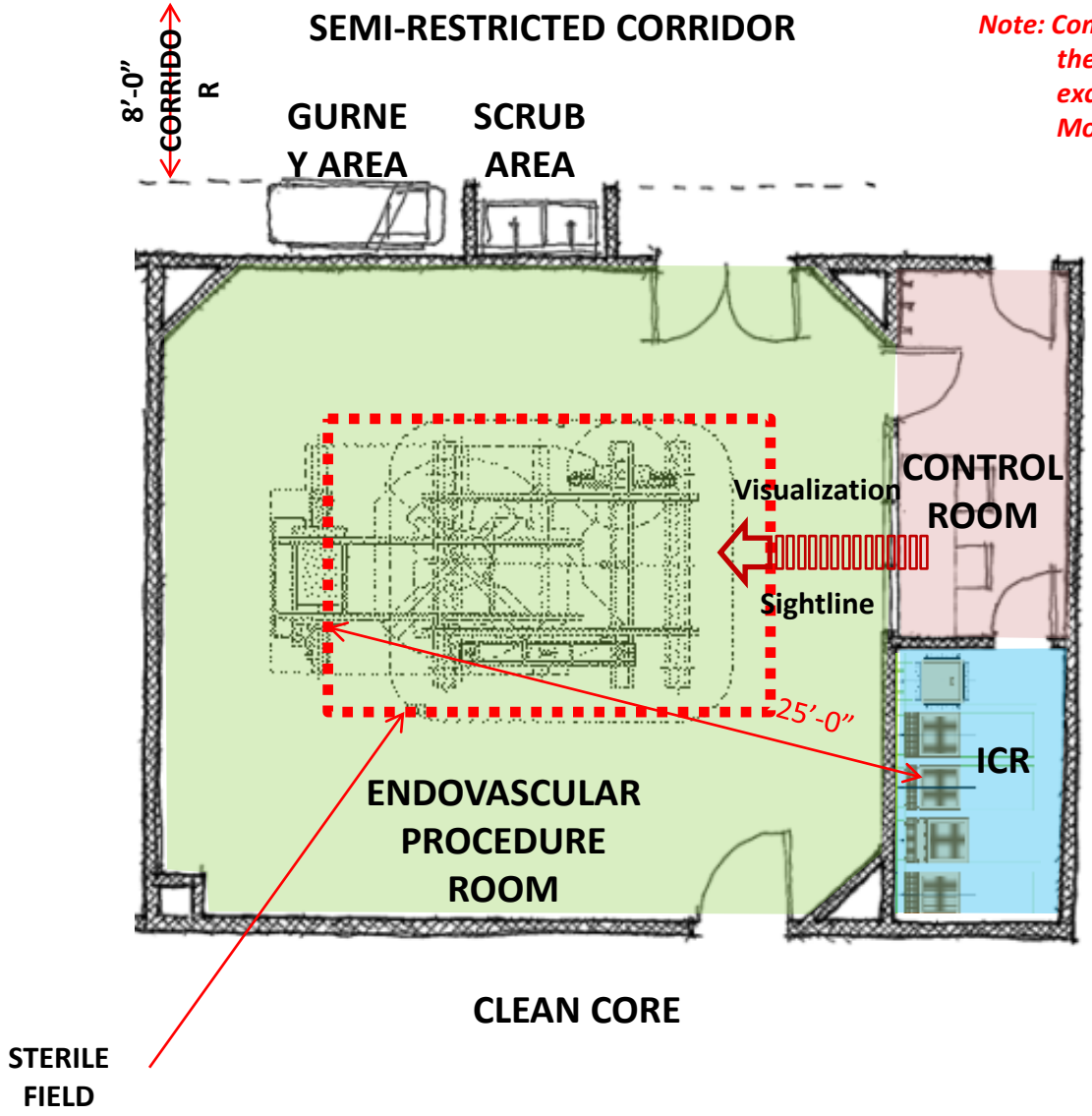
MULTIPLE HYBRID OR & ENDOVASCULAR PROCEDURE ROOM CONFIGURATIONS



Note: Component Equipment Room Accessible from the Control Room, Cable lengths must not exceed 25'-0" from ICR panel to the Imaging Modality

Pump Rm: The pump room is not necessarily sited adjacent to either the cardiothoracic or hybrid OR and can be across the corridor or proximal to both OR's

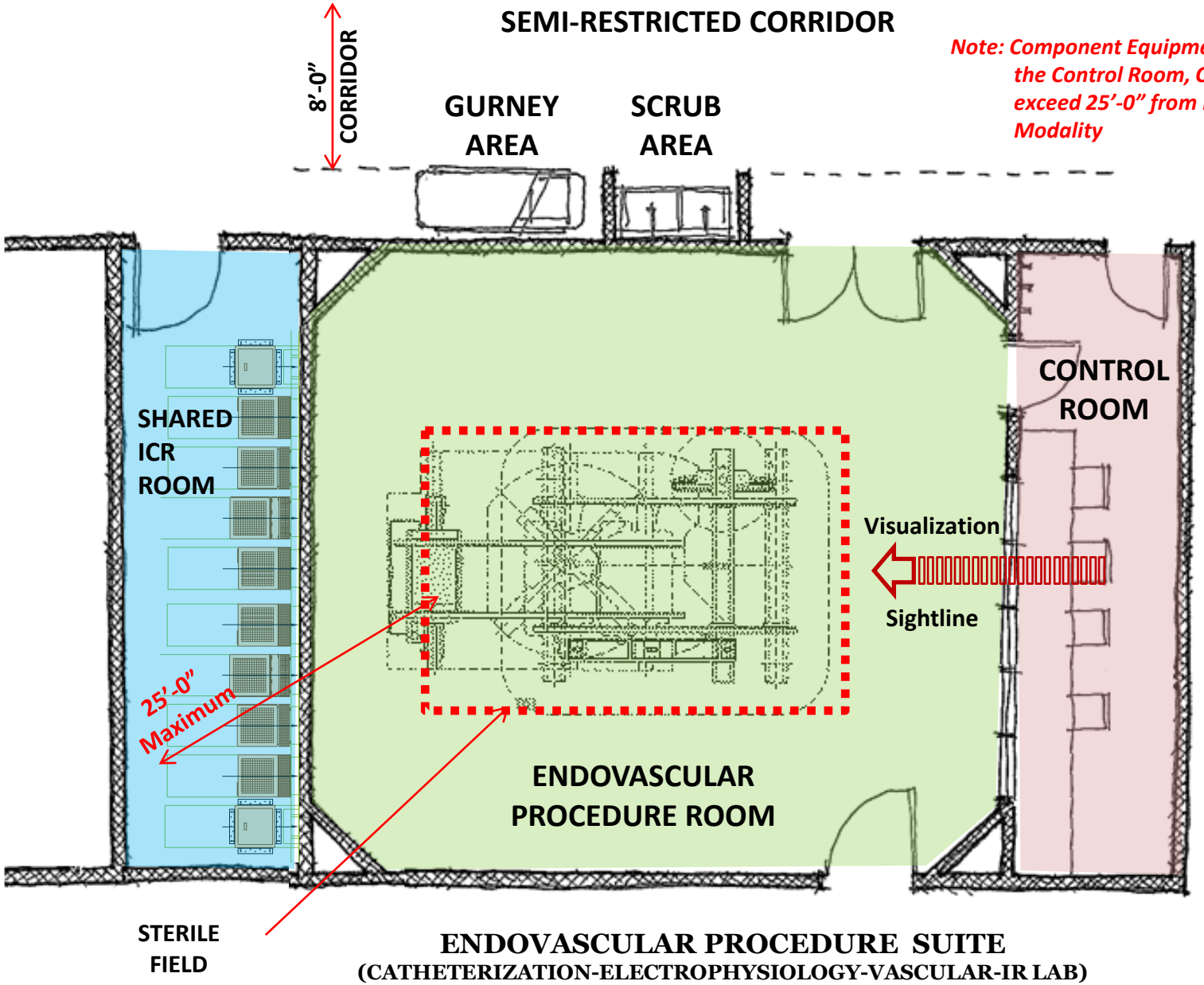
HYBRID OR
(MONOPLANE, BIPLANE AND ROBOTIC ZEEGO)



Note: Component Equipment Room Accessible from the Control Room, Cable lengths must not exceed 25'-0" from ICR panel to the Imaging Modality

ENDOVASCULAR PROCEDURE SUITE
(CATHETERIZATION-ELECTROPHYSIOLOGY-VASCULAR-IR LAB)

FUNCTIONAL KEY PLAN



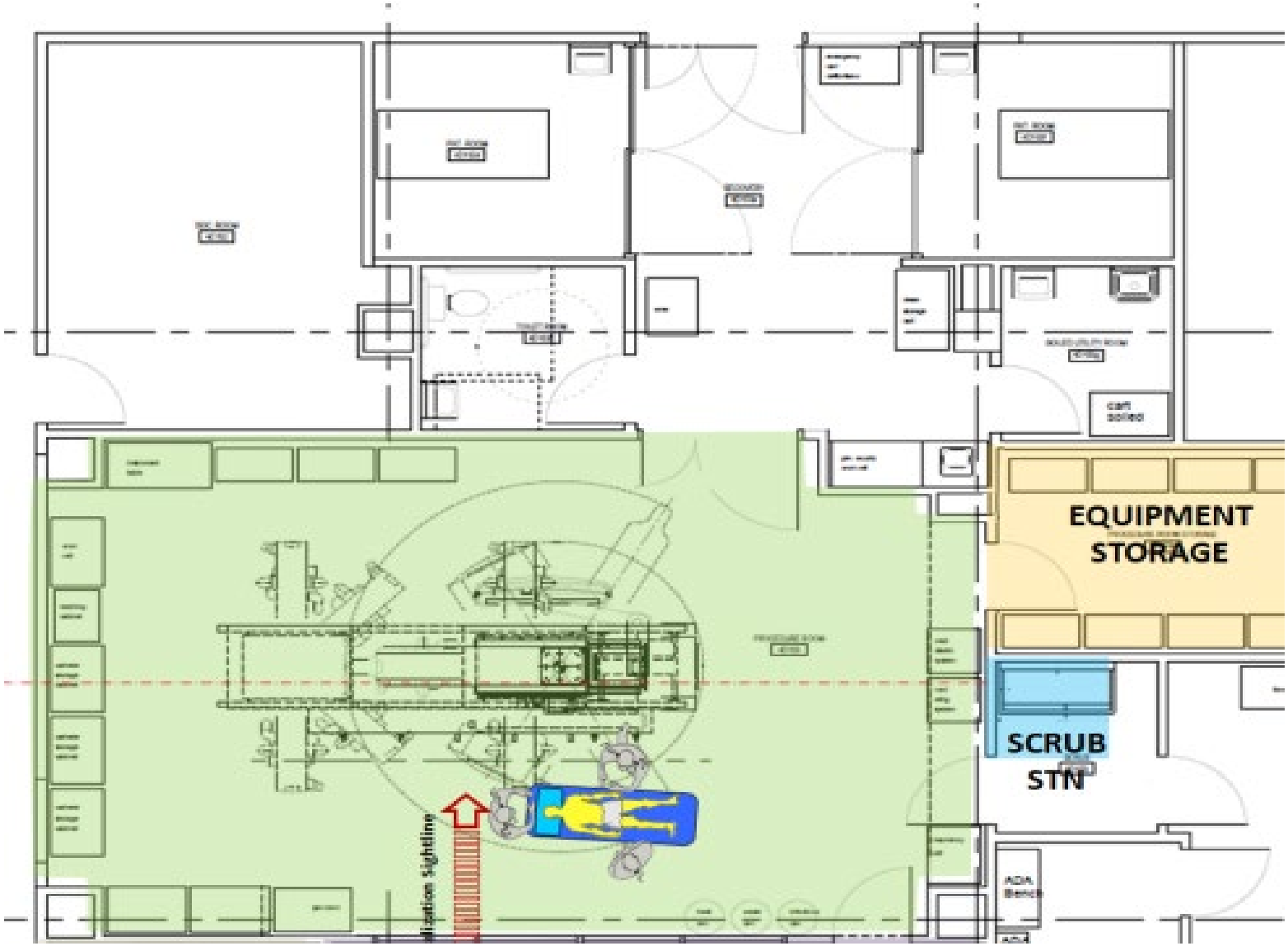
ENDOVASCULAR PROCEDURE SUITE
(CATHETERIZATION-ELECTROPHYSIOLOGY-VASCULAR-IR LAB)

Planning Considerations:

Most if not all VA Hospitals are older facility's having innumerable challenges such as close column bay spacing, limited plate to plate clearances, etc. all of which make it nearly impossible to meet "*the letter of the law*" of the design standards. However, the planners challenge is to follow the design intent and spirit of the design standards and create spaces as close as possible to that of the surgical and endovascular design guide standards found on the VA TiL.

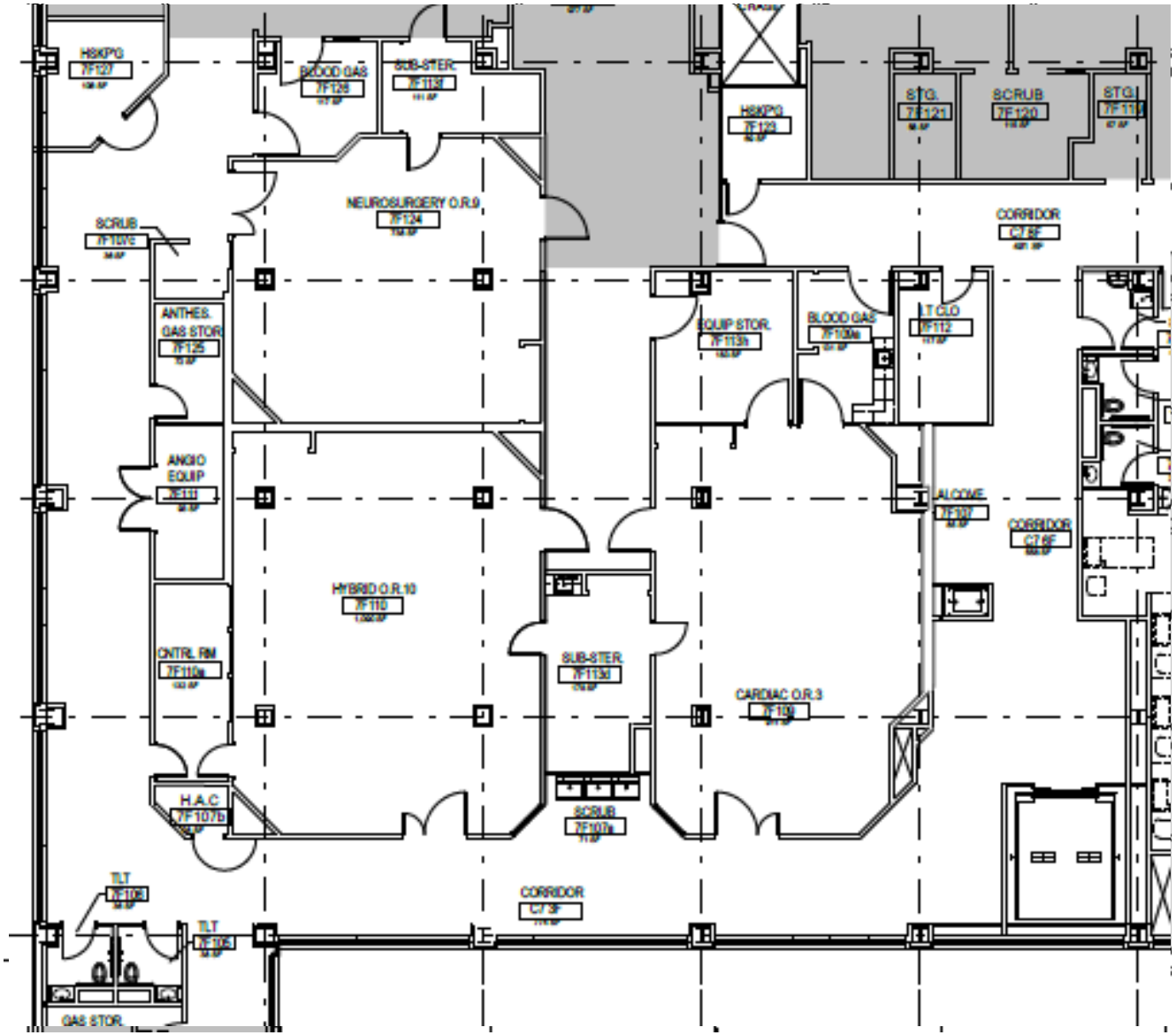
Actual VAMC Case Studies:

The following Case Studies of Minor Projects involve renovations, and re-purposing of former use areas into surgical, endovascular, patient prep, phase II recovery and PACU areas that meet the spirit and intent of the Surgical and Endovascular Design Standards.



NEW CARDIAC CATHETERIZATION PROCEDURE ROOM
VAMC BALTIMORE, MD

EXAMPLE



EXISTING SURGERY

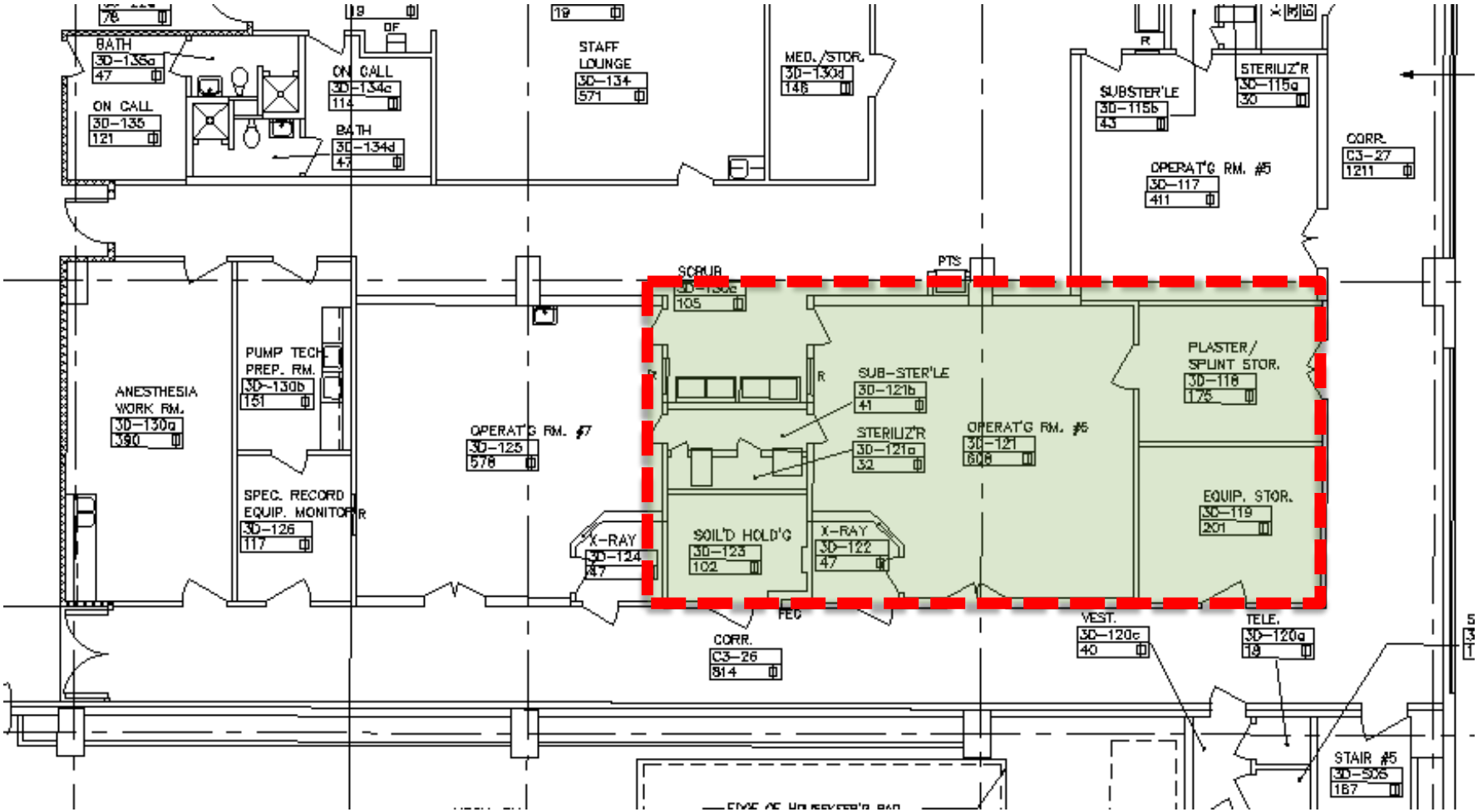
VAMC OKLAHOMA CITY, OK

EXAMPLE

PROPOSED REWORK
SURGERY
RENO AND ADDITION
VAMC OKLAHOMA CITY, OK

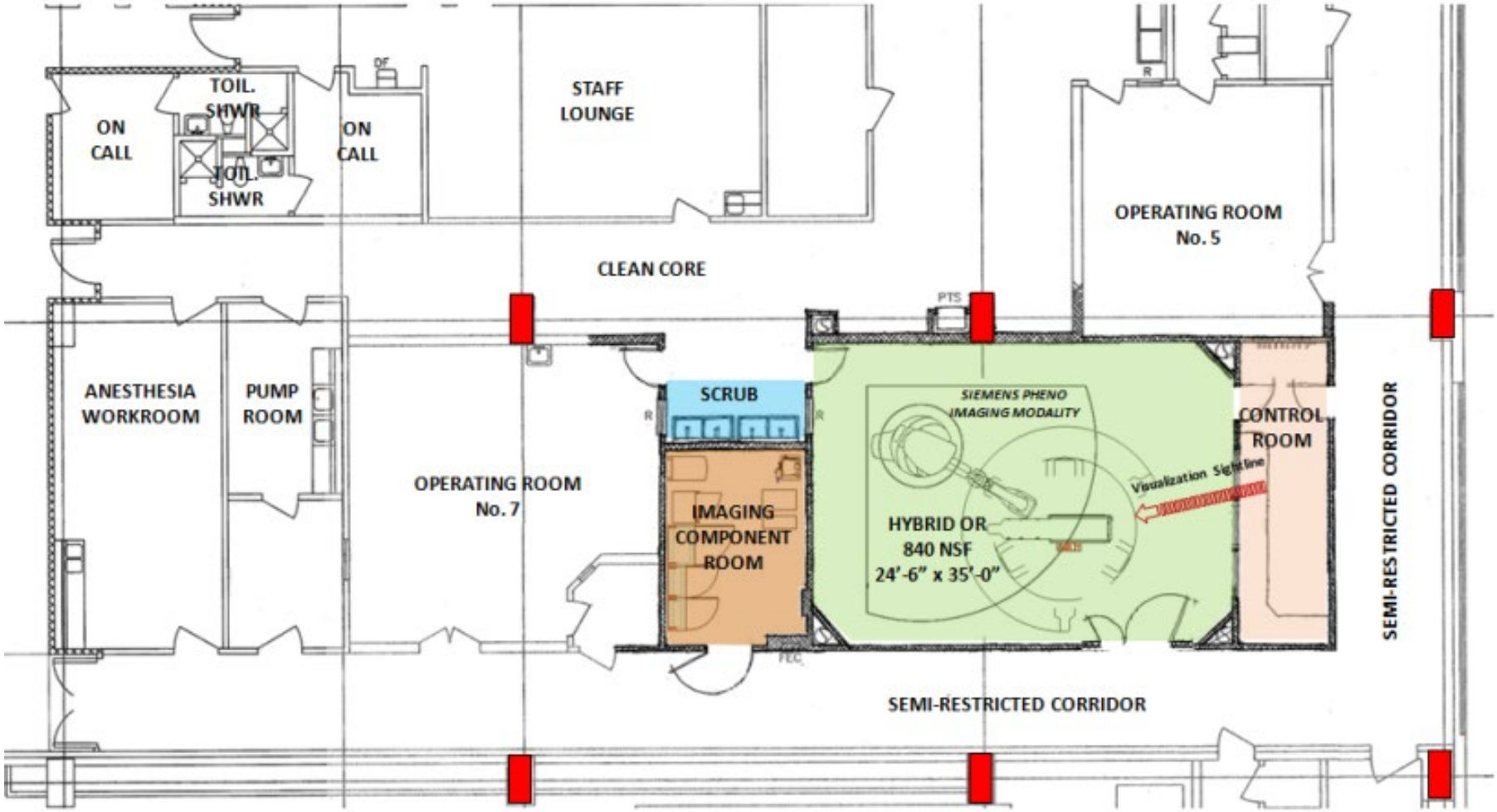
EXAMPLE

EXISTING CONDITIONS
COMPLEX ORTHOPEDIC OR
VAMC SEATTLE, WASHINGTON

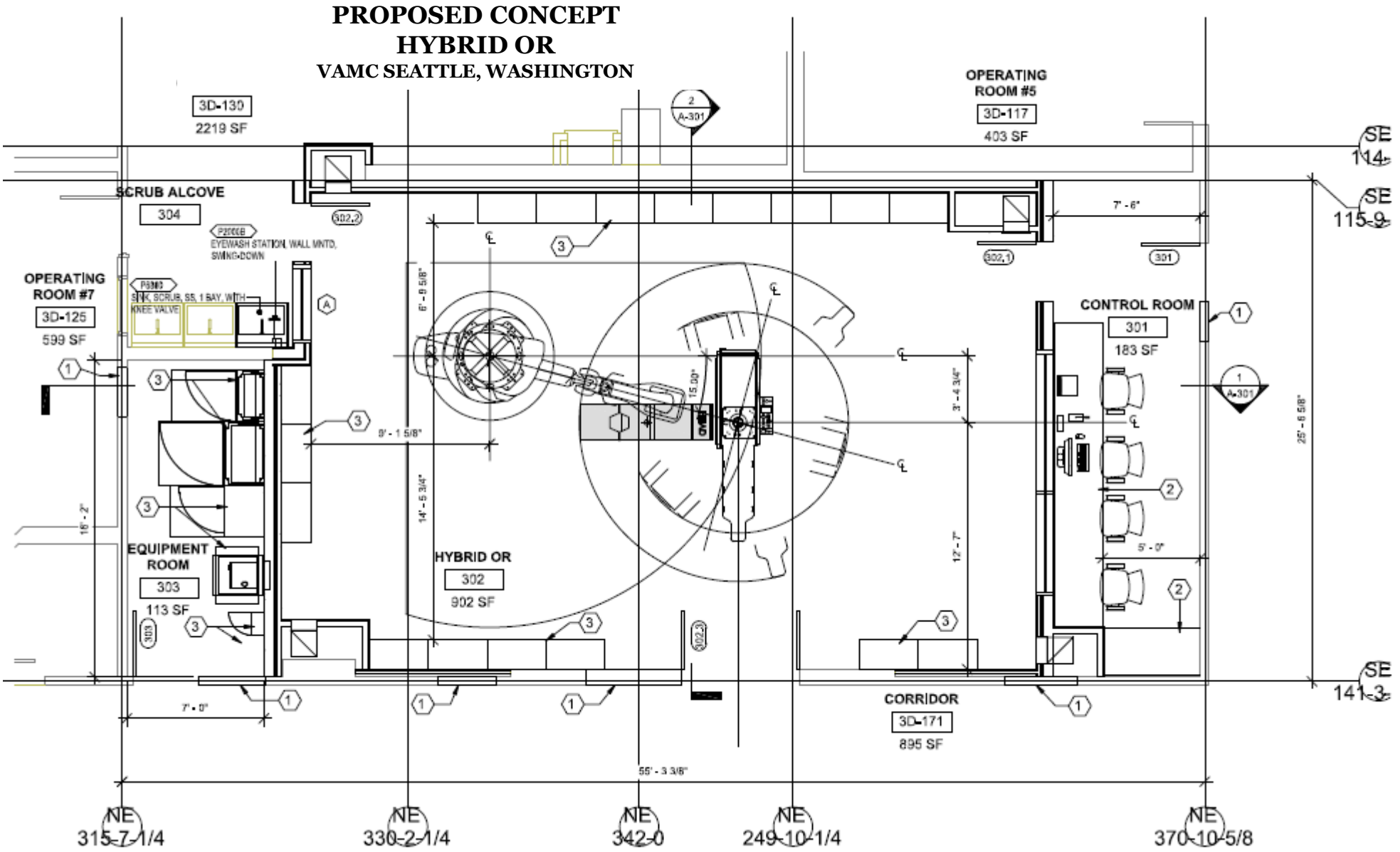


EXAMPLE

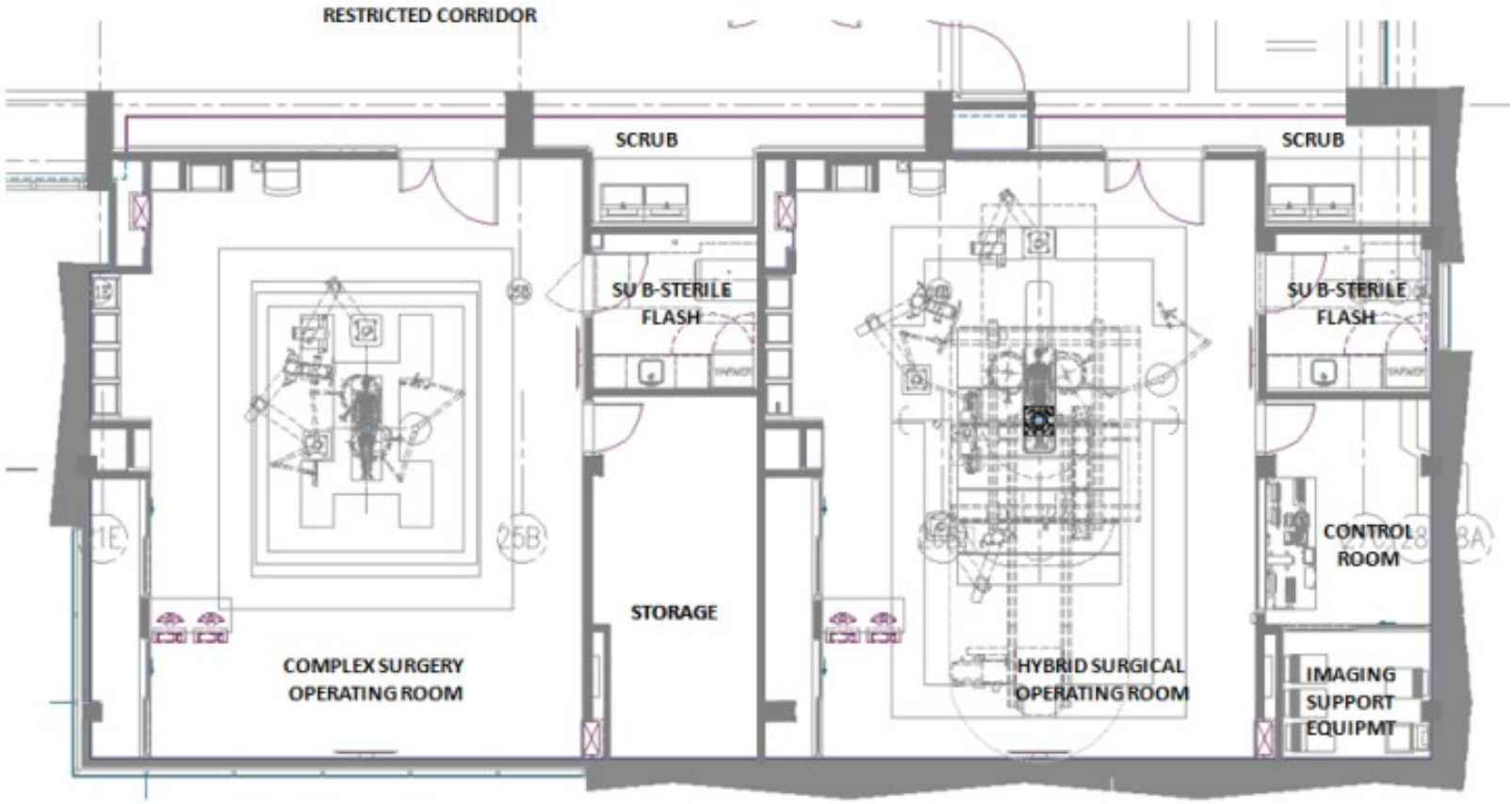
PROPOSED CONCEPT
HYBRID OR
VAMC SEATTLE, WASHINGTON



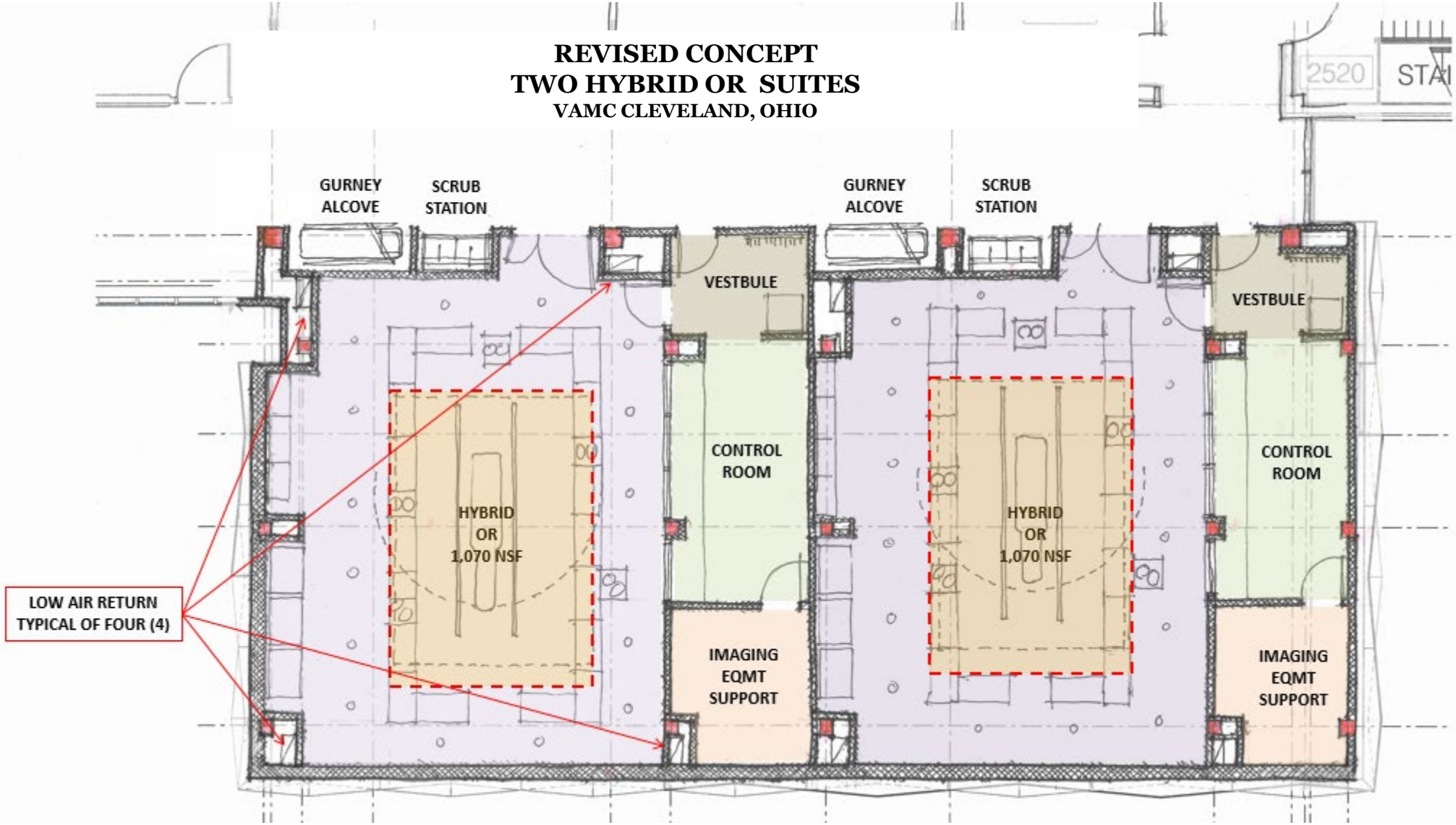
EXAMPLE


PROPOSED CONCEPT
HYBRID OR
VAMC SEATTLE, WASHINGTON
3D-130
2219 SF
SCRUB ALCOVE
304
OPERATING ROOM #7
3D-125
599 SF
EQUIPMENT ROOM
303
113 SF
HYBRID OR
302
902 SF
OPERATING ROOM #5
3D-117
403 SF
CONTROL ROOM
301
183 SF
CORRIDOR
3D-171
895 SF
EYEWASH STATION, WALL MNTD, SWING-DOWN
SINK, SCRUB, SS, 1 BAY, WITH KNEE VALVE
55' - 3 3/8"
SE 114
SE 115-9
SE 141-3
NE 315-7-1/4
NE 330-2-1/4
NE 342-0
NE 249-10-1/4
NE 370-10-5/8

ORIGINAL CONCEPT
HYBRID and COMPLEX OR SUITE
VAMC CLEVELAND, OHIO

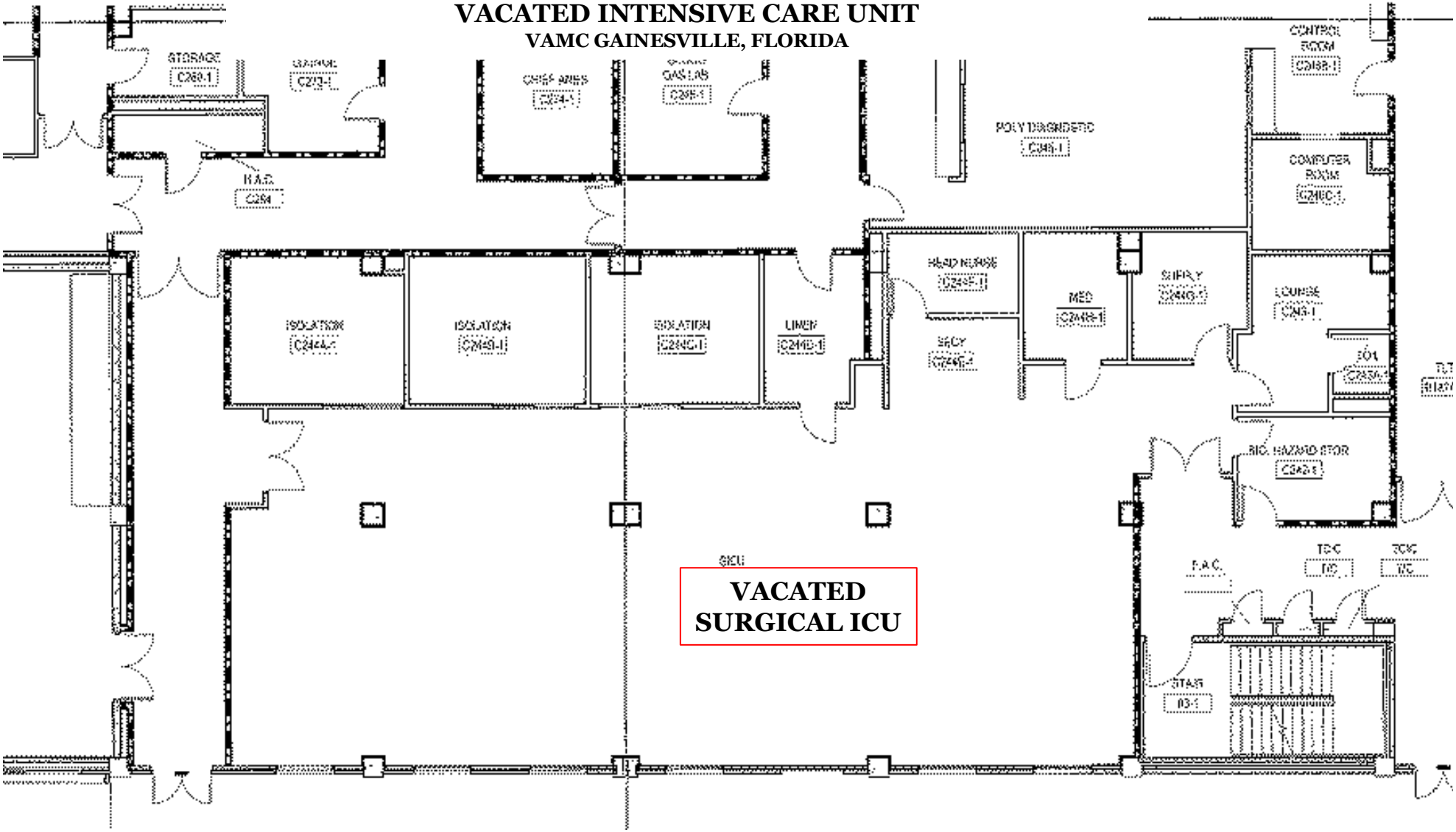


EXAMPLE


REVISED CONCEPT
TWO HYBRID OR SUITES
VAMC CLEVELAND, OHIO
GURNEY ALCOVE
SCRUB STATION
GURNEY ALCOVE
SCRUB STATION
VESTBULE
VESTBULE
CONTROL ROOM
CONTROL ROOM
HYBRID OR 1,070 NSF
HYBRID OR 1,070 NSF
IMAGING EQMT SUPPORT
IMAGING EQMT SUPPORT
LOW AIR RETURN TYPICAL OF FOUR (4)
2520
STAI

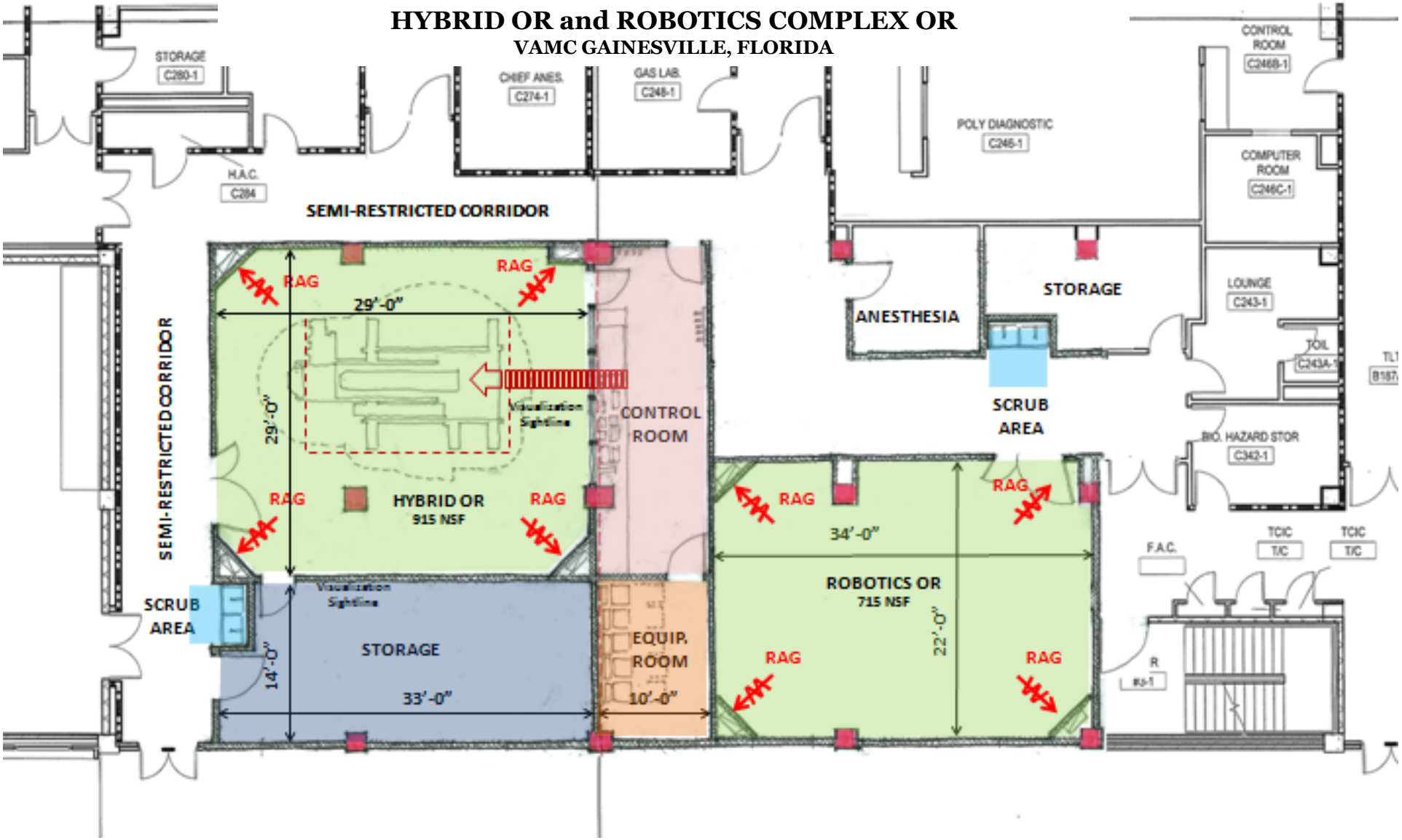
EXAMPLE

EXISTING
VACATED INTENSIVE CARE UNIT
VAMC GAINESVILLE, FLORIDA

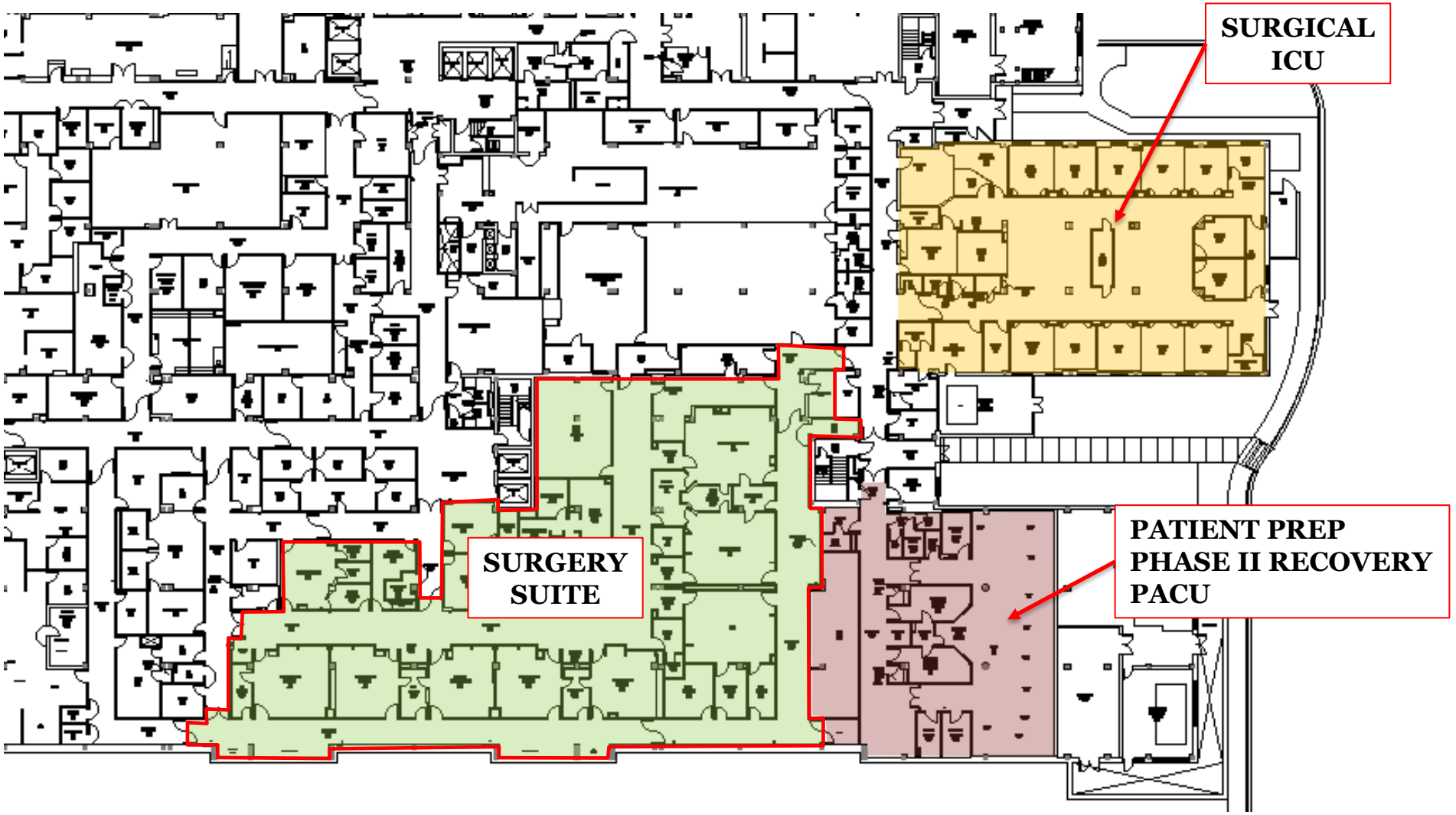


EXAMPLE

PROPOSED CONCEPT
HYBRID OR and ROBOTICS COMPLEX OR
VAMC GAINESVILLE, FLORIDA



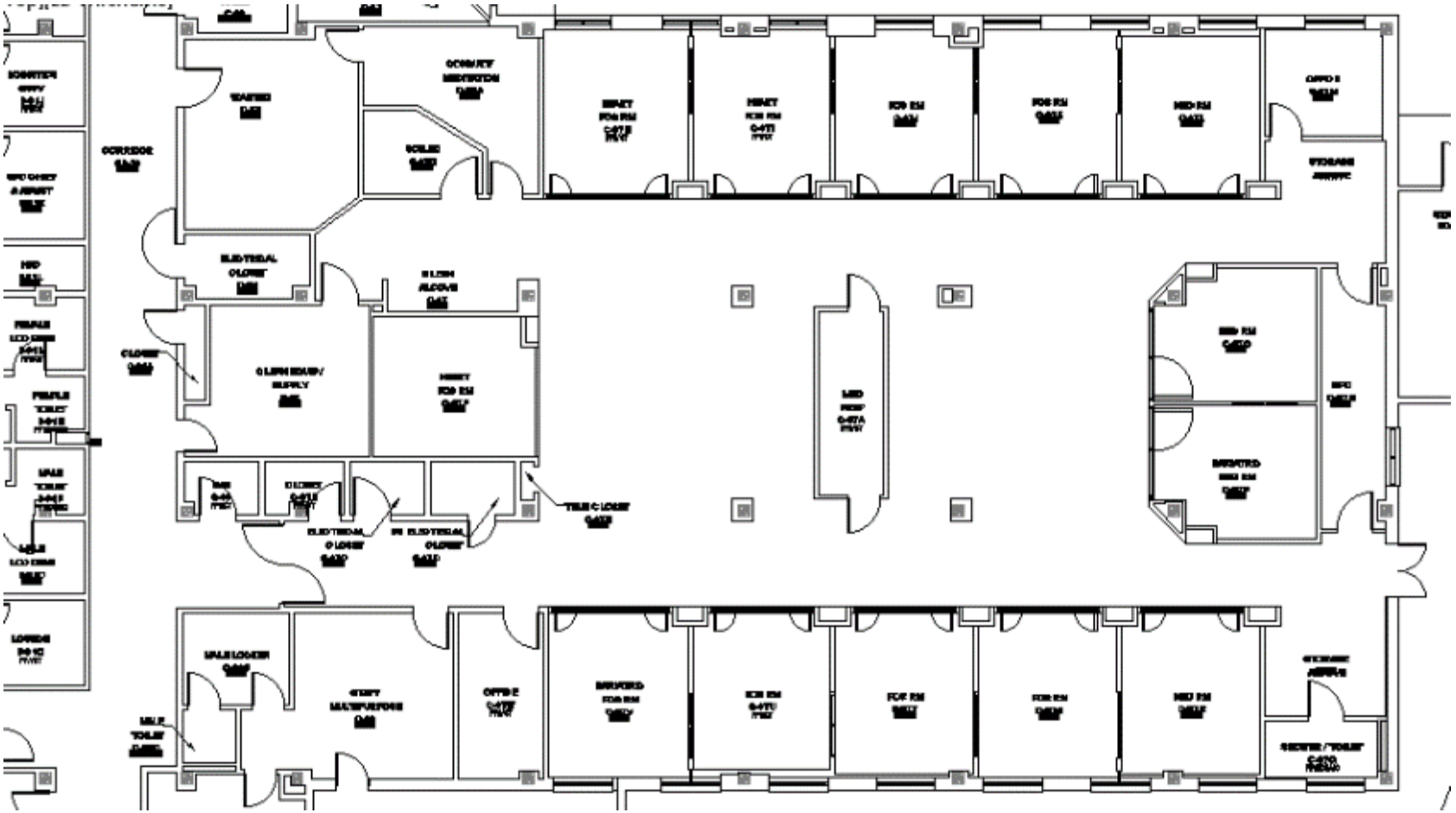
EXAMPLE



VAMC NASHVILLE EXISTING

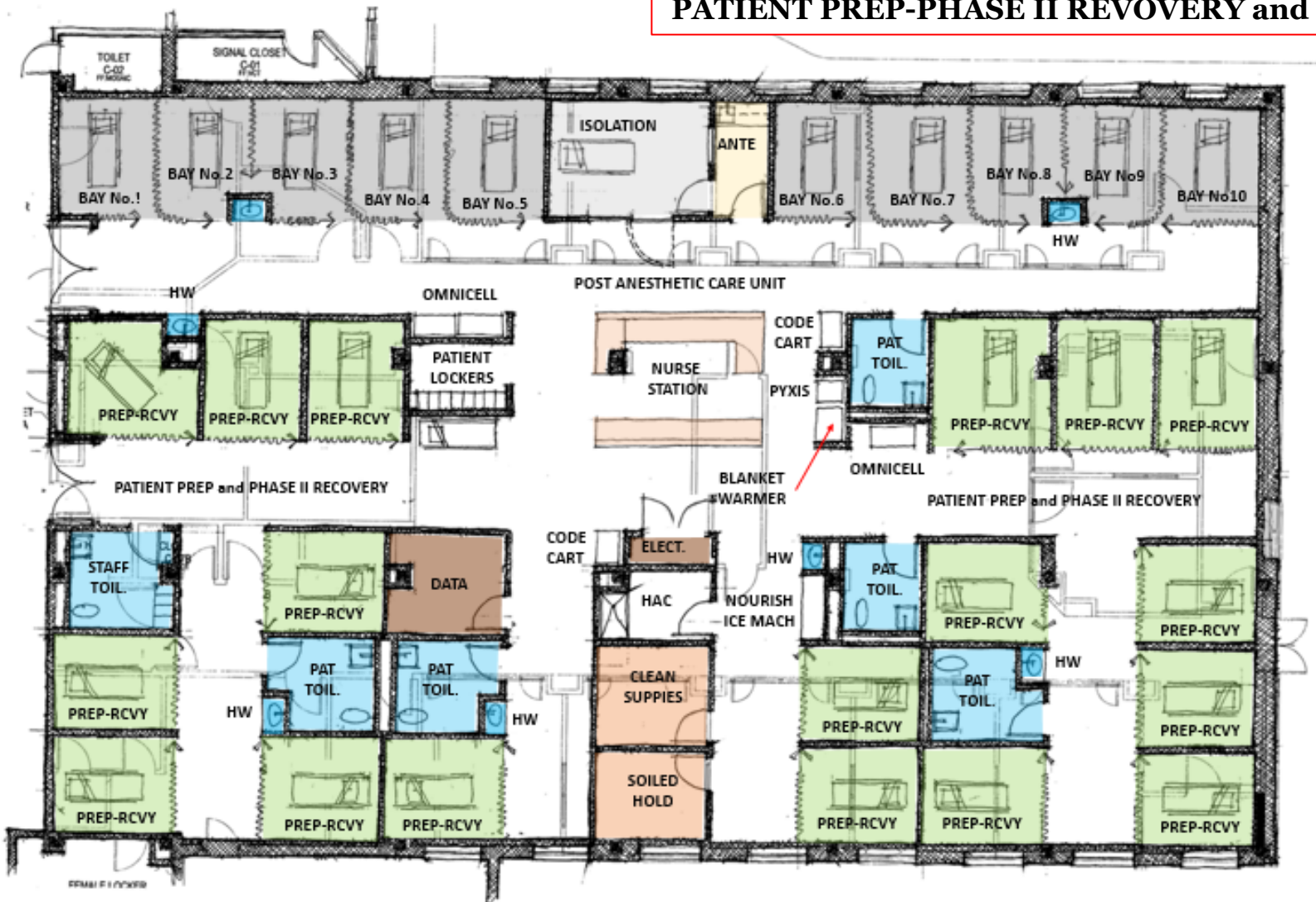
EXAMPLE

EXISTING SURGICAL ICU

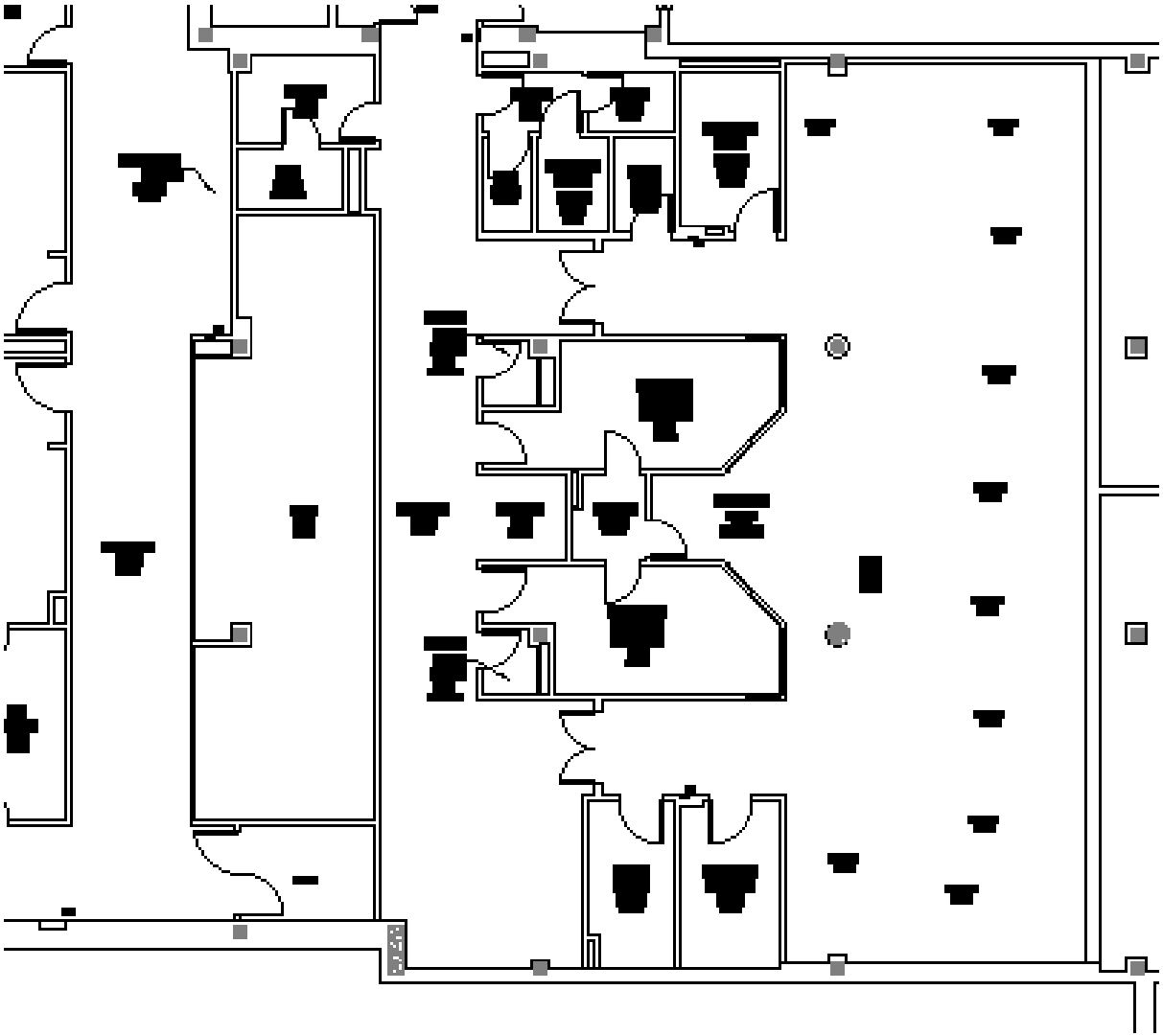


VAMC NASHVILLE

PATIENT PREP-PHASE II REVOVERY and PACU

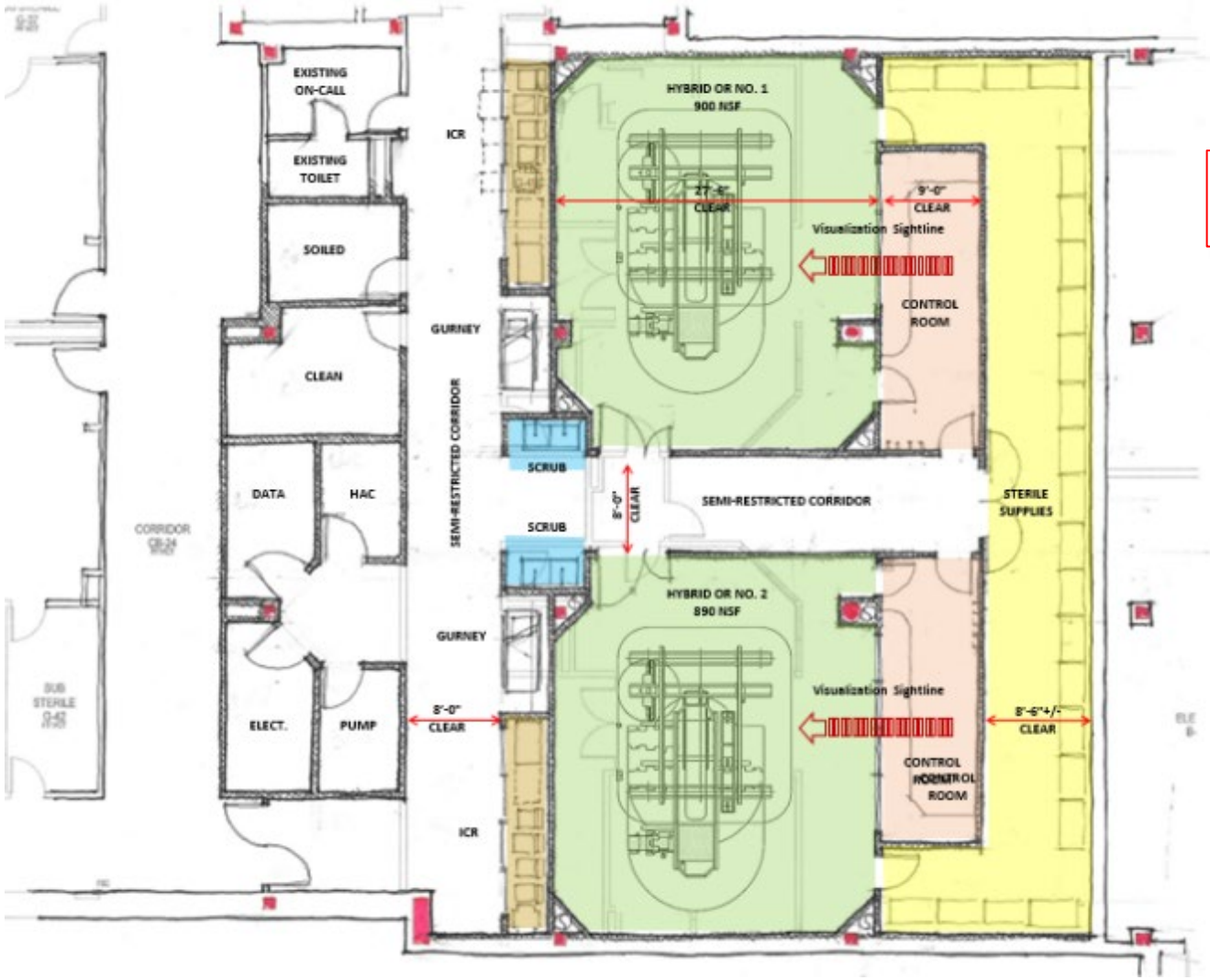


VAMC NASHVILLE



EXISTING PREP-PHASE II-PACU

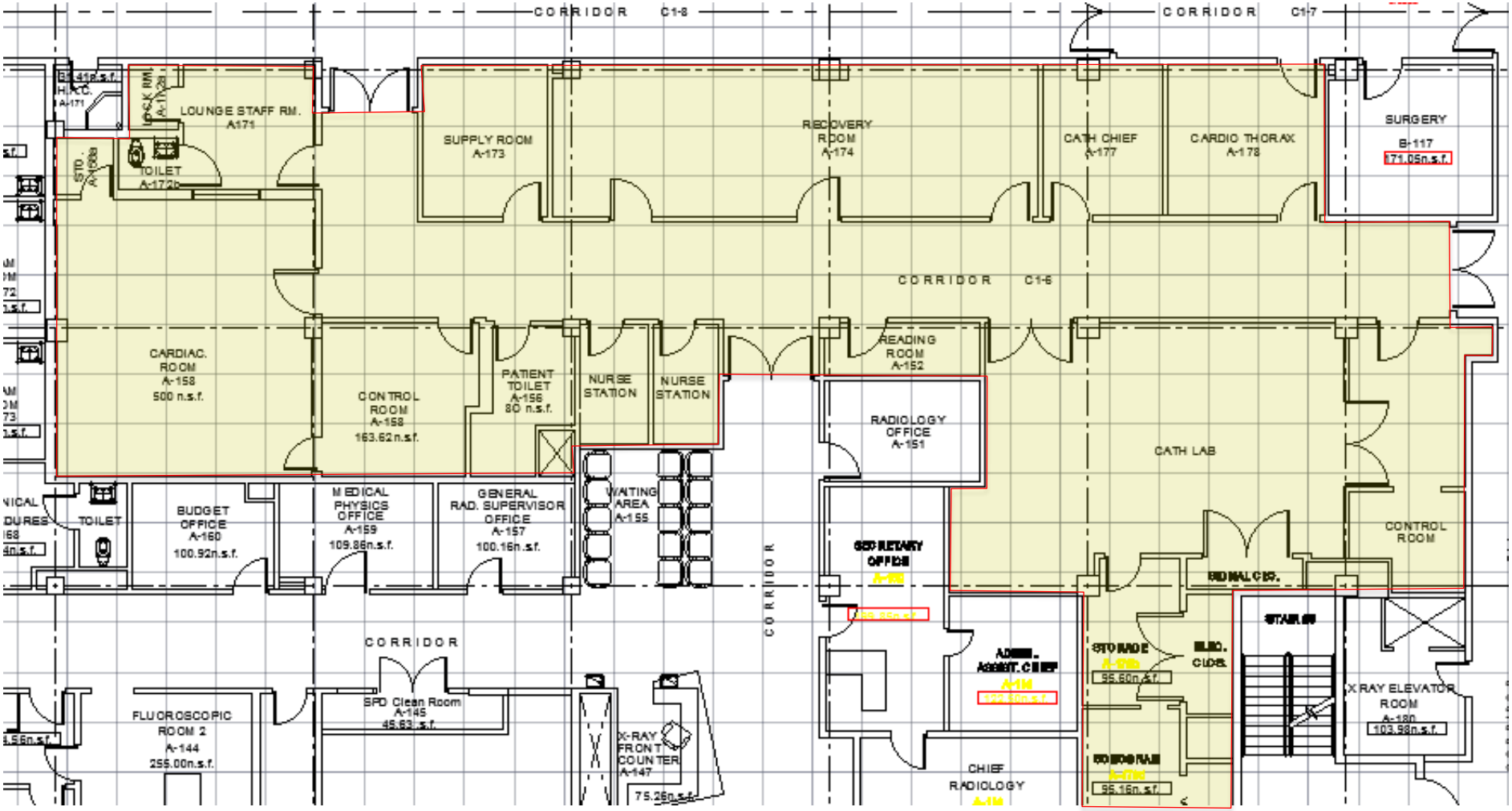
VAMC NASHVILLE



PROPOSED
HYBRID OR SUITES

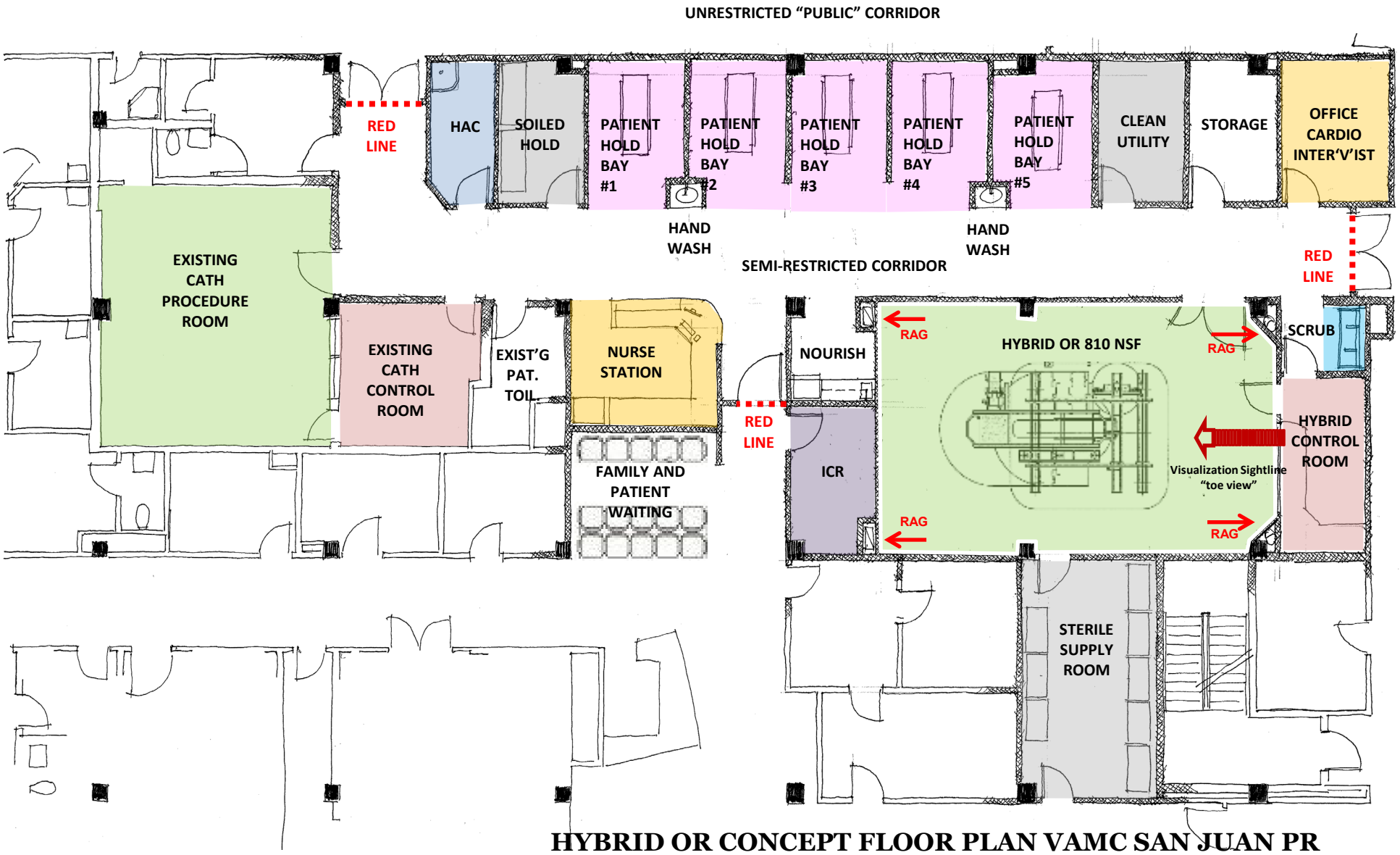
VAMC NASHVILLE

EXAMPLE

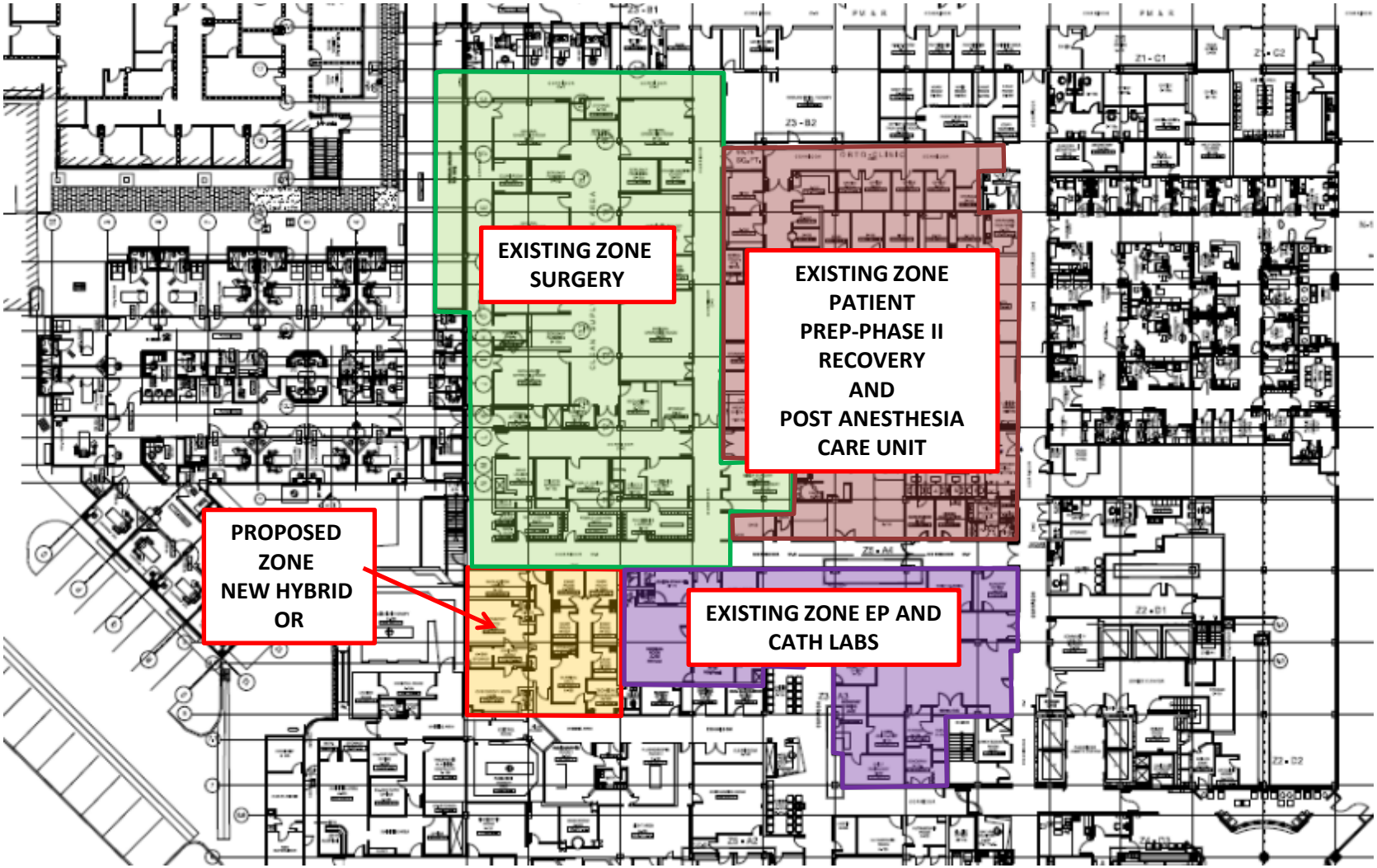


EXISTING CATH FLOOR PLAN VAMC SAN JUAN PR

Surgical and Endovascular Services Space Design Standards

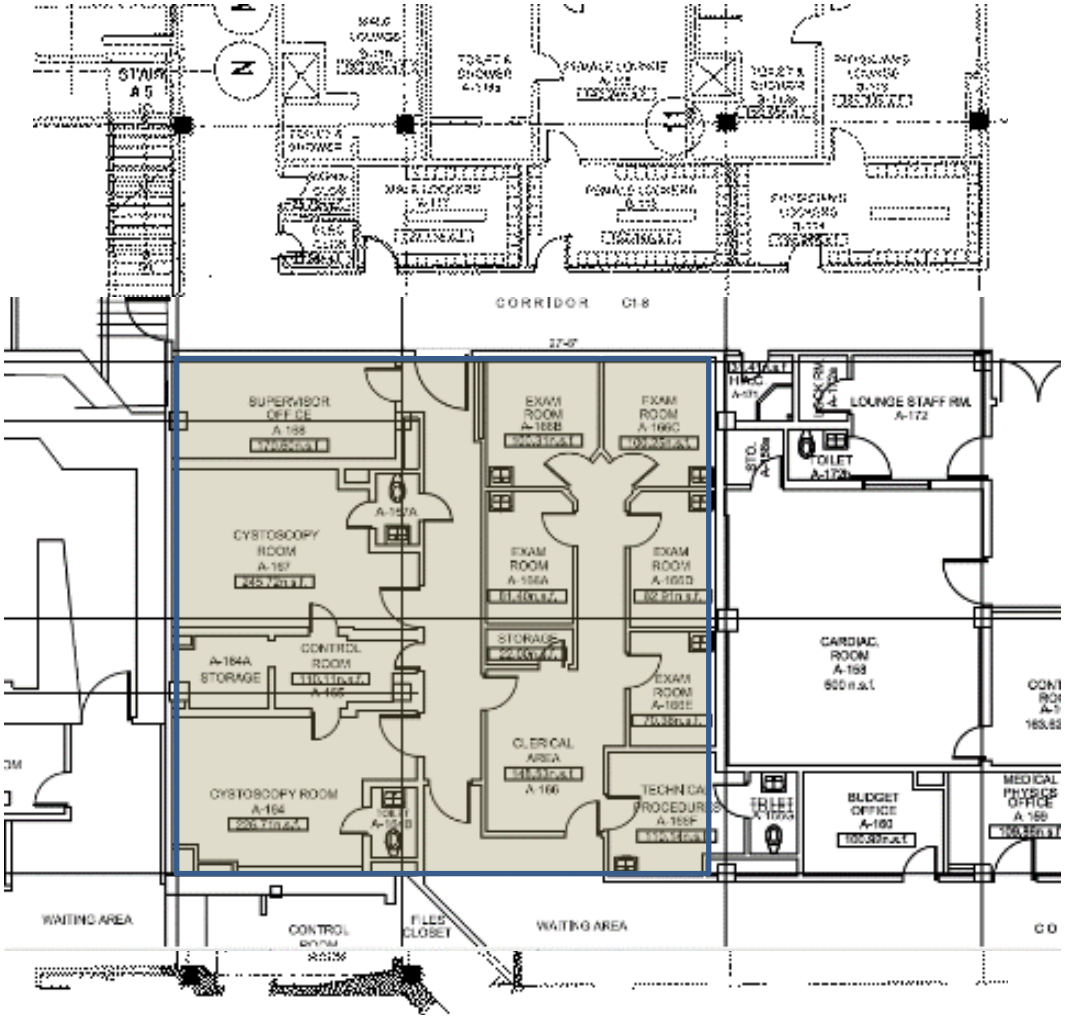


HYBRID OR CONCEPT FLOOR PLAN VAMC SAN JUAN PR



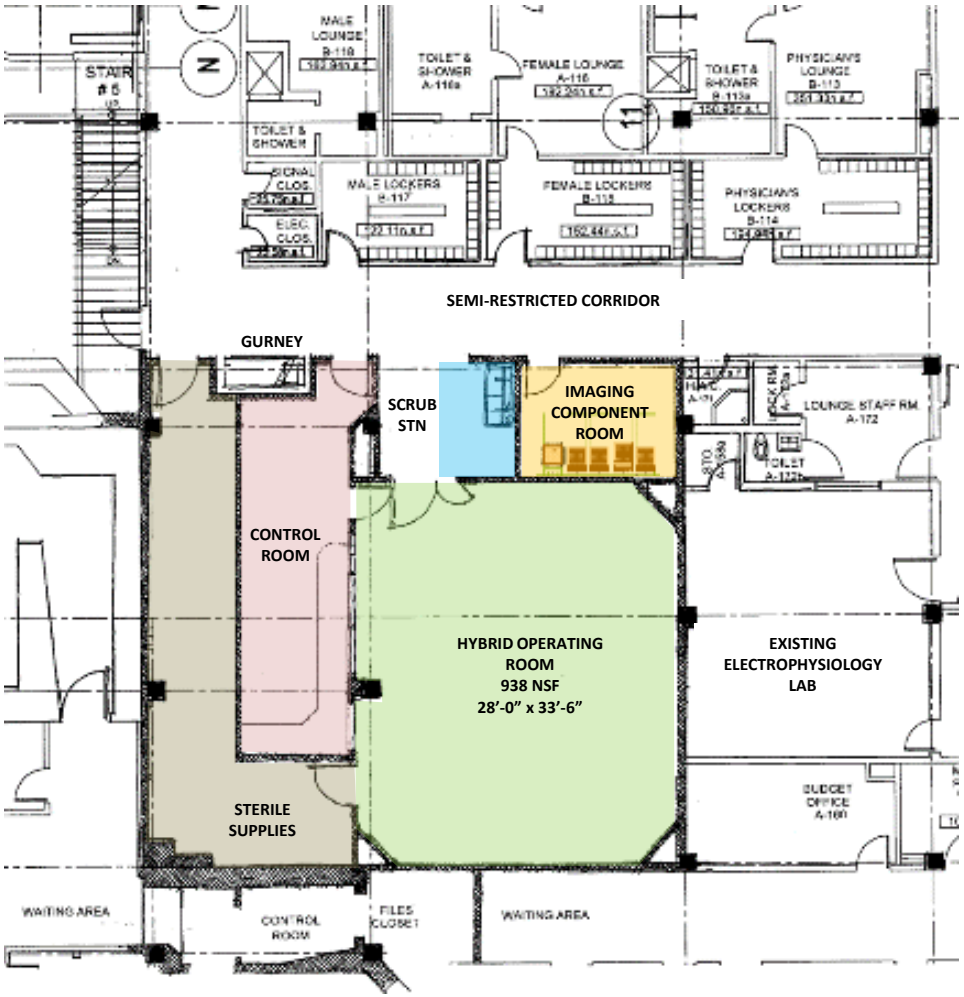
SURGERY DEPARTMENT VAMC SAN JUAN, PR

EXAMPLE



SHADEDED AREA INDICATING PROPOSED LOCATION FOR HYBRID OPERATING ROOM INCLUDING SUPPORTING COMPONENTS.

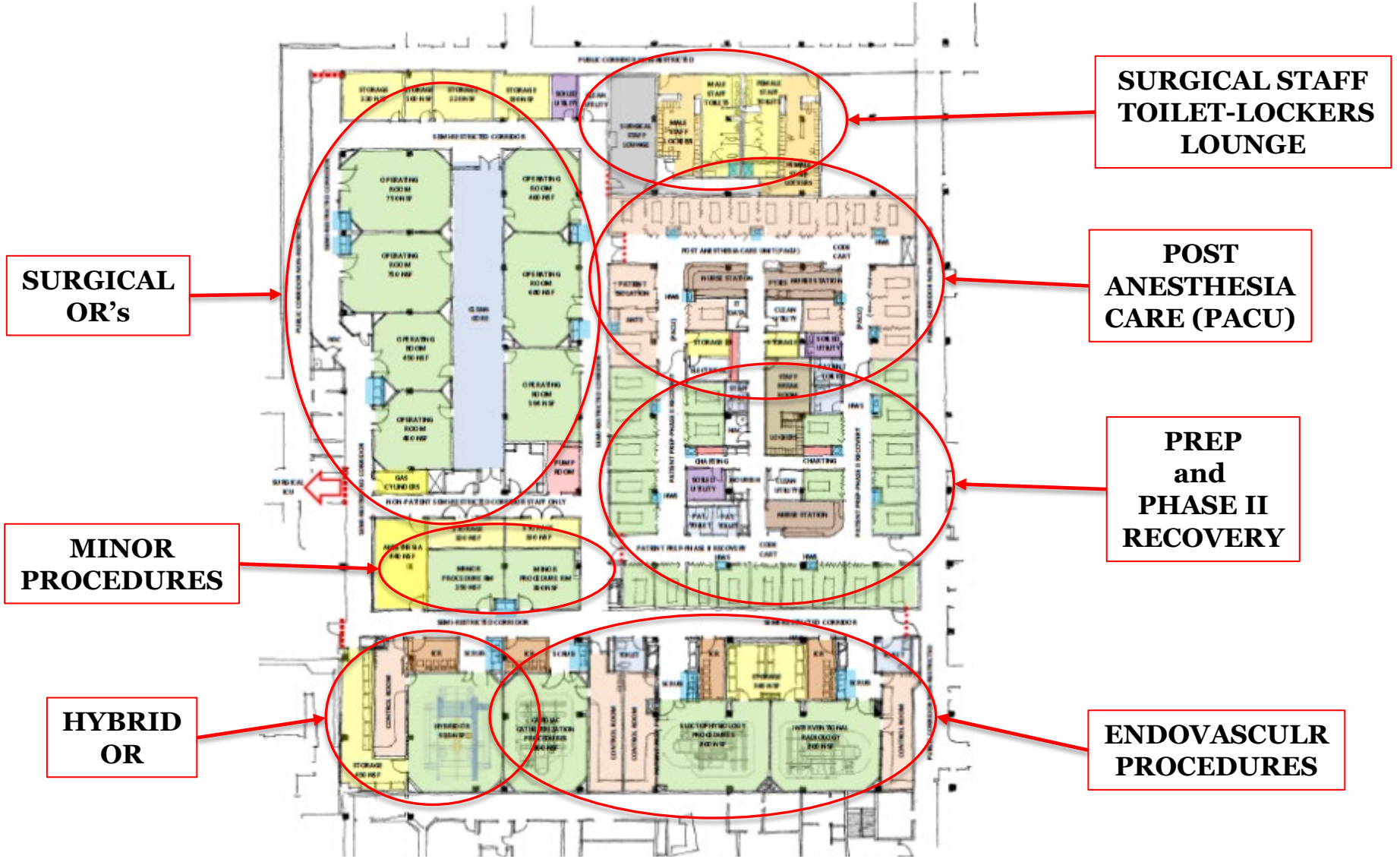
PROPOSED HYBRID OPERATING ROOM FOR VAMC SAN JUAN, PR



PROPOSED HYBRID OPERATING ROOM
FOR
VAMC SAN JUAN, PR

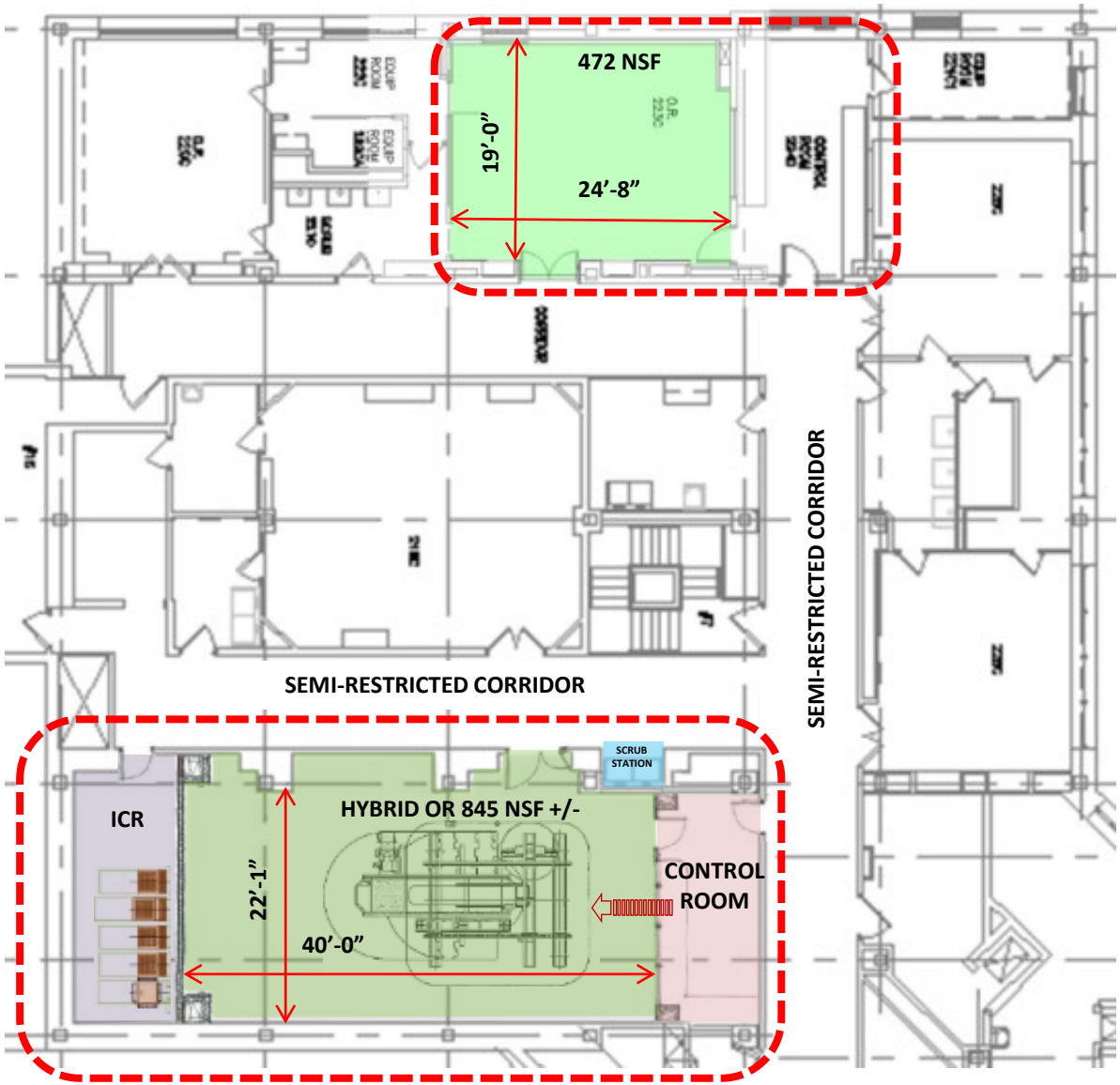
EXAMPLE

Surgical and Endovascular Services Space Design Standards



MAJOR PHASED RENOVATION INTEGRATED PLATFORM
VAMC SAN JUAN, PR

EXAMPLE



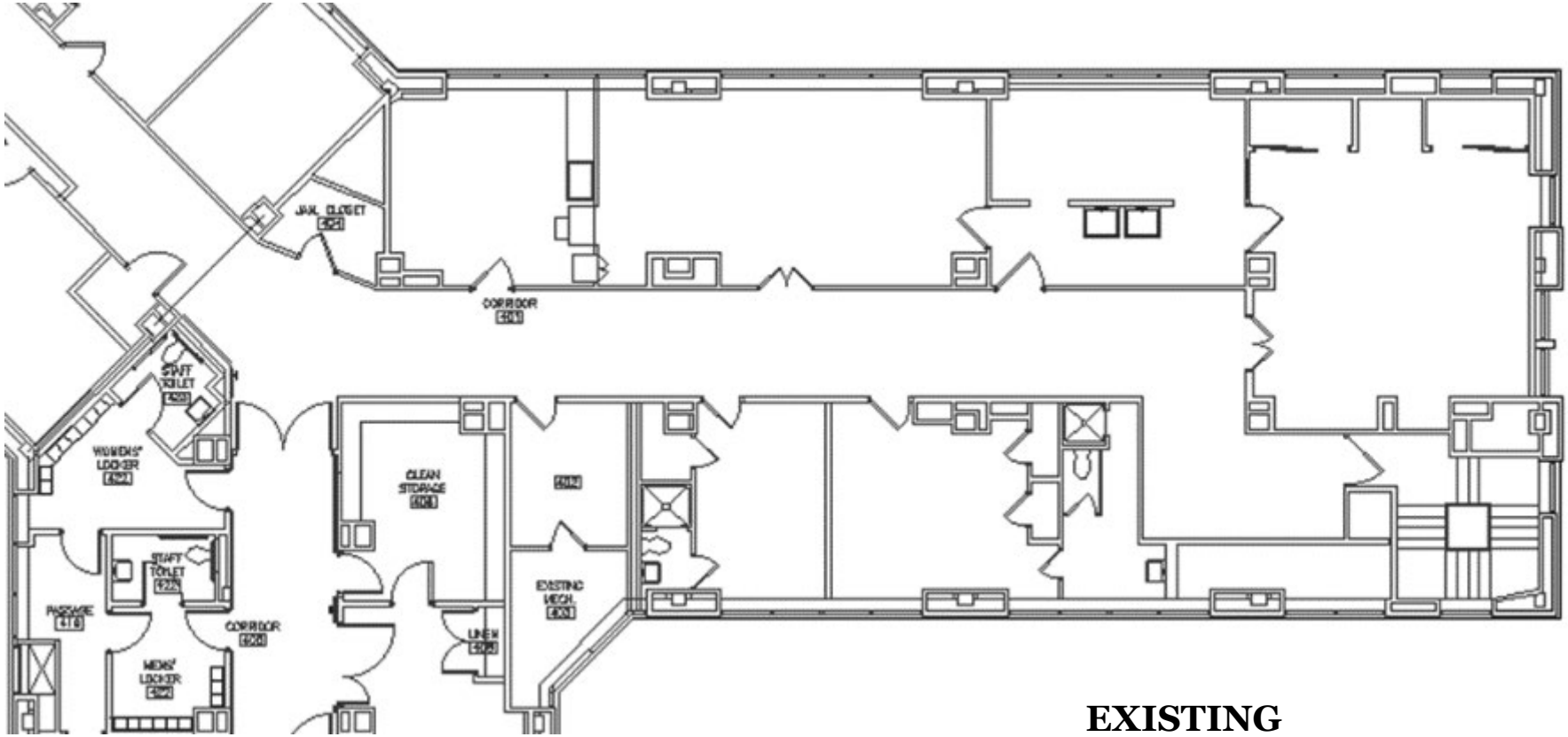
CURRENT ENDOVASCULAR PROCEDURE ROOM **INADEQUATE** IN SIZE TO MEET CRITERIA FOR HYBRID OR EVAR AND/OR TAVR PROCEDURES

ENDOVASCULAR HYBRID OR SUITE

VAMC BUFFALO, NY

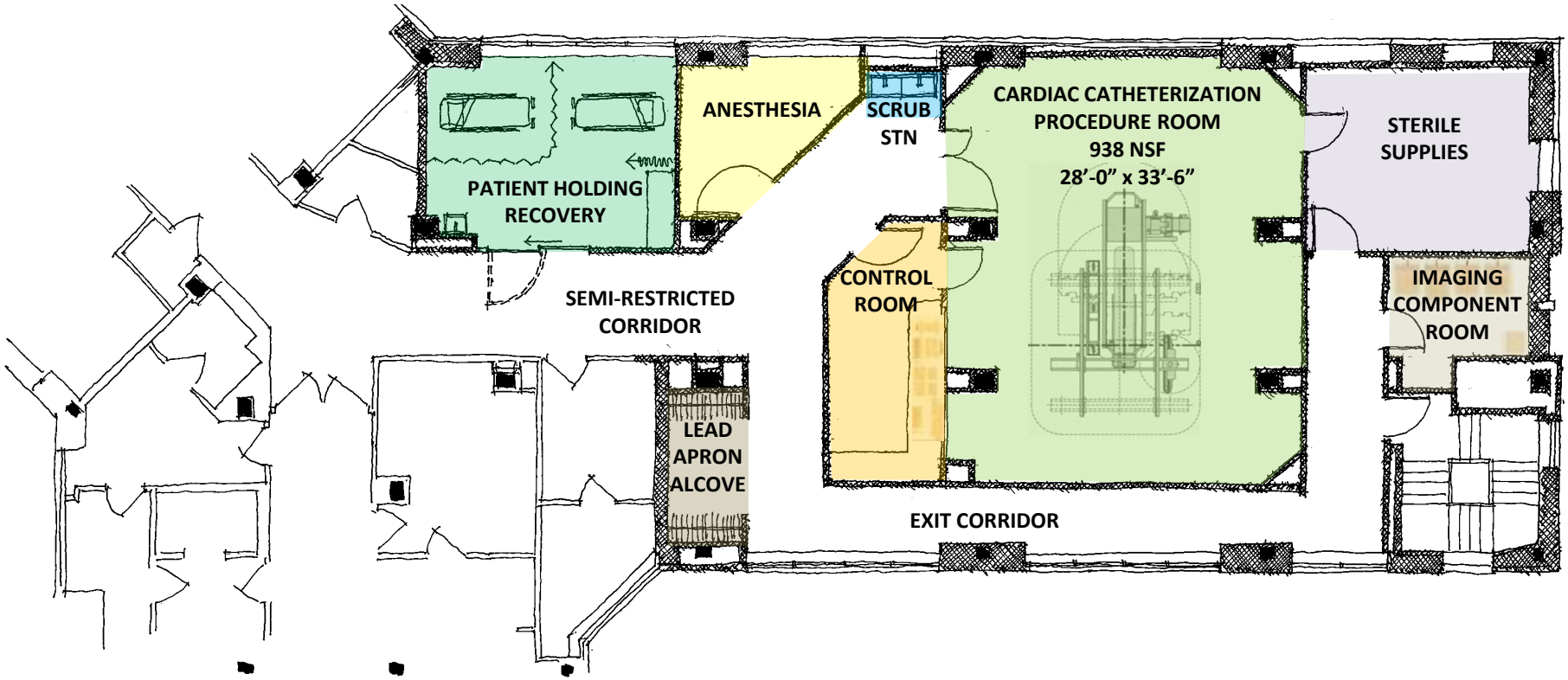
PROPOSED ENDOVASCULAR PROCEDURE ROOM **ADEQUATE** IN SIZE TO MEET CRITERIA FOR HYBRID OR EVAR AND/OR TAVR PROCEDURES

EXAMPLE

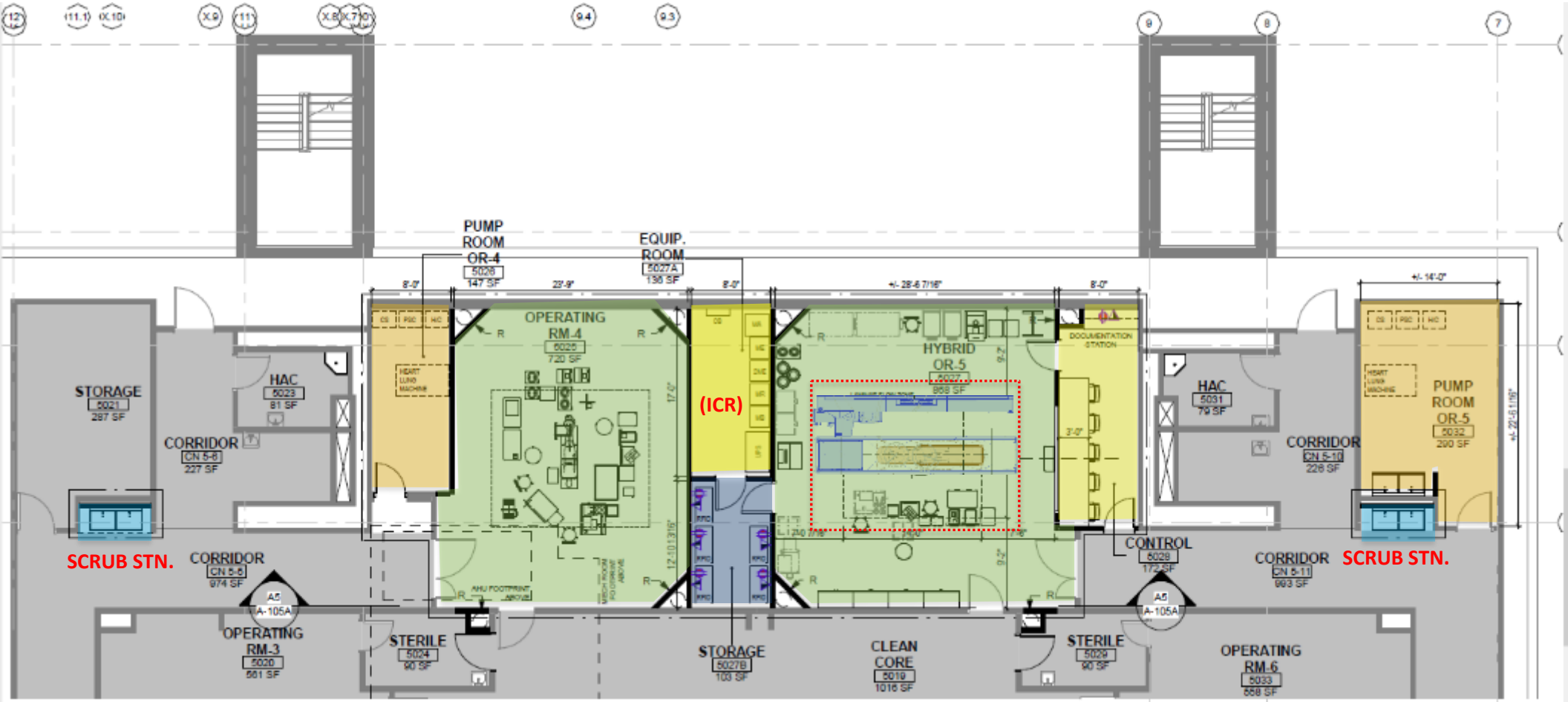


EXISTING
FOURTH FLOOR WING A EAST
VAMC Buffalo, NY

EXAMPLE

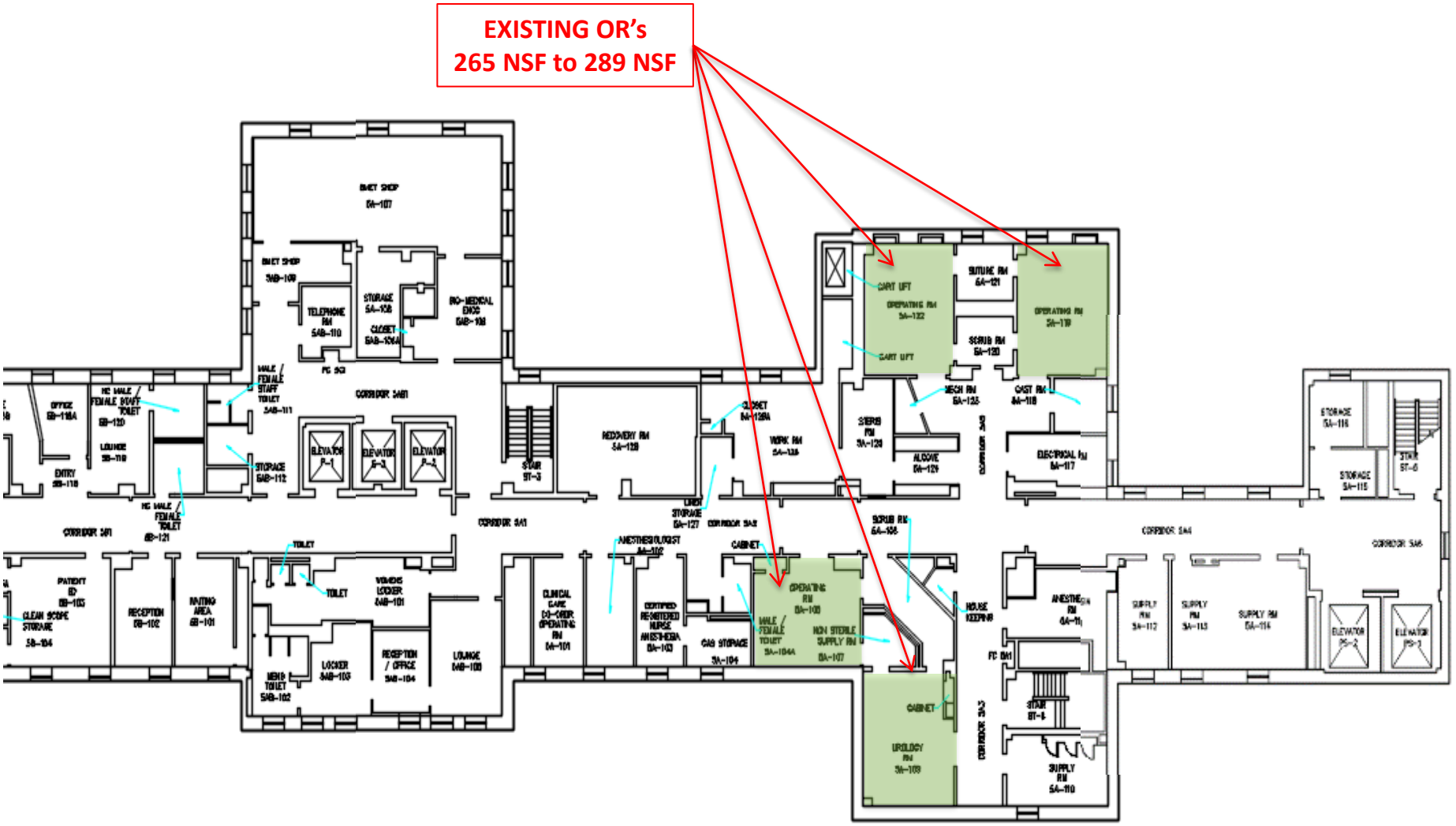


PROPOSED CATH LAB
FOURTH FLOOR WING A EAST
VAMC BUFFALO, NY



VAMC WEST LA HYBRID OR AND CVOR

Surgical and Endovascular Services Space Design Standards



VAMC BECKLEY, WV – EXISTING SURGERY SUITE

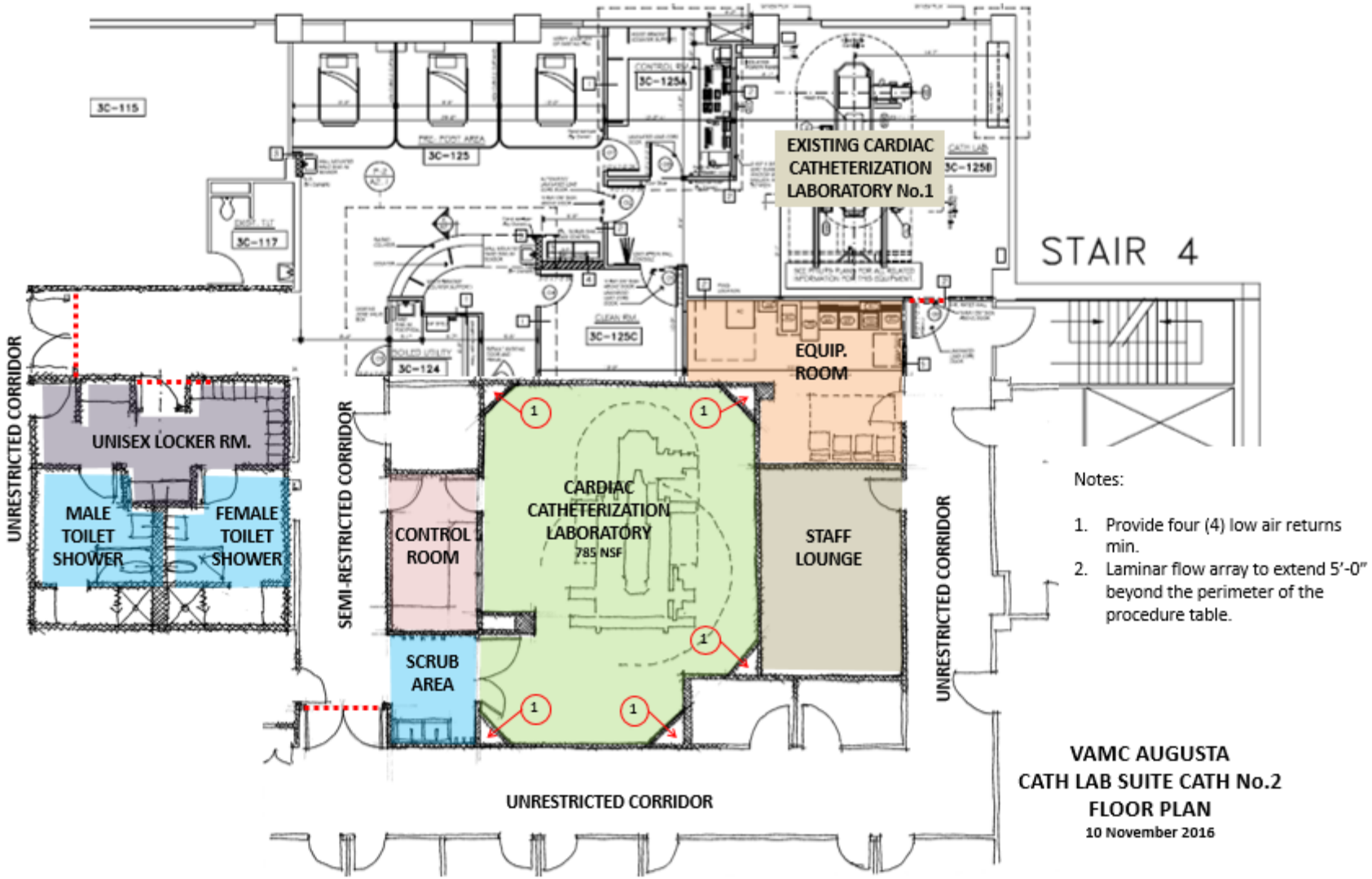
Surgical and Endovascular Services Space Design Standards

VAMC BECKLEY, WV – RENOVATED SURGERY SUITE

VAMC SACRAMENTO-MATHER, CA –EXISTING SURGERY SUITE

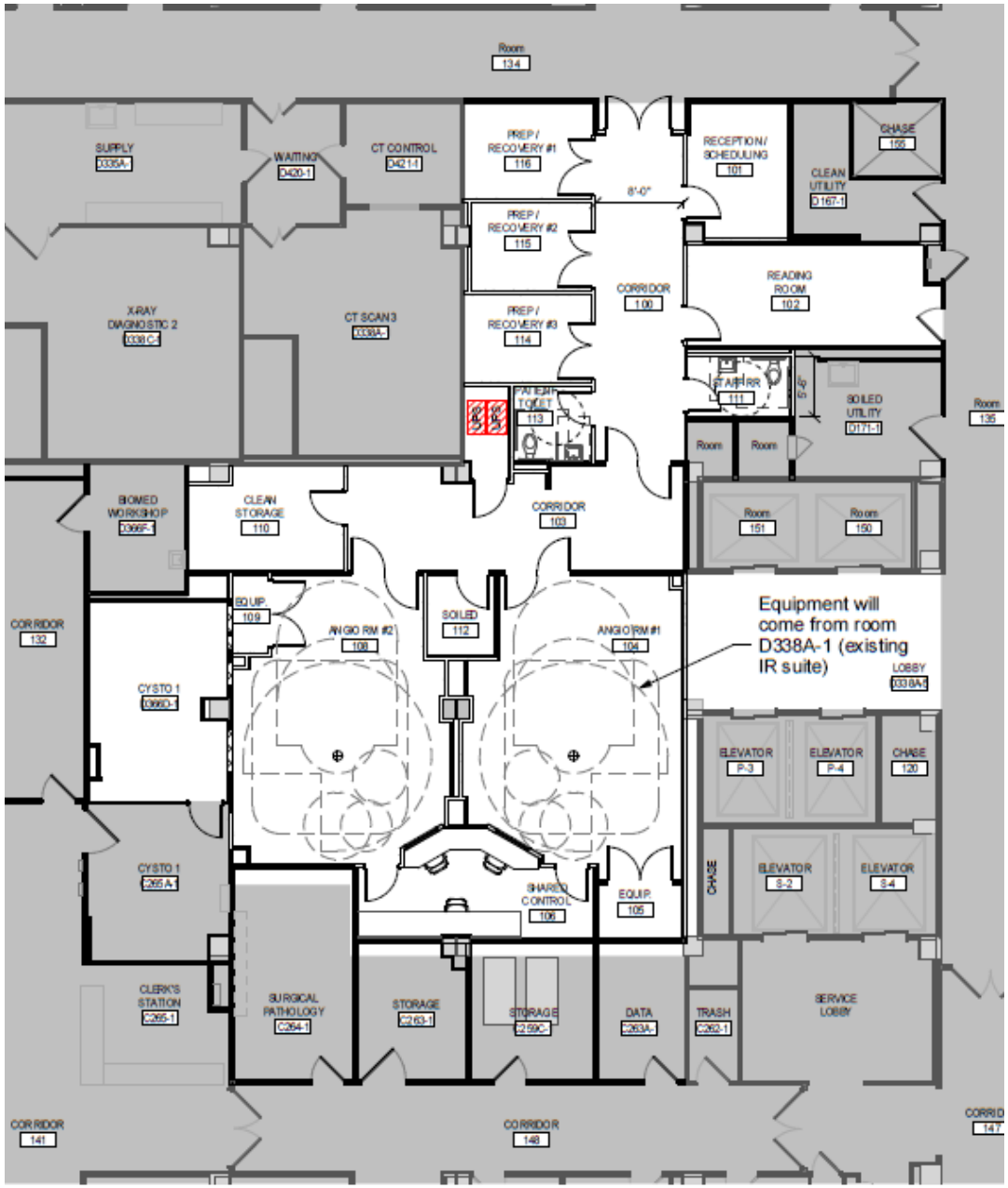
VAMC SACRAMENTO-MATHER, CA – PROPOSED SURGERY SUITE

Surgical and Endovascular Services Space Design Standards



Proposed IR Location

VAMC Gainesville, FL



WHAT NOT TO DO!

1. PROCEDURE ROOMS TOO SMALL
2. DUAL EGRESS DOORS TO PROCEDURE ROOMS UNACCEPTABLE
3. CONTROL ROOM MUST BE ACCESSED THRU PROCEDURE ROOM
4. COMBINED CONTROL ROOM UNACCEPTABLE
5. ICR ROOM MISSING

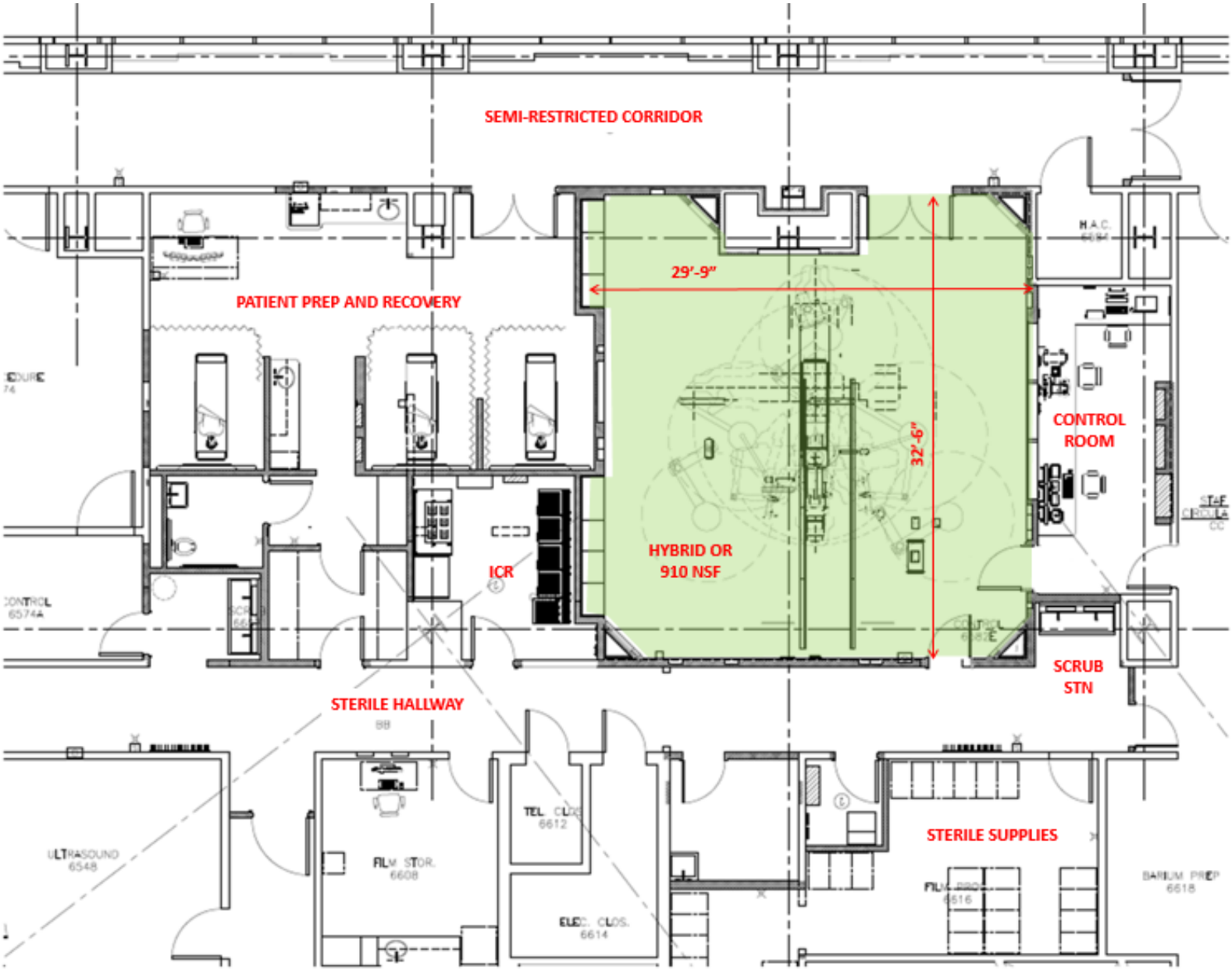
Proposed IR Location Architect's Design

VAMC Gainesville, FL

Proposed IR Scheme

After CFM-NCO Review

VAMC Gainesville, FL



HYBRID OR
VAMC Manhattan, NY

Credit is due to the following individuals whose leadership, knowledge, skills, and ability made this document possible:

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Remember that SEPS Chapter 286 Surgical and Endovascular Services is as Important as the Design Guide, each compliments one another!

Department of Veterans Affairs Veterans Health Administration Washington, DC 20420

VHA DIRECTIVE 1043 Transmittal Sheet November 2, 2016

RESTRUCTURING OF VHA CLINICAL PROGRAMS

This Veterans Health Administration (VHA) directive provides policy for implementing the expansion, reduction, or elimination of major clinical services or programs that may change or impact the delivery of care provided to Veterans in existing facilities, including Community Based Outpatient Clinics (CBOC).

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QUESTIONS?