

VA



U.S. Department
of Veterans Affairs

Surgical and Endovascular Services Space Design Standards

A Compendium

Submitted to: VHA Healthcare Environment and Facilities Programs (19HEFP)

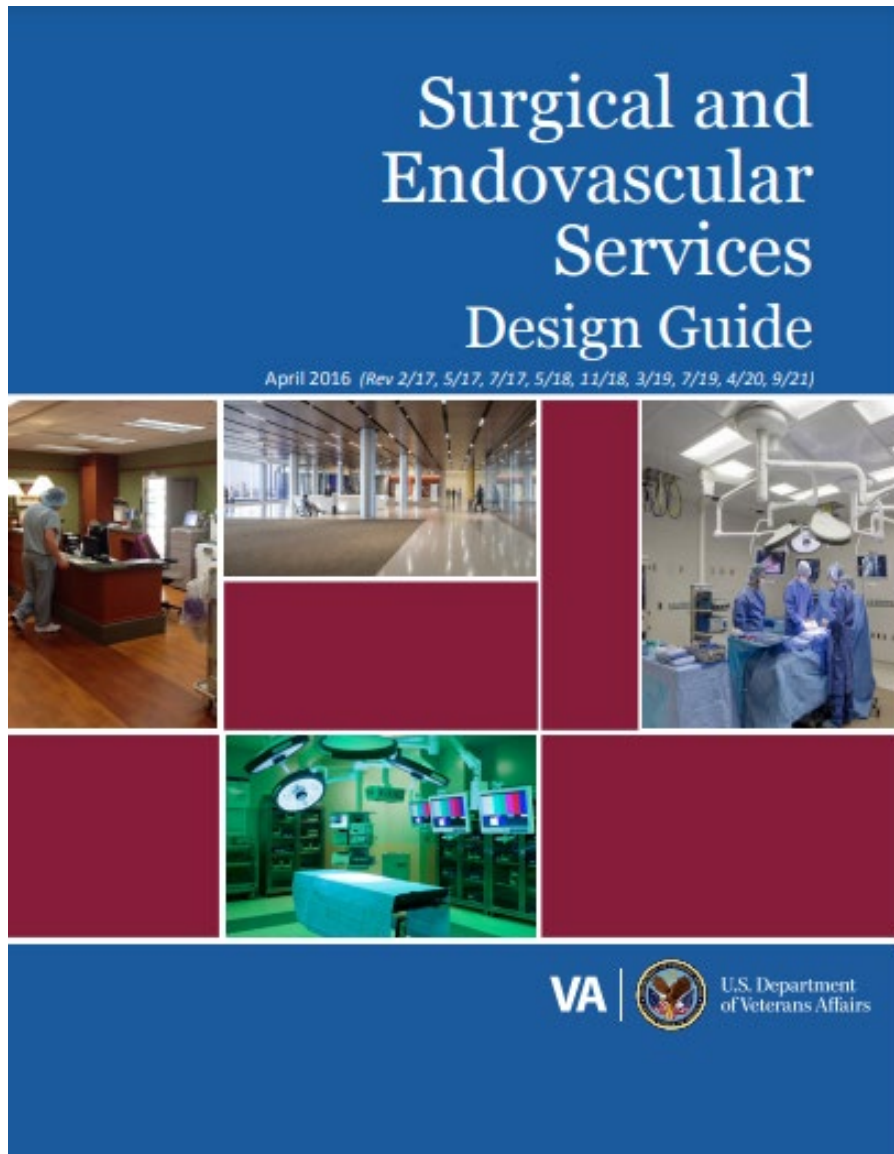
Name: Zoltán János Nagy, RA-NCARB-AAH-AORN
zoltan.nagy@va.gov

Title: Principal Healthcare Architect - SME

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 and CAD Standards

PG-18-5 Equipment List

H-18-8 Seismic 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

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 facilities supporting the delivery of world class health care to veterans.

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

- VA-Space and Equipment Planning System (VA-SEPS)
- [Space Planning Criteria for VA Facilities PG-18-9](#)
- [Equipment Guide List PG-18-5](#)

Substance Abuse Clinic (202) DELETED - merged into 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



Surgical and Endovascular Services Space Design Standards

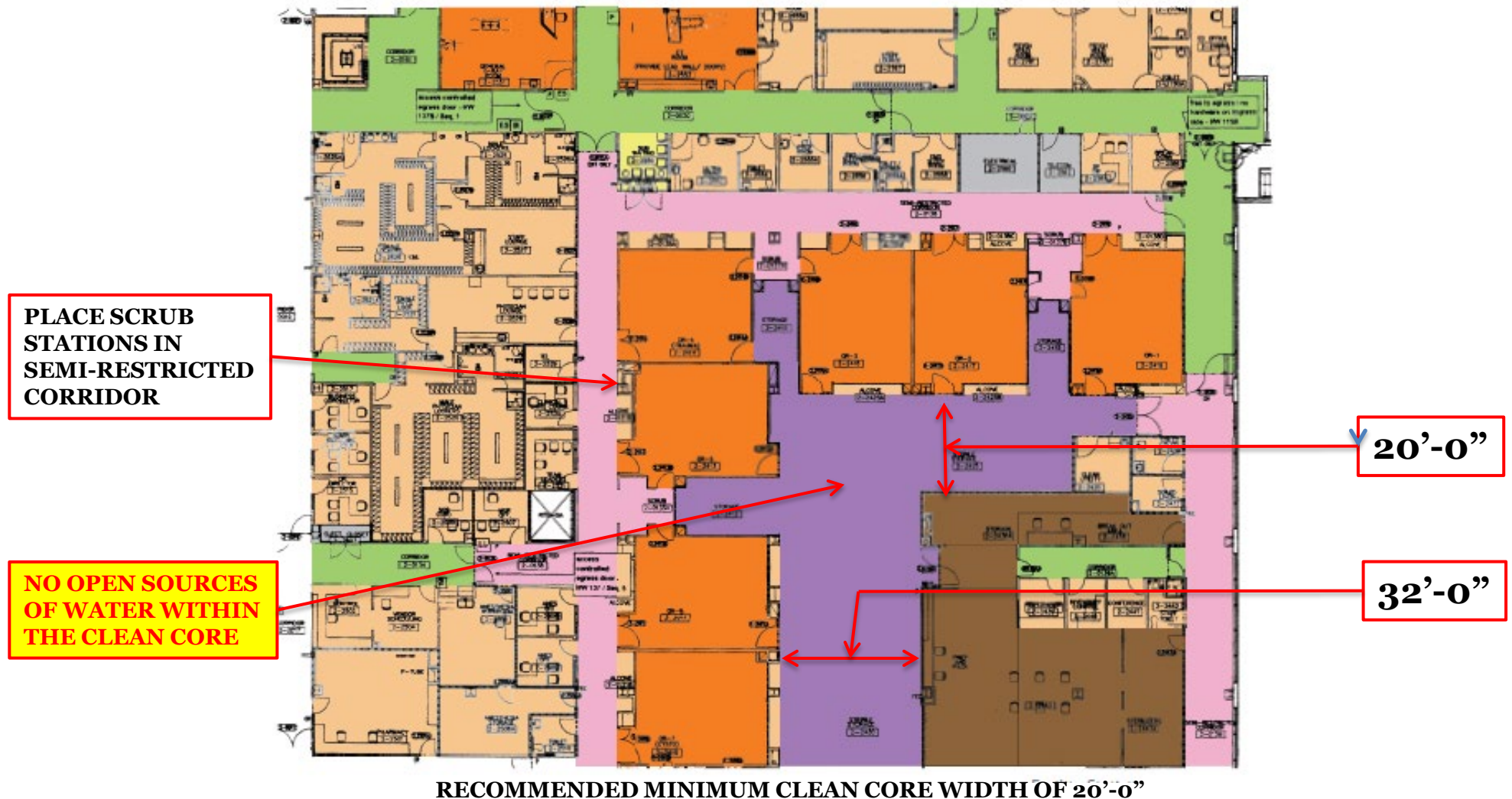
The purpose of the VA Surgical Service Planning and Design Guide:

- 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.



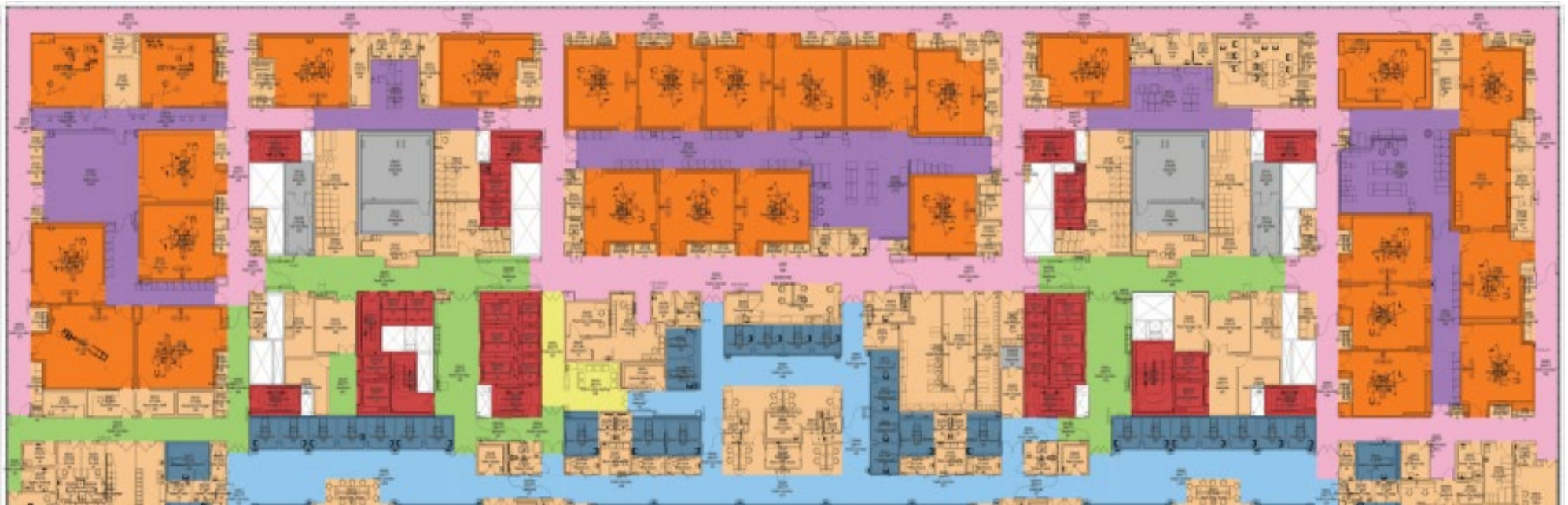
Surgical and Endovascular Services Space Design Standards

Lessons Learned: Advocate Sherman Hospital





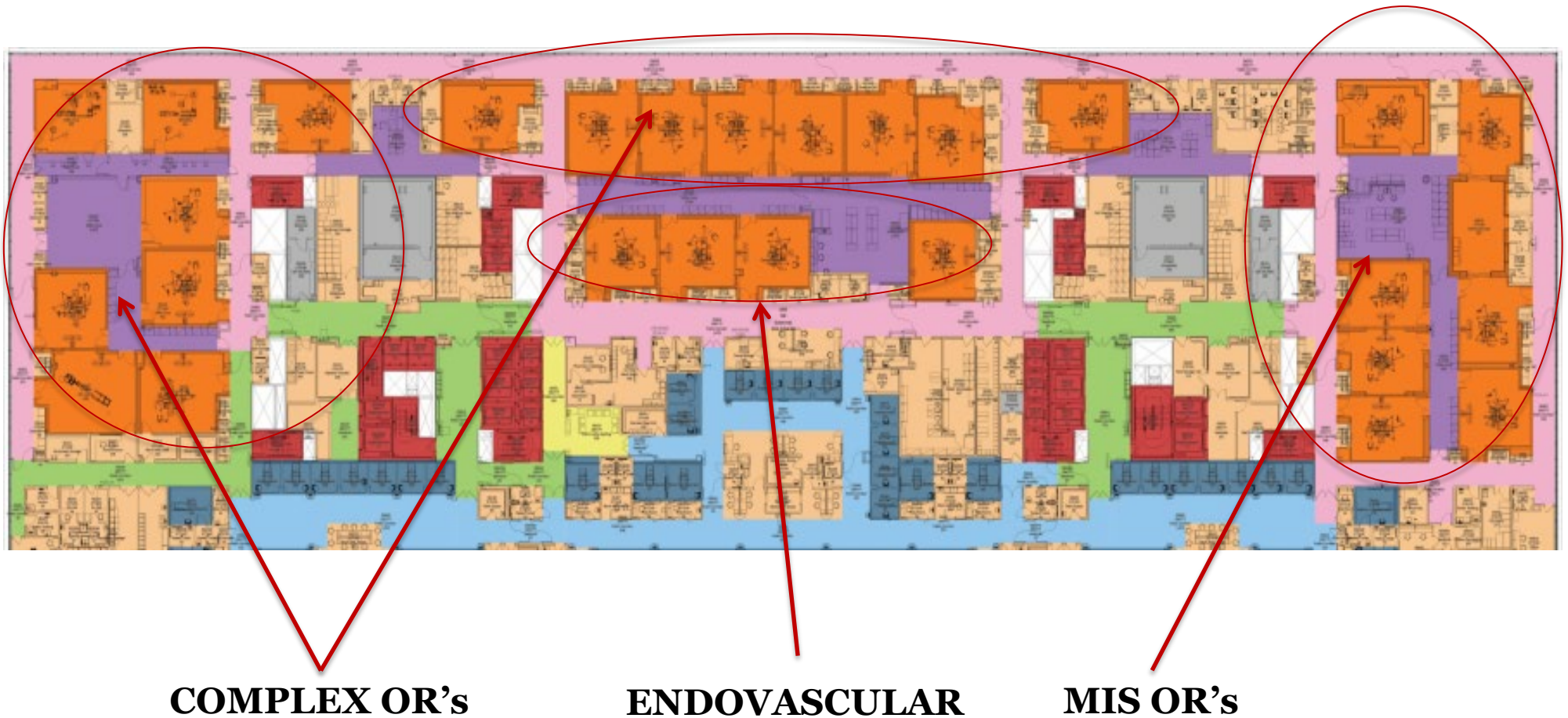
Lessons Learned: University of Chicago Medical Center



TOO LONG



Lessons Learned: University of Chicago Medical Center





Surgical and Endovascular Services Space Design Standards

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
- ❖ ADEQUATE 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.



Surgical and Endovascular Services Space Design Standards

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





Surgical and Endovascular Services Space Design Standards

2011 Cardiovascular Laboratory Service Design Guide

Cath Lab @ 650 NSF



EP Lab @ 650 NSF



2008 Radiology Design Guide

IR Special Procedure Room
@ 500 NSF



2016 Surgery Design Guide (Includes Endovascular Services)

Cath Lab @ 850 NSF



EP Lab @ 900 NSF



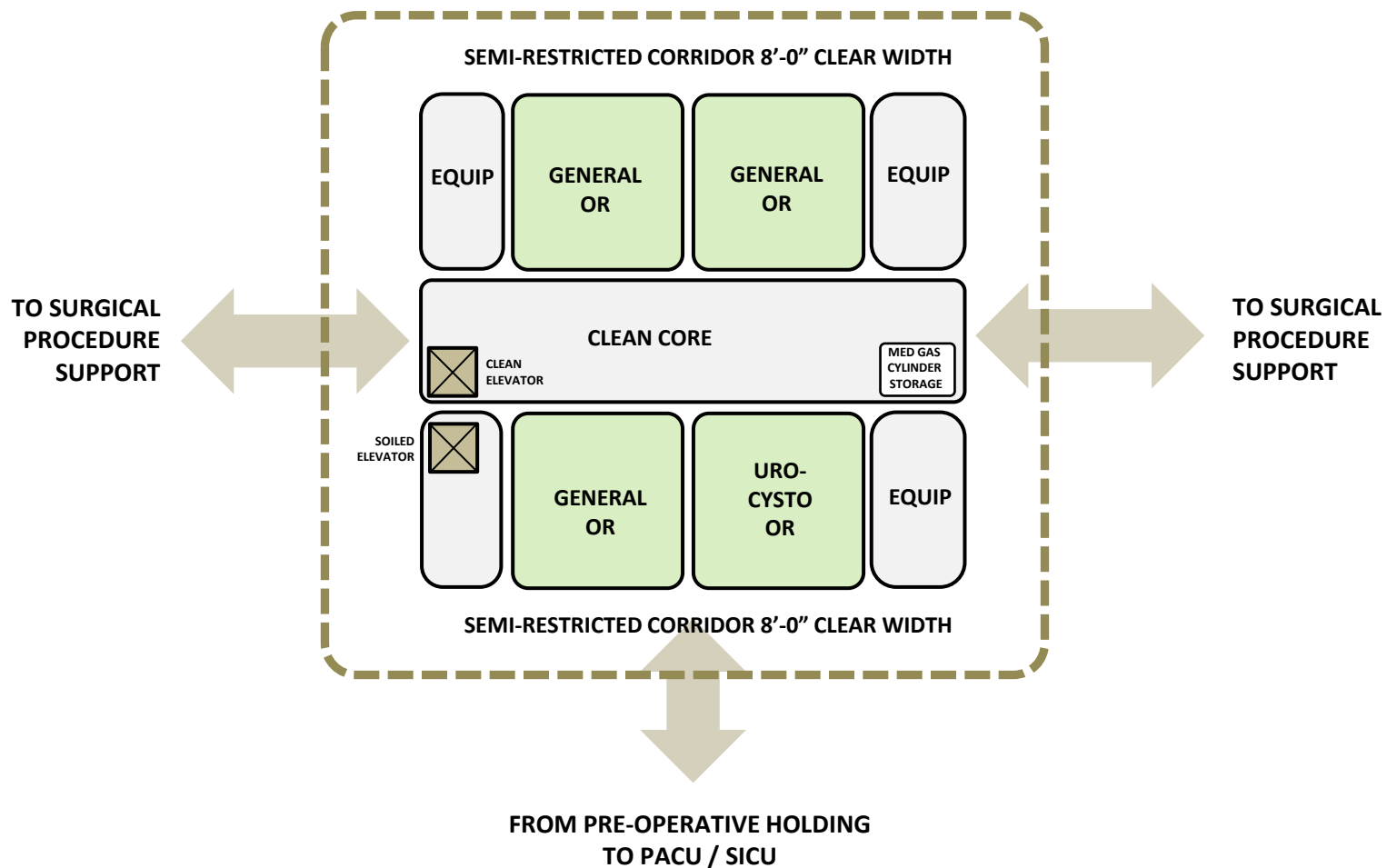
IR Vascular Procedure Room
(EVAR Hybrid) @ 850 NSF





Surgical and Endovascular Services Space Design Standards

Typical Configuration for Standard IP and OP Facilities

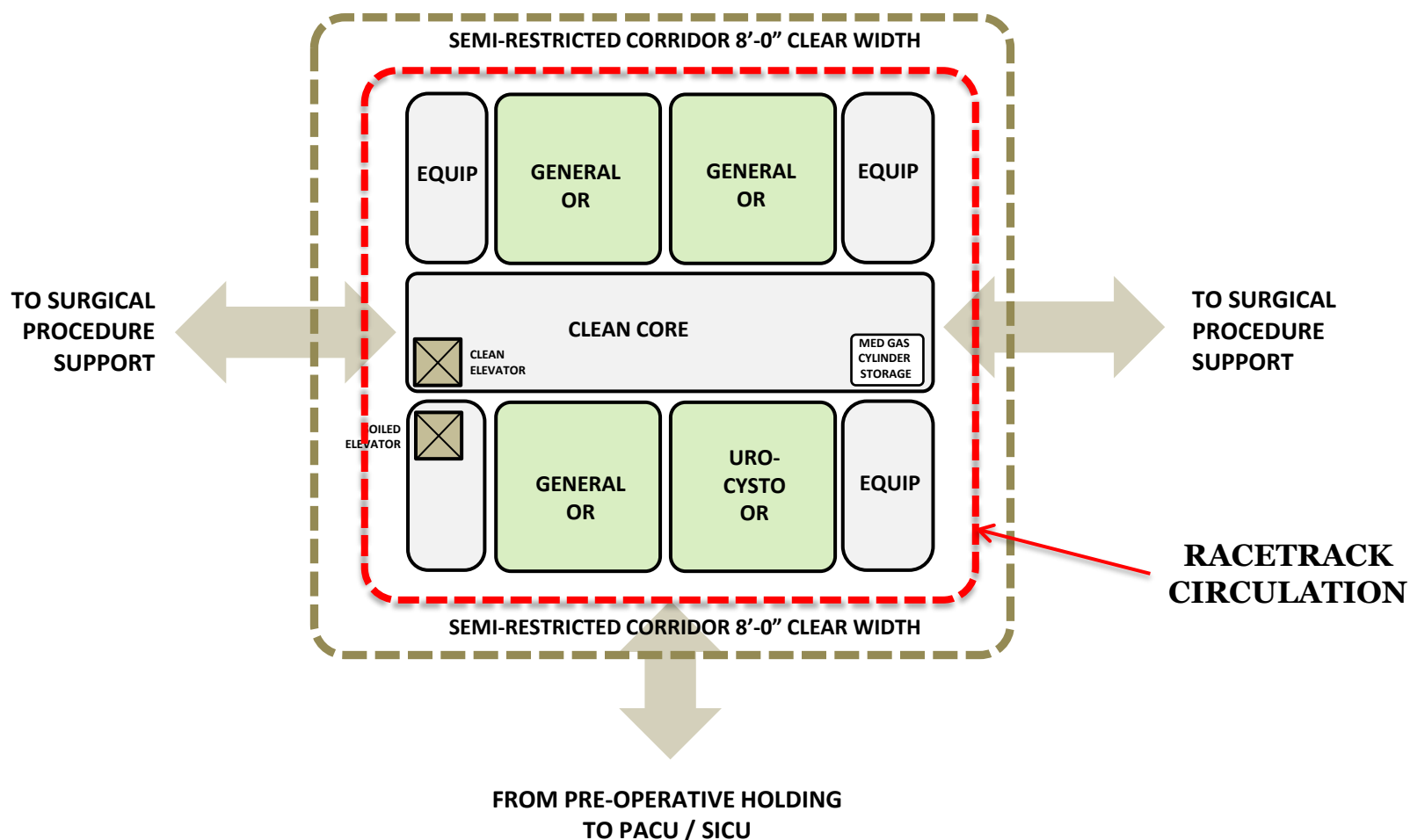


Standard / Ambulatory (OP) / Surgical Suite Organization



Surgical and Endovascular Services Space Design Standards

Typical Configuration for Standard IP and OP Facilities

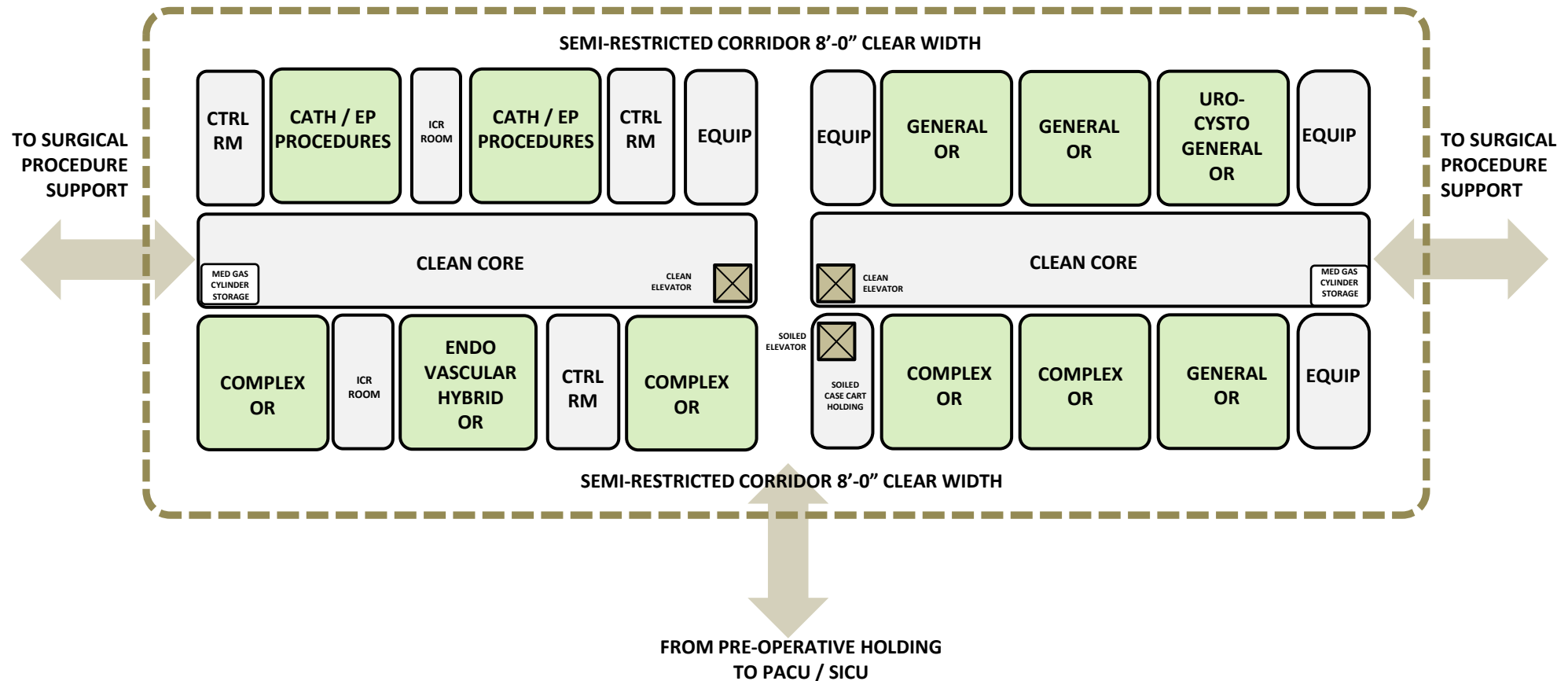


Standard / Ambulatory (OP) / Surgical Suite Organization



Surgical and Endovascular Services Space Design Standards

“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.”

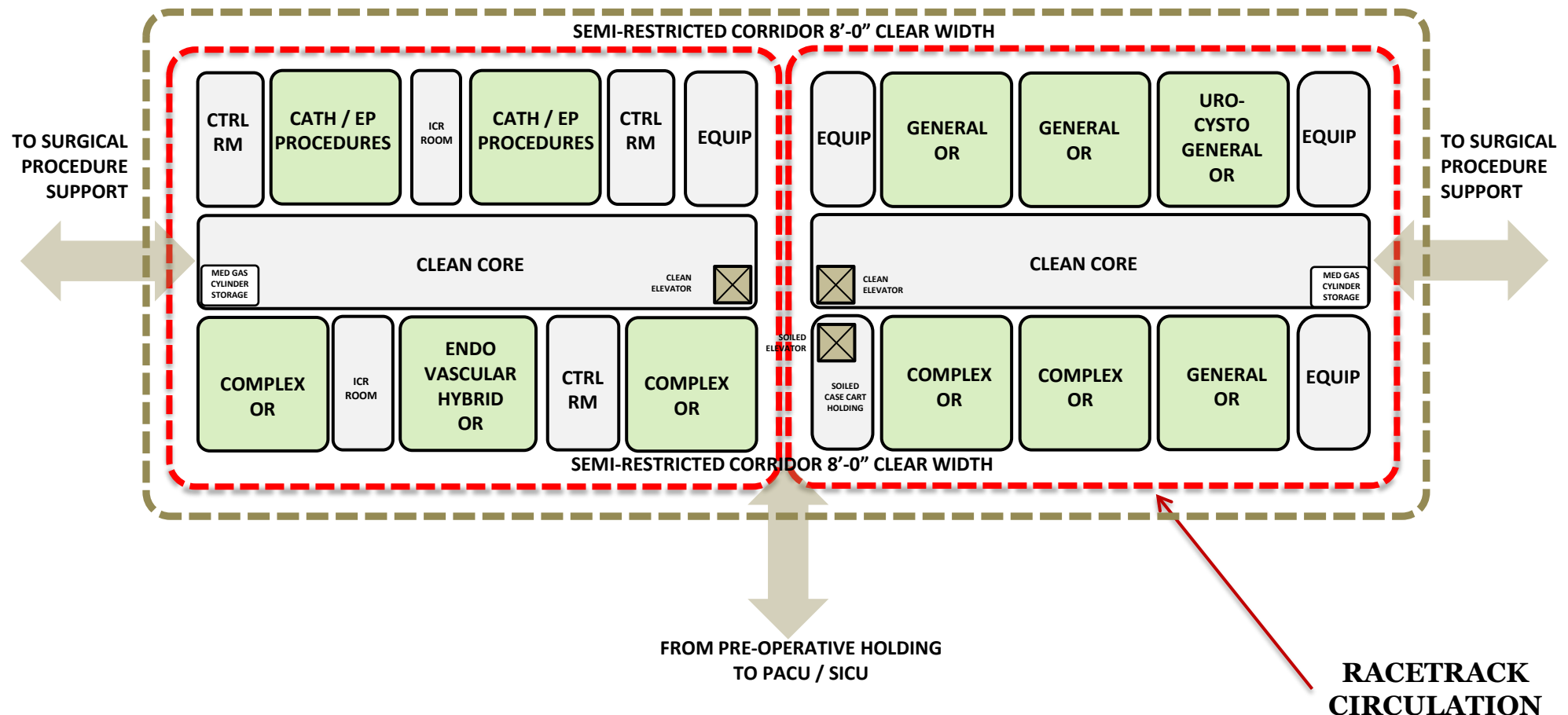


Intermediate / Complex / Interventional Suite - Pods Organization



Surgical and Endovascular Services Space Design Standards

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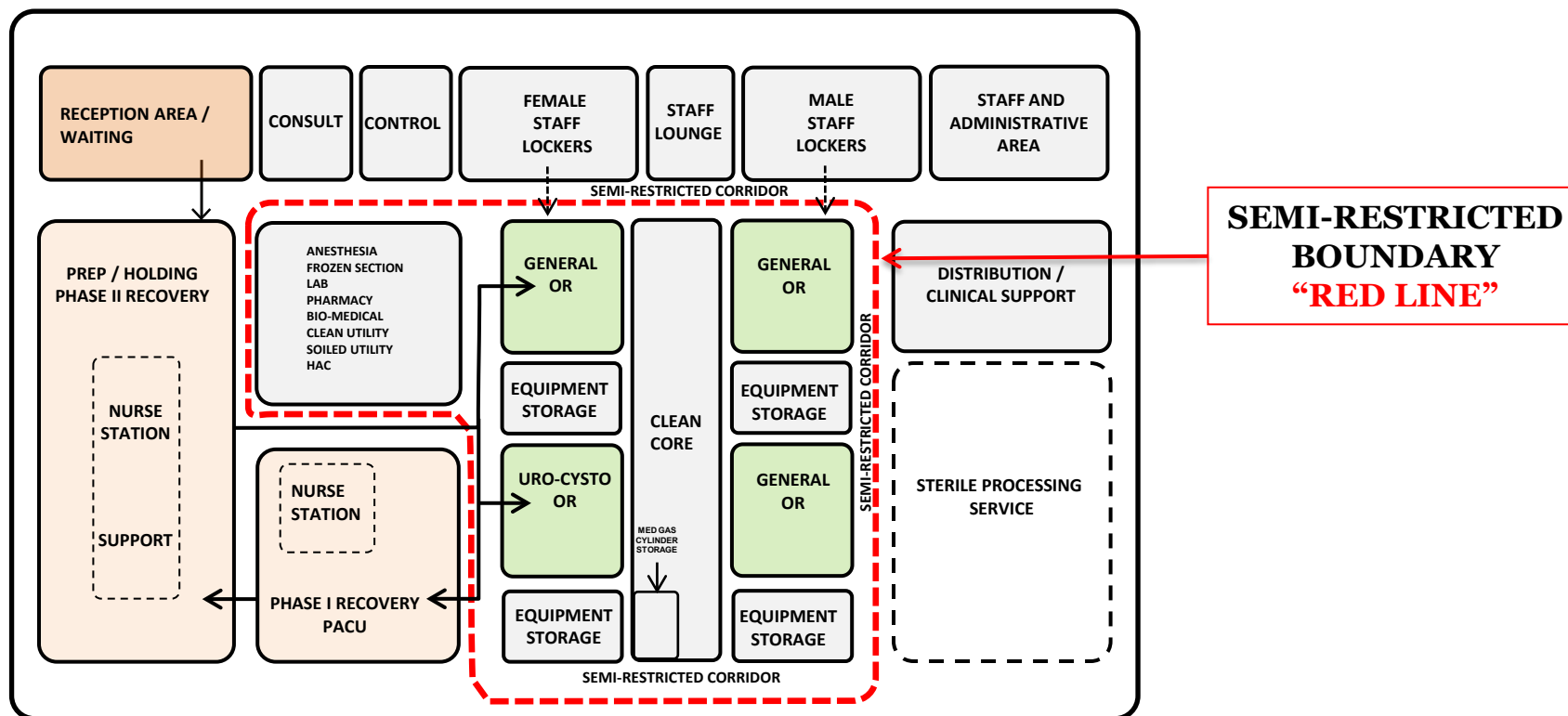


Intermediate / Complex / Interventional Suite - Pods Organization



Surgical and Endovascular Services Space Design Standards

Typical Configuration for Standard IP and OP Facilities

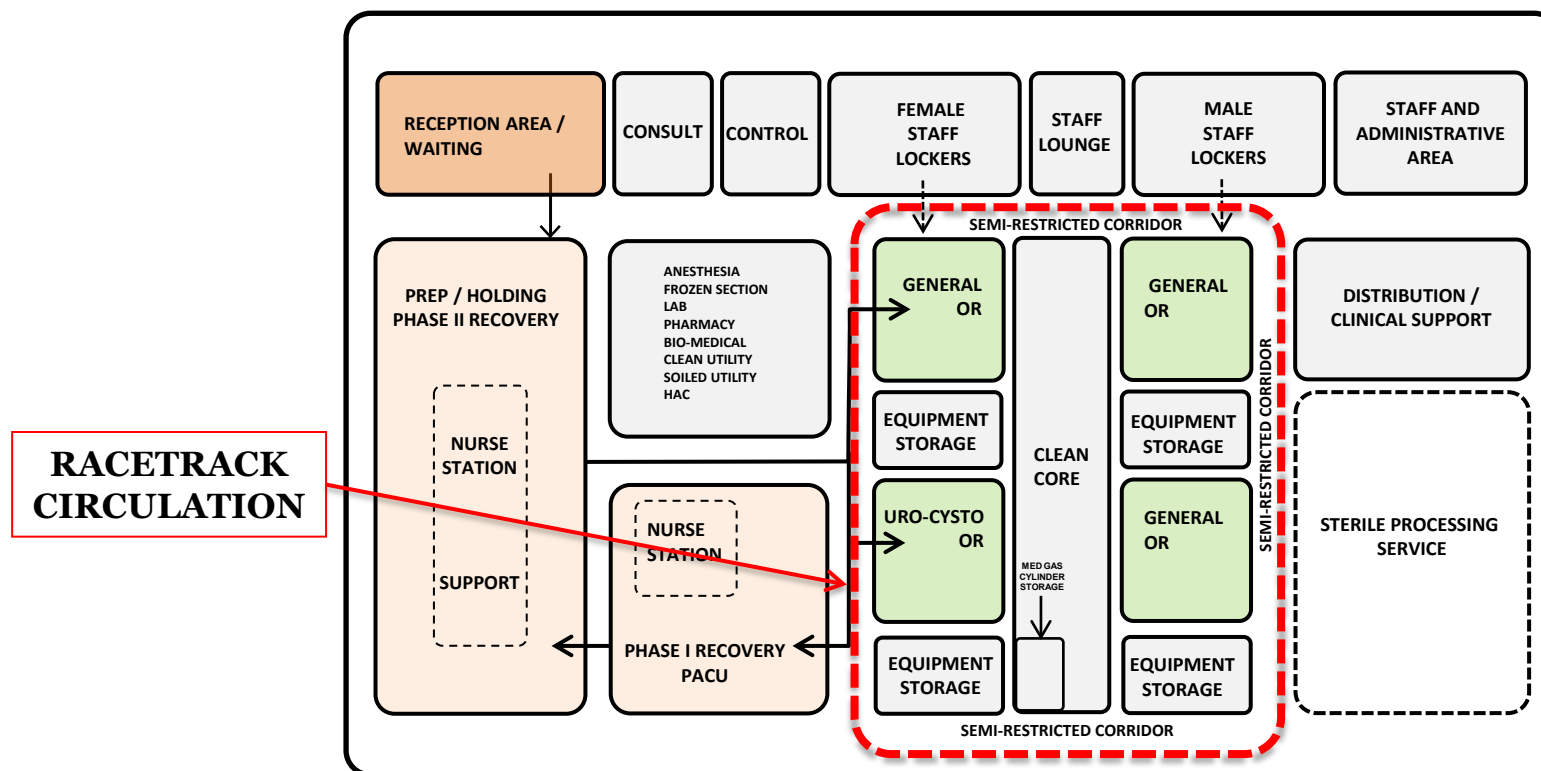


Standard/Ambulatory Surgical Suite



Surgical and Endovascular Services Space Design Standards

Typical Configuration for Standard IP and OP Facilities

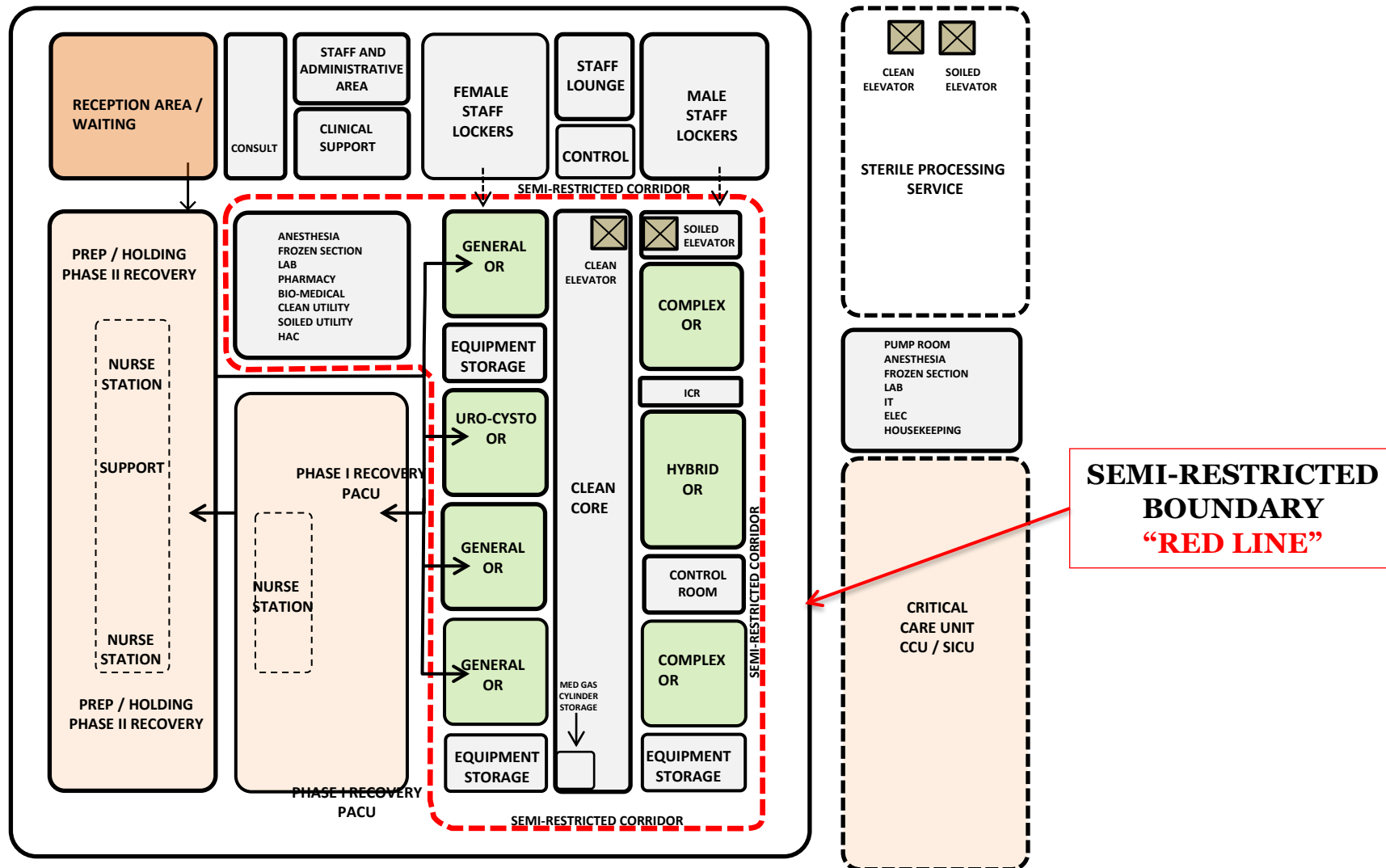


Standard/Ambulatory Surgical Suite



Surgical and Endovascular Services Space Design Standards

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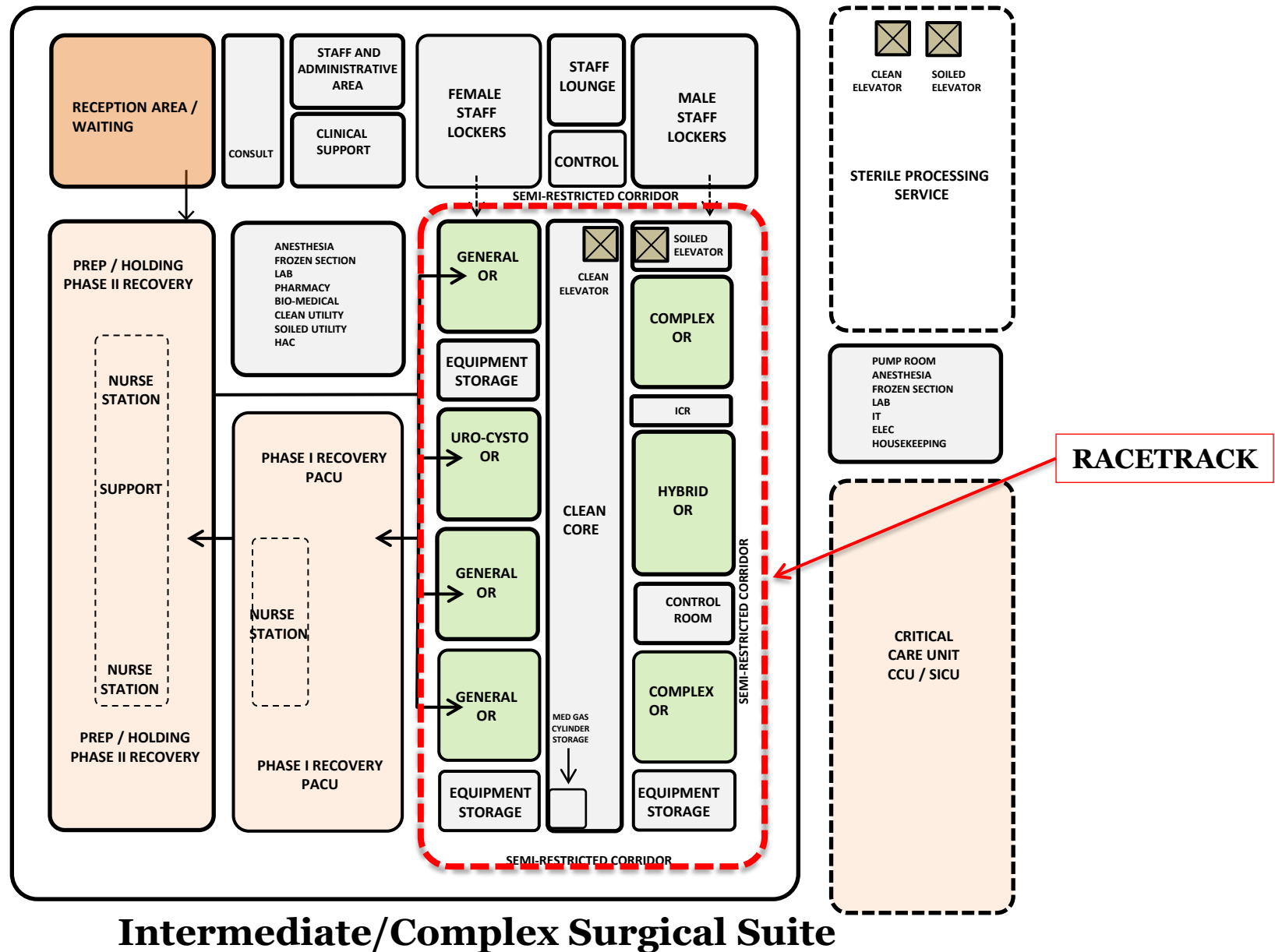


Intermediate/Complex Surgical Suite



Surgical and Endovascular Services Space Design Standards

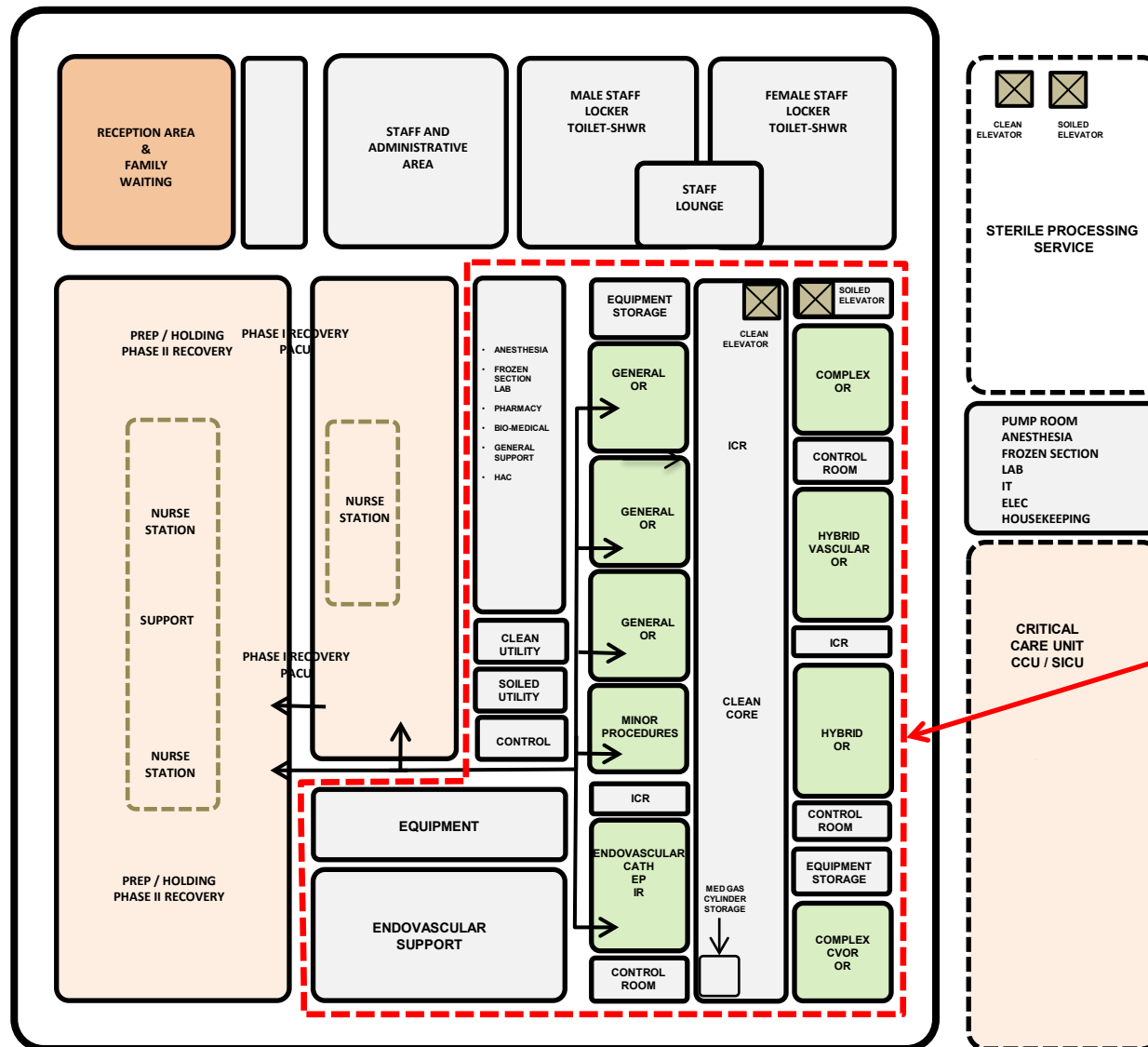
“VHA medical facilities with invasive procedure complexity levels of Inpatient Complex or Inpatient Intermediate are expected to include endovascular surgery hybrid operating rooms in design if not already available at the facility.”





Surgical and Endovascular Services Space Design Standards

“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.”



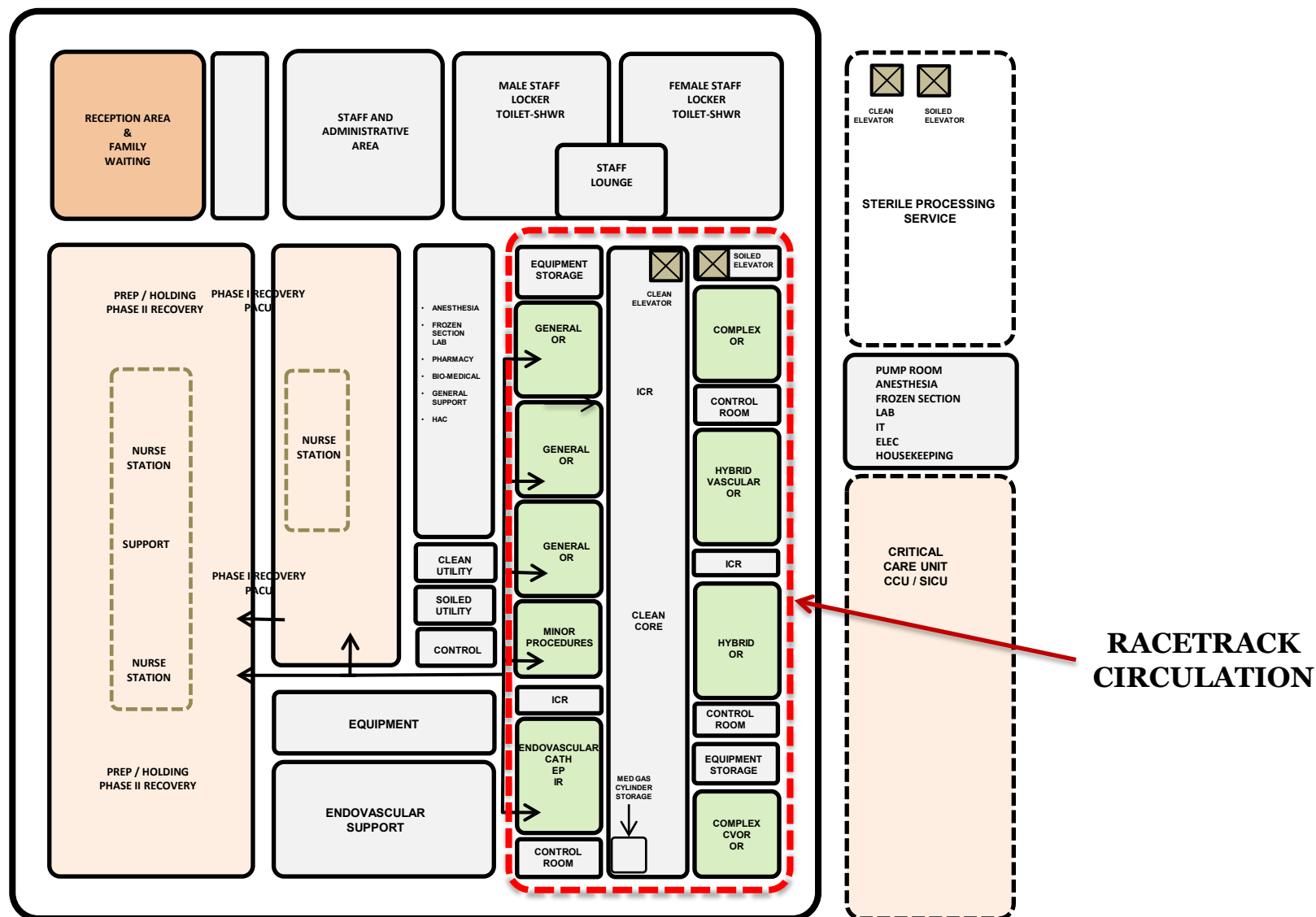
**SEMI-RESTRICTED
BOUNDARY
“RED LINE”**

Complex Integrated Interventional Suite



Surgical and Endovascular Services Space Design Standards

“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.”



Complex Integrated Interventional Suite





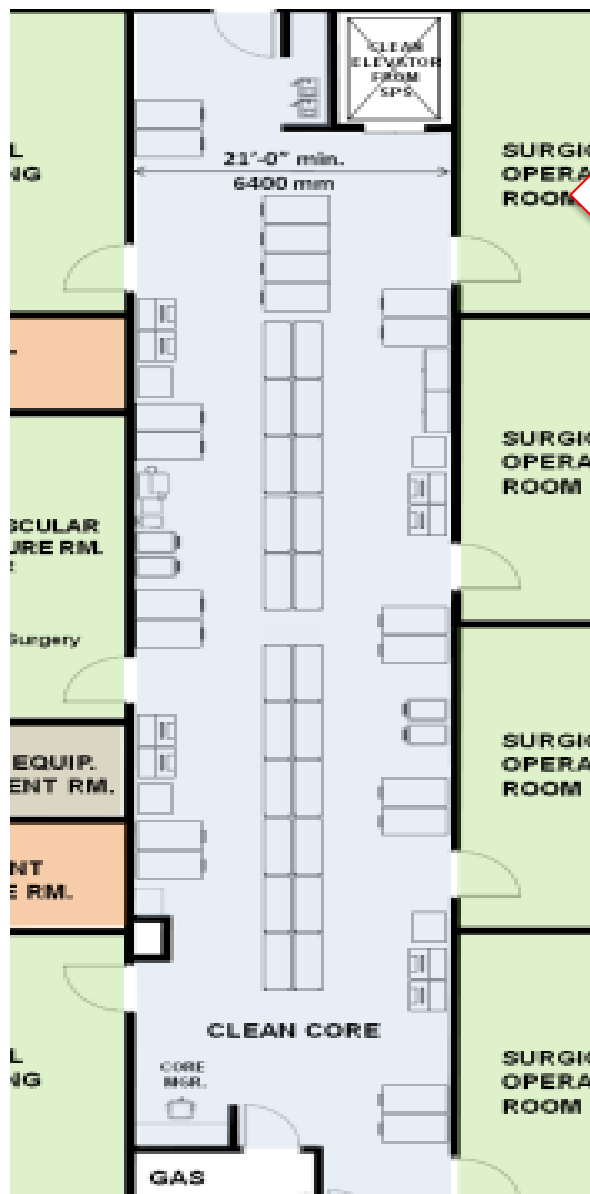
What are Surgical Complexities

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.



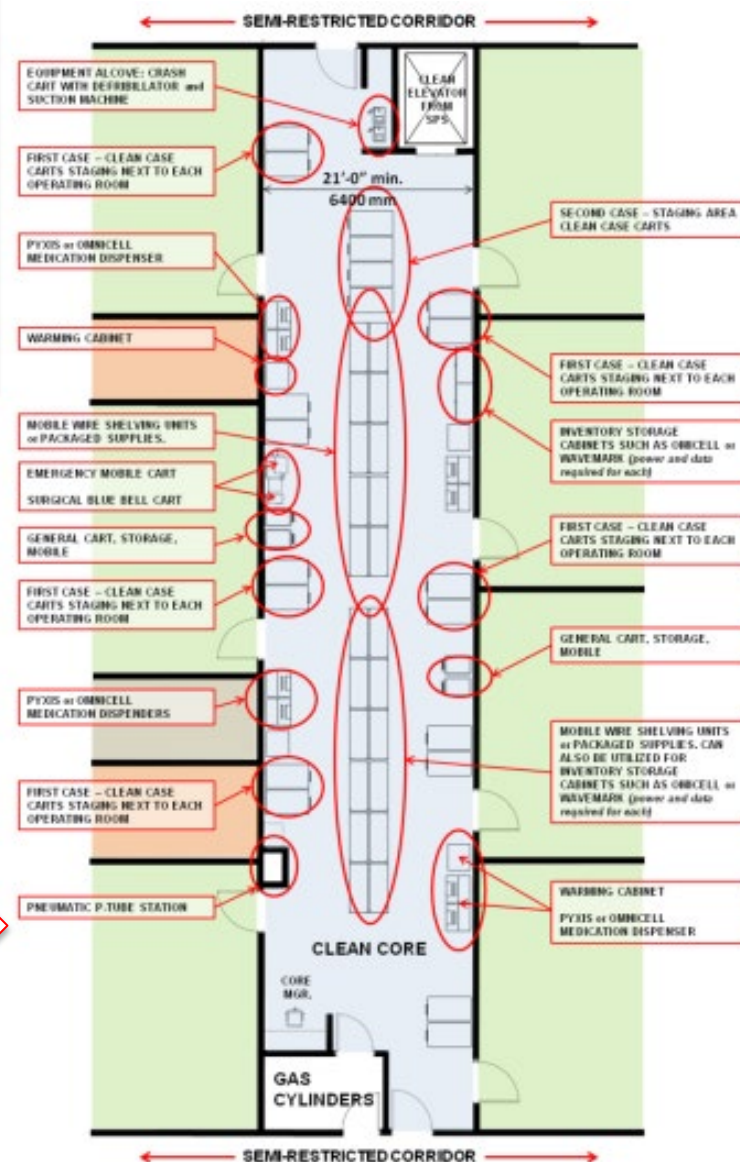
Surgical and Endovascular Services Space Design Standards



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

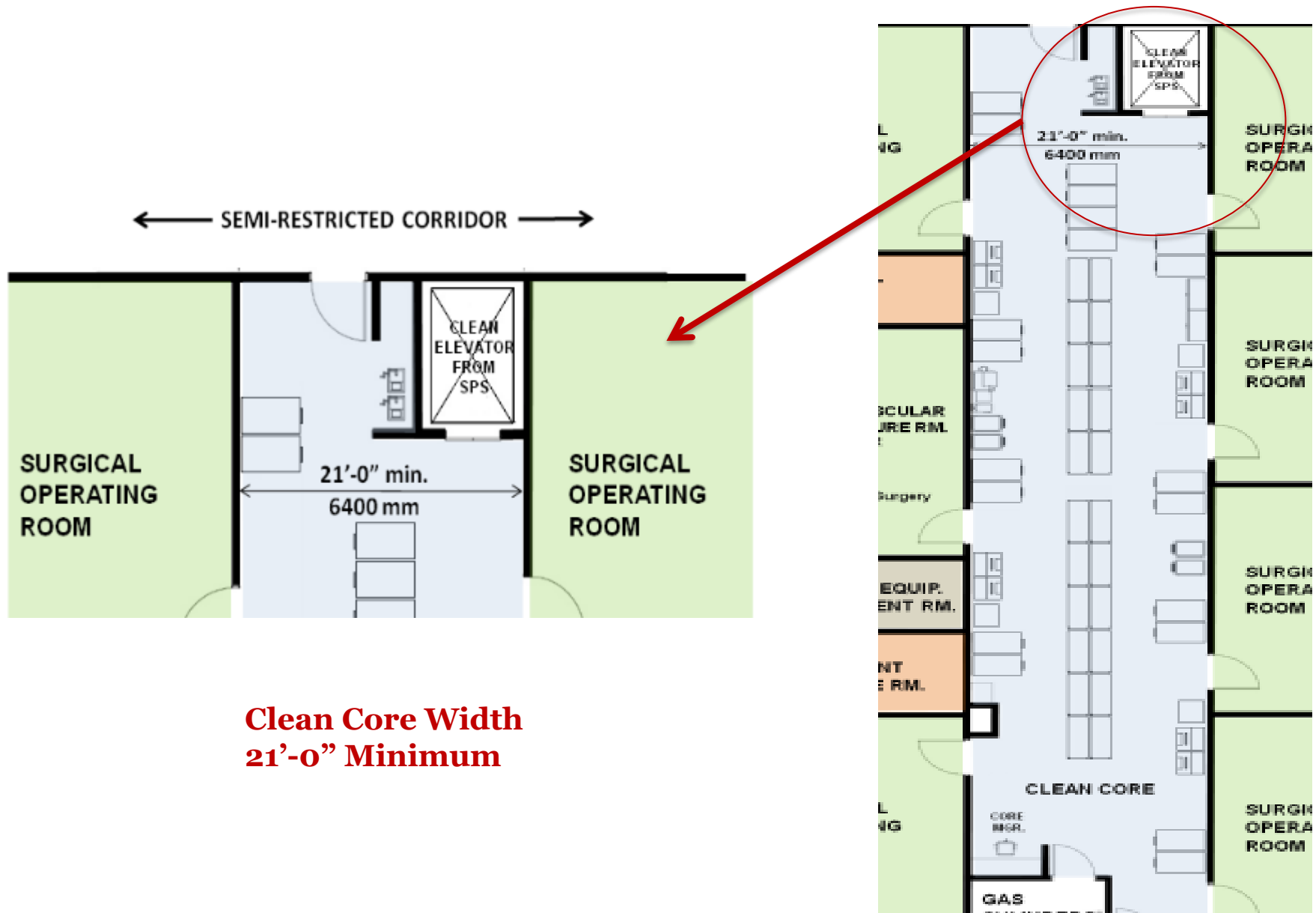
Clean Core Width 21'-0" Minimum

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.





Surgical and Endovascular Services Space Design Standards



**Clean Core Width
21'-0" Minimum**



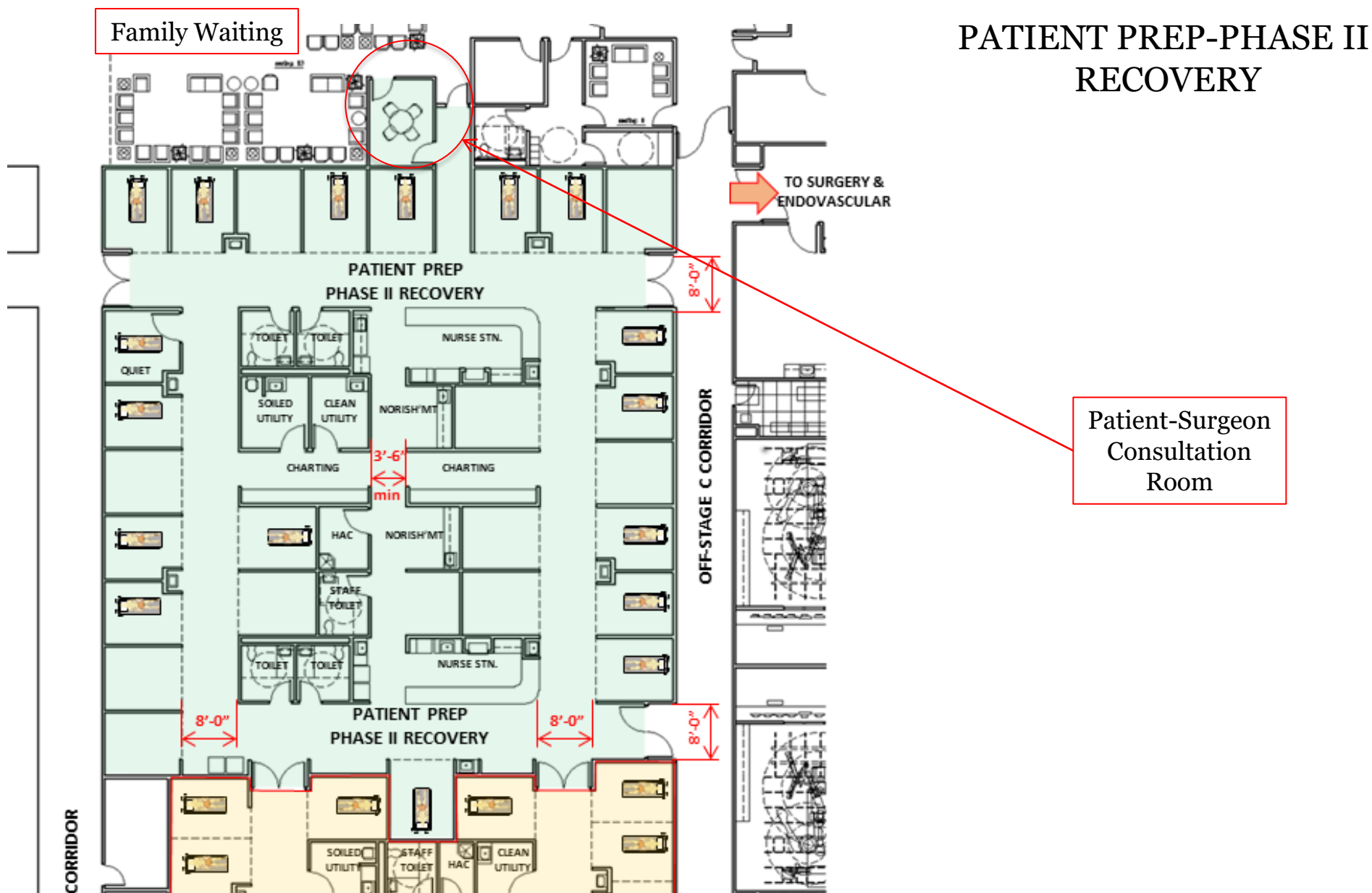
Surgical and Endovascular Services Space Design Standards

PATIENT PHASE I RECOVERY and PATIENT PREP-PHASE II RECOVERY





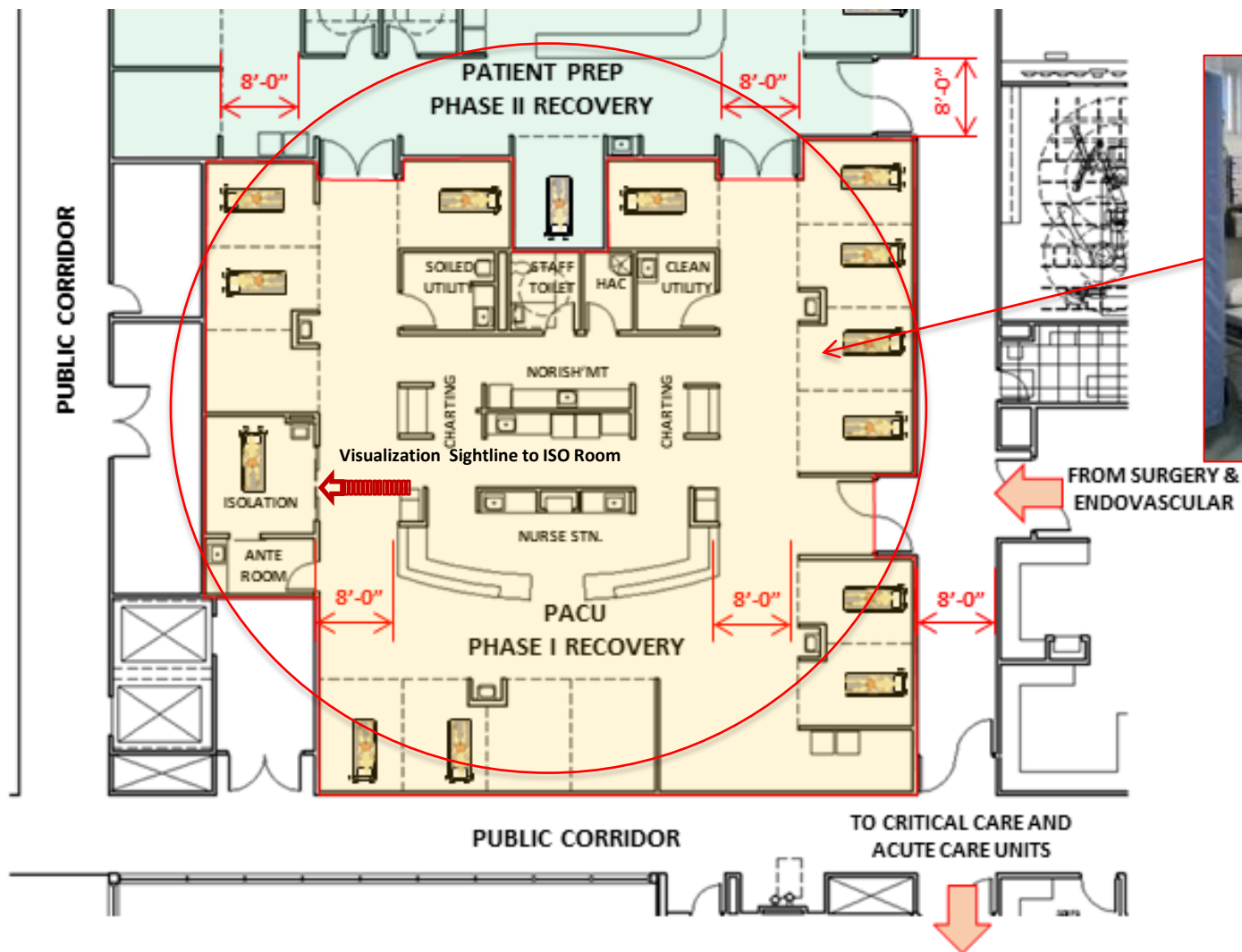
Surgical and Endovascular Services Space Design Standards





Surgical and Endovascular Services Space Design Standards

PATIENT RECOVERY PHASE I / PACU





Surgical and Endovascular Services Space Design Standards

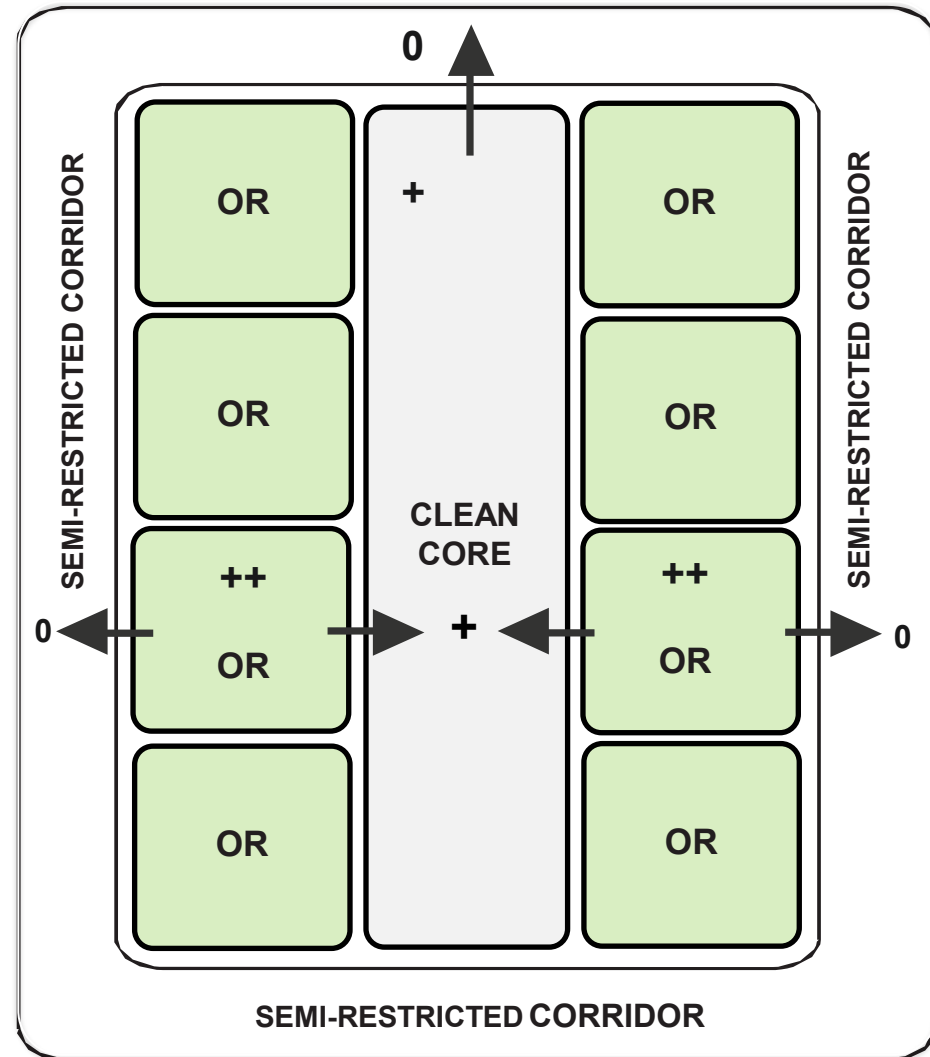
➔ DIRECTION OF AIR FLOW

⊕ POSITIVE PRESSURE

⊖ NEGATIVE PRESSURE

Note:

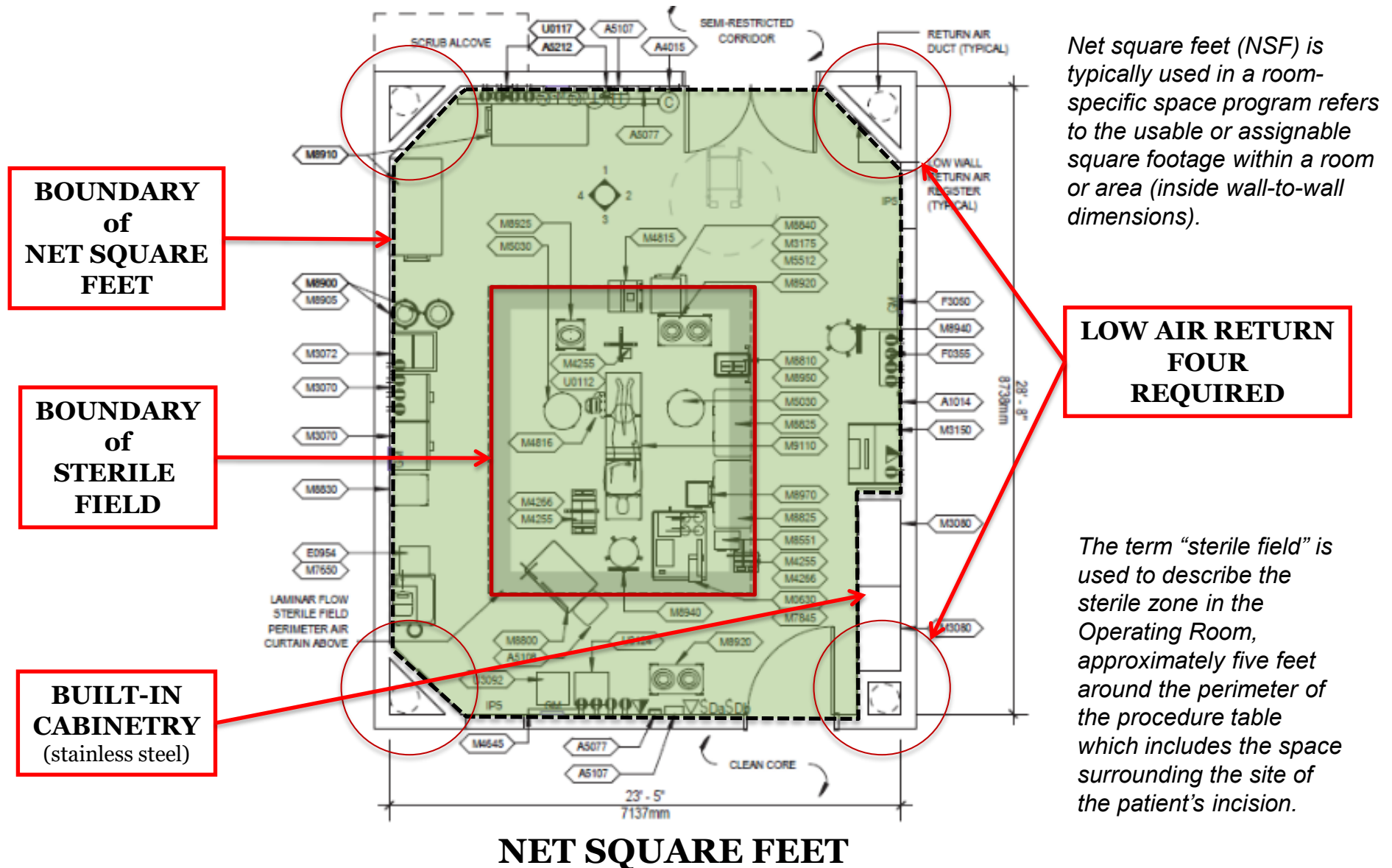
Semi-Restricted Corridor has Positive Pressure relationship regarding all Areas Outside of the Race Track



Air Pressurization – Relationship Diagram

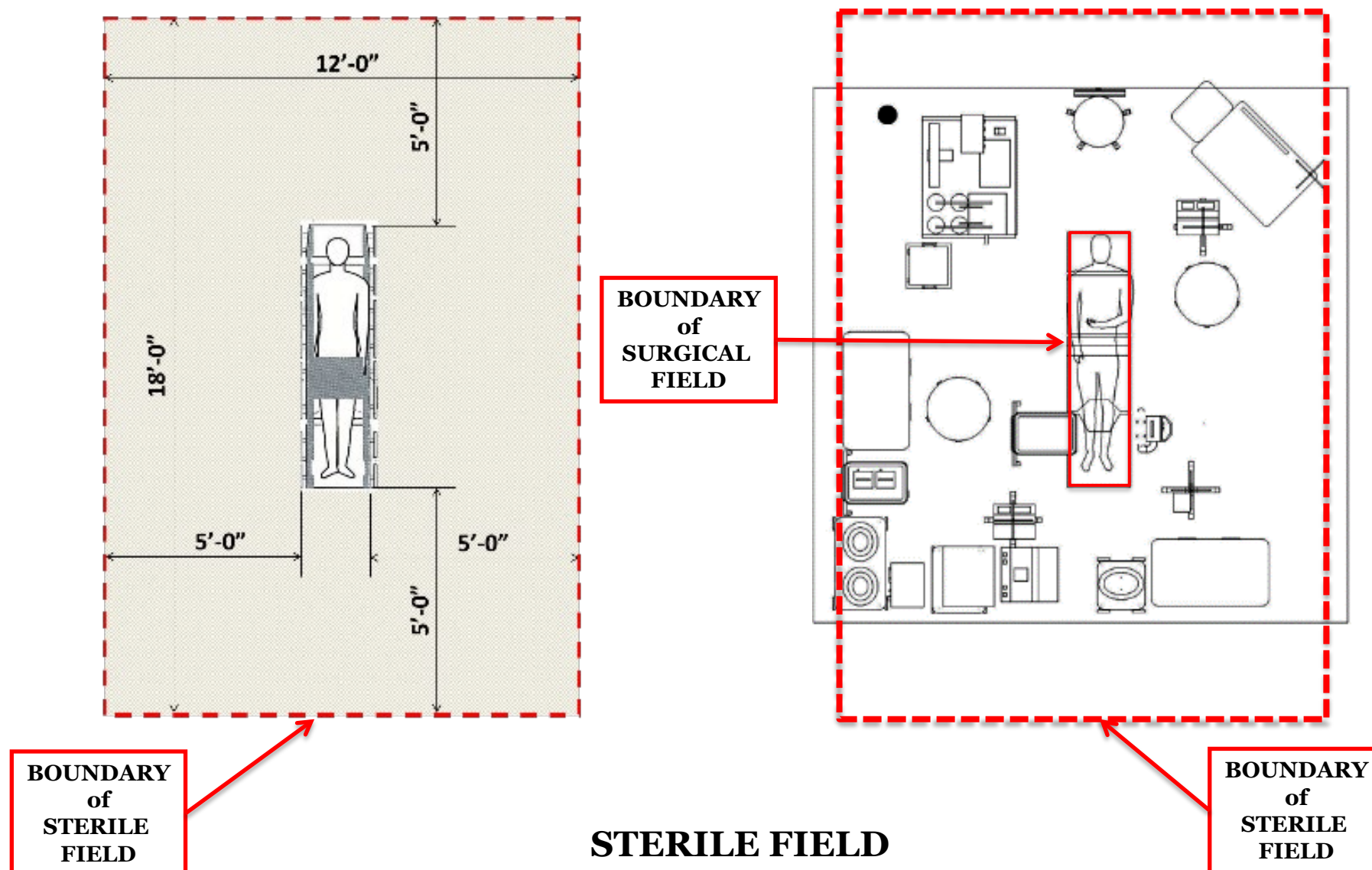


Surgical and Endovascular Services Space Design Standards



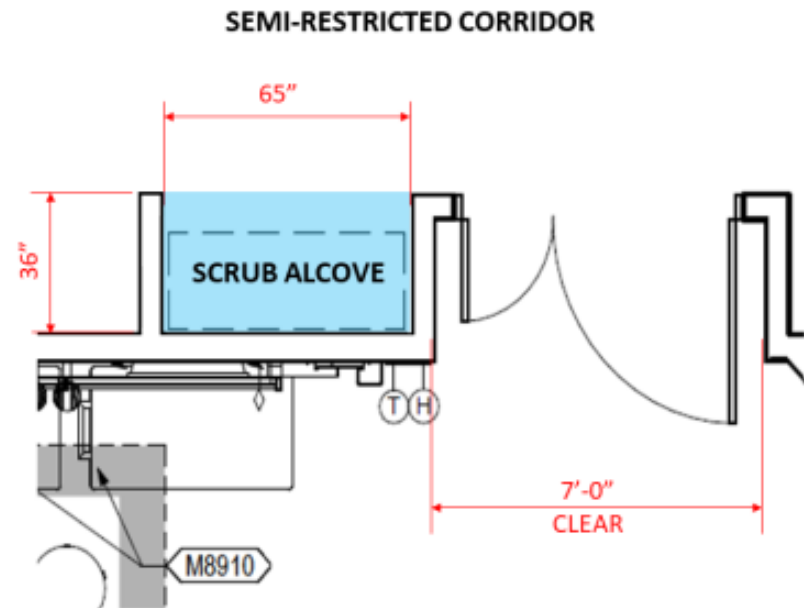


Surgical and Endovascular Services Space Design Standards





Surgical and Endovascular Services Space Design Standards

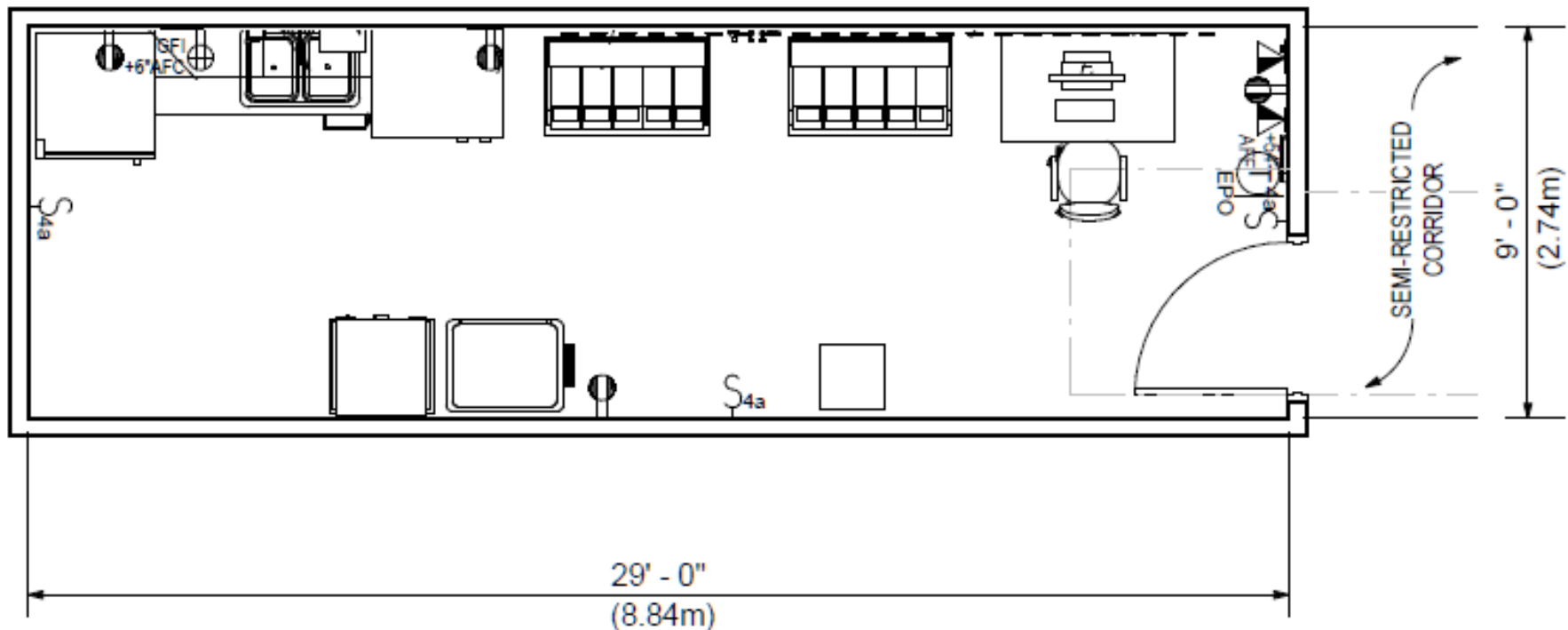


Scrub Sink Area (Alcove):

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.



Surgical and Endovascular Services Space Design Standards



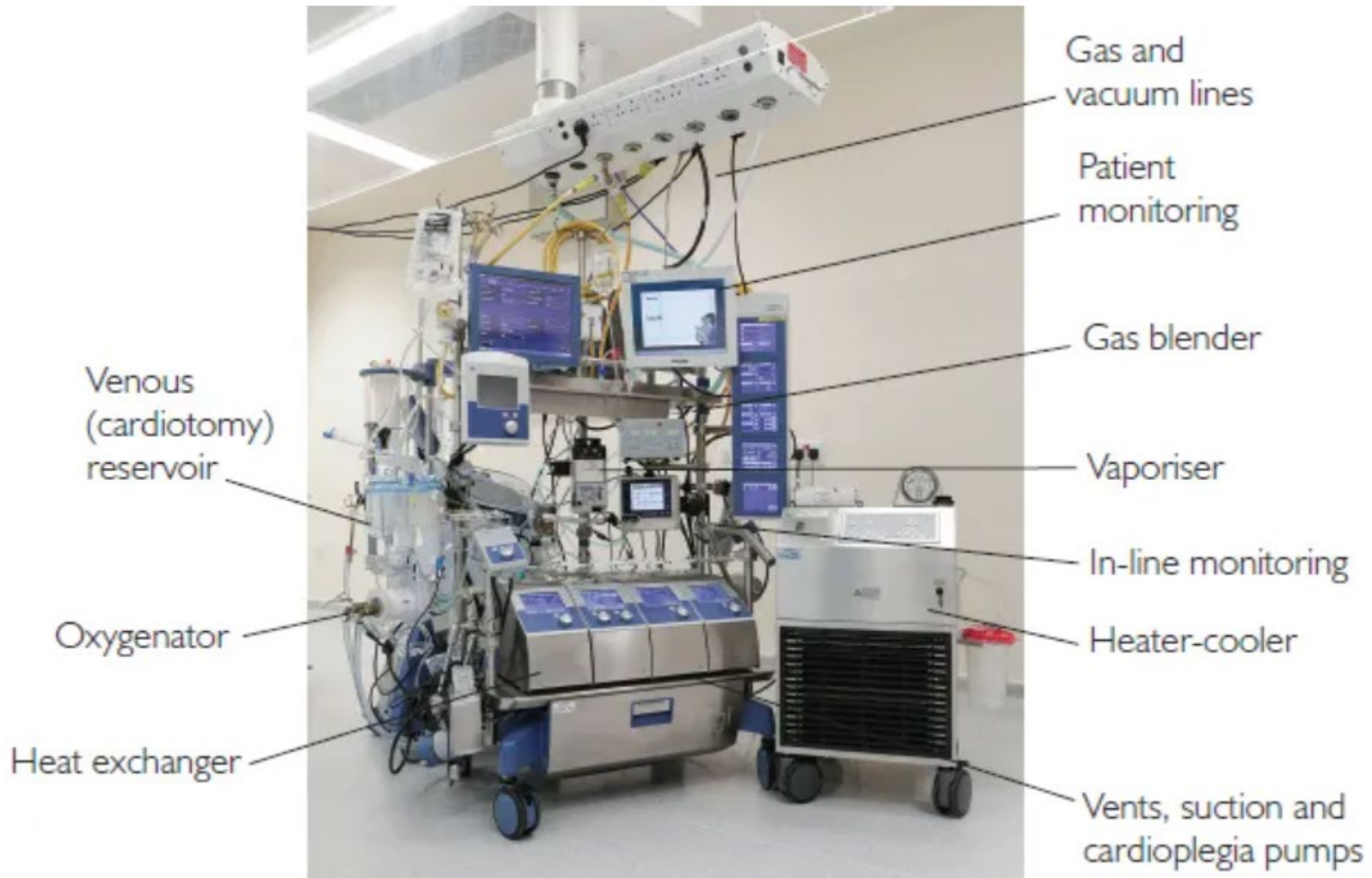
Floor Plan: Heart-lung Machine Room or "the pump room"

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.



Surgical and Endovascular Services Space Design Standards



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



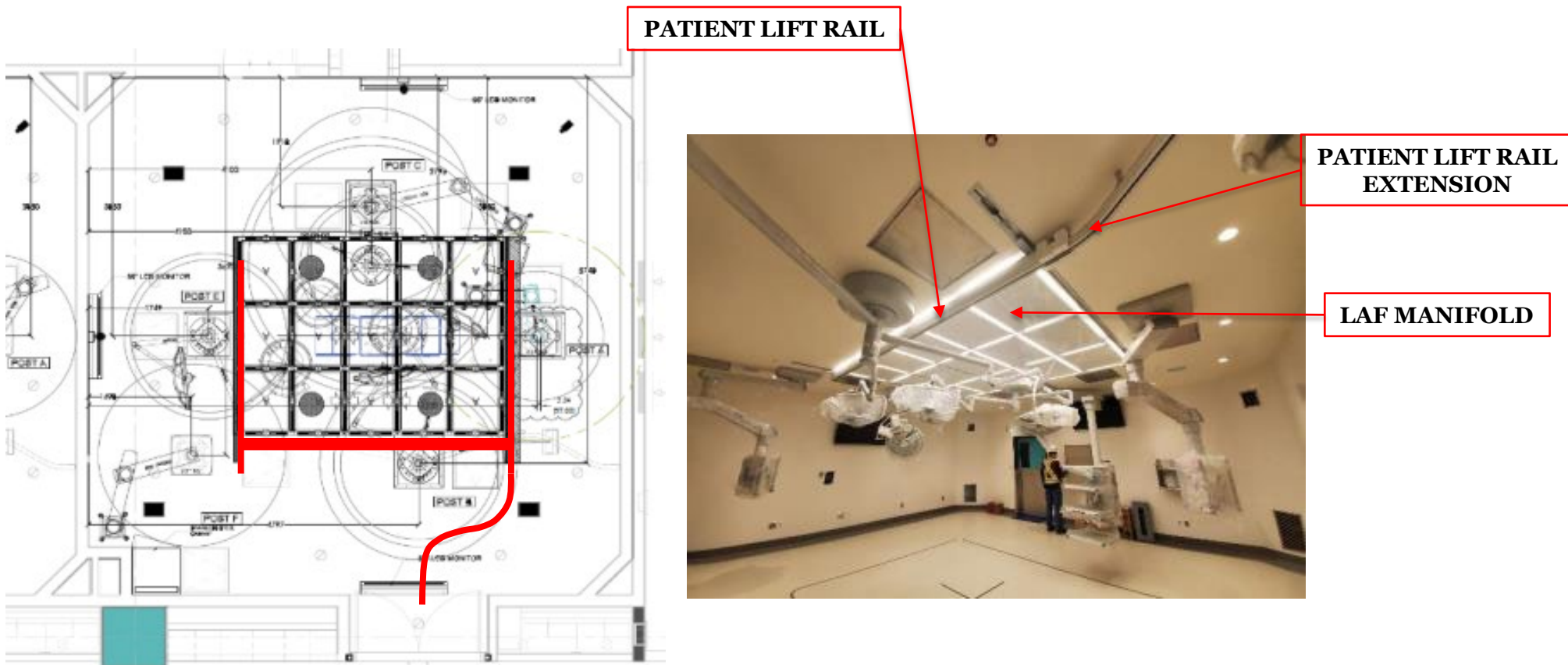
MANY LIFTING & HANDLING TASKS

- 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





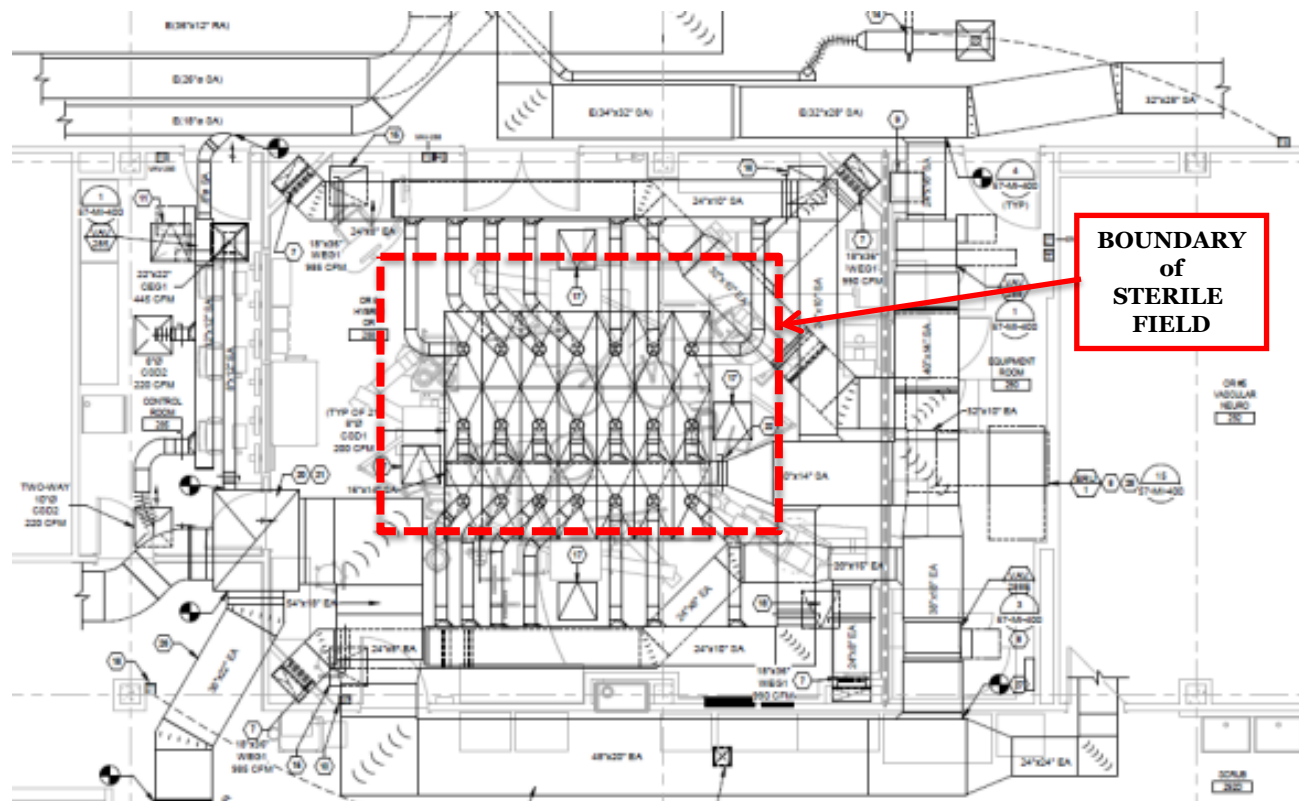
PATIENT LIFT





Surgical and Endovascular Services Space Design Standards

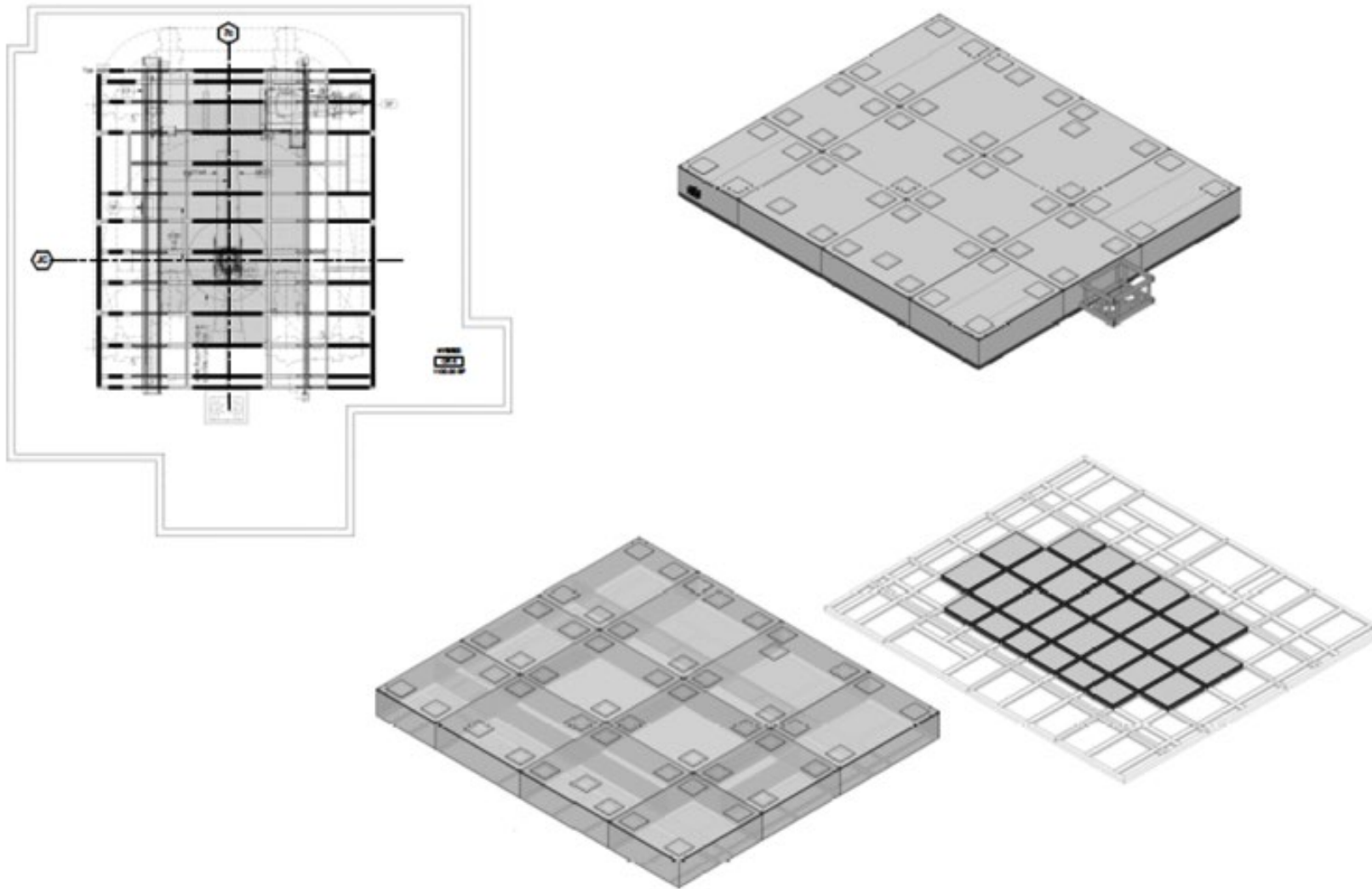
Unidirectional Air Delivery in Surgical and Endovascular Environments



HVAC - Traditional Laminar Array)
VAMC Tucson Hybrid OR



Surgical and Endovascular Services Space Design Standards

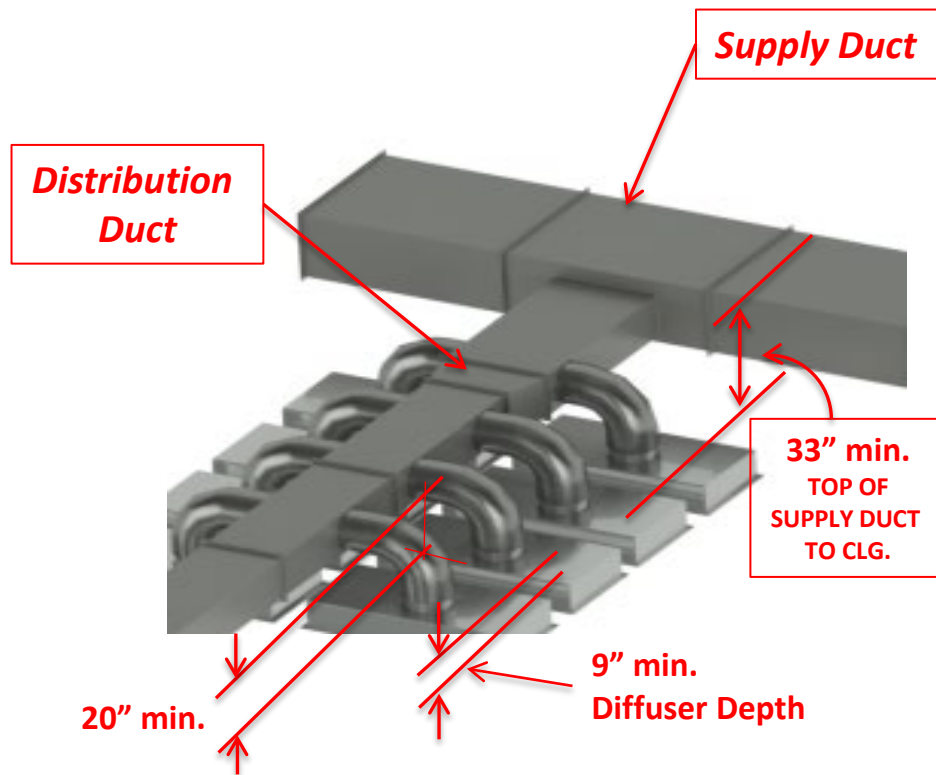


HVAC - Manifold Laminar Array)
VAMC West Roxbury Hybrid OR



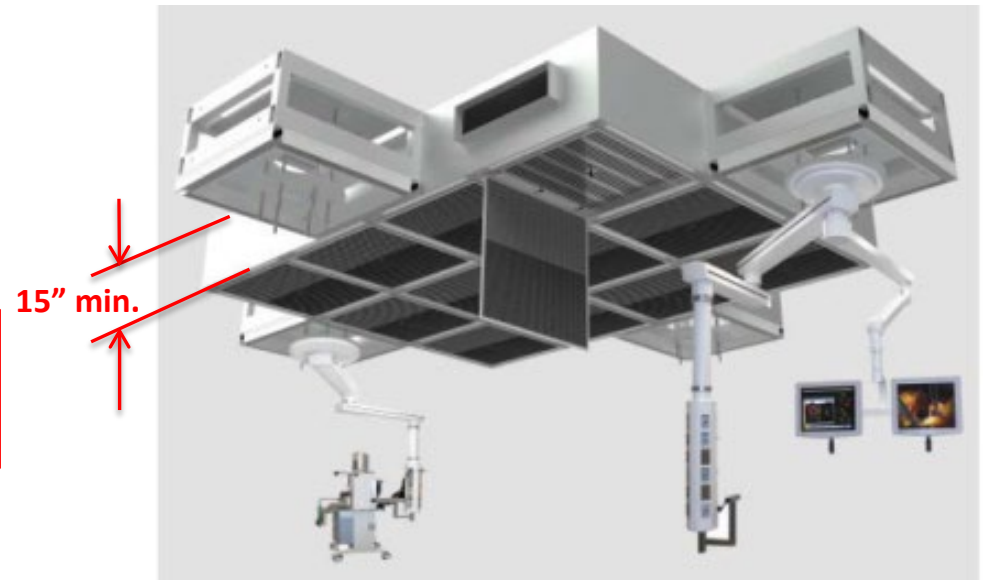
Surgical and Endovascular Services Space Design Standards

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

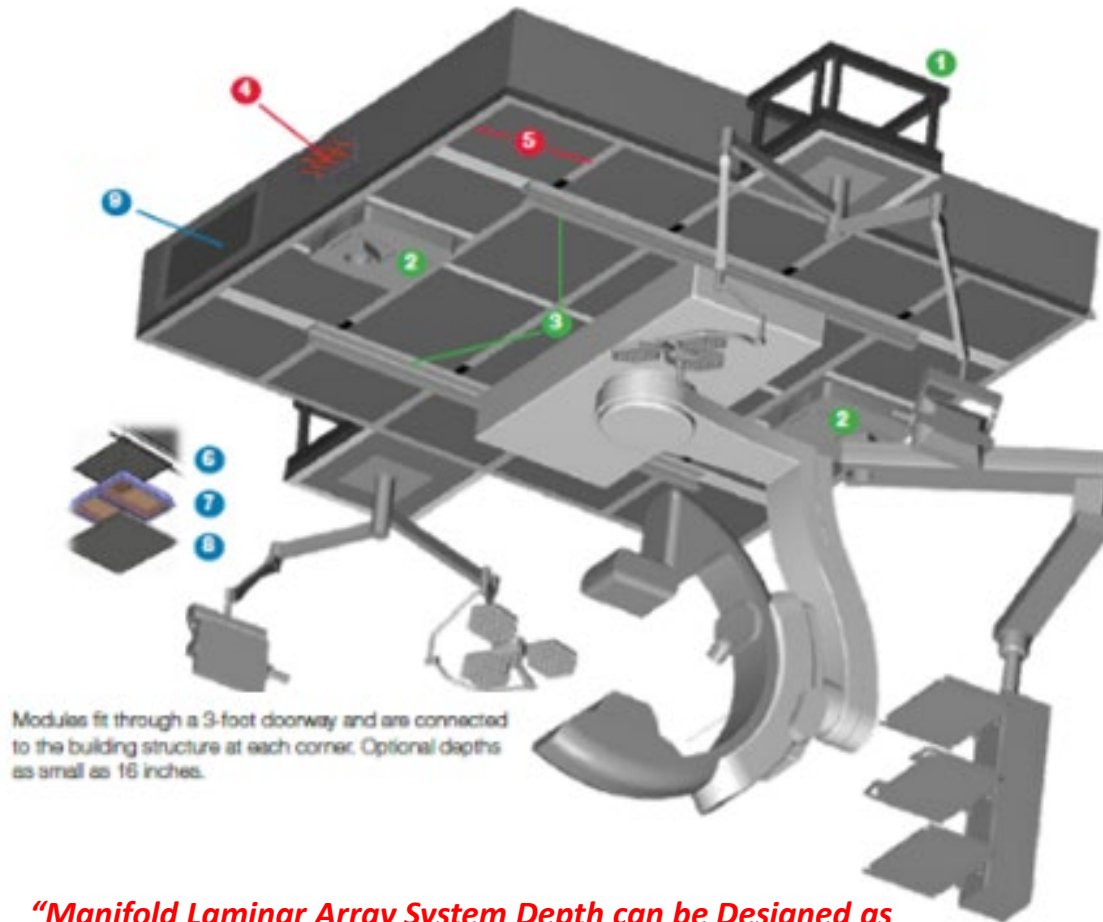


"Manifold Laminar Array System Depth can be Designed as Shallow as 15 inches"

HVAC CHALLENGES - CONSIDERATIONS



Surgical and Endovascular Services Space Design Standards



Modules fit through a 3-foot doorway and are connected to the building structure at each corner. Optional depths as small as 16 inches.

“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.

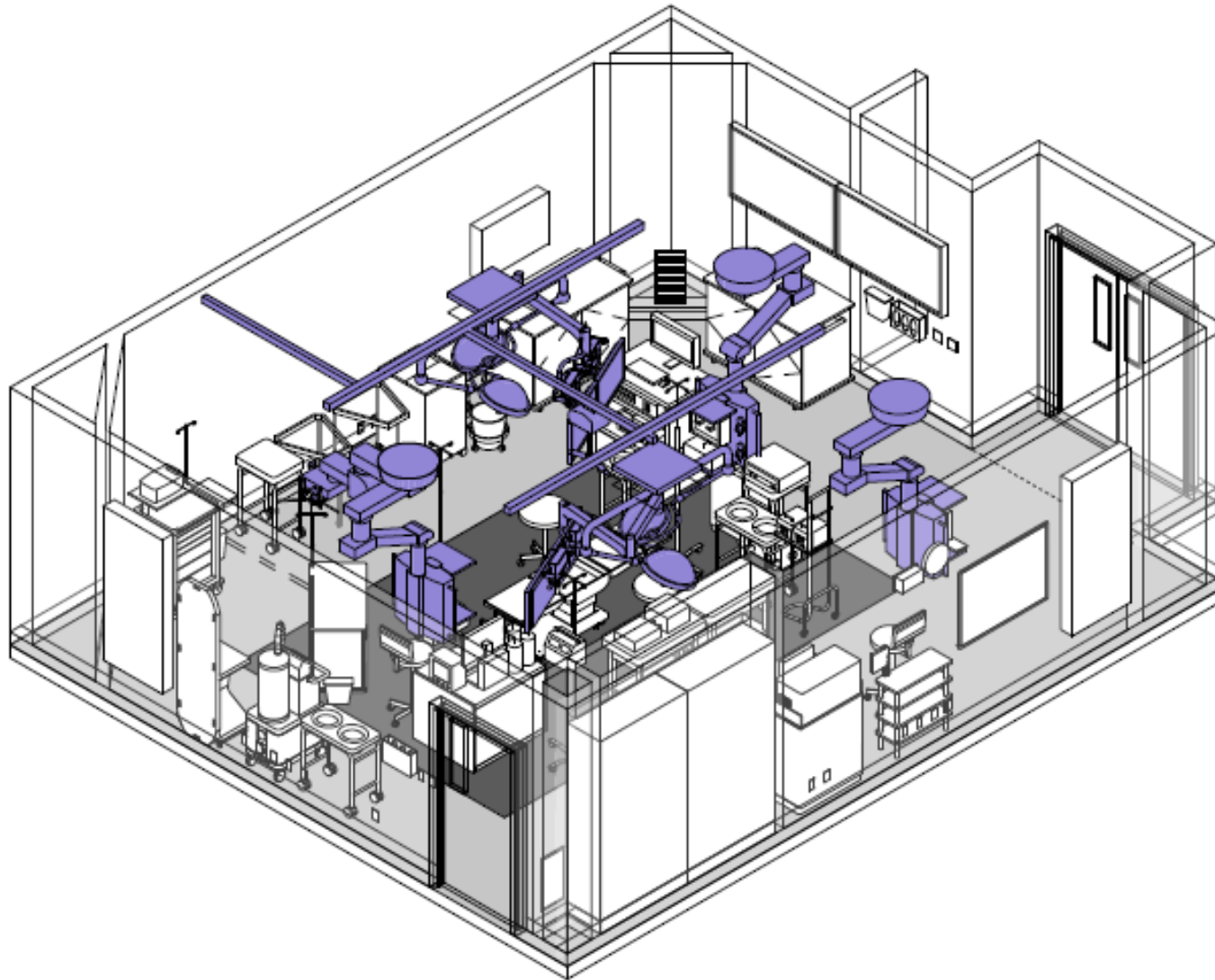
Air Delivery

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)



Surgical and Endovascular Services Space Design Standards

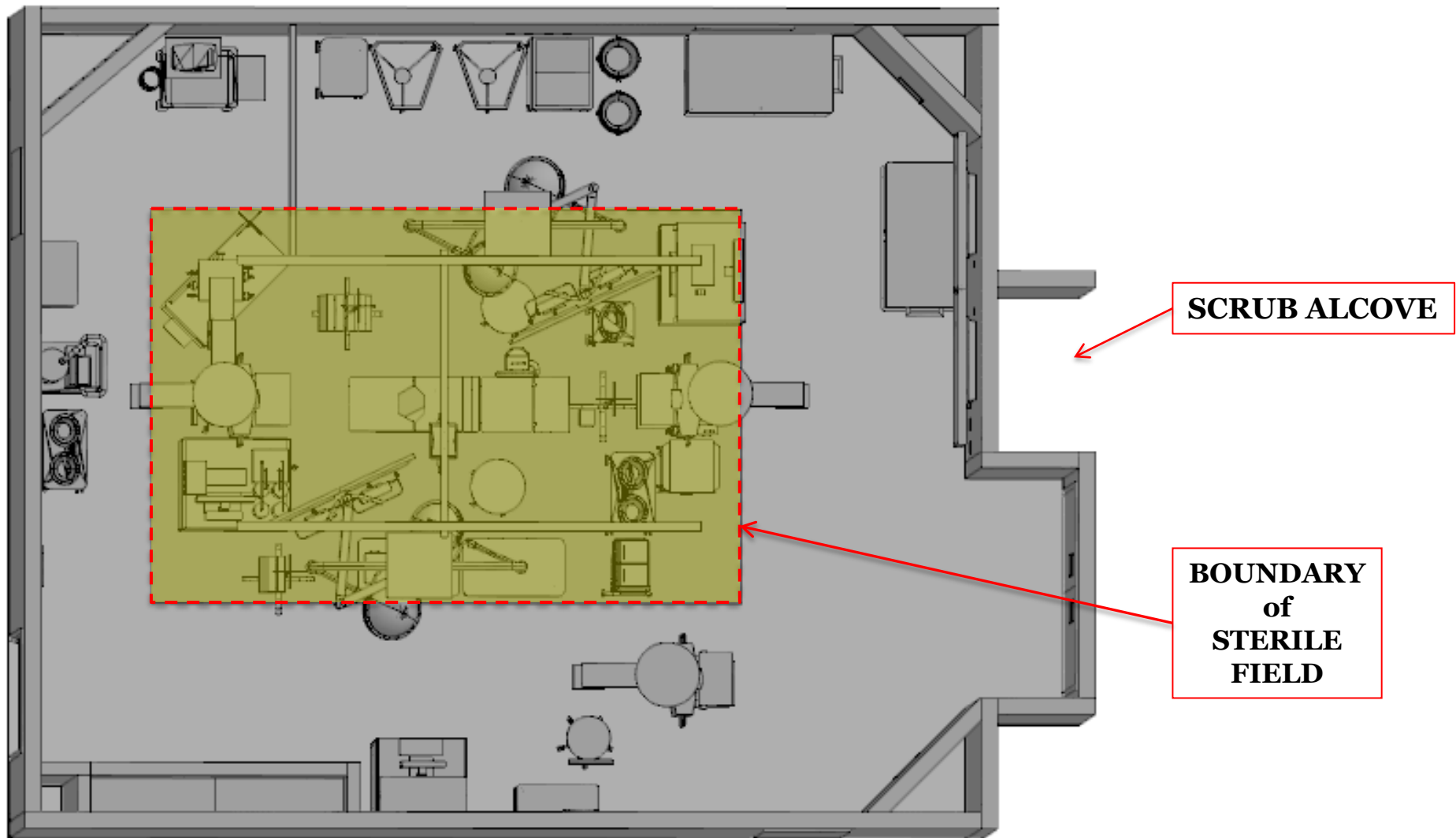


**AXONOMETRIC
VIEW**

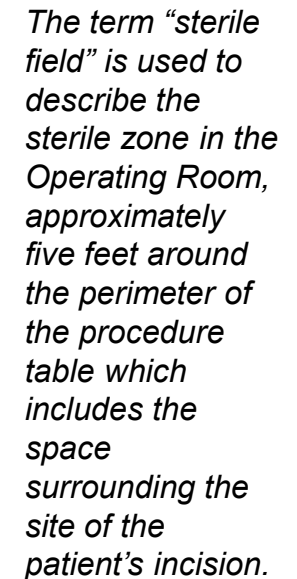
OPERATING ROOM, GENERAL (ORGS1) 650 NSF



Surgical and Endovascular Services Space Design Standards



OPERATING ROOM, GENERAL (ORGS1) 650 NSF

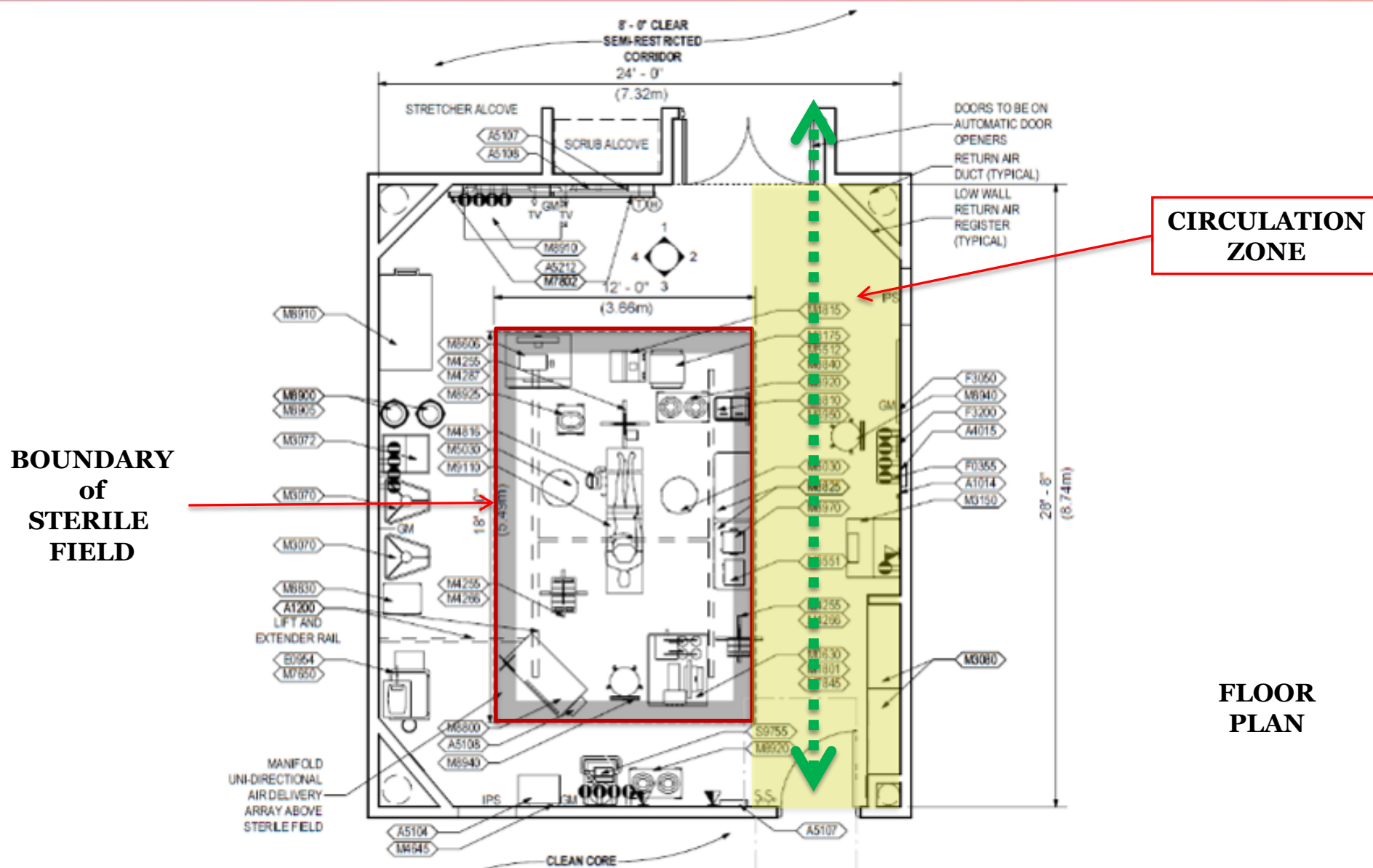


FLOOR PLAN

OPERATING ROOM, GENERAL (ORGS1) 650 NSF



Surgical and Endovascular Services Space Design Standards



OPERATING ROOM, GENERAL (ORGS1) 650 NSF



Surgical and Endovascular Services Space Design Standards

ABBREVIATED JSN EQUIPMENT LIST

4.5. OPERATING ROOM, GENERAL (ORGS1)

JSN Legend

JSN	DESCRIPTION	
A1014	TELEPHONE, WALL MOUNTED, 1 LINE, WITH SPEAKER	M5512 LASER, SMOKE EVACUATOR
A1120	COLUMN, SERVICE, PREFAB, SURGICAL, CEILING MOUNTED	M7475 LIGHT, SURGICAL, CEILING MOUNTED, SINGLE, LARGE
A1122	COLUMN, EQUIPMENT ARM, CEILING MOUNTED, SURGERY	M7490 LIGHT, SURG, CEILING MTD, DUAL, UNEQUAL DIA HEADS
A1130	CABINET, CONTROL, NITROGEN	M7550 DEFIBRILLATOR/MONITOR/RECORDER AUTO
A4015	ELAPSE TIME CLOCK	M7801 MONITOR, HD, LCD, FP, MEDICAL GRADE, 26 INCH
A5077	DISPENSER, HAND SANITIZER, HANDS- FREE	M7802 MONITOR, HD, LCD, FP, MEDICAL GRADE, 55 INCH
A5104	CART, WASTE DISPOSAL, MOBILE W/FOOT PEDAL	M7845 MONITOR, PHYSIOLOGICAL, BEDSIDE
A5107	DISPENSER, GLOVE, WALL-MTD	M8551 LIGHT SOURCE, FIBEROPTIC HEADLAMP
A5108	WASTE DISPOSAL UNIT, SHARPS	M8606 ENDOSCOPY CART, FIBEROPTIC, W/VIDEO ACCESSORY
A5212	BRACKET, TELEVISION WALL MTD, TILT/ANGLE	M8800 CART, ANESTHESIA
E0954	CART, EMERGENCY, MOBILE	M8810 STAND, MAYO
F0355	FOOTSTOOL, STRAIGHT	M8825 TABLE, INSTRUMENT/DRESSING
F3050	WHITE BOARD, DRY ERASE	M8830 TABLE, INSTRUMENT/DRESSING
F3200	CLOCK, BATTERY, 12IN	M8840 TABLE, INSTRUMENT/DRESSING
M0630	ANESTHESIA APPARATUS, 3 GAS	M8900 CARRIAGE, PAIL
M0750	FLOWMETER, AIR, CONNECT W/ 50 PSI SUPPLY	M8905 PAIL, UTILITY
M0755	FLOWMETER, OXYGEN, LOW FLOW	M8910 CART, SURGICAL CASE
M0765	REGULATOR, VACUUM	M8920 STAND, BASIN, DOUBLE
M1801	COMPUTER, MICROPROCESSING, W/FLAT PANEL MONITOR	M8925 STAND, BASIN, SINGLE
M3070	HAMPER, LINEN	M8940 STOOL, ANESTHESIA, WITH BACK
M3072	FRAME, INFECTIOUS WASTE BAG W/LID	M8950 WARMER, BLOOD
M3080	CABINET, INSTRUMENT, CRS, 2 GLASS DOOR, 6 SHELF	M8970 WARMER, BLOOD
M3150	DISTRIBUTION SYSTEM, MEDICATION, AUTOMATIC	M9110 TABLE, OPERATING, 5 OR 6 SECTION, TRAUMA
M3175	ELECTROSURGICAL UNIT, DUAL OUTPUT	S9755 SUCTION SYSTEM, SURGICAL, MOBILE ROVER UNIT
M4255	STAND IV	U0100 INTEGRATED OPERATING ROOM SYSTEM
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	

DETAILED JSN EQUIPMENT LIST

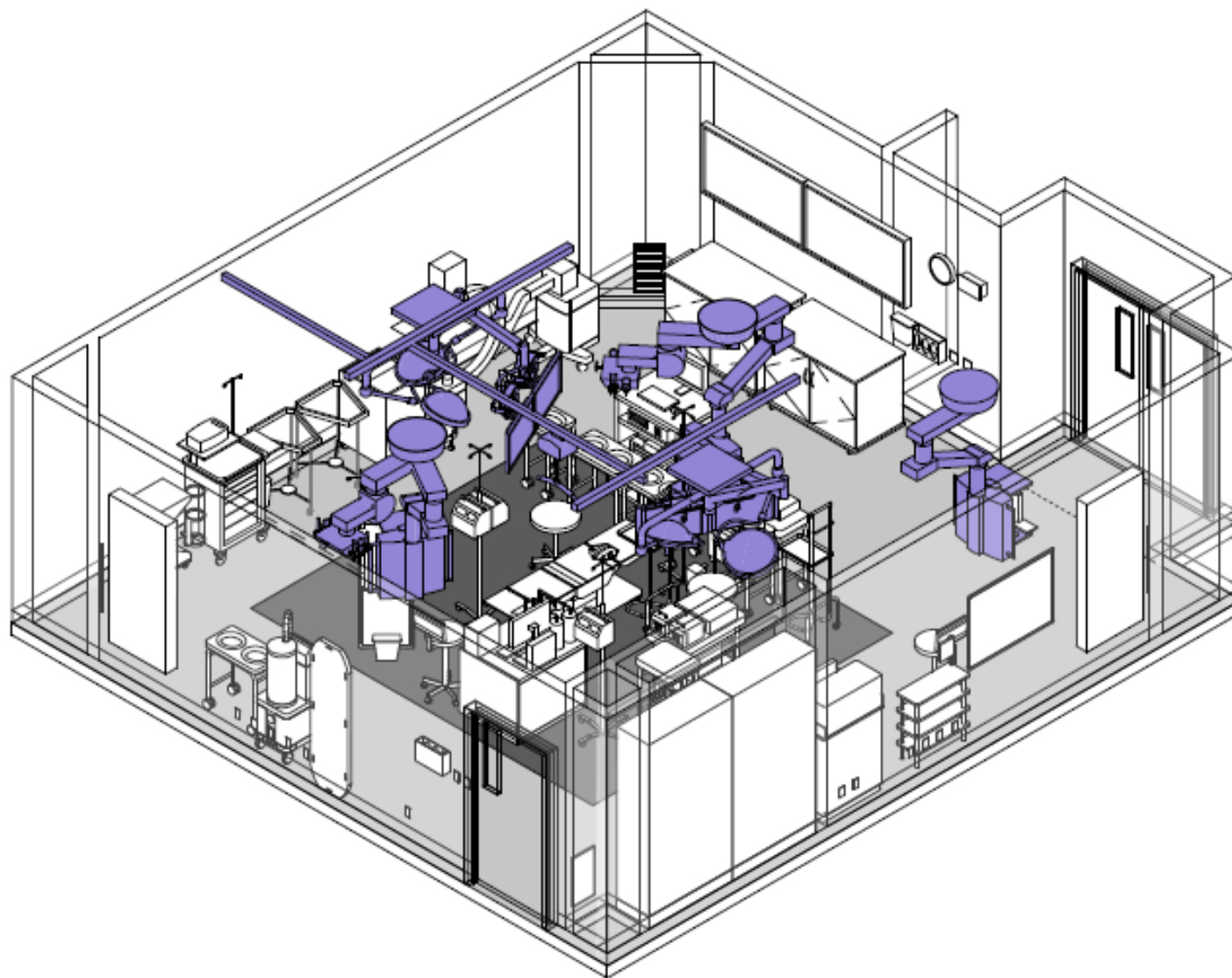
4.5. OPERATING ROOM, GENERAL (ORGS1)

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.



Surgical and Endovascular Services Space Design Standards

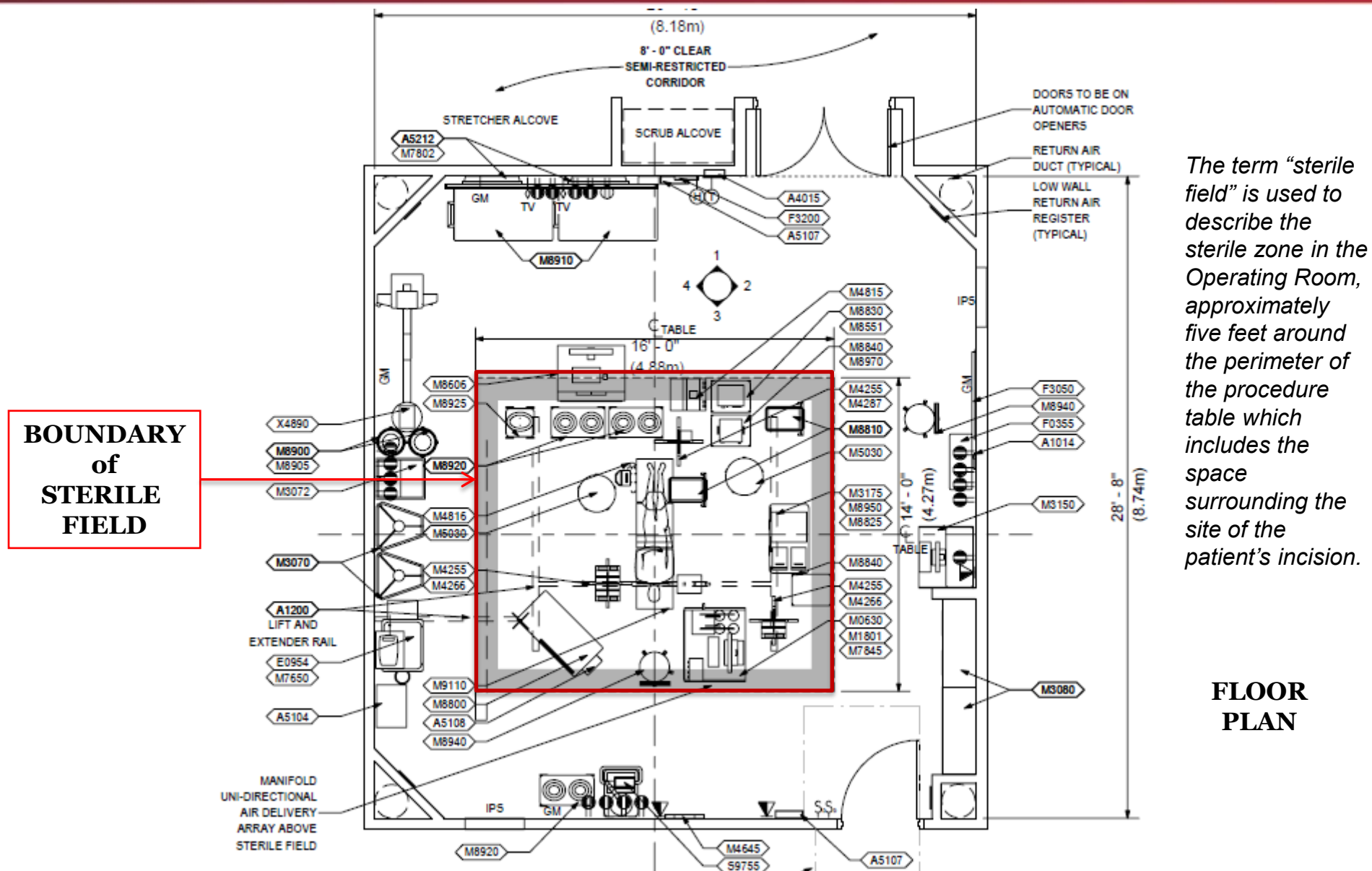


**AXONOMETRIC
VIEW**

OPERATING ROOM, ORTHOPEDIC (OROS₁) 750 NSF



Surgical and Endovascular Services Space Design Standards



OPERATING ROOM, ORTHOPEDIC (OROS1) 750 NSF





BOUNDARY of STERILE FIELD

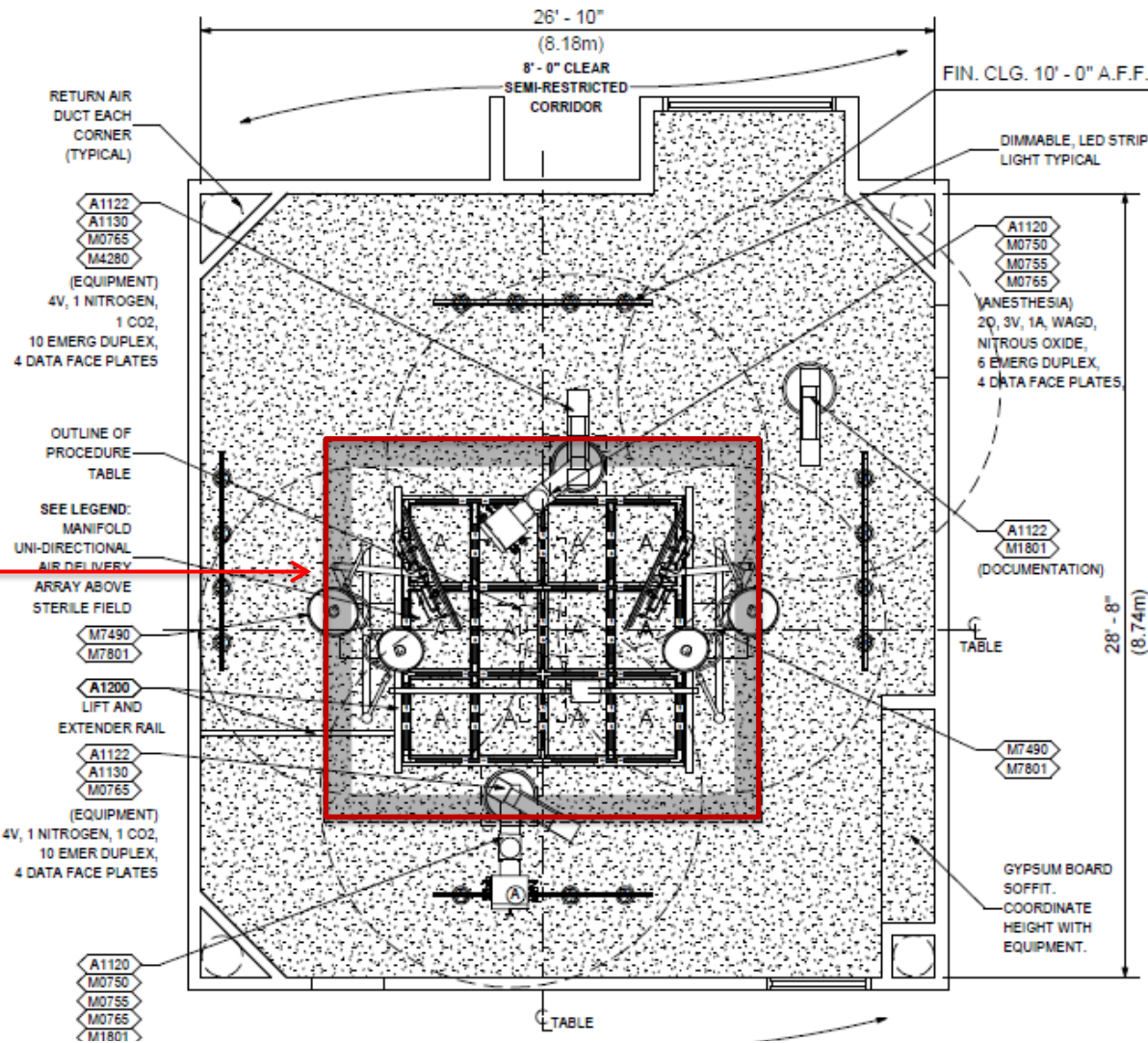


OPERATING ROOM, ORTHOPEDIC (OROS1) 750 NSF



Surgical and Endovascular Services Space Design Standards

**BOUNDARY
of
STERILE
FIELD**



**Manifold
Laminar Array**

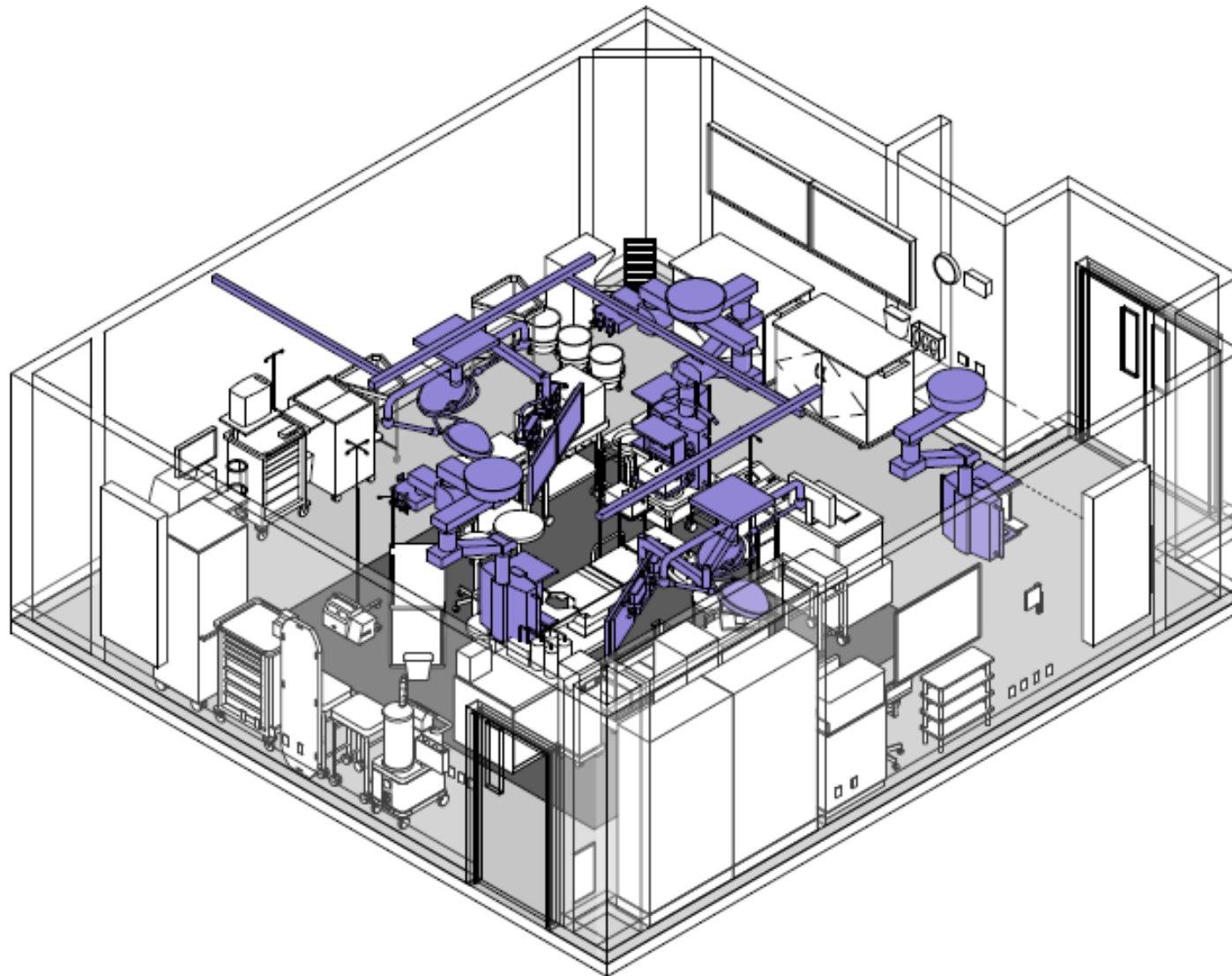
**REFLECTED
CEILING
PLAN**

OPERATING ROOM, ORTHOPEDIC (OROS1) 750 NSF

DESIGN TEMPLATE

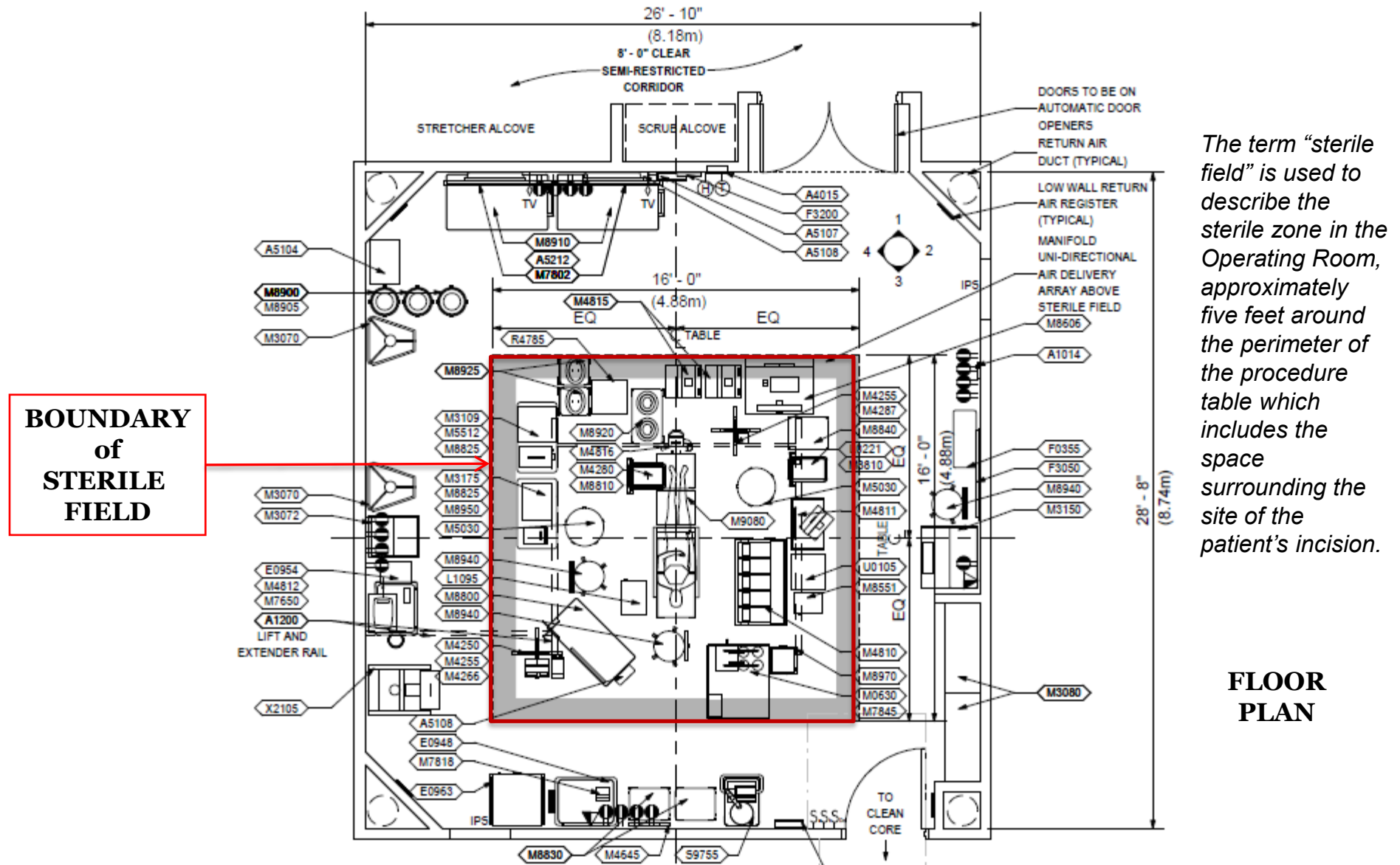


Surgical and Endovascular Services Space Design Standards



**AXONOMETRIC
VIEW**

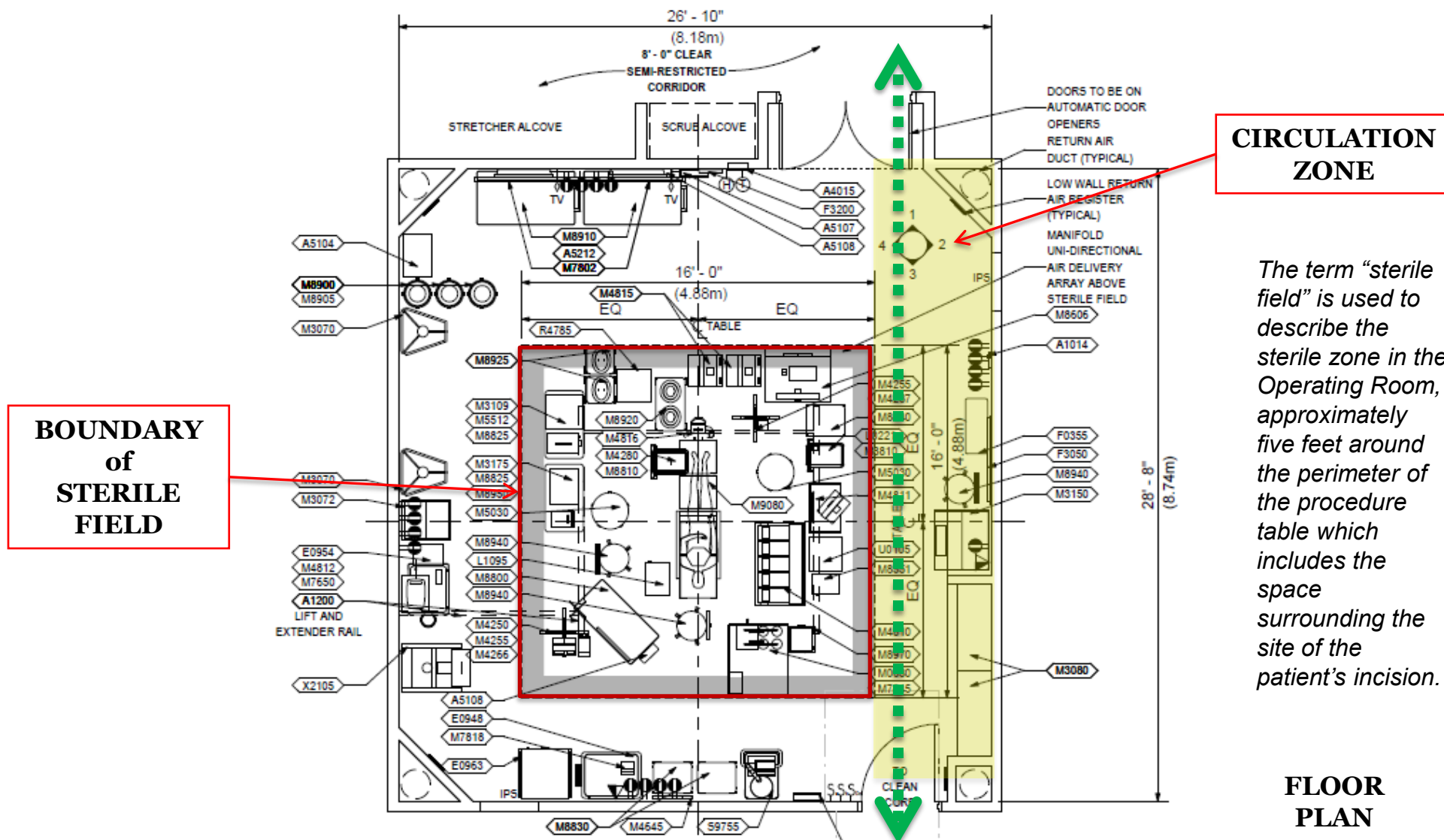
OPERATING ROOM, CARDIOTHORACIC (ORCT1) 750 NSF



OPERATING ROOM, CARDIOTHORACIC (ORCT1) 750 NSF



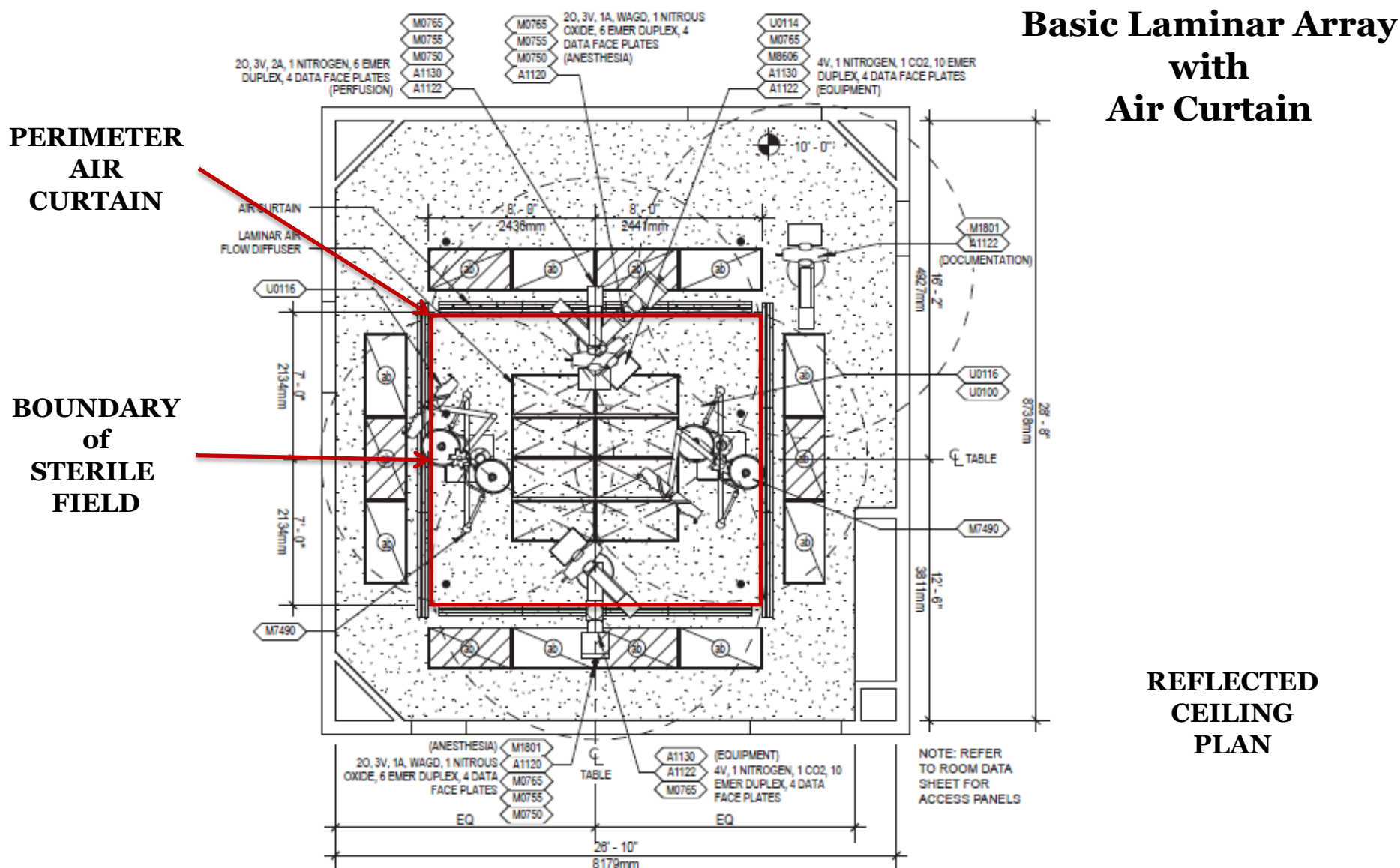
Surgical and Endovascular Services Space Design Standards



OPERATING ROOM, CARDIOTHORACIC (ORCT1) 750 NSF



Surgical and Endovascular Services Space Design Standards

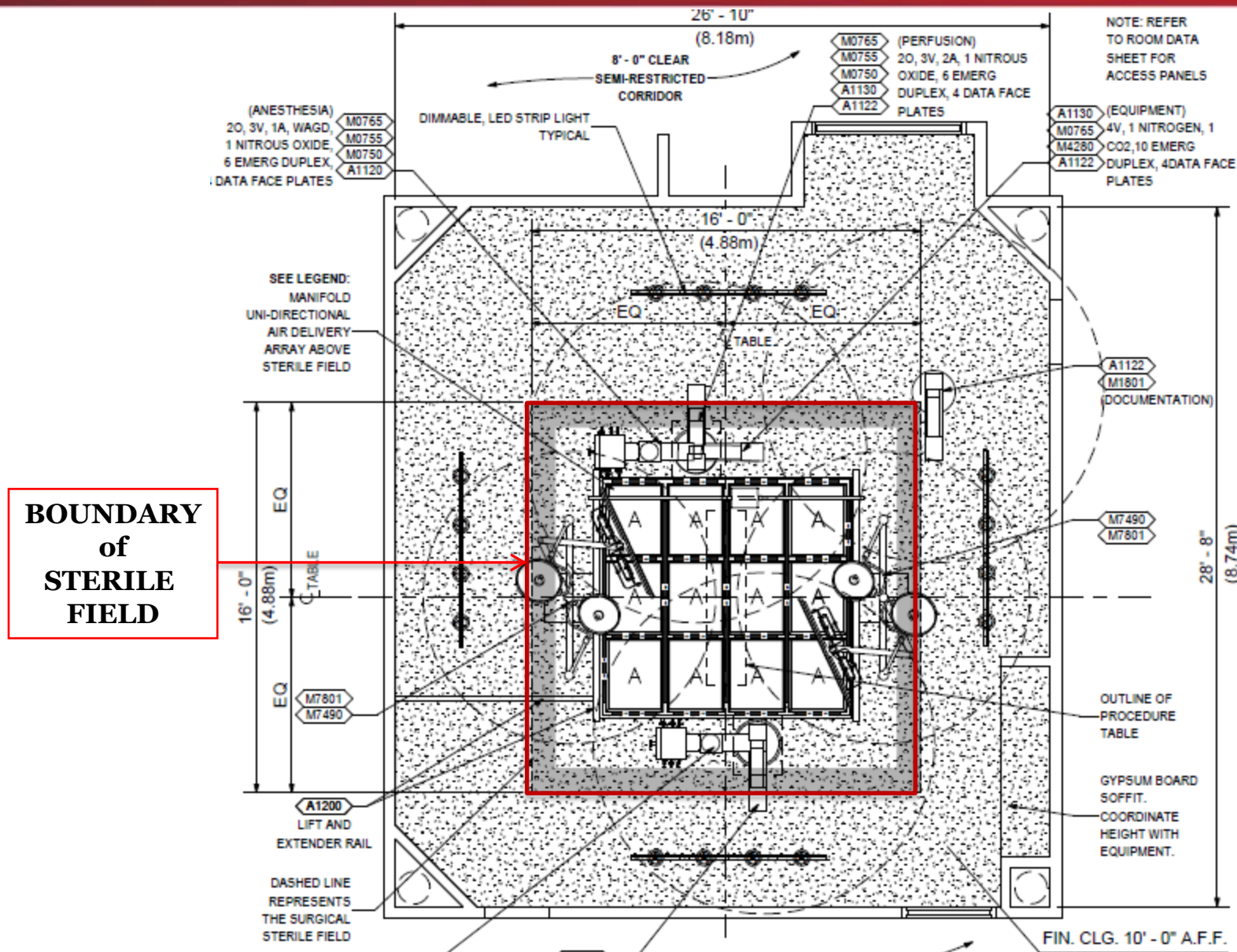


OPERATING ROOM, CARDIOTHORACIC (ORCT1) 750 NSF



Surgical and Endovascular Services Space Design Standards

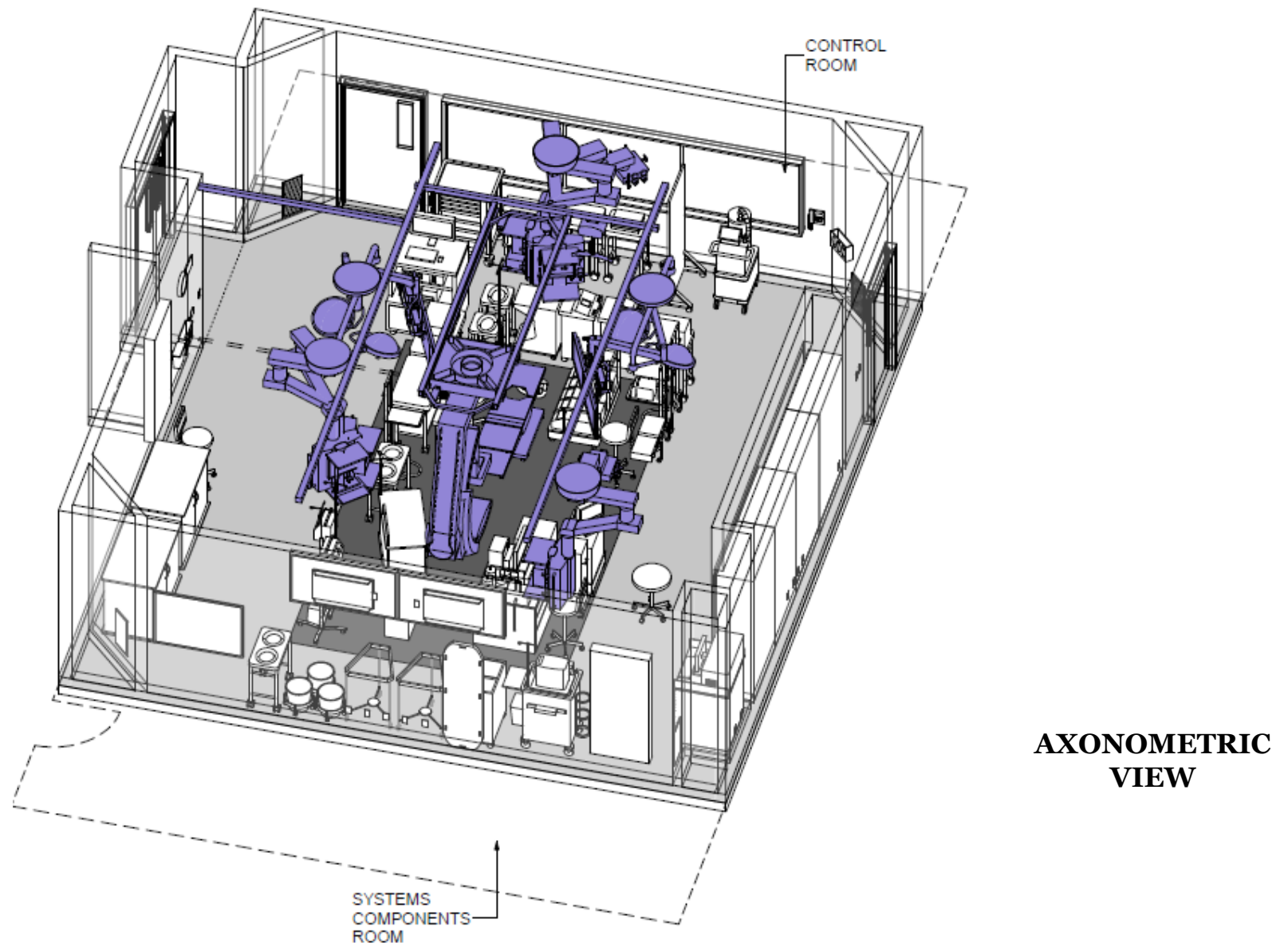
Manifold Laminar Array



OPERATING ROOM, CARDIOTHORACIC (ORCT1) 750 NSF



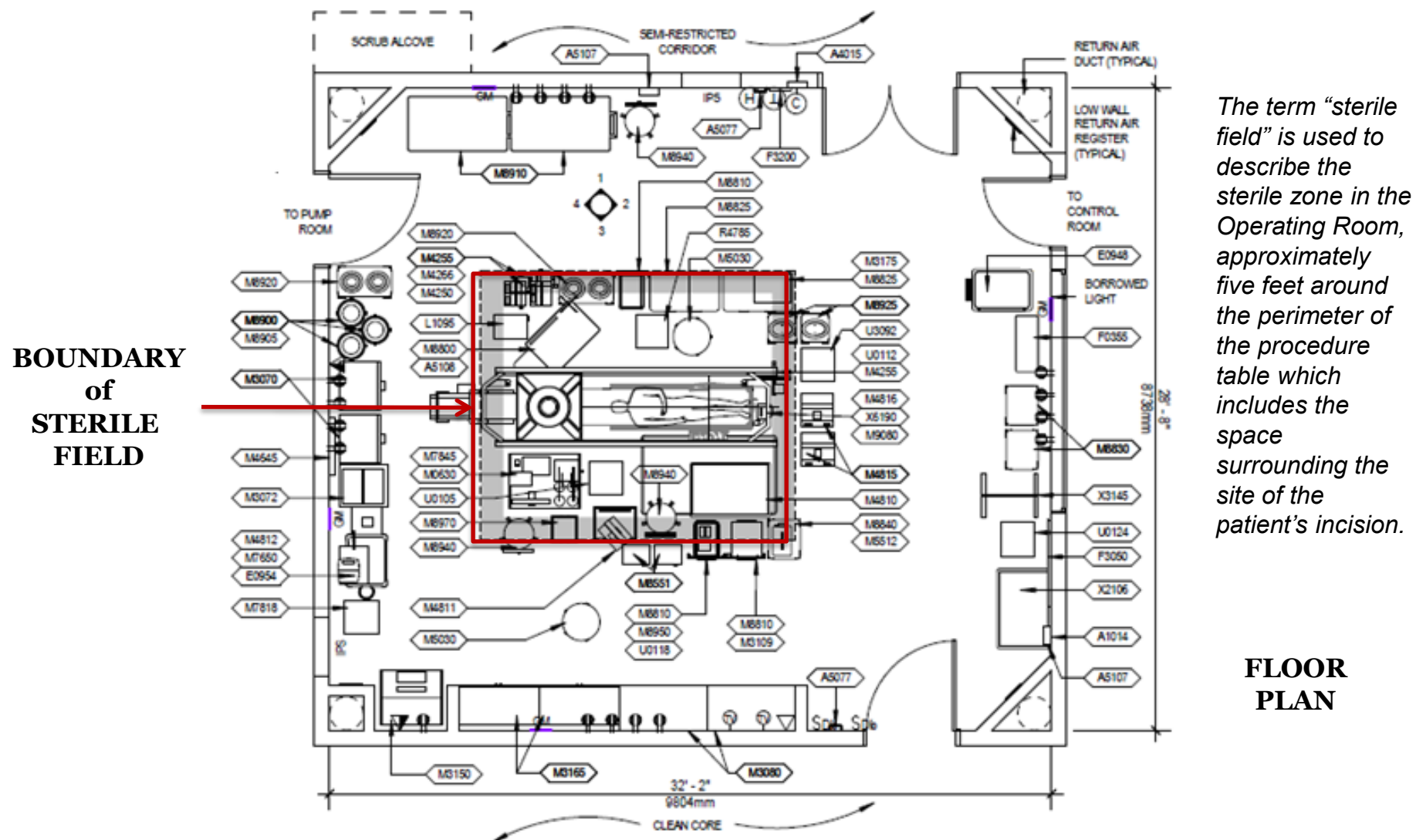
Surgical and Endovascular Services Space Design Standards



OPERATING ROOM, MONOPLANE HYBRID (ORHY1) 900 NSF



Surgical and Endovascular Services Space Design Standards



OPERATING ROOM, MONOPLANE HYBRID (ORHY1) 900 NSF



Surgical and Endovascular Services Space Design Standards



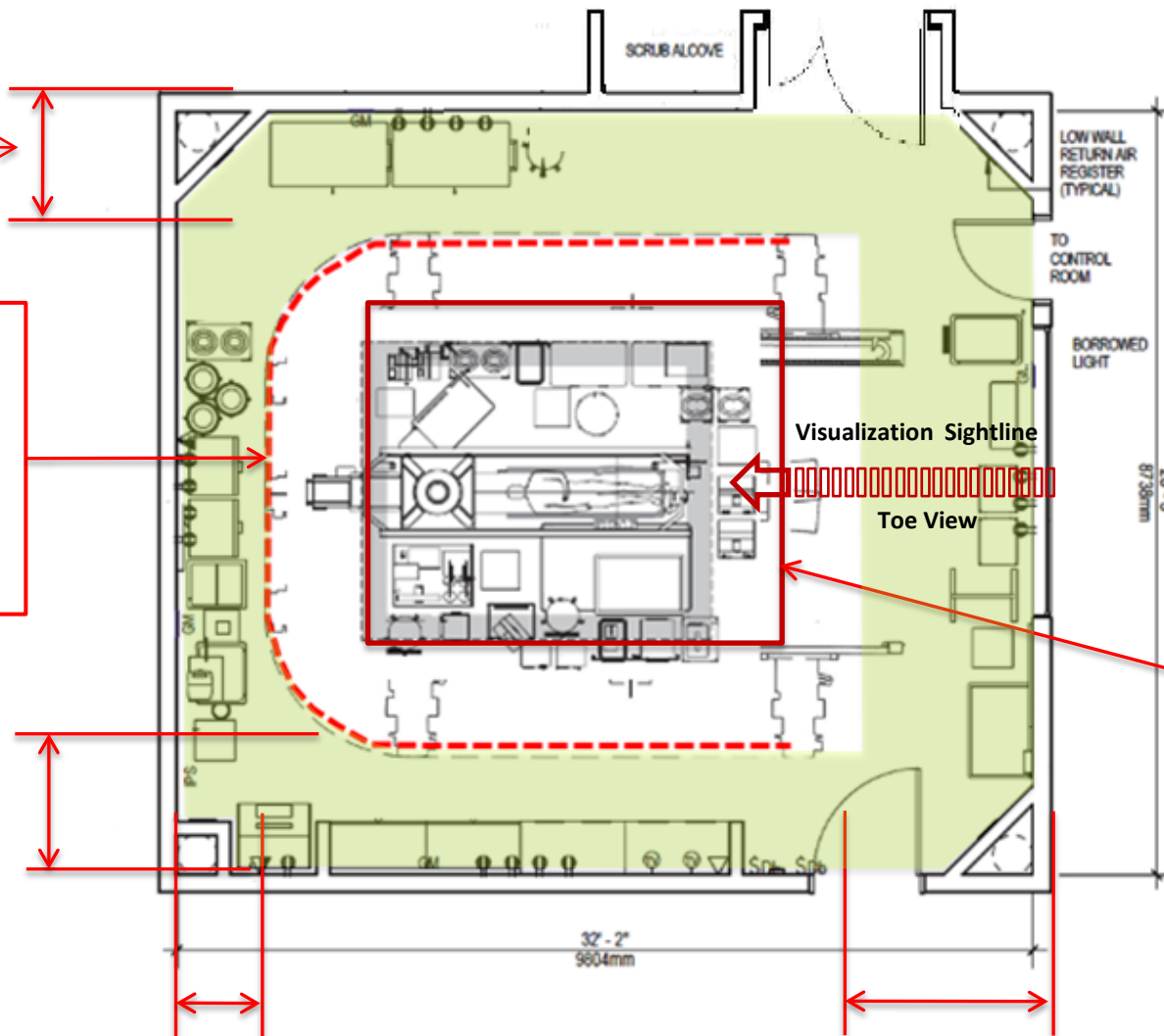
**VAMC KANSAS CITY
OPERATING ROOM, MONOPLANE HYBRID 1,000 NSF**



Surgical and Endovascular Services Space Design Standards

**CIRCULATOR
ZONE SHADED**

**BOUNDARY
of
C-ARM
TRAVEL
LATERAL TO
PROCEDURE
TABLE**

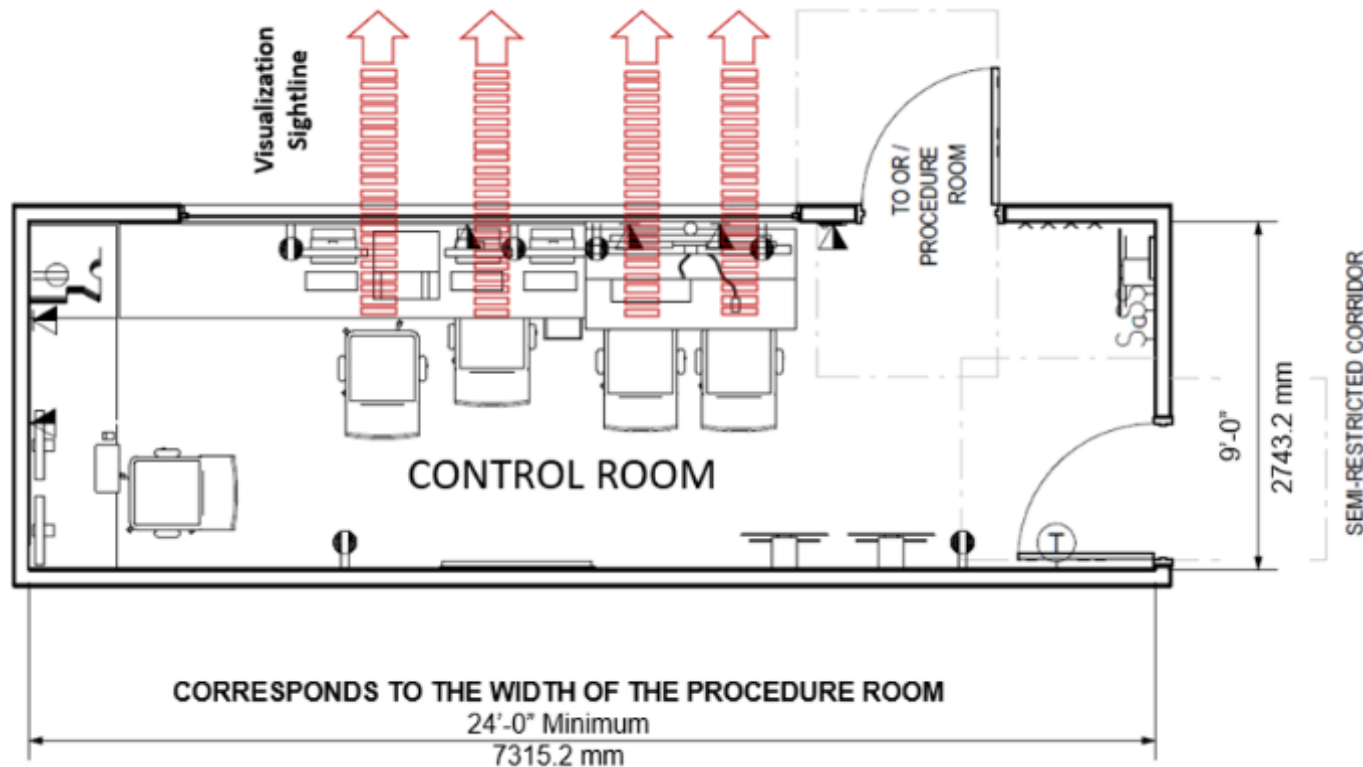


**BOUNDARY
of
STERILE
FIELD**

OPERATING ROOM, MONOPLANE HYBRID (ORHY1) 900 NSF



Surgical and Endovascular Services Space Design Standards



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.



Surgical and Endovascular Services Space Design Standards

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



Surgical and Endovascular Services Space Design Standards

DETAILED 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	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.

OPERATING ROOM, MONOPLANE HYBRID (ORHY1) 900 NSF



Surgical and Endovascular Services Space Design Standards



**PRIOR TO PROCEDURE
OPERATING ROOM, MONOPLANE HYBRID 900 NSF**



Surgical and Endovascular Services Space Design Standards



**TAVR PROCEDURE IN PROGRESS
OPERATING ROOM, MONOPLANE HYBRID 900 NSF**



Surgical and Endovascular Services Space Design Standards



**VAMC DETROIT
OPERATING ROOM, MONOPLANE HYBRID 900 NSF**



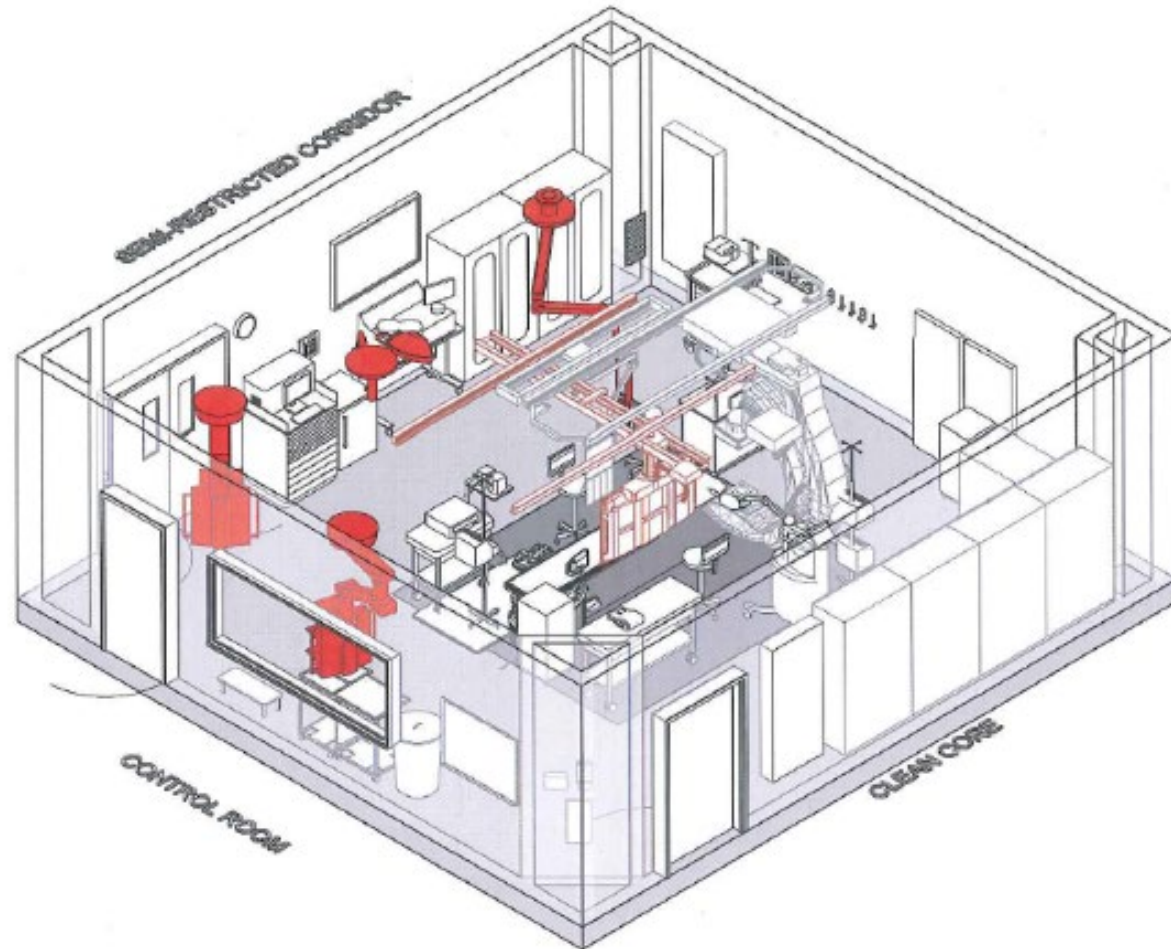
Surgical and Endovascular Services Space Design Standards



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



Surgical and Endovascular Services Space Design Standards



**AXONOMETRIC
VIEW**

CARDIAC CATHETERIZATION & IR LAB (XCCE1) 850 NSF



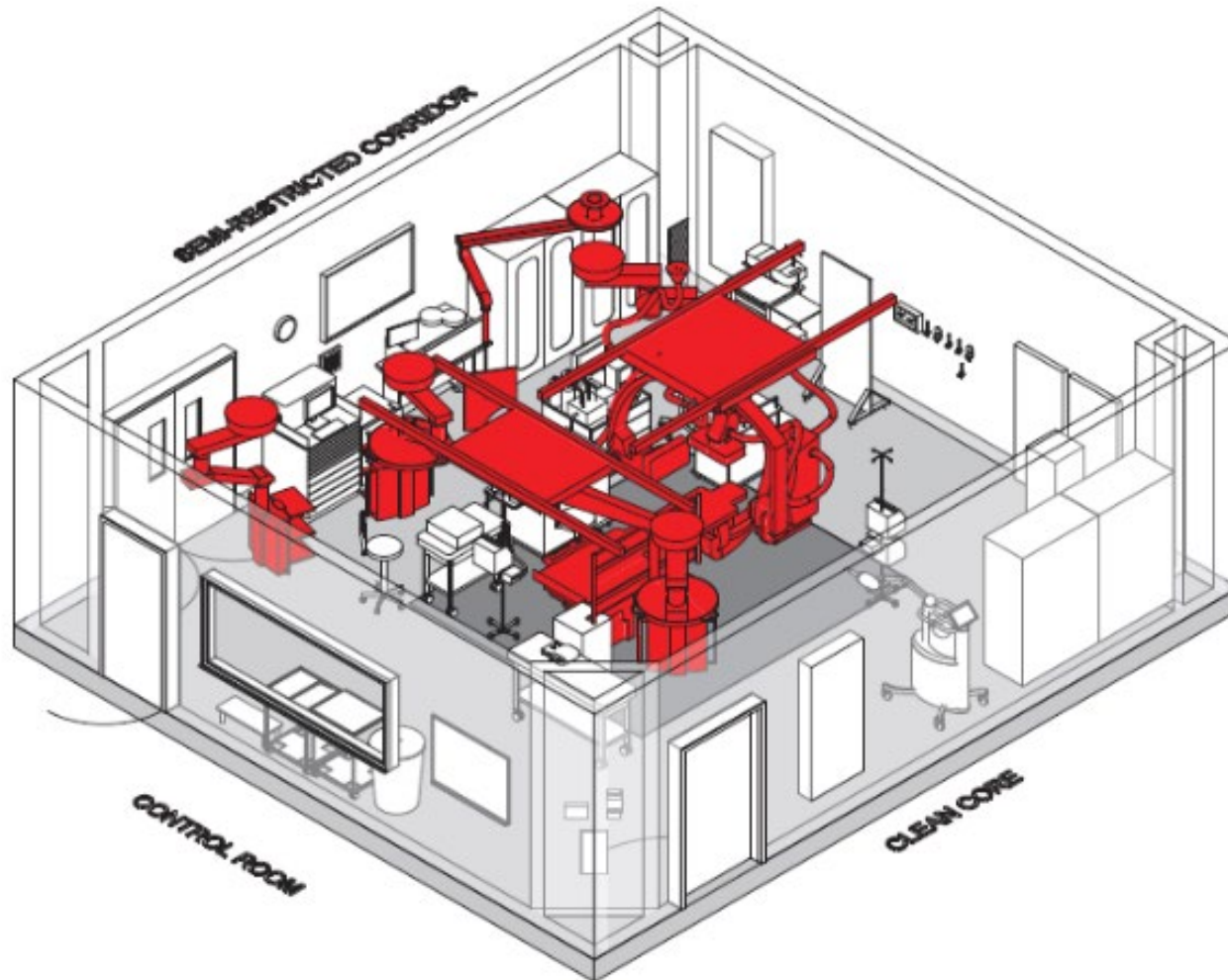
Surgical and Endovascular Services Space Design Standards



**VAMC MINNEAPOLIS
CARDIAC CATHETERIZATION LAB 809 NSF**

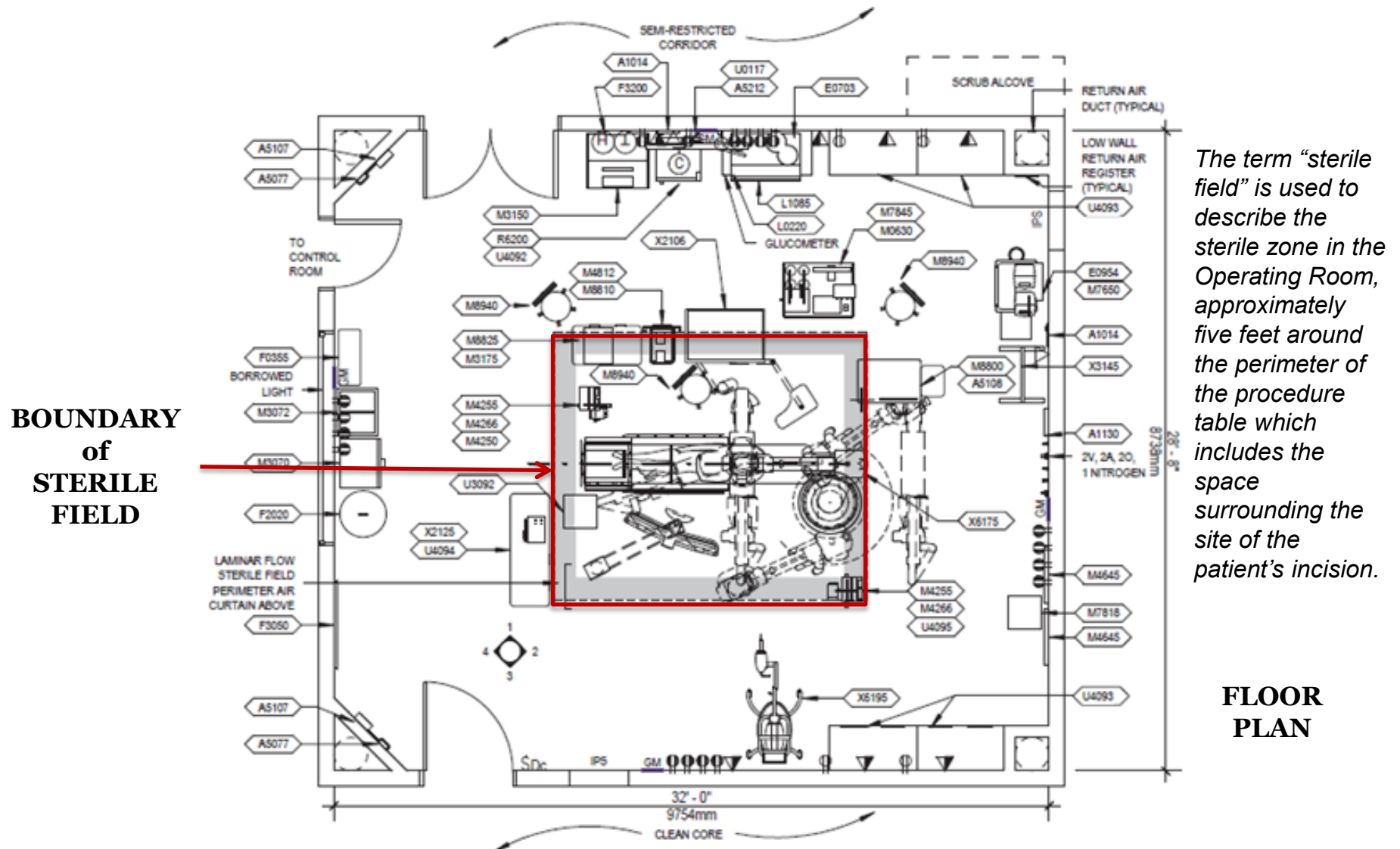


Surgical and Endovascular Services Space Design Standards



**AXONOMETRIC
VIEW**

ELECTROPHYSIOLOGY LAB (XCEP1) 900 NSF



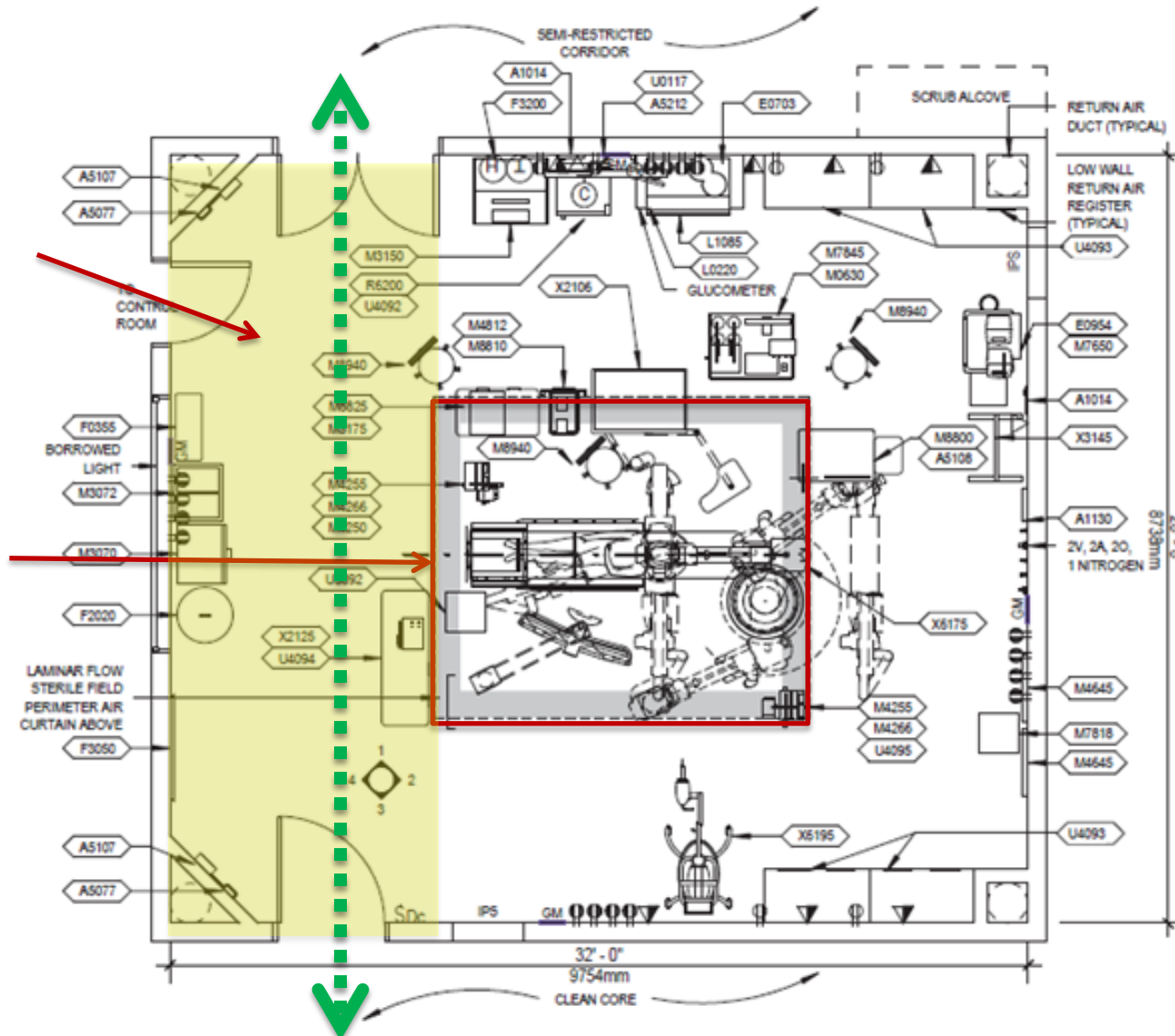
ELECTROPHYSIOLOGY LAB (XCEP1) 900 NSF



Surgical and Endovascular Services Space Design Standards

**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

SEPS Chapter 286

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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Department of Veterans Affairs
Veterans Health Administration
Washington, DC 20420

PG 18-9: Space Planning Criteria
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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.



Surgical and Endovascular Services Space Design Standards

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.

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)**
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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***

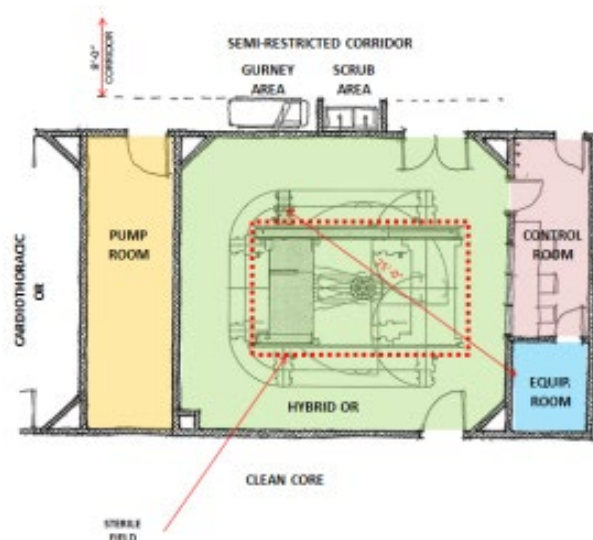
Refer to SEPS Chapter 286 for exact square footage required



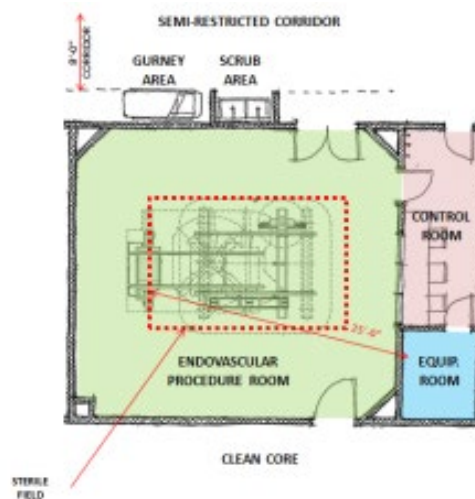
Surgical and Endovascular Services Space Design Standards

Key Plan Examples:

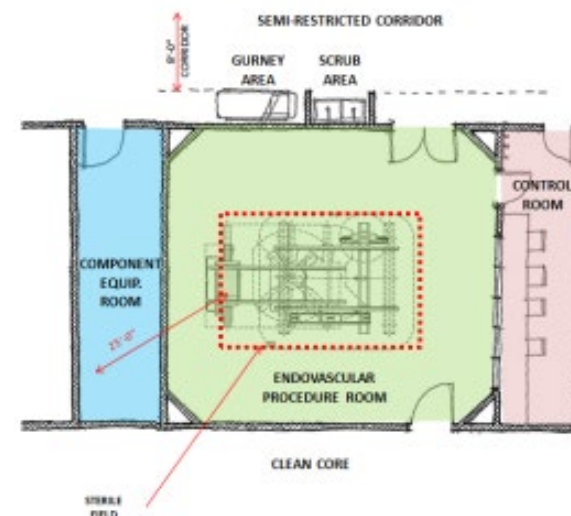
KEY PLAN HYBRID OR
(MONOPLANE, BIPLANE AND ROBOTIC PHENO)
900 NSF



**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

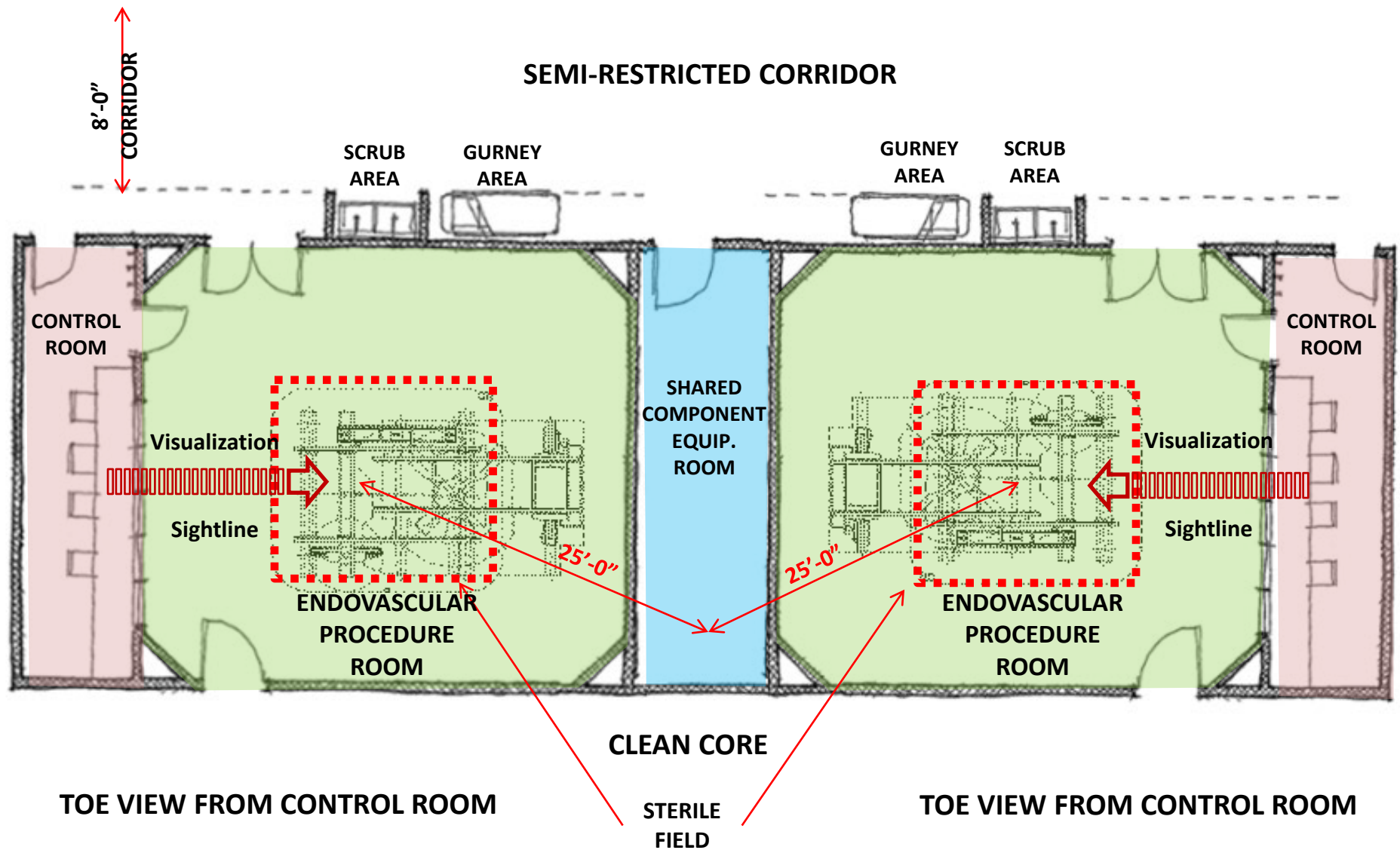


Planning Note:

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:*



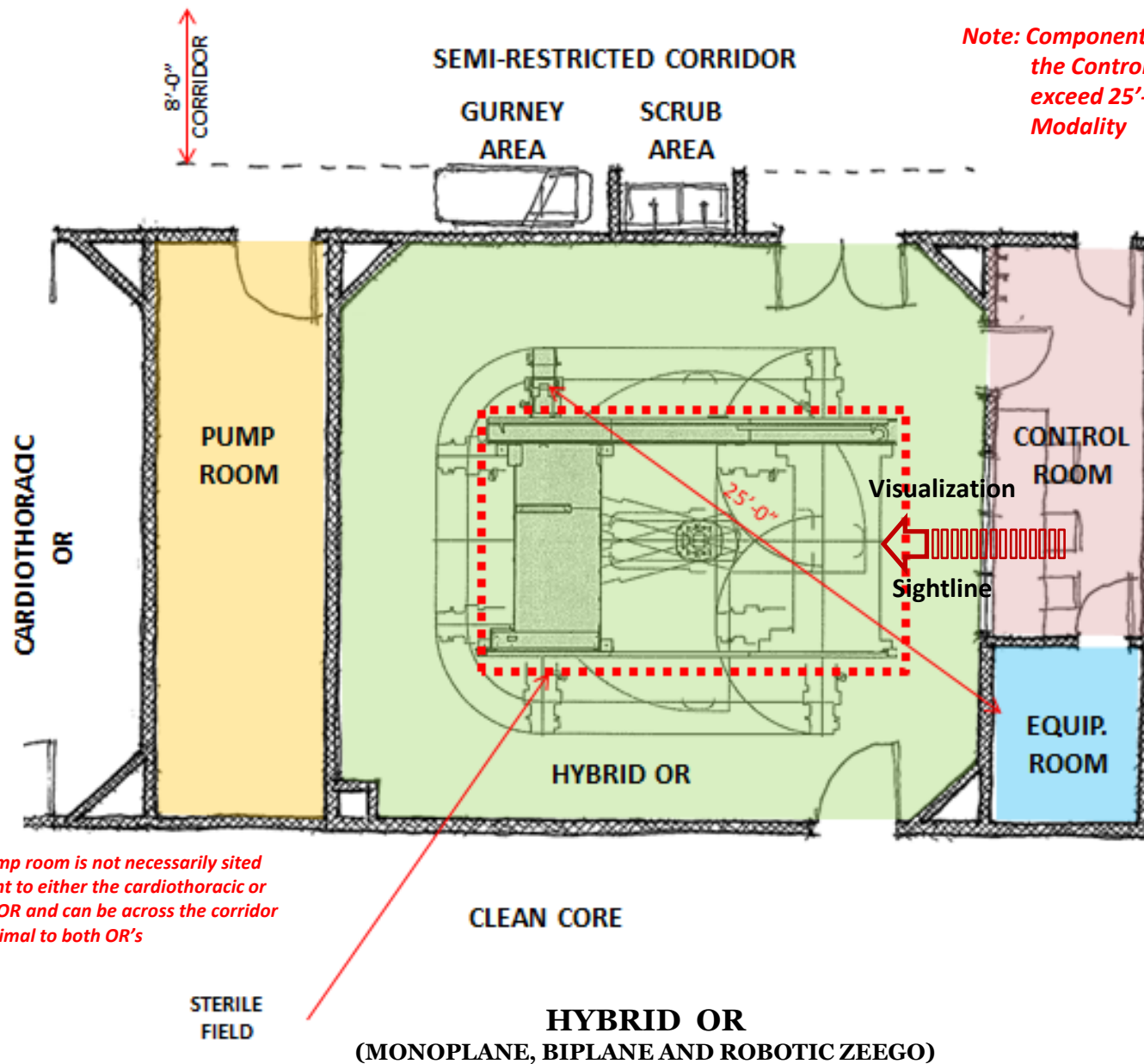
Surgical and Endovascular Services Space Design Standards



MULTIPLE HYBRID OR & ENDOVASCULAR PROCEDURE ROOM CONFIGURATIONS



Surgical and Endovascular Services Space Design Standards

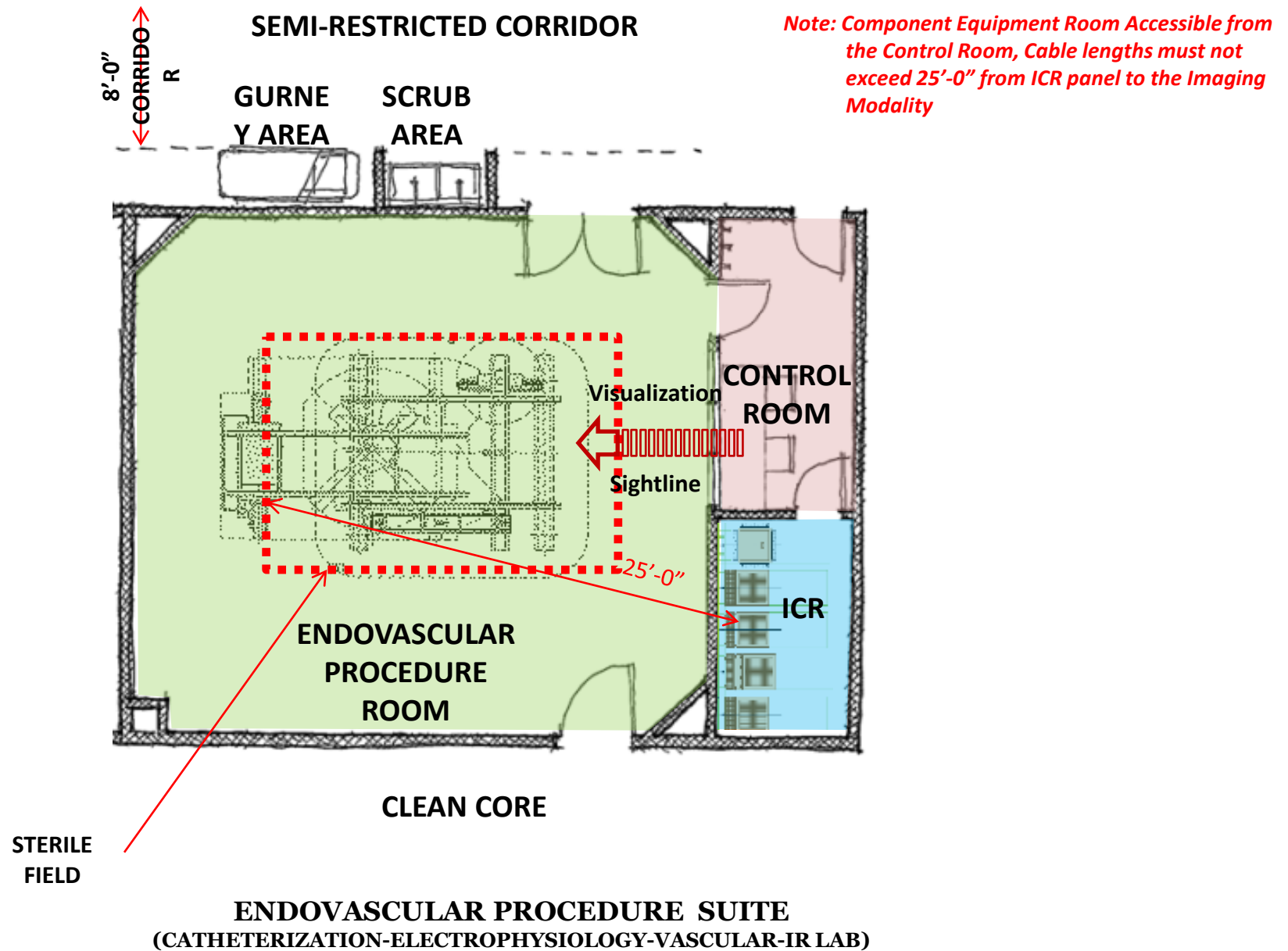


Note: Component Equipment Room Accessible from the Control Room, Cable lengths must not exceed 25'-0" from ICR panel to the Imaging Modality

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

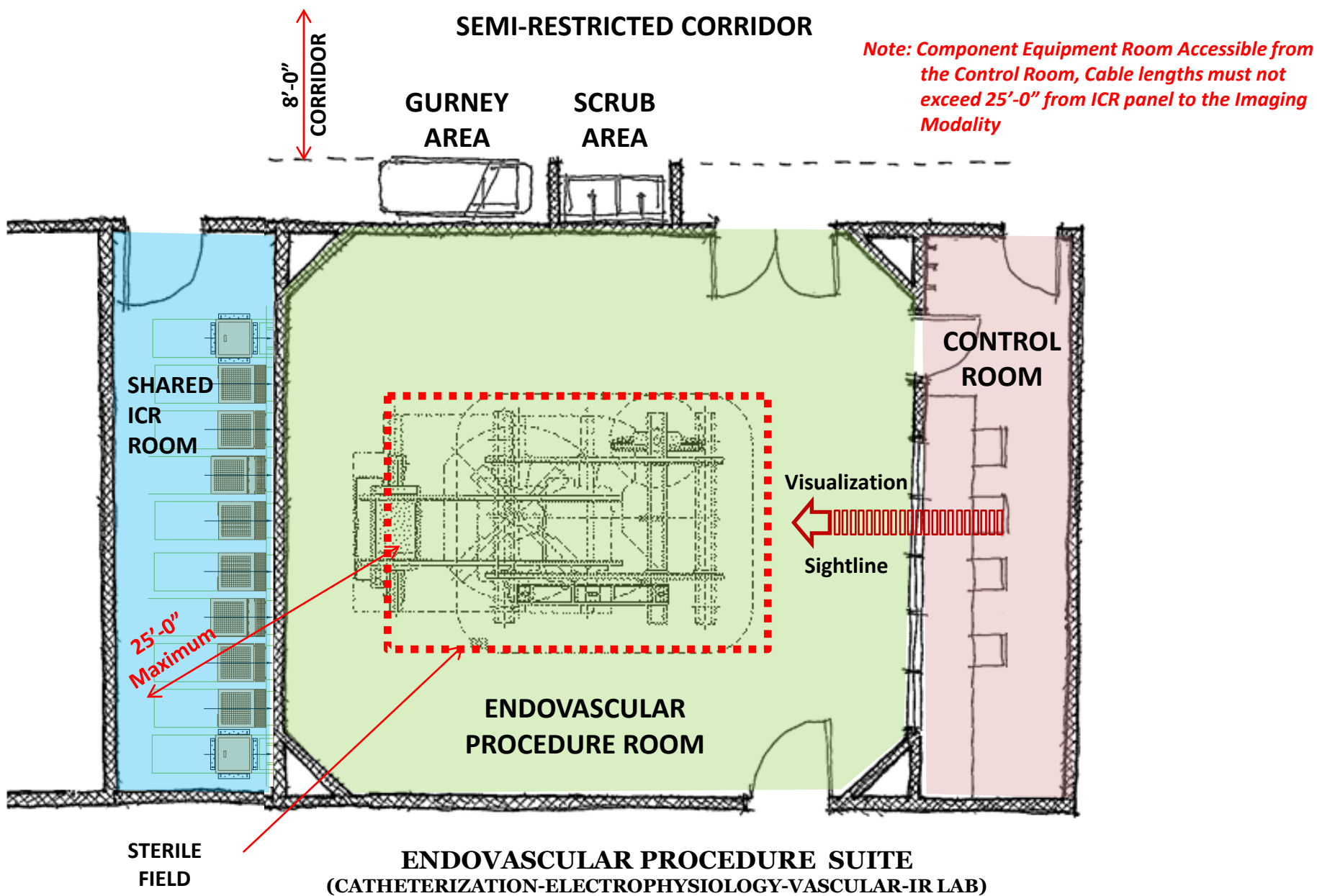


Surgical and Endovascular Services Space Design Standards





Surgical and Endovascular Services Space Design Standards





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.

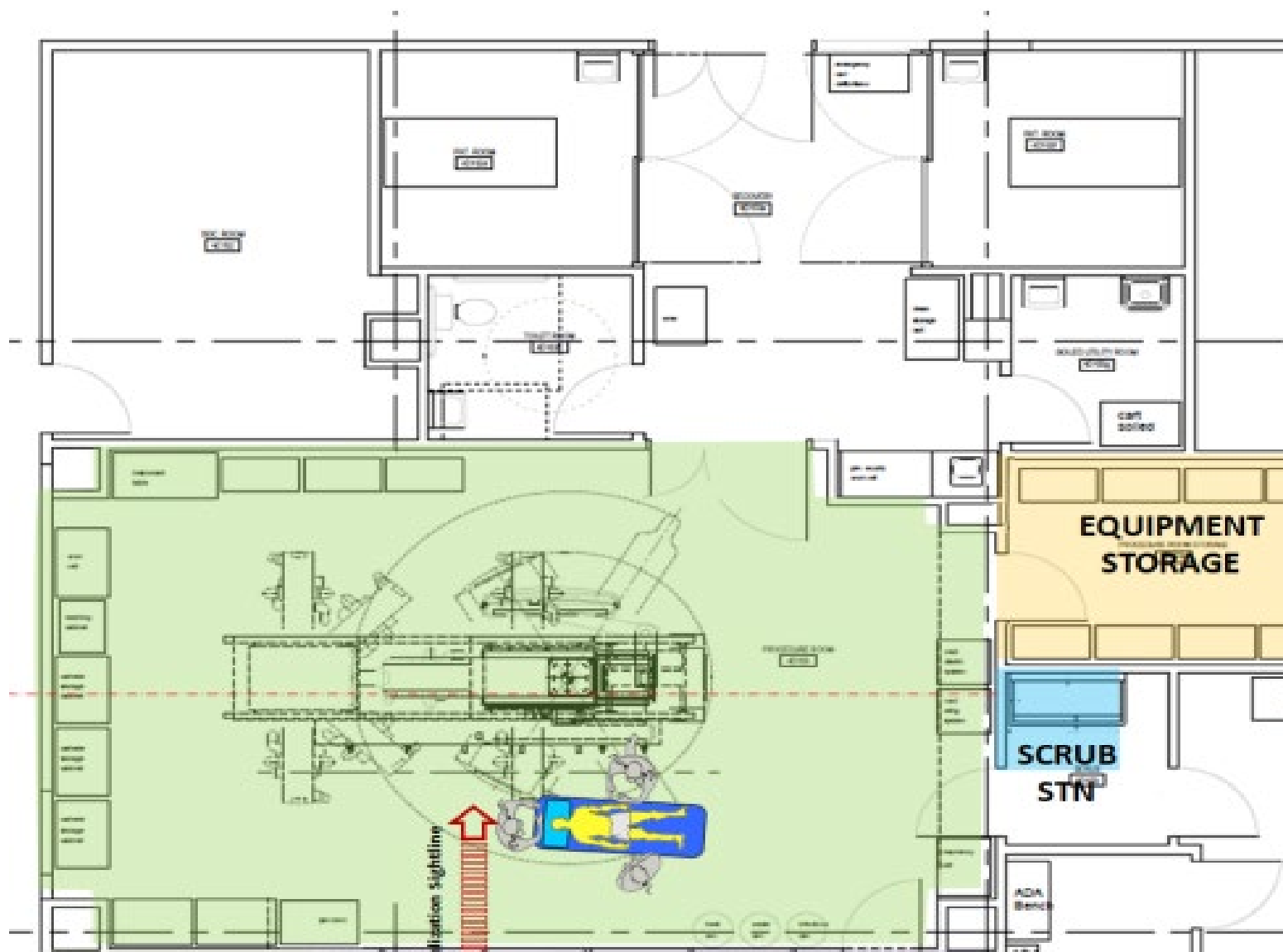


Actual VAMC Case Studies:

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.



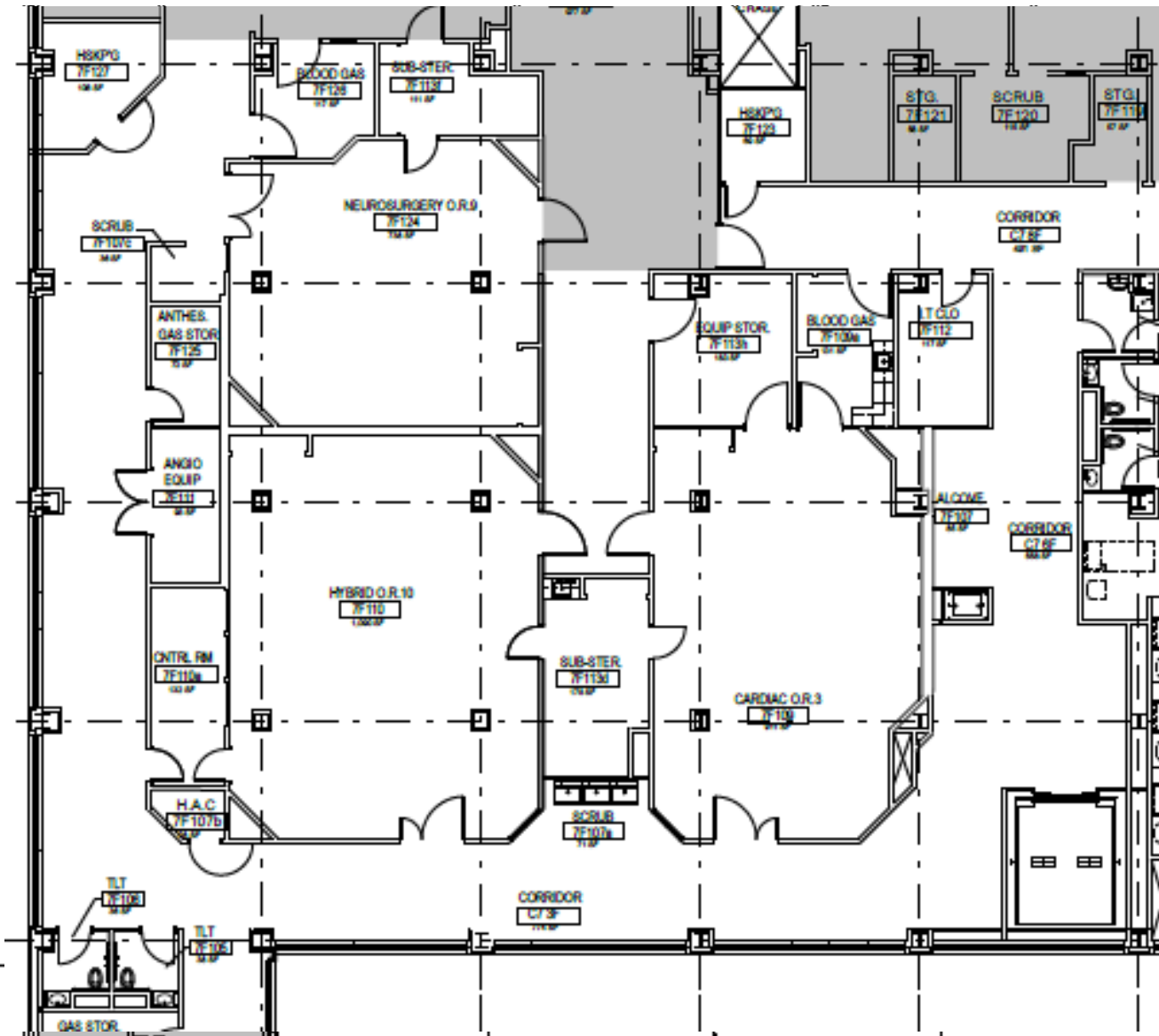
Surgical and Endovascular Services Space Design Standards



NEW CARDIAC CATHETERIZATION PROCEDURE ROOM
VAMC BALTIMORE, MD



Surgical and Endovascular Services Space Design Standards



EXISTING SURGERY
VAMC OKLAHOMA CITY, OK



Surgical and Endovascular Services Space Design Standards

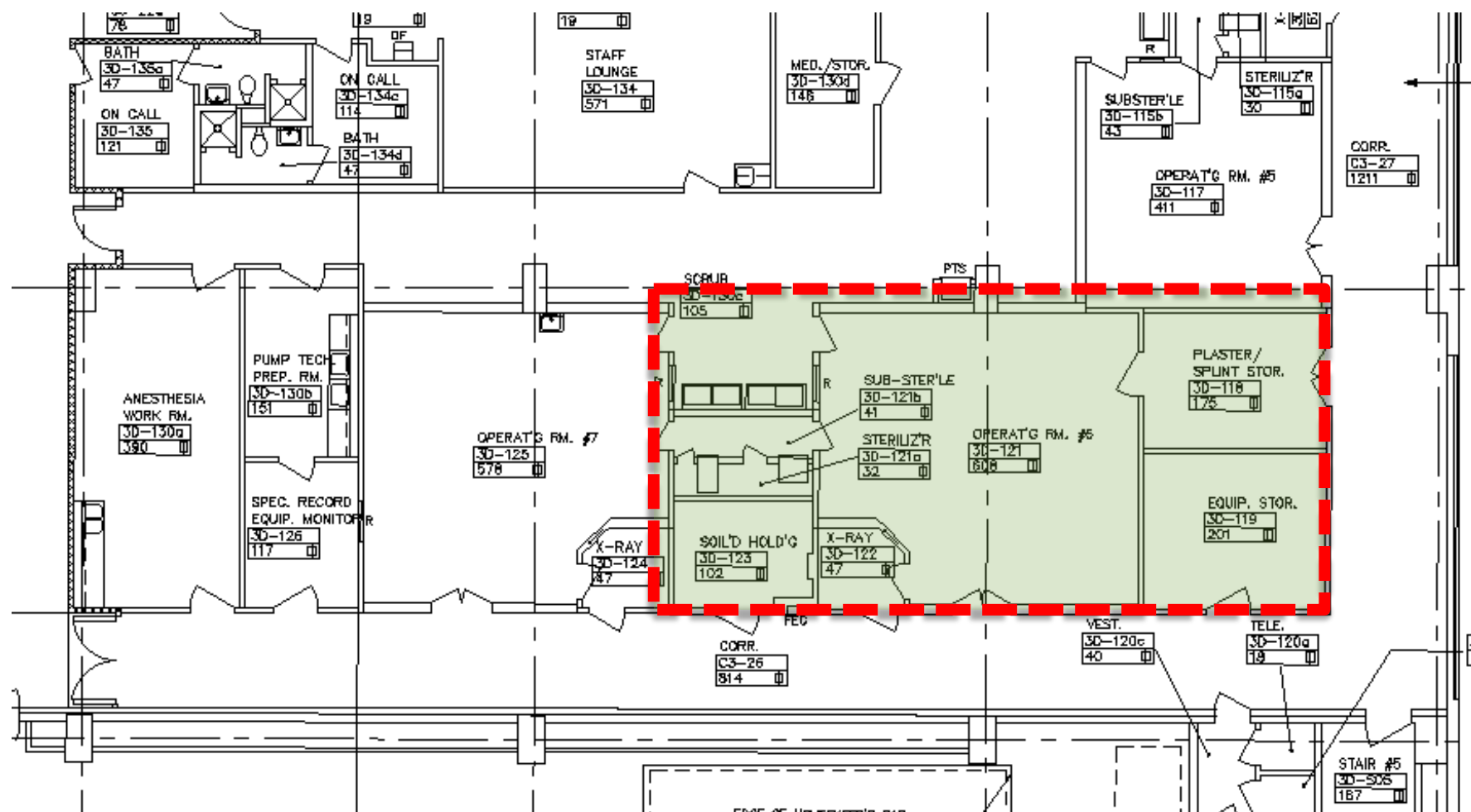


**PROPOSED REWORK
SURGERY
RENO AND ADDITION
VAMC OKLAHOMA CITY, OK**



Surgical and Endovascular Services Space Design Standards

EXISTING CONDITIONS COMPLEX ORTHOPEDIC OR VAMC SEATTLE, WASHINGTON

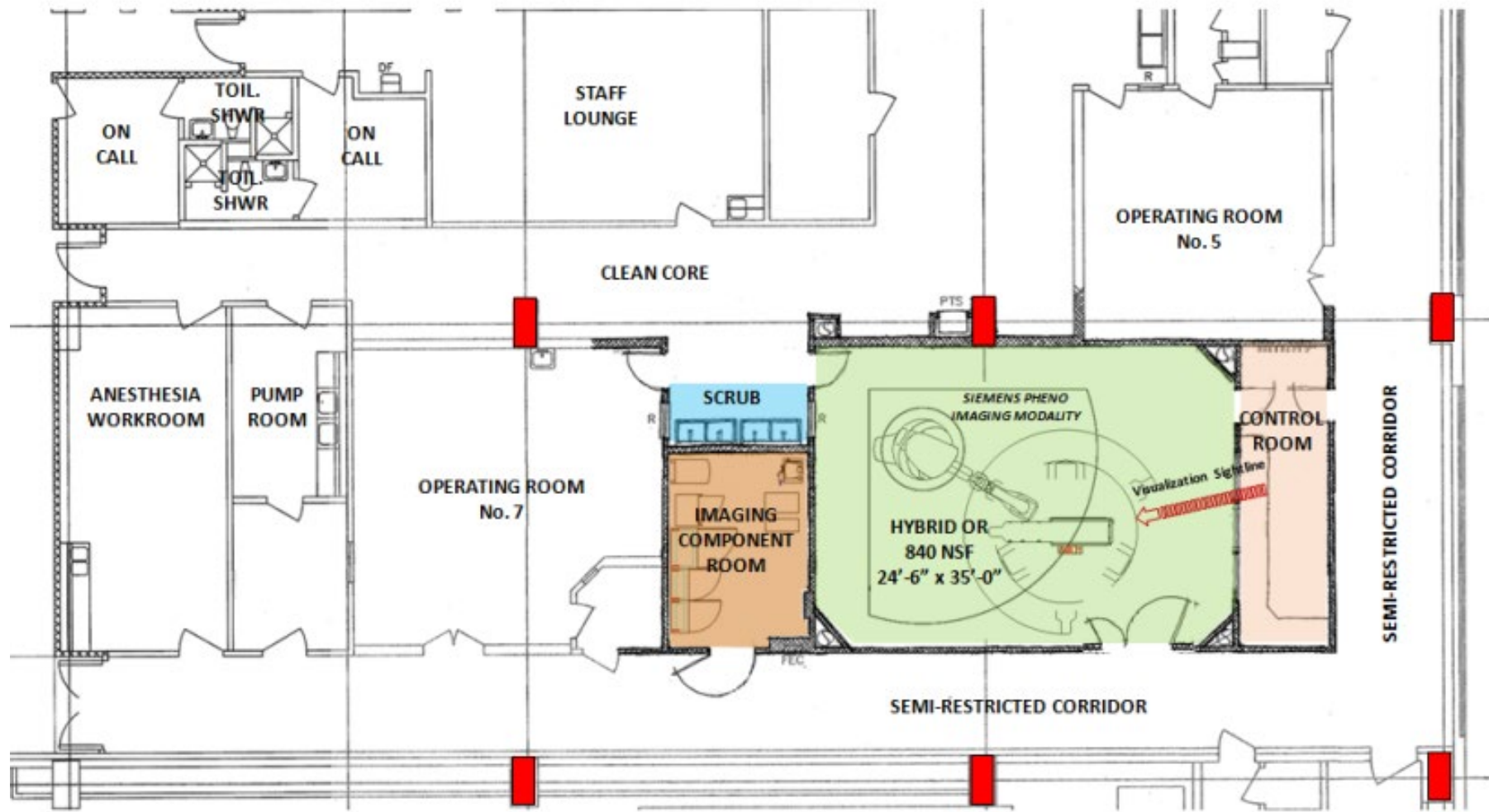


EXAMPLE



Surgical and Endovascular Services Space Design Standards

PROPOSED CONCEPT HYBRID OR VAMC SEATTLE, WASHINGTON



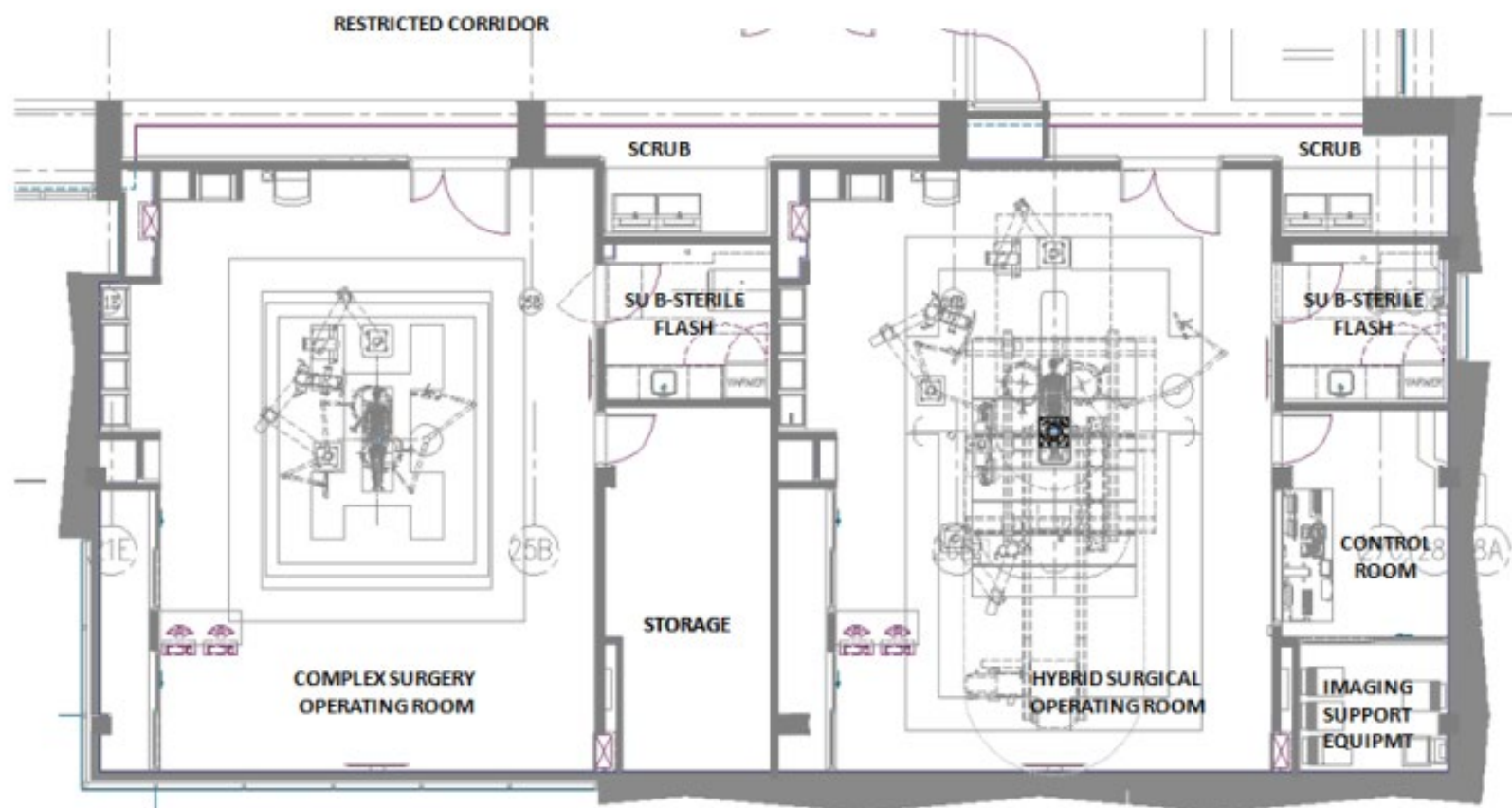
EXAMPLE





Surgical and Endovascular Services Space Design Standards

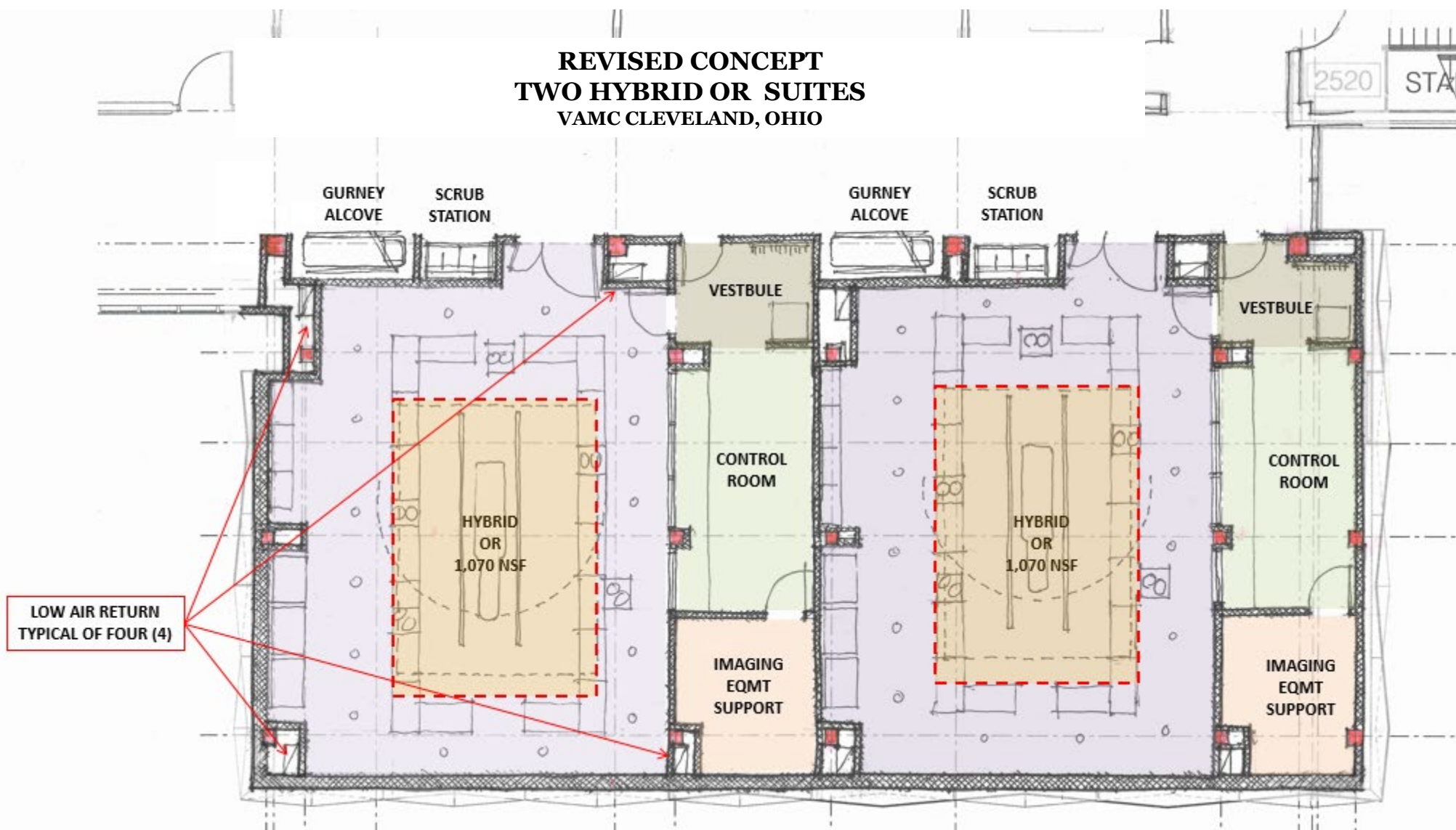
ORIGINAL CONCEPT HYBRID and COMPLEX OR SUITE VAMC CLEVELAND, OHIO





Surgical and Endovascular Services Space Design Standards

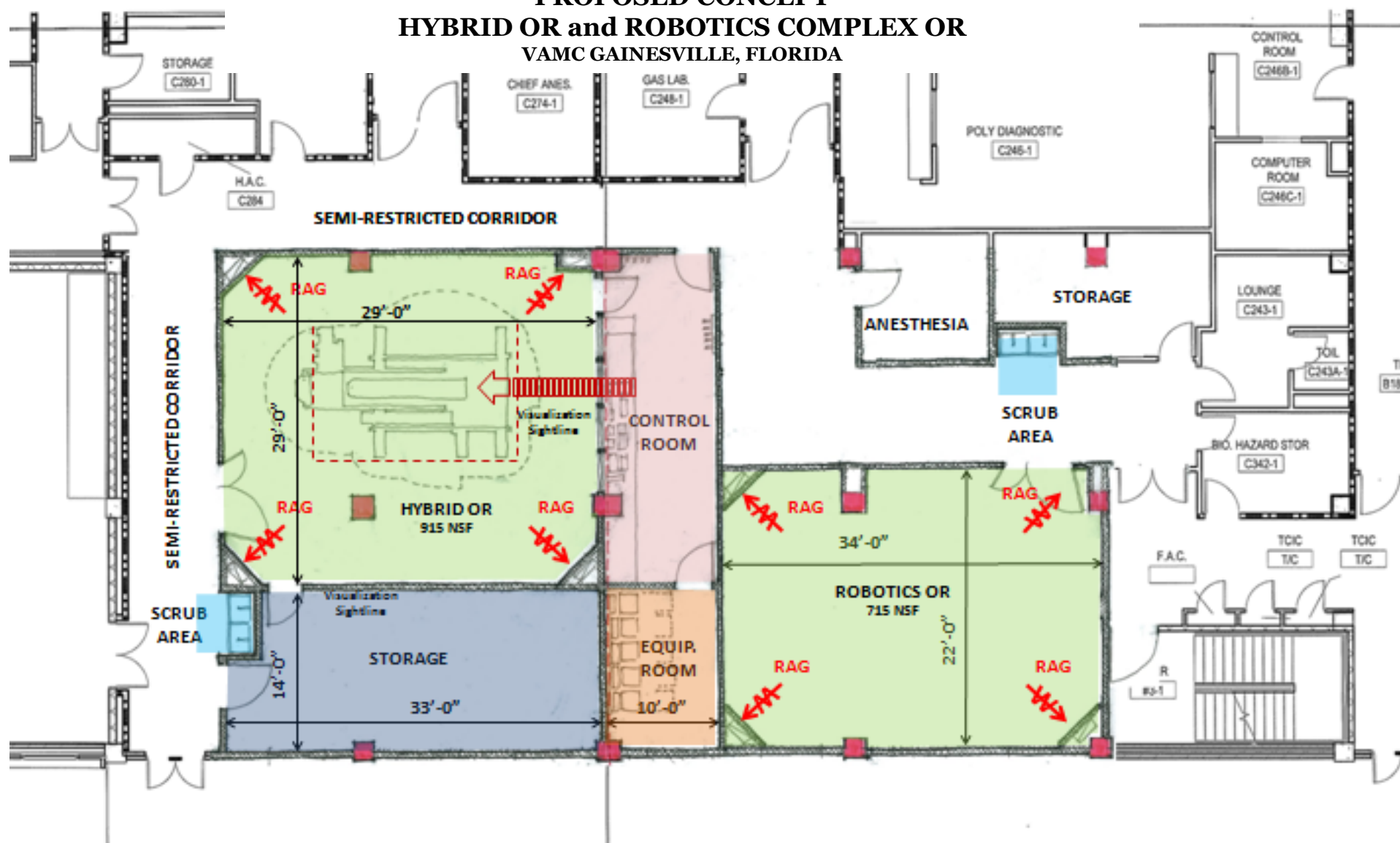
REVISED CONCEPT TWO HYBRID OR SUITES VAMC CLEVELAND, OHIO





Surgical and Endovascular Services Space Design Standards

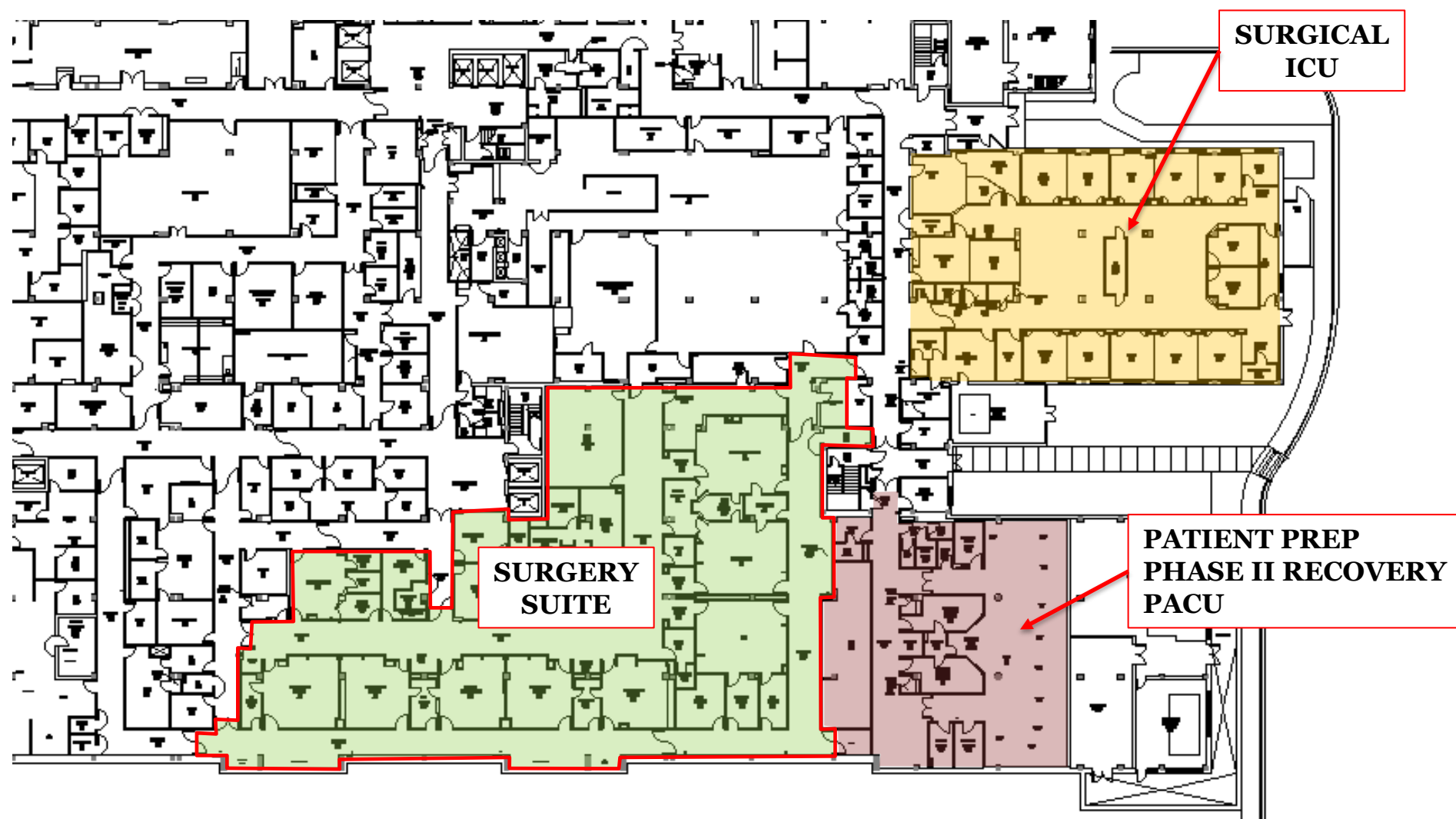
PROPOSED CONCEPT HYBRID OR and ROBOTICS COMPLEX OR VAMC GAINESVILLE, FLORIDA



EXAMPLE



Surgical and Endovascular Services Space Design Standards



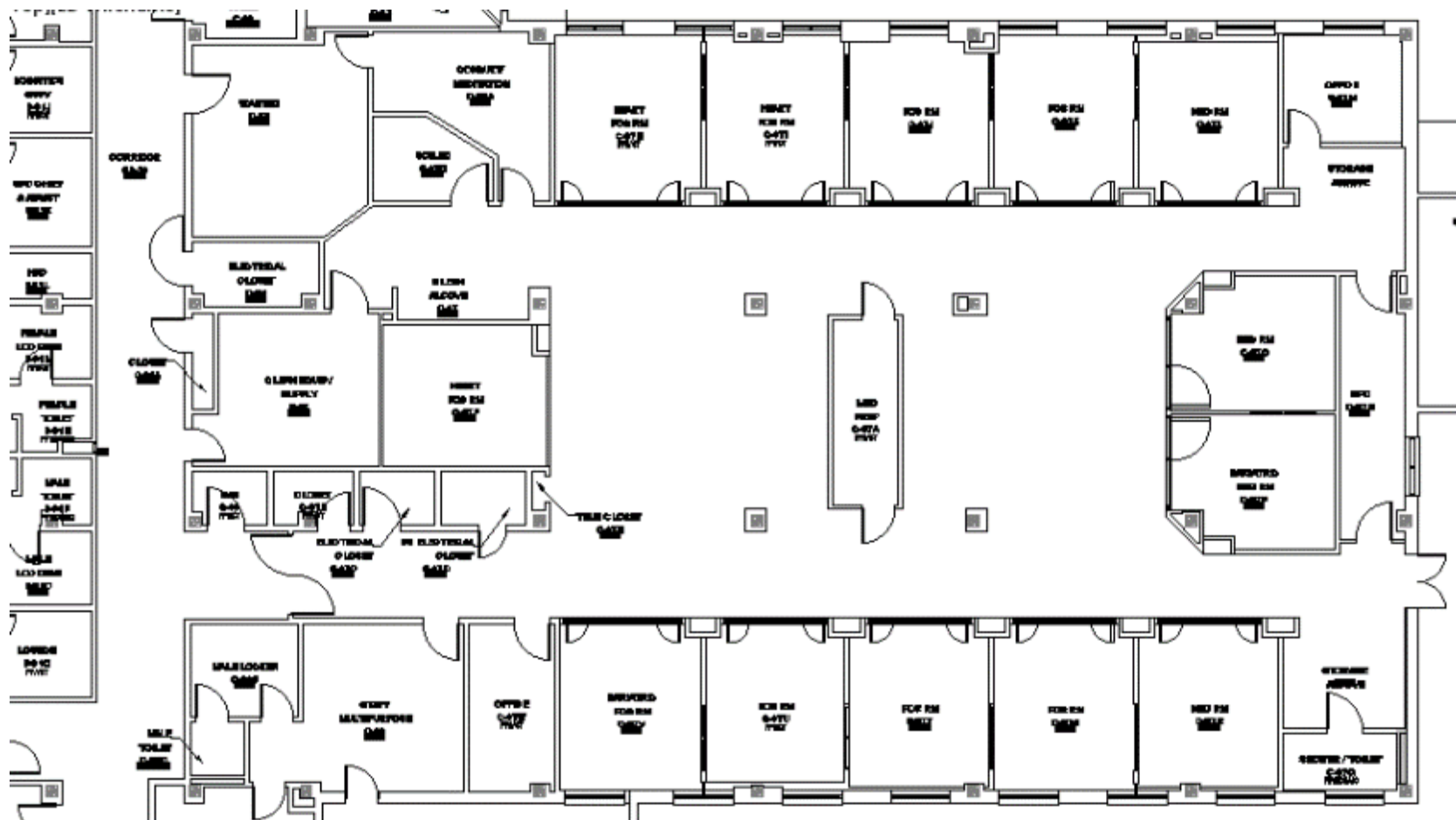
VAMC NASHVILLE EXISTING

EXAMPLE



Surgical and Endovascular Services Space Design Standards

EXISTING SURGICAL ICU



VAMC NASHVILLE

EXAMPLE



Surgical and Endovascular Services Space Design Standards

PATIENT PREP-PHASE II RECOVERY and PACU

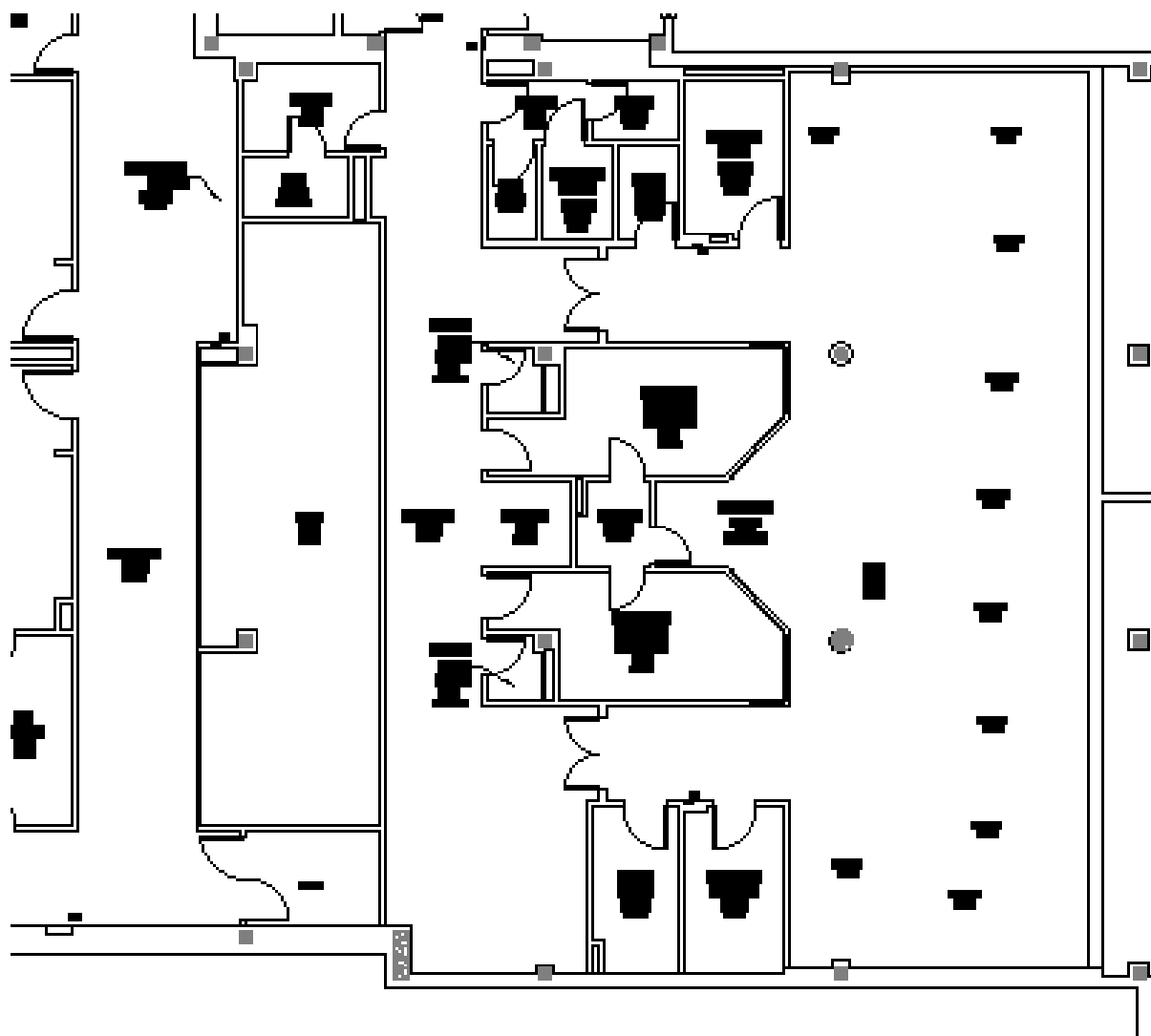


VAMC NASHVILLE

EXAMPLE



Surgical and Endovascular Services Space Design Standards

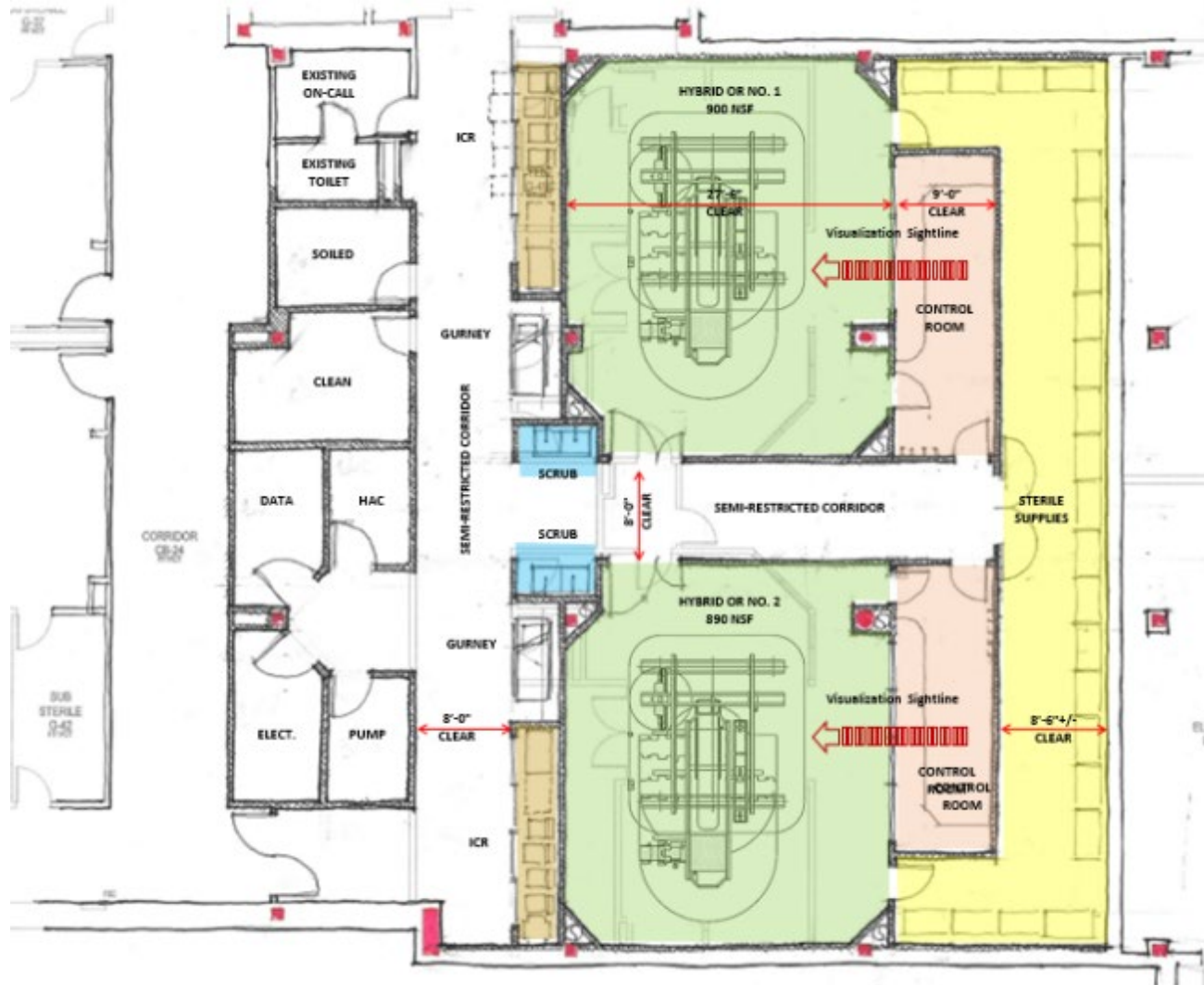


**EXISTING PREP-PHASE
II-PACU**

VAMC NASHVILLE



Surgical and Endovascular Services Space Design Standards



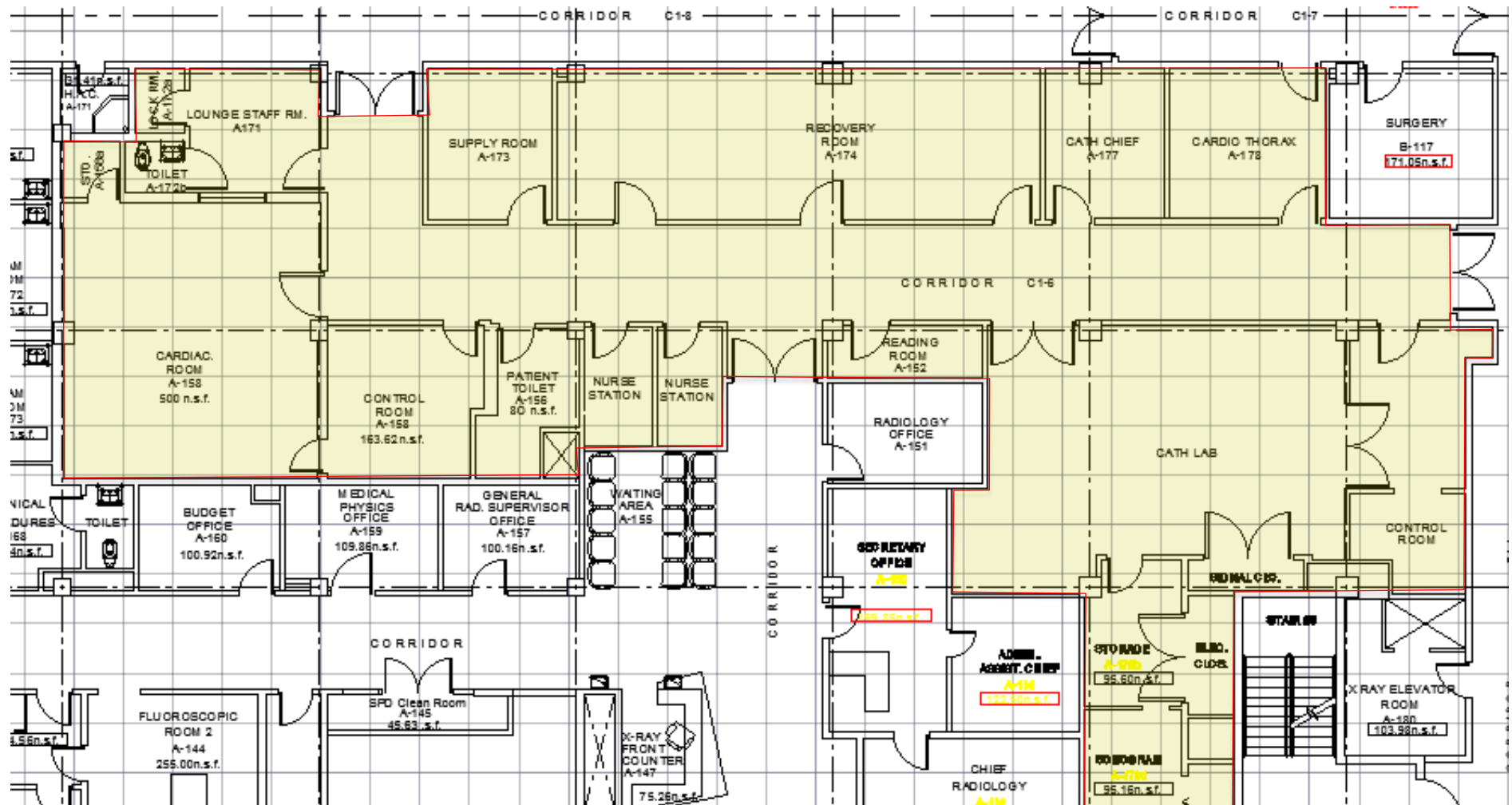
**PROPOSED
HYBRID OR SUITES**

VAMC NASHVILLE

EXAMPLE



Surgical and Endovascular Services Space Design Standards



EXISTING CATH FLOOR PLAN VAMC SAN JUAN PR

EXAMPLE



Surgical and Endovascular Services Space Design Standards

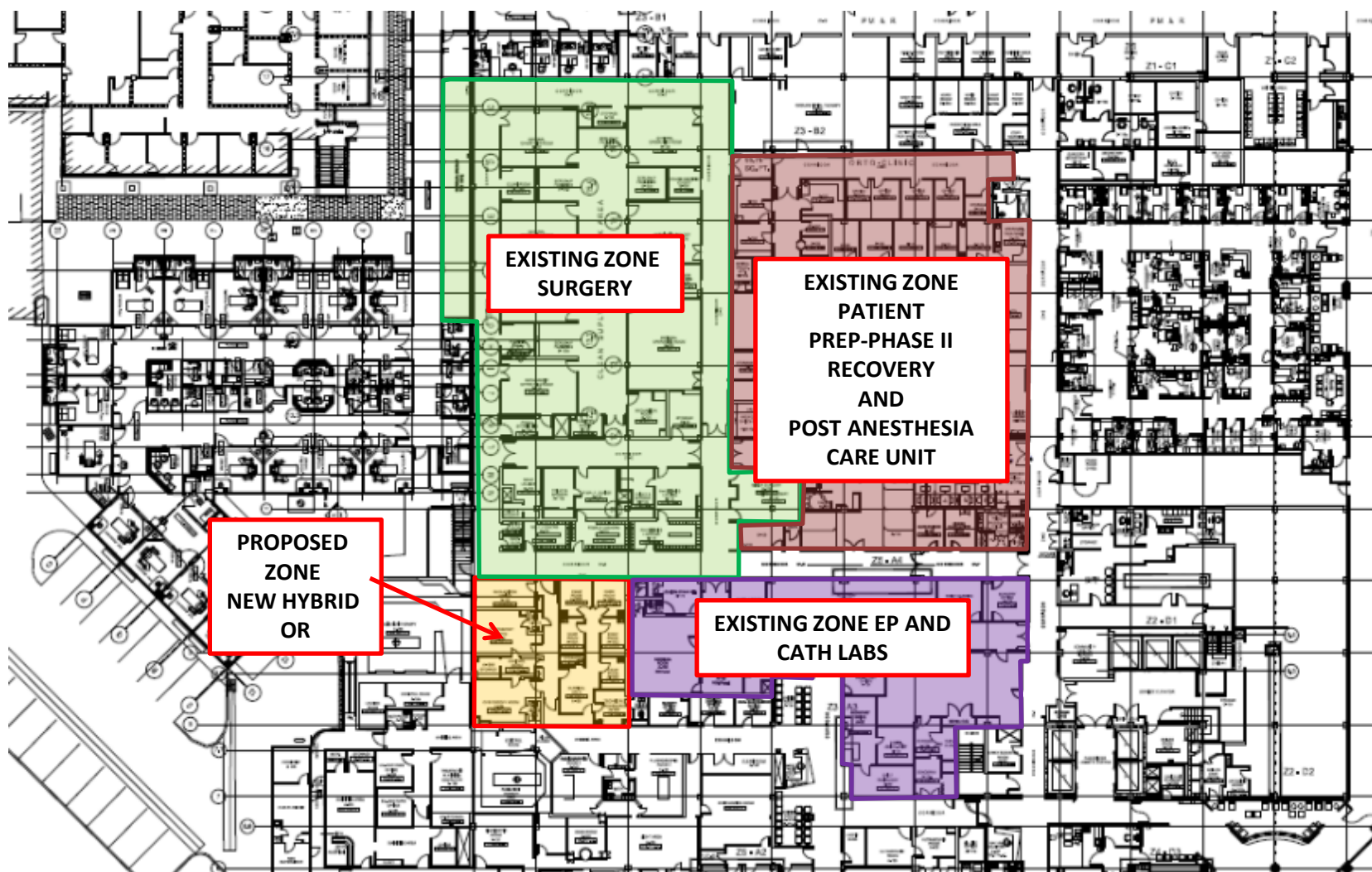


HYBRID OR CONCEPT FLOOR PLAN VAMC SAN JUAN PR

EXAMPLE



Surgical and Endovascular Services Space Design Standards

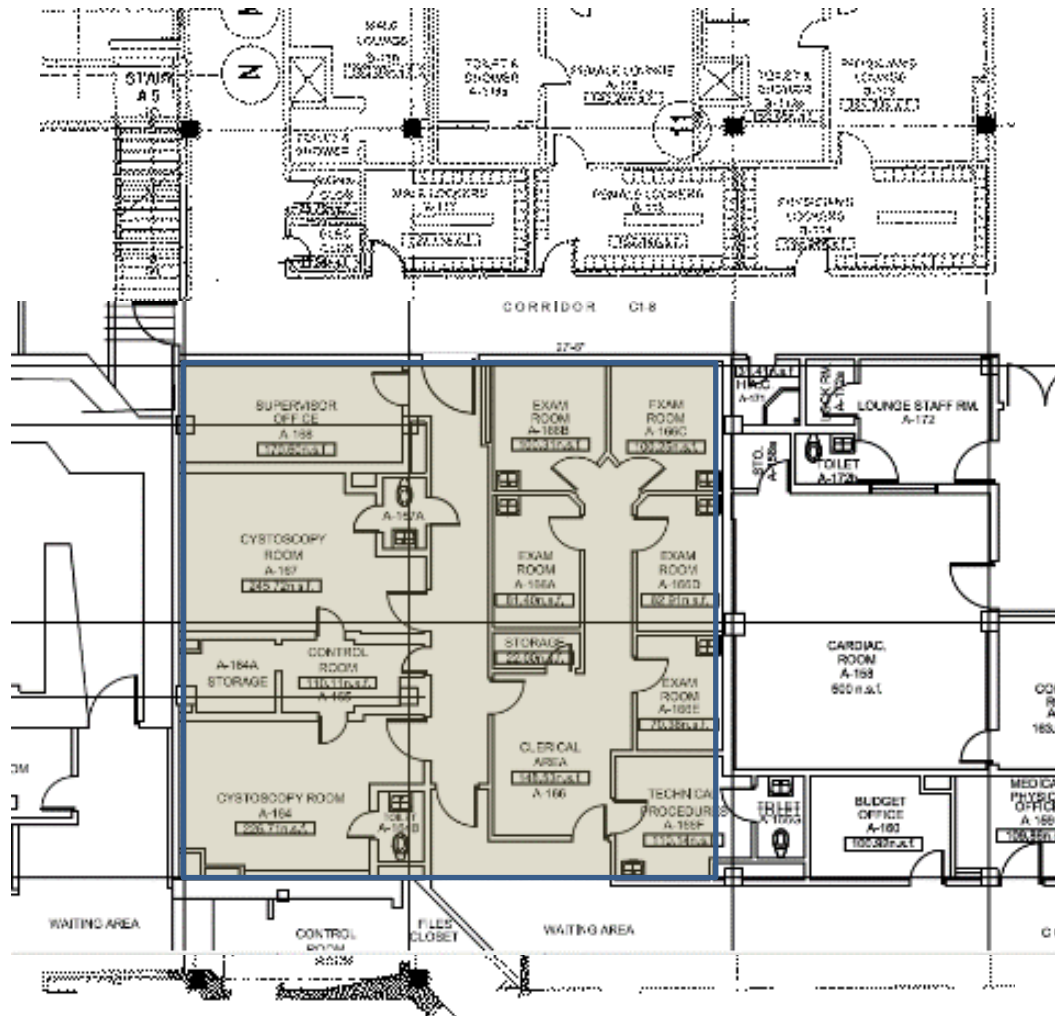


SURGERY DEPARTMENT VAMC SAN JUAN, PR

EXAMPLE



Surgical and Endovascular Services Space Design Standards

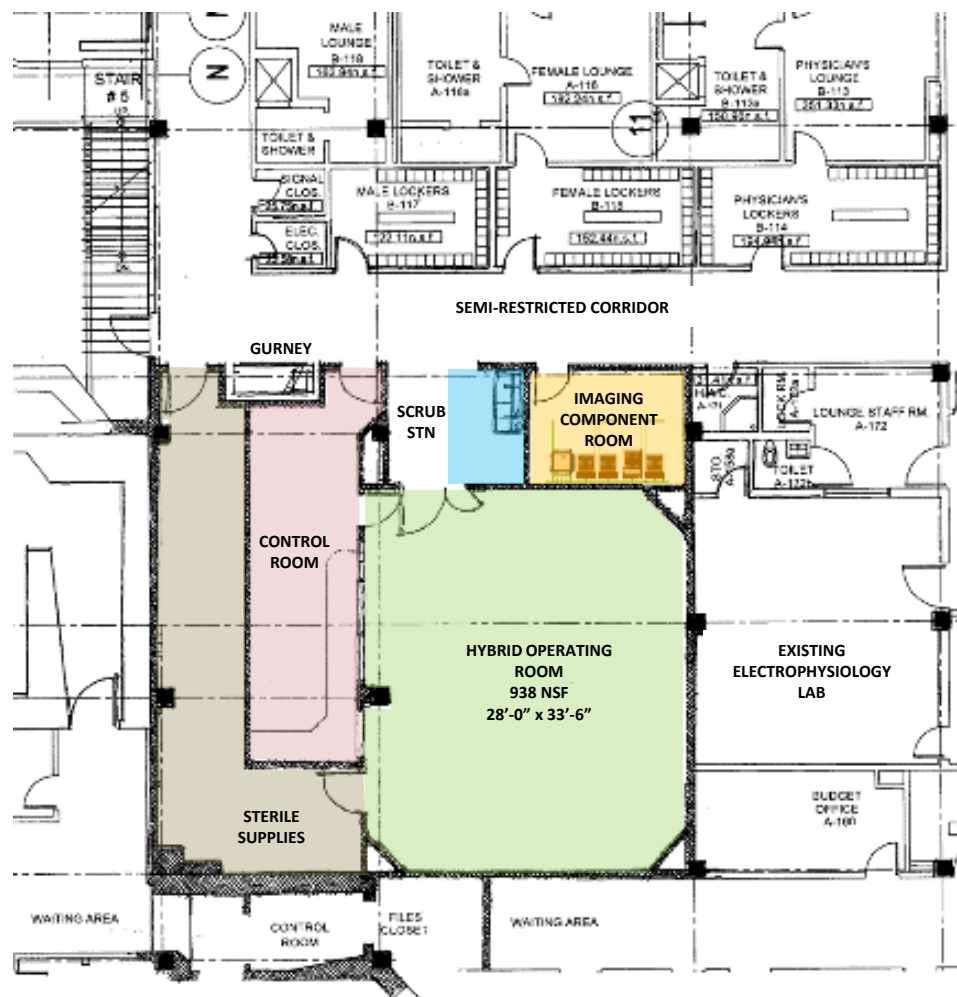


SHADED AREA INDICATING PROPOSED LOCATION FOR HYBRID OPERATING ROOM INCLUDING SUPPORTING COMPONENTS.

**PROPOSED HYBRID OPERATING ROOM
FOR
VAMC SAN JUAN, PR**



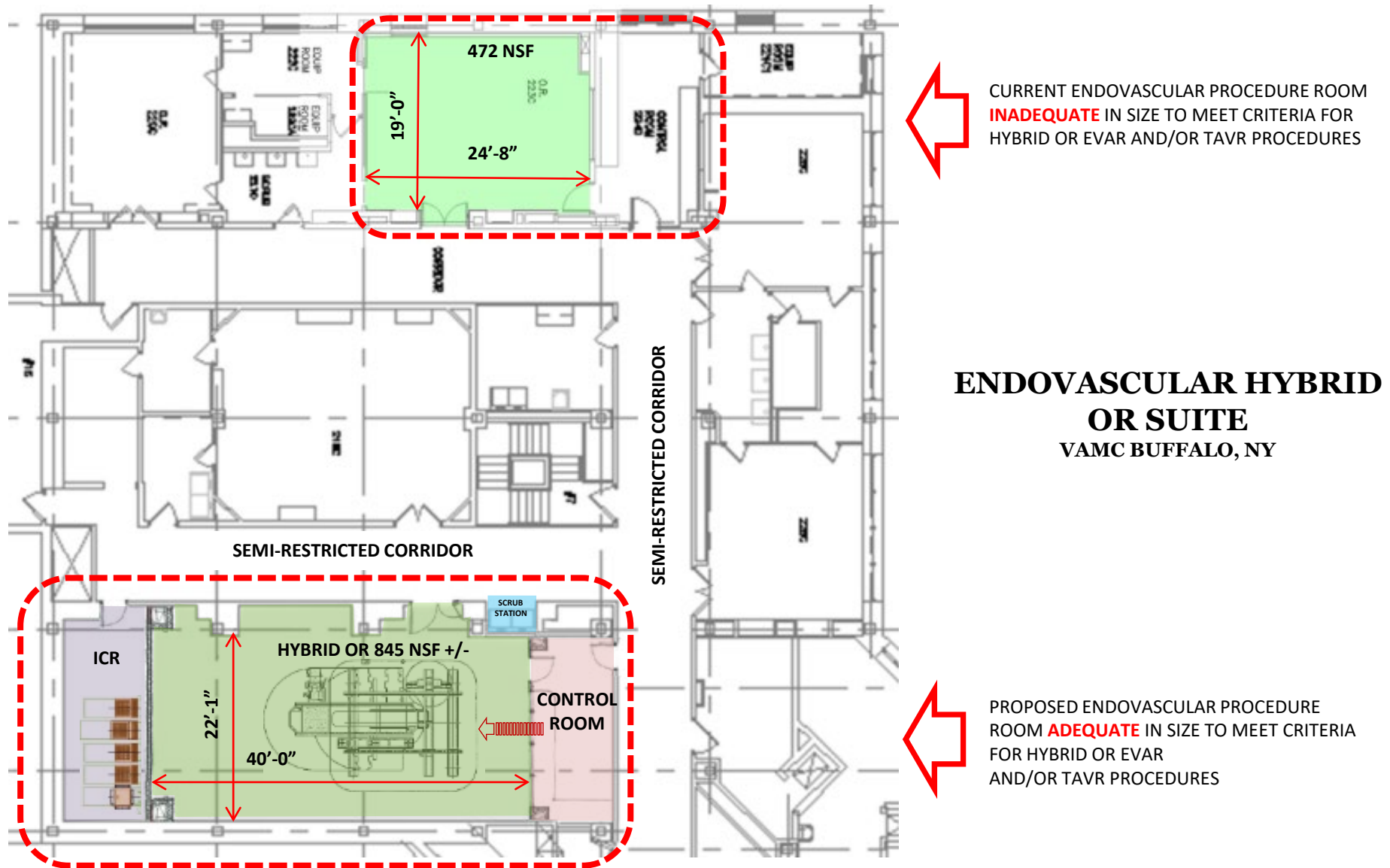
Surgical and Endovascular Services Space Design Standards



**PROPOSED HYBRID OPERATING ROOM
FOR
VAMC SAN JUAN, PR**



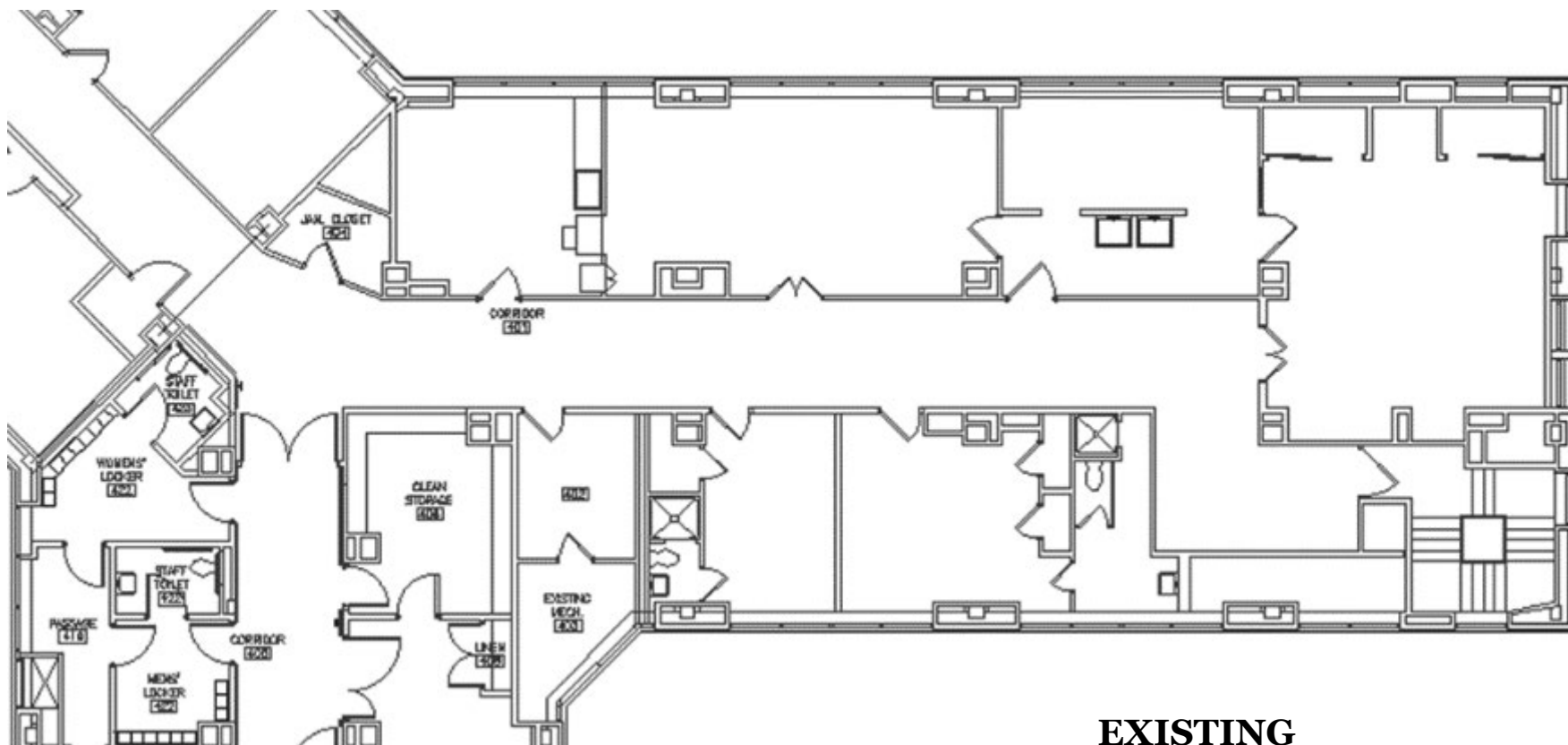
Surgical and Endovascular Services Space Design Standards



EXAMPLE



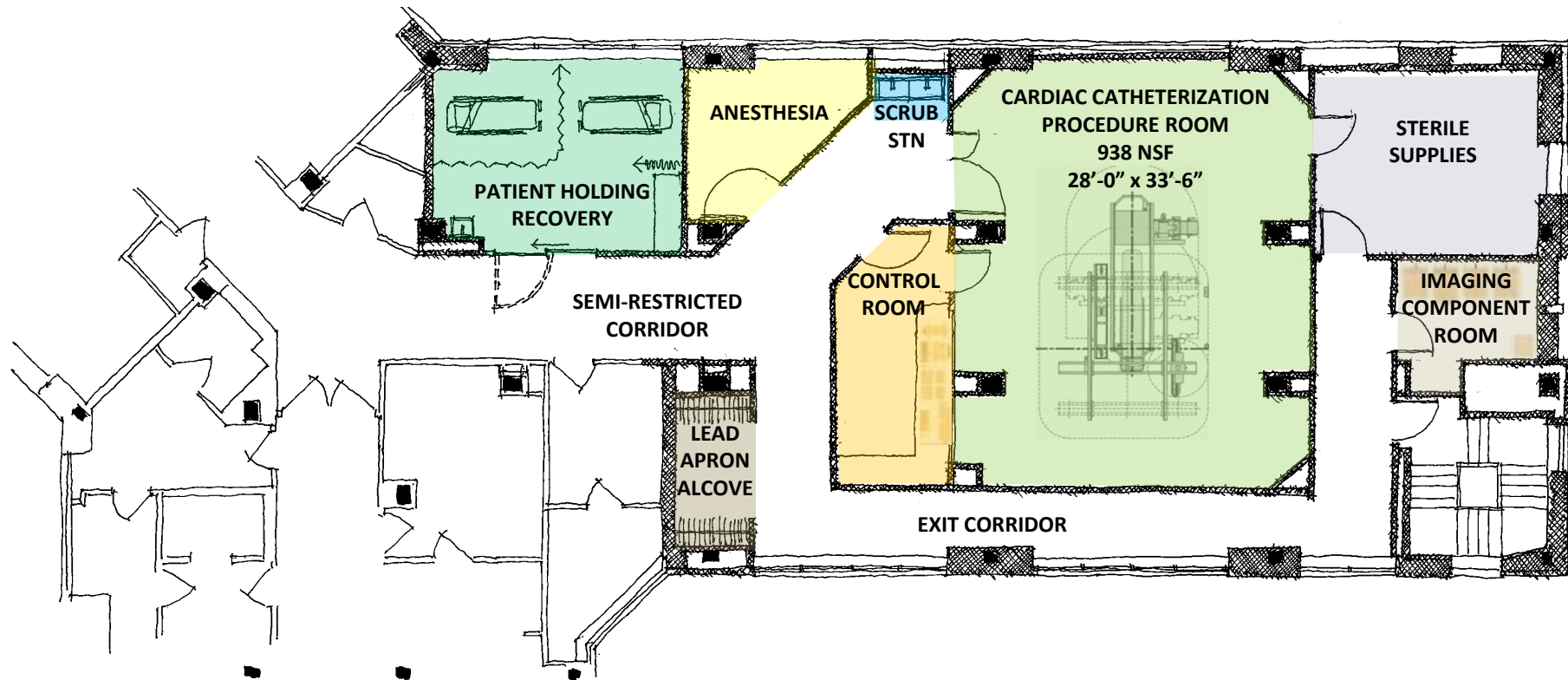
Surgical and Endovascular Services Space Design Standards



EXISTING
FOURTH FLOOR WING A EAST
VAMC Buffalo, NY



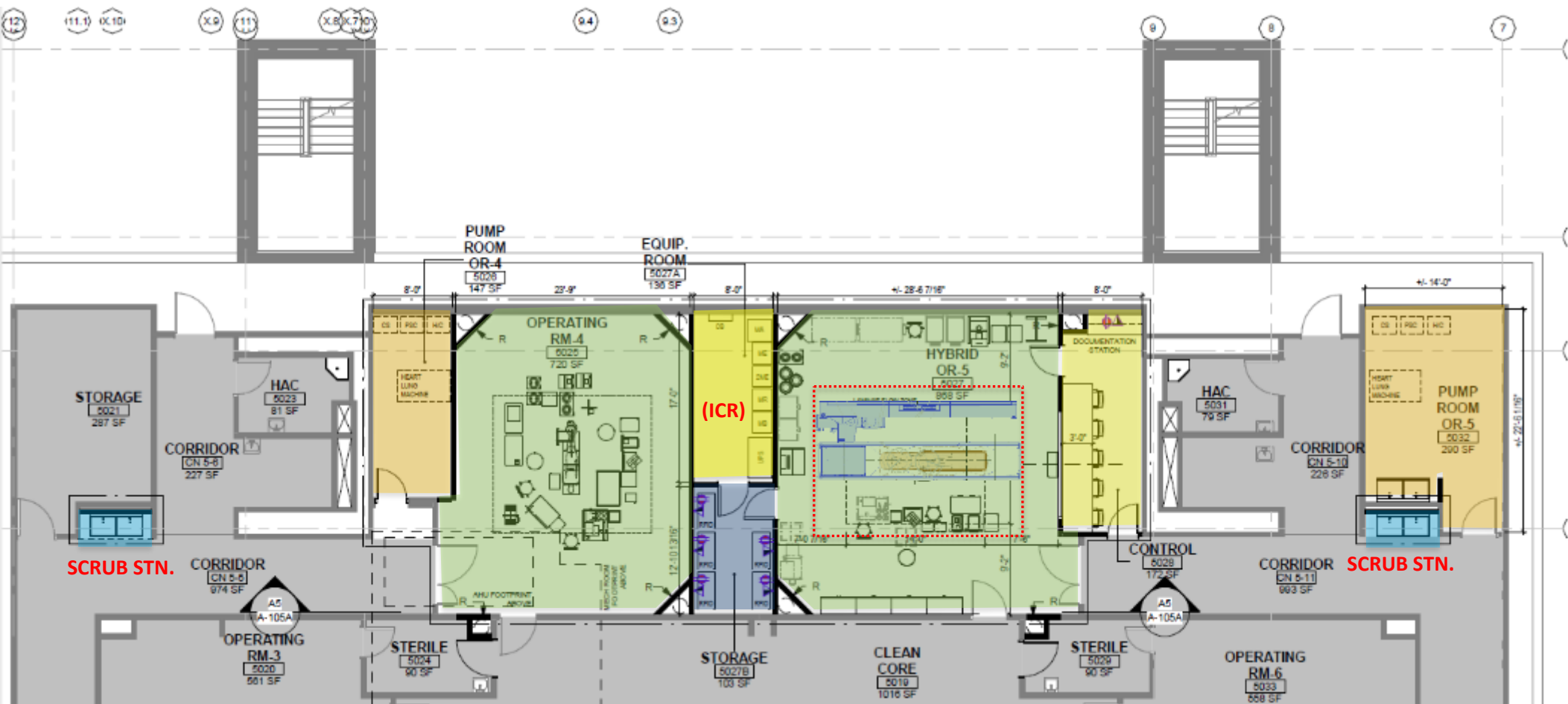
Surgical and Endovascular Services Space Design Standards



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



Surgical and Endovascular Services Space Design Standards



VAMC WEST LA HYBRID OR AND CVOR

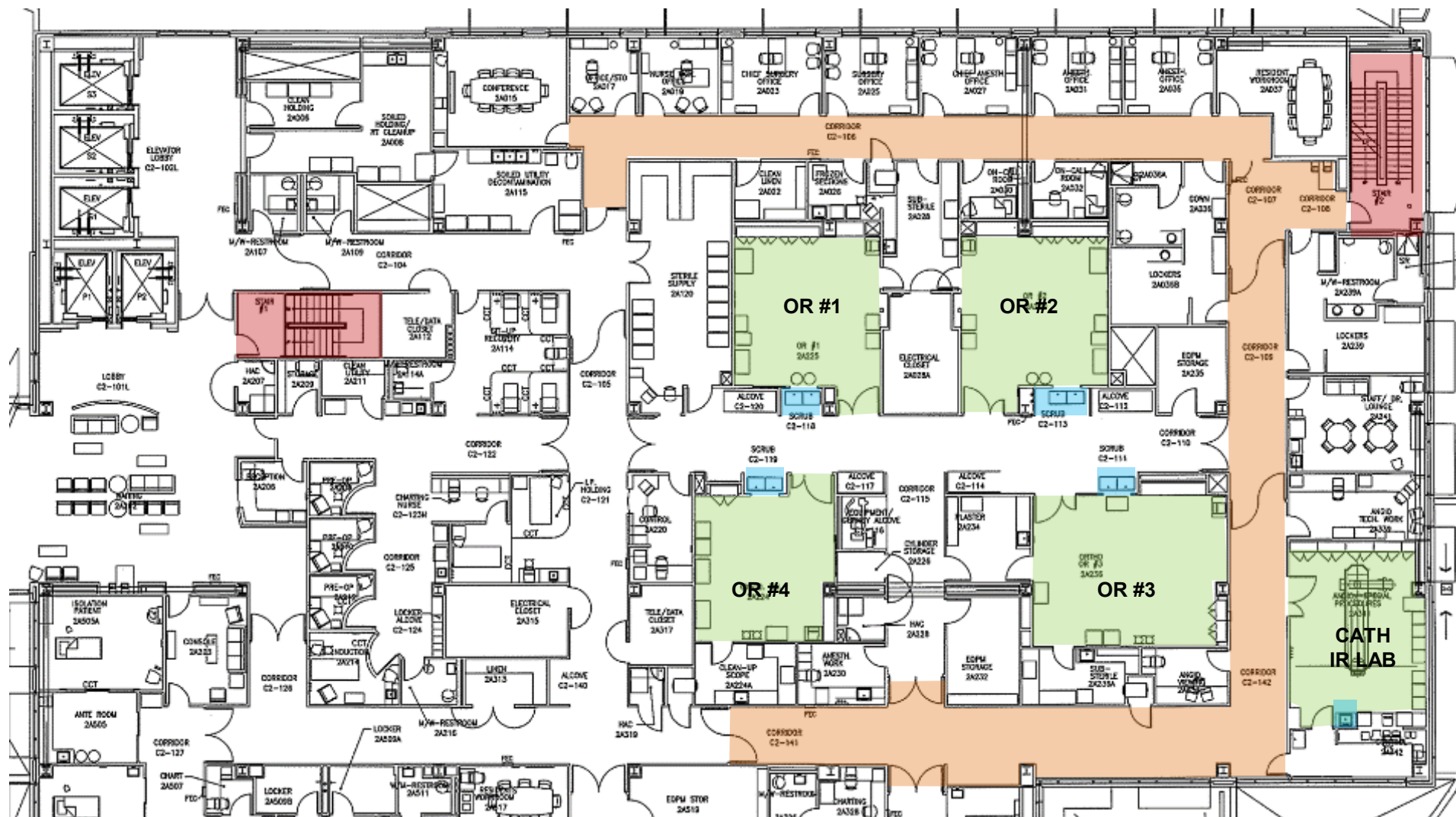
[illegible]

VAMC BECKLEY, WV – EXISTING SURGERY SUITE





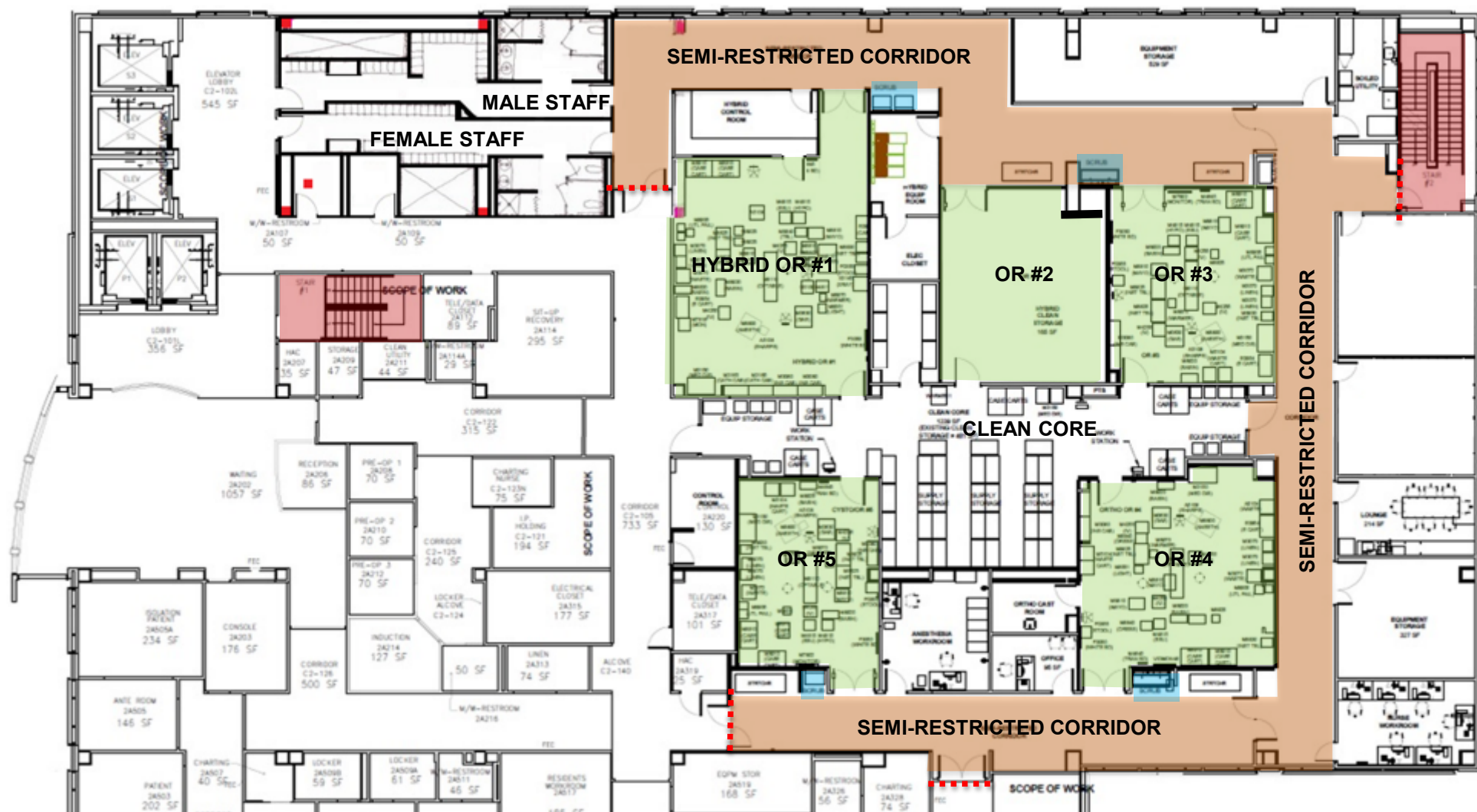
Surgical and Endovascular Services Space Design Standards



VAMC SACRAMENTO-MATHER, CA – EXISTING SURGERY SUITE



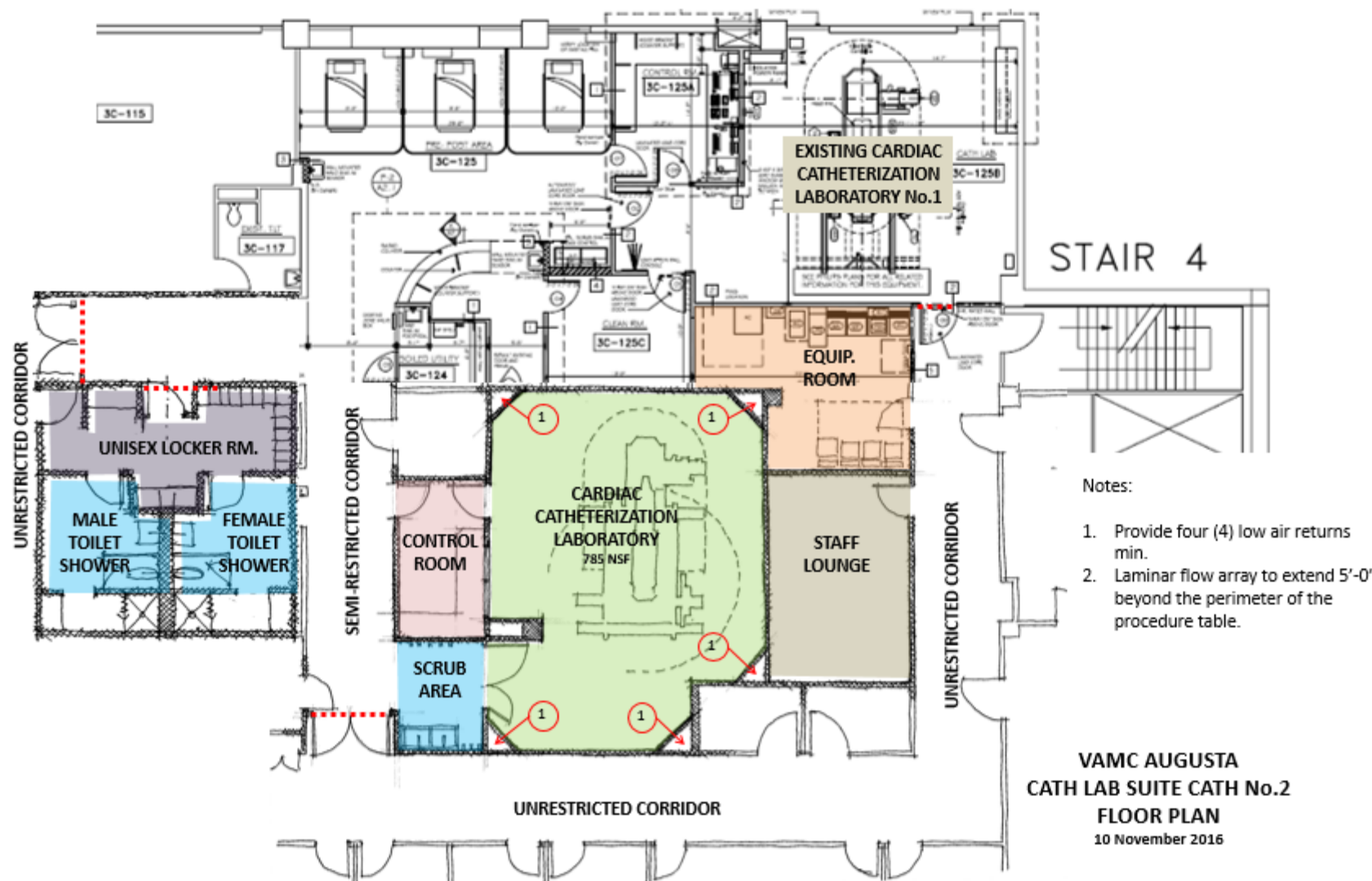
Surgical and Endovascular Services Space Design Standards



VAMC SACRAMENTO-MATHER, CA – PROPOSED SURGERY SUITE

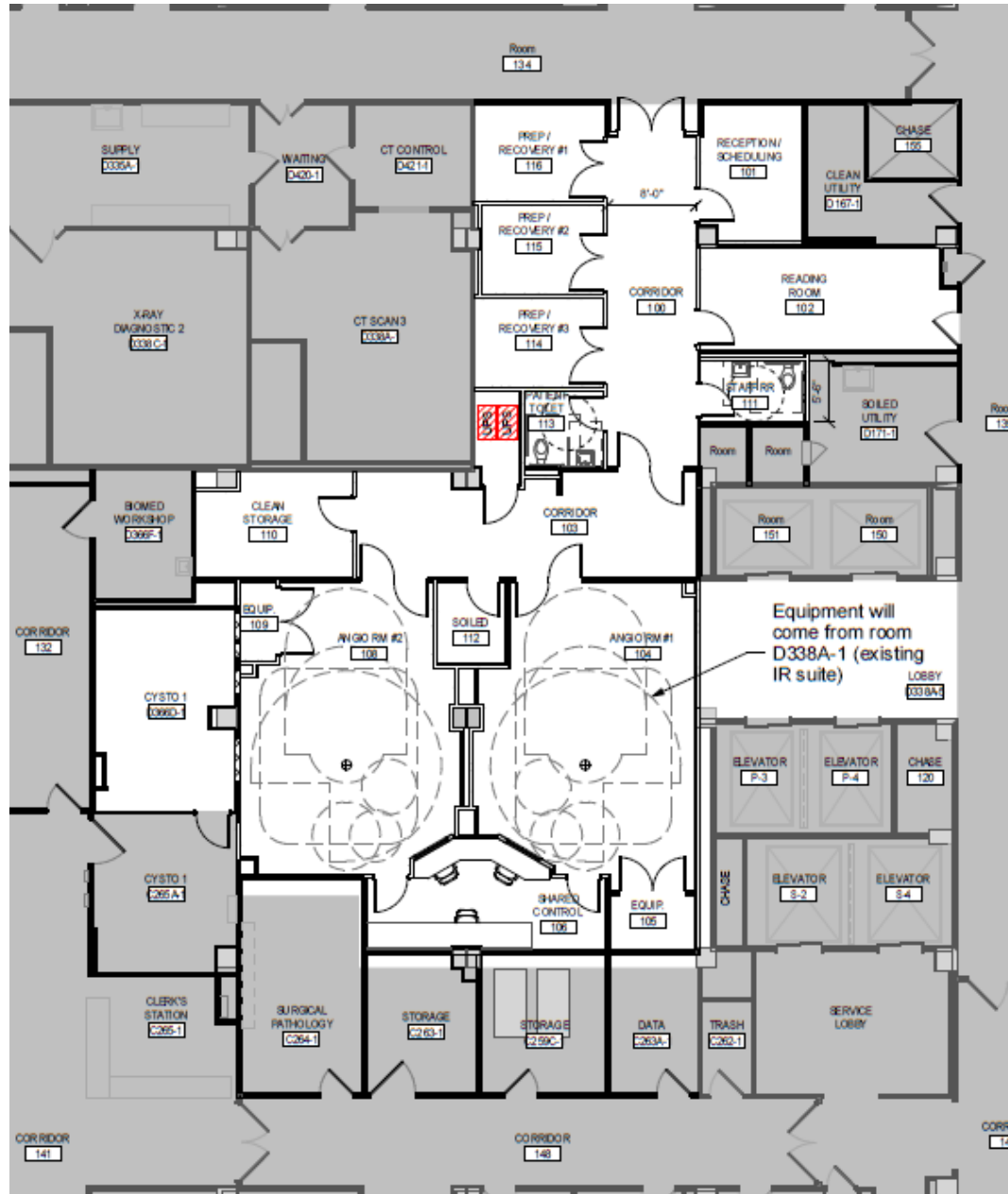


Surgical and Endovascular Services Space Design Standards





Surgical and Endovascular Services Space Design Standards



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



Surgical and Endovascular Services Space Design Standards



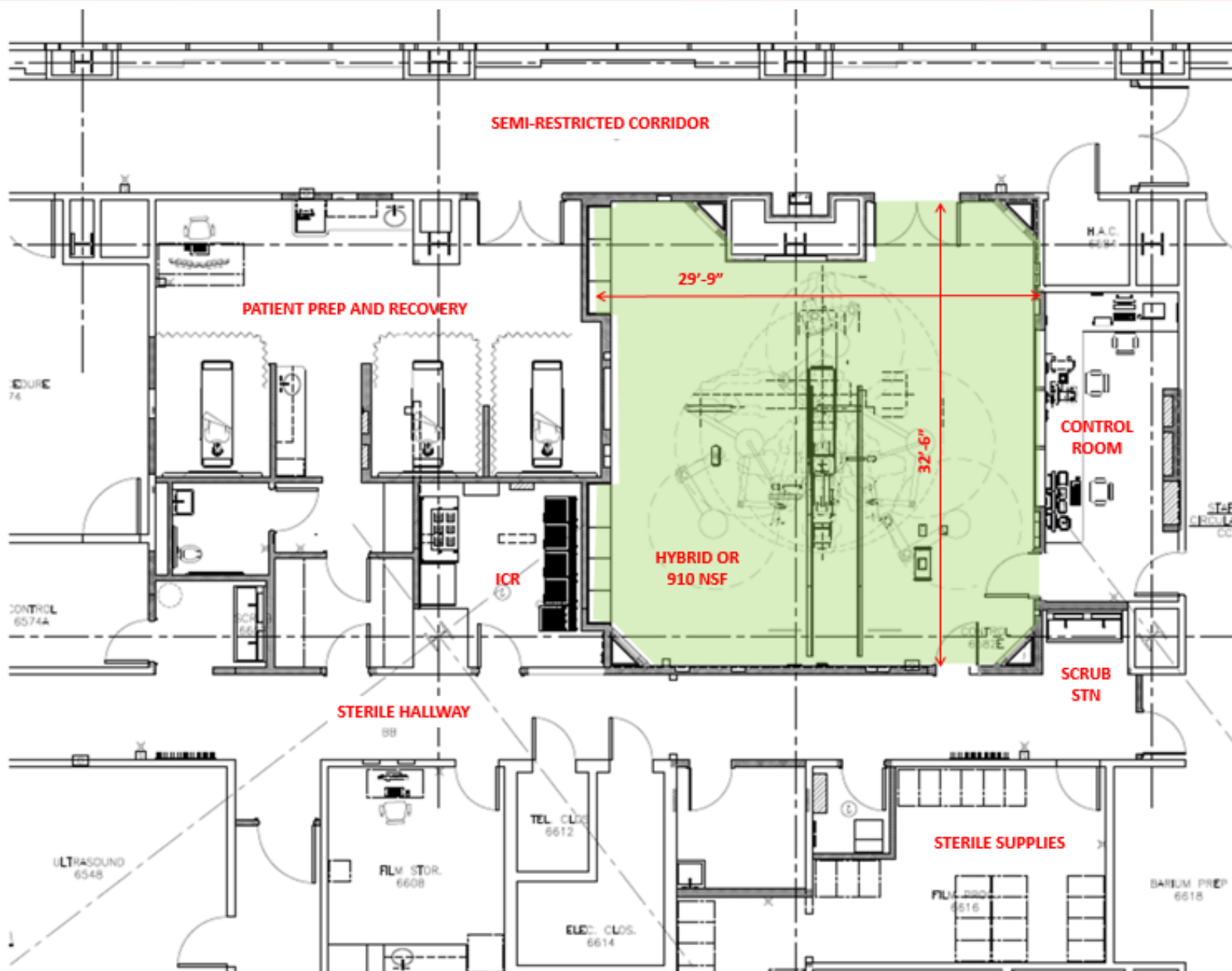
Proposed IR Scheme

After CFM-NCO Review

VAMC Gainesville, FL



Surgical and Endovascular Services Space Design Standards



HYBRID OR
VAMC Manhattan, NY



Surgical and Endovascular Services Space Design Standards

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).

https://www.va.gov/vhapublications/ViewPublication.asp?pub_ID=3292

QUESTIONS?