284: Logistics Service
285: Sterile Processing Service

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SECTION 1: FOREWORD

VA Program Offices, project teams, designers and constructors, are obligated to our Nation's Veterans and taxpayers to make the most effective and efficient use of resources, by providing a continuum of safe, secure, high quality, high performance, and high value environments of care and service for Veterans. The VA Office of Construction & Facilities Management (CFM) supports the Department's mission through development and application of standards as a basis for disciplined planning, design, and construction of VA facilities.VA Standards are the culmination of a partnership among the Department of Veterans Affairs (VA), the Veterans Health Administration, Program Officials, Clinicians, Industry, Academic and Research Organizations, Consultants, and the Office of Construction and Facilities Management. Design Guides are developed through integration of VA-specific requirements, Federal law and regulation, benchmarking of industry best practice, evidence-based research and design, and value-based analysis of leading-edge innovation. The result is the establishment of best value standards for optimum functionality, safety, operability, performance, and quality throughout the VA environment of care and service.

Design Guides (PG-18-12) are a critical component of the VA Technical Information Library (TIL) (www.cfm.va.gov/TIL) which provides standards for all VA planning, design, and construction projects. Design Guides focus on selected healthcare departments and services and include an overview narrative of VA-specific planning and design principles and concepts, room templates, equipment lists, and basic technical/engineering requirements. They communicate the basis of design and are required to be utilized by project teams working on new construction and renovations of existing facilities. Design Guides will maximize the effectiveness and efficiency of the planning and design process and ensure a high level of design, while controlling construction, operating, and maintenance costs.

The material contained in Design Guides constitutes a Standard for VA Planning, Design and Construction. For all VA projects, it is required that project teams comply with the following in all phases of project development:

1) All applicable VA Standards published in the VA Technical Information Library (TIL) shall be applied as a basis, foundation, and framework in planning, design, and construction. Any substantial variance from Standards shall be considered only as required to accommodate specific site, functional, and operational conditions. Upon consideration of variance CFM shall be consulted, and each Administration will function as Authority Having Jurisdiction for decision. Each substantial variance shall have a basis rationale and be documented in the project record.

2) Clinicians, providers, primary users, and other stakeholders shall be involved in all phases of project development to best adapt Standards for specific functional, operational, and site conditions, and to provide optimum service environments for Veterans. This also includes installations and modifications of systems or technology involving safety, security, functionality, or environmental quality. Stakeholder involvement shall be documented in the project record. Design Guides are not project-specific. It is impossible to foresee all rapidly evolving requirements of healthcare facilities and each site or project will have unique requirements or conditions. Site-specific issues must be addressed within the context of these standards and

applied to each individual project. Use of this Guide does not preclude the need for, nor absolve planners, designers, and constructors of their responsibility to provide complete, functional, safe, and secure designs suited to the unique requirements of each project, within budget, and on schedule.

Materials, equipment and systems are shown in an illustrative, performance-based format and are not intended to depict, suggest, or otherwise constitute endorsement of any specific product or manufacturer. Manufacturers should be consulted for actual dimensions, configurations, and utility requirements.

All participants in the project development process must embrace VA Planning, Design and Construction Standards as fundamental in providing optimum environments for Veterans' care and services, in fulfilling VA's mission.

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SECTION 3: INTRODUCTION

VA Design Guides are developed as a tool to assist VA medical center staff, planners and architects, project design teams, and consulting architects and engineers (A/Es) with the understanding of the unique requirements of the VA model of care related to a specific project type.

The material contained in the Sterile Processing Service (SPS) / Logistics Service (LOG) Design Guide is the culmination of a coordinated effort among the Department of Veterans Affairs (VA), the Veterans Health Administration (VHA), the Office of Construction & Facilities Management (CFM), and the consulting architects and engineers. The goal of this Design Guide is to maximize the efficiency of the design process for VA healthcare facilities and ensure a high level of design, reflect the VA model of operation, and assist in controlling construction and operating costs.

This Design Guide is part of the VA Program Guides used to establish planning and design standards. This **PG-18-12** *Design Guide* document covers both Logistics Service and Sterile Processing Service and complements the following space planning criteria standards; **PG-18-9**:*284 Logistics Service* and **PG-18-9**:*285 Sterile Processing Service*, and the following Equipment Guide Lists standards; **PG-18-5**:*284 Logistics Service* and **PG-18-5**:*285 Sterile Processing Service*. These documents can be accessed at the VA Technical Information Library (VA-TIL) at *www.cfm.va.gov/til/dGuide.asp*.

VA HEALTHCARE SYSTEM
The Department of Veterans Affairs (VA) operates one of the largest healthcare systems in the United States. The country's Veterans are provided healthcare in over 150 hospitals and medical centers and over 800 outpatient clinics. In addition to the basic healthcare needs, Veterans are provided with specific clinical services due to a higher prevalence of disabilities from traumatic injuries, post-traumatic stress disorder (PTSD) and neurological disorders. To respond to these needs, VA is in the process of developing and integrating a patient centered care delivery. This approach allows healthcare providers to enhance healing and support better outcomes and mirrors general trends in healthcare. In order to integrate knowledge derived from other industry efforts, the VA teamed with Planetree, an organization with expertise in patient centered care, in 2010-2012 to help develop a care model based on personalizing, humanizing, and demystifying the healthcare experience for patients and their families.

As a result, VA defines Veteran Centered Care as follows:

> "A fully engaged partnership of veteran, family, and healthcare team established through continuous healing relationships and provided in optimal healing environments, in order to improve health outcomes and the veteran's experience of care."

Based on this, Veteran Centered Care is provided following twelve core principles:

1. Honor the veteran's expectations of safe, high quality, accessible care.

2. Enhance the quality of human interactions and therapeutic alliances.

3. Solicit and respect the veteran's values, preferences, and needs.

4. Systematize the coordination, continuity, and integration of care.

5. Empower veterans through information and education.

6. Incorporate the nutritional, cultural and nurturing aspects of food.

7. Provide for physical comfort and pain management.

8. Ensure emotional and spiritual support.

9. Encourage involvement of family and friends.

10. Ensure that architectural layout and design are conducive to health and healing.

11. Introduce creative arts into the healing environment.

12. Support and sustain an engaged work force as key to providing veteran centered care.

SECTION 4: DEFINITIONS

AAMI: Acronym for the Association for the Advancement of Medical Instrumentation. AMMI is the source for all practice and design standards for decontamination, disinfection, and sterilization.

ANSI: Acronym for the American National Standards Institute. ANSI supports the development and approval of national voluntary standards, develops accreditation programs, and serves as the U.S. representative to the International Standards Organization (ISO).

Automated Endoscopic Reprocessor (AER): A fully automated device for testing, cleaning and high-level disinfection of various types of flexible fiber optic scopes used to minimize the use of hands in the cleaning process and eliminate soaking scopes in toxic chemical agents. AERs can assist in standardizing scope processing and promote a consistent level of care.

Automated Transport: A computer-controlled materials handling system that moves carts along pre-programmed paths to deliver goods. Also referred to as an Automated Guided Vehicle System (AGVS).

Biomedical Engineering: A support department that inspects, repairs, tests, and maintains a wide range of patient care equipment. Biomedical Engineering may provide primary response for maintaining SPS equipment. It also works closely with Logistics Service for the temporary storage of new equipment items before they are released for medical use in the facility, and for existing items awaiting repair or parts. Biomedical Engineering may also be called Clinical Engineering.

Bulk Item Storage: A high-bay storage of supplies method for items purchased in large quantities, including full pallets, and case-lots. If not available for purchase in a more convenient format, bulk supplies may be broken down into packages or low unit of measure before being transferred to Unit Item Storage. Bulk item storage may also accommodate pandemic supplies, disaster preparedness supplies, and similar items not typically required for routine operation in the healthcare facility.

Case Cart: A physical cart, and also a supply concept, whereby most supplies and instruments needed for a surgical procedure are pre-assembled, and placed into a cart, the case cart. Its contents are selected for a specific procedure, a specific surgeon, and / or a specific patient that is scheduled for an assigned time and location (procedure room). Case carts are typically pre-assembled 24-hours in advance or can be assembled as needed, in which case it is called a "just-in-time cart".

Clean Linen Storage: An area where clean linen is stored for issue. Clean linen distribution may be the responsibility of either Logistics Service or Environmental Programs Service (EPS) at the discretion of the particular medical facility.

Clean Loading Dock: Accommodates loading truck bays for vehicles unloading clean material and equipment delivered to the healthcare facility. Separation between clean and soiled loading docks must be maintained.

Container Rack: A specialty cart used in conjunction with an automatic cart washer, which accommodates rigid instrument containers and covers for cleaning and disinfection.

Decontamination - Soiled Work: An area that accommodates receiving, cleaning and disinfection of surgical instruments, scopes, reusable medical devices, carts and related patient care items that require decontamination and / or sterilization.

Exchange Cart Replenishment: A system where patient care areas are restocked with supplies, or clean linens, based on predetermined schedules. While one exchange cart is in use within a patient area, another is being restocked in Logistics Service or Environmental Program Service (EPS) as a replacement.

Flex Storage: A temporary holding space for incoming supplies and medical equipment items that are not ready for delivery or installation. These items include beds, stretchers, etc.

Functional Area (FA): A grouping of rooms and spaces based on their function within a clinical service.

Infection Control Risk Assessment (ICRA): A multidisciplinary, organizational, documented process that considers the medical facility's patient population and mission to reduce the risk of infection based on knowledge about infectious agents and the care environment, permitting the facility to anticipate its potential impact.

Logical Unit of Measure (LUM): A supply delivery model, also referred to as Low Unit of Measure, whereby medical products are ordered, received, and replenished directly to end users in a ready-to-use format. This model is part of a "just in time" vendor supported replenishment system.

Logistical Category (Log Cat): A system used by the VA to classify the procurement and installation of equipment.

Logistics Receiving, Storage and Dispatch: An area that accommodates receiving and storage of clean and sterile supplies and instruments within a controlled environment prior to distributing them to end users.

Low Temperature Sterilization: A sterilization method by which medical devices that are heat and / or moisture sensitive are sterilized by using hydrogen peroxide. As used in this document, low temperature sterilization refers to sterilizers which have chambers in which properly prepared medical devices can be sterilized by exposure to one of the two primary technologies currently available.

PG-18-5 Equipment Guide List: Standard for planning and developing equipment requirements, also know as Room Contents. There is a PG-18-5 standard corresponding to each PG-18-9 standard for each clinical and non-clinical department in a VA healthcare facility.

PG-18-9 Space Planning Criteria: Standard for allocating and planning space requirements for VA facilities. There is a PG-18-9 corresponding to a PG-18-5 standard for each clinical and non-clinical department in a VA healthcare facility.

PG-18-12 Design Guide: Standard that provides in-depth planning and design information for VA facilities. A PG-18-12 standard can cover more than one department in a VA healthcare facility.

Pandemic Storage: A portion of the medical center's disaster preparedness provisions that would complement the Pharmacy Cache with non-prescription related medical supplies. Items required in the Cache may vary by geographic region, VISN or by medical center, but would typically include storage of syringes, masks, gloves and assorted Personal Protective Equipment (PPE).

Personal Protective Equipment (PPE): Specialized clothing worn by SPS employees to prevent exposure to blood borne pathogens and other infectious elements.

Preparation and Assembly – Clean Work: An area within SPS where inspection, reassembly, functional testing and re-packaging of instruments, instrument sets, scopes and related medical devices occurs prior to final sterilization.

Receiving / Processing: An area within Logistics Service, where the detailed inspection of material and equipment takes place. Logistics Service staff will complete the appropriate receiving reports, and the sorting of all items for delivery to the appropriate storage location. Boxes and packing material are broken down into smaller quantities for placement on shelves or delivery to end users.

Reusable Medical Equipment (RME): RME is any medical equipment designed by the manufacturer to be reused for multiple patients. SPS must follow the reprocessing instructions provided by the manufacturer to ensure proper use.

Reverse Osmosis Deionized (RO / DI) Purified Water: Water suitable for sterile processing applications with specific resistivity of 0.1 megohm per cm. RO / DI purified water is required for the final rinse cycle of instrument washer-decontaminators, at the clean-up sinks, and is used in ultrasonic cleaners.

Soiled Loading Dock: Accommodates one or more truck bays for the interface with trash compactors, recycling compactors / dumpsters, on-site treatment of regulated medical waste (if authorized), and the removal of soiled linen, sharps, and other soiled materials. The Soiled Loading Dock may be located adjacent to, but must be physically separated from, the Clean Loading Dock.

SPS: Acronym for Sterile Processing Service.

SPS Reprocessing: The cleaning, disinfection, testing, repair, repackaging and sterilization of contaminated reusable medical equipment (RME) in order to make them available for use in patients.

Standard Storage Unit: A metric for planning SPS and Unit Item Storage requirements. It uses modules representing typical 24" D x 60" W x 72" H open wire shelves.

Sterilization: The elimination of all living microorganisms through the use of high temperature and, in some cases, chemical elements.

Transport Cart: A mobile cart used to transport instruments, scopes or supplies between Sterile Processing Service and patient care areas; also referred as Transfer Cart.

Truck Bay: A space at the loading dock that accommodates one delivery truck. Loading docks are comprised of multiple truck bays to accommodate deliveries and may incorporate dock lifts and leveling devices.

Unit Item Storage: Accommodates the storage of medical and non-medical supplies that are dispensed in less than case-lot quantities, including logical (low) unit of measure.

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SECTION 5: ABBREVIATIONS

A	Amps
A/E	Architectural / Engineering Firm
ABA	Architectural Barriers Act
AC	Air Conditioning
AC/HR	Air Changes per Hour
ACT 1	Acoustical Tile
ACT 2	Cleanroom Acoustical Tile and Grid
ADA	Americans with Disability Act
ADAAG	ADA Accessibility Guidelines (ADAAG)
AHJ	Authority Having Jurisdiction
AIA	American Institute of Architects
AMMI	Association for the Advancement of Medical Instrumentation
ANSI	American National Standards Institute
AR	As Required
ASHRAE	American Society of Heating Refrigerating & Air-Conditioning Engineers
BGSF	Building Gross Square Feet
BTU	British Thermal Unit
CFM	Cubic Feet per Minute
DGSF	Departmental Gross Square Feet
DOE	Department of Energy
DVA	Department of Veterans Affairs
FAR	Floor Area Ratio
FC	Foot Candle
GSF	Gross Square Feet
GSM	Gross Square Meters
GWB	Gypsum Wall Board
HAI	Hospital Acquired Infection(s), also known as Nosocomial Infections
HIPAA	Healthcare Insurance Portability and Accountability Act
HP	Horsepower
HVAC	Heating, Ventilating and Air Conditioning
IAQ	Indoor Air Quality
IBC	International Building Code
IDS	Input Data Statement
LB	Pound
Log Cat V V:	Department of Veterans Affairs furnished and installed - Medical Care Appropriations
Log Cat V C:	Department of Veterans Affairs furnished and Contractor installed - Medical Care Appropriations for Equipment and Construction Appropriations for Installation
Log Cat C C:	Contractor Furnished and Installed - Construction Appropriations

Log Cat C F:	Construction Appropriations - Department of Veterans Affairs furnished - Installed by the Contractor
LUX	Lumen per Square Meter
NEC	National Electrical Code
NFPA	National Fire Protection Association
NHCU	Nursing Home Care Unit
NSF	Net Square Feet
NSM	Net Square Meter(s)
NTS	Not to Scale
NUSIG	National Uniform Seismic Installation Guidelines
OCFM	Office of Construction and Facilities Management
OSHA	Occupational Safety and Health Administration
PFD	Program for Design
PG-18-5	VA Program Guide: Equipment Guide List
PG-18-9	VA Program Guide: Space Planning Criteria
PG-18-12	VA Program Guide: Design Guide
PPE	Personal Protective Equipment
P1	Painted / Semi-gloss
P2	Painted / Epoxy
PVCF	PVC – free Resilient Flooring
RB	Rubber Base
RCP	Reflected Ceiling Plan
RES	Resinous Flooring with Integral Base
RH	Relative Humidity
RME	Reusable Medical Equipment
RO	Reverse Osmosis
SF	Square Feet, Square Foot
SMACNA	Sheet Metal and Air Conditioning Contractor's National Association
SM	Square Meter(s)
SS	Stainless Steel
TJC	The Joint Commission (Accreditation of Healthcare Organizations), formerly JCAHO
TIL	Technical Information Library
TV	Television
UBC	Uniform Building Code
UFAS	Uniform Federal Accessibility Standards
V	Volts
VA	Department of Veterans Affairs
VACO	Department of Veterans Affairs Central Office
VAMC	Department of Veterans Affairs Medical Center
VHA	Veterans Health Administration
VISN	Veterans Integrated Service Network

SECTION 6: STERILE PROCESSING SERVICE (SPS)

PLANNING AND DESIGN CONSIDERATIONS (SPS)

The Sterile Processing Service main function is to ensure adequate and timely provision of properly cleaned, disinfected and sterilized semi-critical and critical Reusable Medical Equipment (RME) for all supported clinical procedure rooms in the facility (ORs, DTRs, Specialty Procedure Rooms, etc.). Thus, instrument sets, patient care equipment, and other medical devices must be processed and distributed in an accurate and timely manner so that veterans care is not adversely affected. SPS workflow begins with the recapture of all RME at the point of use and ends with reprocessing and packaging of sterilized RME before delivery to the point of use. Thus, SPS's role in the provision of quality healthcare services to Veterans is of utmost importance. The Sterile Processing Service role and function at the Department of Veterans Affairs is regulated through various Directives, Handbooks and Policies; refer to the most current. The following documents were reviewed during the development of this Design Guide: **VHA-D-2009-04**; **VHA-D-2009-31**; **VHA-D-2009-62**; **VHA-D-2010-18**; and **VHA-D-2011-37**.

Based on SPS's distinct functions, it is organized in six Functional Areas (FAs). Refer to **PG-18-9**: _285 Sterile Processing Service_.

1. Decontamination Area

2. Scope Processing Area

3. Preparation and Assembly Area

4. Sterilization Area

5. Receiving, Storage and Dispatch Area

6. Staff and Administrative Area

The Decontamination Area is where RMEs are received from the point of use. A Soiled Transition / Drop-off is provided as well as a PPE area to dispense and don protective clothing for staff prior to entering the Decontamination Area. The Decontamination Area is a key space in this FA; it houses the manual and automated equipment (instrument washer disinfectors, cleanup / washbasins, ultrasonic cleaners, etc.) as well as furnishings (SS counters and cabinets, etc.) used in the decontamination of RME. The room arrangement shall facilitate the one

Figure 1: Decontamination Area (SPS)

directional flow of RMEs onto the Preparation and Assembly Area. It has dedicated storage space for chemicals to be used for instrument and cart washers and also supports RO/DI water purification equipment. This may include RO/DI water at each clean-up sink and the final rinse cycle on the washer disinfector.

The Scope Processing Area is where the flexible endoscopes are reprocessed. The Scope Processing Area consists of an Ante Room, Decontamination, Scope Processing, and Clean Scope Storage. Equipment in this area includes an Automatic Endoscope Reprocessor (AER) and a soaking station to perform High Level Disinfection.

The Preparation and Assembly Area is where Reusable Medical Equipment (RME) items are inspected, re-assembled and packaged for sterilization. Packaging methods may include non-woven (disposable) instrument wrappers, rigid instrument containers, and peel pouches for individual items. Items are then transferred to the Sterilization area. The Preparation and Assembly Area includes the Instrument Set Assembly, Clean Workroom, and the Sterile Processing Supplies Storage.

Figure 2: Preparation and Assembly Area (SPS)

Steam sterilization is the primary method for achieving terminal sterilization. Items which cannot withstand exposure to high-heat and/or moisture will be sterilized by low temperature sterilization (gas plasma, ethylene oxide (EtO)). EtO sterilization requires an aeration cycle following sterilization to remove all traces of hazardous EtO gas remaining on the medical device via aeration. The Sterilization Area includes the Steam and Low Temp Sterilization Areas, an Unloading / Cooling Area and a Cart Return Area, if authorized, an area for Clean Steam Generator Equipment, the Ethylene Oxide Gas Sterilization (EtO) Room and the Ethylene Oxide Gas Sterilization (EtO) Abator Room may also be included.

Figure 3: Steam Sterilization Room (SPS)

Receiving and Storage area is where instrument sets and other soft goods are stored for case cart assembly and dispatch. It accommodates the Vendor Drop-off / Pick-up Area, Sterile Durables (Sterile Instruments) Storage, Dispatch Area including a Workstation, case cart assembly, and a dedicated HAC. The Sterile Durables (Sterile Instruments) Storage is the largest space in this FA as it shall be sized based on the number of ORs and Procedure Rooms it will be serving. This is where assembled sterilized instrument sets, as well as scopes and associated hard goods to support surgery and other areas are stored.

The Staff and Administrative Area provides office and workstation space for the SPS personnel as well as Conference / Training Room, Copy / Office Supply Room and Staff Lounge, Changing Lockers and Toilets.

Future Trends
The increased use of vendor loaner instrumentation for installing and / or revising spinal, neurological and orthopedic implants, in addition to the prevalence of loaner instruments require adequate space to receive, document and stage these items. As more robotic equipment in surgical and endoscopic

procedures are used, sterile processing and sterilization workload will increase; hence space allocation in the Decontamination, Scope Processing and Sterilization areas shall be sized to accommodate new instrument requirements. The space criteria for these spaces in **PG-18-9**: *285 Sterile Processing Service* allow this flexibility in the foreseeable future.

Technological advances also include RME management information and tracking systems, as well as automated equipment interfaces for decontamination and sterilization documentation. There is a growing trend in surgical suite design to eliminate the traditional sub-sterile and satellite reprocessing areas and shift all decontamination and sterilization activities to the Sterile Processing Service. Similarly, SPS is increasingly becoming the center of excellence for reprocessing all scopes. Scopes for all specialties: arthroscopy, bronchoscopy, colonoscopy / sigmoidoscopy, cystoscopy / ureteroscopy, laparoscopy, and upper gastrointestinal endoscopy and the various technologies to reprocess them require, space, infrastructure, equipment and skills/special training for SPS and its staff.

This document incorporates standards outlined in VHA Sterile Processing Service Handbook relative to the use of a four-zone SPS design approach which incorporates air-locks / vestibules and pass-thru sterilization equipment.

Lean Approach
A Lean analysis, sometimes called a Process Improvement Project (PIP), is recommended prior to beginning the design process of a SPS Project in order to facilitate operational improvement by identifying waste, encouraging standardization, streamlining operational practices, and eliminating unnecessary steps.

This process includes the analysis of adjacencies, vertical and horizontal, between SPS and Surgical Service; consideration of alternative transport systems for supplies, instruments, equipment and soiled materials; use of case cart systems, rapid instrument turnaround considerations, fast-track system, instrument management software and tracking systems; and point of use supply / replenishment systems that remove clinical professionals from the day to day supply chain activities. Manufacturers are responding to *Lean* process improvement initiatives by offering new sterilizer designs which feature smaller chamber sizes to facilitate faster throughput, sterilizers with vertical-drop and horizontal-slide doors, and sterilizers with automated loading and unloading capabilities. They also continue to enhance sustainable decontamination and sterilization equipment features which significantly reduces water consumption.

Location
Typically, Surgical Service is the main user of Sterile Processing Service; hence, SPS shall be located in close physical proximity to avoid long travel distances for the RME items. In most cases, this is achieved by aligning vertically SPS with Surgical Service and connecting them via dedicated soiled and clean elevators. Other clinical areas SPS serves are the Dental Clinic, the Endoscopy Suite, and the procedure rooms in all the other clinics in the facility including the Primary Care – Patient Aligned Care Team (PACT) Clinic. Due to floor loading requirements and service / maintenance to the SPS equipment, a ground floor location is preferred.

Infection Control
Healthcare-associated Infections (HAI) inflict a high cost to patients including hospital re-admittance, disability, and even death. SPS can address infection control through proper handling and storage of sterilized RME and materials. Design / implementation of a workflow process that segregates handling and manipulation of contaminated and sterilized RME to avoid cross contamination shall be provided. In addition, selecting finishes resistant to moisture and mold and easily cleaned; providing proper ventilation and HVAC systems and control, and consistent use of PPE will contribute to control spread of infection.

Ethylene Oxide (EtO)
The use of EtO gas to sterilize RMEs which may be sensitive to high temperatures and/or moisture when exposed to steam-based sterilization processes, has generally been replaced by other methods of low-temperature sterilization. VA is in the process of phasing out the us of EtO as an RME sterilization method. Some VA facilities, however, may still use EtO due to existence of instruments in their stock that can only be sterilized using this method. Since EtO is highly flammable, toxic, and carcinogenic, care must be taken to ensure that staff is not exposed to EtO during the sterilization or aeration processes. The EtO sterilizers / aerators must be located in a fully contained room with an adjacent dedicated Abator room to ensure proper containment of gases. See ANSI/AAMI ST41 for design recommendations for EtO facilities and ANSI/AAMI ST58 for design recommendations for other types of chemical sterilization. OSHA currently regulates the use of and exposure to EtO under title 29 Code of Federal Regulations (CFR) 1910. 1047. Federal and state Environmental Protection Agencies (EPA) regulate EtO waste emissions and typically require construction, installation, replacement and operating permits.

Sterile Consumables (Soft Goods) Storage
Although this space is provided in **PG-18-9**: _286: Logistics Service_ (FA 3, Room 9); its function is related to SPS and should be located in the SPS Receiving and Storage Area.

Scope Processing
Since scope processing is managed and staffed by SPS; a centrally located area within the main SPS department is preferred to maintain and control consistent scope reprocessing. It may, however, be remotely located within the medical facility closer to the point-of-use. See **ANSI / AAMI ST91** and **ANSI / AAMI ST58** for design recommendations for scope reprocessing areas.

Other Planning Considerations
The SPS layout design must provide physical separation between work areas for handling clean / sterilized instrument assembly, preparation, storage and dispatch and soiled materials. A soiled transition room must be provided between an adjacent circulation corridor and the main soiled work areas. Since Surgical Service is the largest user of SPS; SPS should be vertically stacked or located on the same level, adjacent to the Surgical Service.

If SPS is stacked vertically with the OR, dedicated clean and soiled cart transport elevators must be provided; the elevator shall be sized to accommodate transport case carts only. Dedicated dumbwaiters may be considered as back up for use during maintenance and unscheduled elevator down time.

The internal workflow of SPS should be unidirectional so that soiled items flow progressively to the clean work areas. Similarly, clean items should flow to sterilization, to storage, to case cart staging, and finally to dispatch / issue.

Careful consideration must be given to both the type and placement of hand-washing stations and emergency eye-wash stations. Hand-washing sinks and alcohol-based hand-rub dispensers must be visible and accessible in all work areas as well as in the staff locker rooms, lounge and conference rooms. Refer to **ANSI Z 58. 1-2009** and **VHA-D-2009-29** for emergency eye wash / deluge shower requirements.

SPS should be designed for flexibility and adaptability to accommodate future expansion, storage capacity, and equipment / technology. Design for flexibility might include provision of space for utilities for additional instrument washer-decontaminator, steam sterilizers, and sterile supply storage equipment. Provide access panels where required to facilitate installation of future equipment.

VA healthcare facilities must plan for the event of catastrophic events such. SPS must have the ability to continue operations and /or assist other healthcare providers during times of need.

Space Planning

The Department of Veterans Affairs' **PG-18-9**: _285: Sterile Processing Service_ provides the Space Planning Criteria to be used in generating a baseline space program for a Sterile Processing Service project. It also includes background information relative to planning this department. **PG-18-9**: _285: Sterile Processing Service_ has been implemented in the Space and Equipment Planning System (SEPS). A project created in SEPS will generate a Program for Design (PFD) based on answers to the Input Data Statements (IDSs) –**PG-18-9**: _285: Sterile Processing Service_, Section 4- These statements relate to Mission, Workload, and Staffing parameters for the specific project. Once the PFD is generated, planners shall use it as a basis to develop the Space Program for the project by making the necessary adjustments, project based room nomenclature, NSF, or by adding or deleting specific rooms.

Codes and Standards

Refer to the current applicable national, regional, and local codes and standards in addition to the VA specific guidelines and directives when designing a Sterile Processing Service department. Additional codes and standards, not listed below, may also apply.

VA Program Guides

VA Technical Information Library (TIL)

https://www.cfm.va.gov/til/

1. **PG-18-1**: _Master Construction Specifications_

2. **PG-18-3**: _Design and Construction Procedures_

3. **PG-18-4**: _Standard Details_

4. **PG-18-5**: _Equipment Guide List_

5. **H-18-8**: _Seismic Design Handbook_

6. **PG-18-9**: _Space Planning Criteria_ (implemented in SEPS)

7. **PG-18-10**: *Design Manual* (by discipline)

8. **PG-18-10**: *Signage Design Manual*

9. **PG-18-13**: *Topic Specific Standards and Criteria*

10. **PG-18-14**: *Room Finishes, Door, and Hardware Schedule*

11. *Environmental Planning Guidance*

VHA Directives, Handbooks and Manuals
https://www.va.gov/vhapublications/

National Codes, Standards and Guidelines

1. **AAMI TIR34**: *Water for the Reprocessing of Medical Devices. Association for the Advancement of Medical Instrumentation*

2. **ANSI ST Z358**: *Emergency Eyewash and Shower Equipment*

3. **ANSI / AAMI ST15883-1**: *Washer–Disinfectors*

4. **ANSI / AAMI ST41**: *Ethylene Oxide Sterilization in Health Care Facilities: Safety and Effectiveness*

5. **ANSI / AAMI ST58**: *Chemical Sterilization and High-Level Disinfection in Health Care Facilities*

6. **ANSI / AAMI ST77**: *Containment Devices for Reusable Medical Device Sterilization*

7. **ANSI / AAMI ST79**: *Comprehensive Guide to Steam Sterilization and Sterility Assurance in Health Care Facilities*

8. **ANSI / AAMI ST91**: Flexible and Semi-rigid Endoscope Processing in Health care Facilities.

9. **ANSI / AAMI / ISO TIR 17665-2**: *Sterilization of Health Care Products*

10. **ANSI/ASHRAE/IESNA**: *Standard 90. 1*

11. **ASME A 17. 1**: *Safety Code for Elevators and Escalators*

12. **ASME B-31**: *Boiler and Pressure Vessel Code*

13. **Centers for Disease Control and Prevention (CDC)**: *Guidelines for Environmental Control in Health-Care Facilities*

14. **Facility Guidelines Institute (FGI)**: *Guidelines for Design and construction of Hospitals and Outpatient Facilities*

15. **General Services Administration (GSA)**: *ABA Accessibility Standard for Federal Facilities*

16. **IES (Illuminating Engineering Society)**: *Lighting Handbook*.

17. **International Building Code (IBC)**: *Mechanical and Plumbing Codes*

18. **NFPA 70**: *National Electric Code*

19. **NFPA 99**: *Health Care Facilities Code*

20. **NFPA 101**: *Life Safety Code*

21. **The Joint Commission (TJC)**: _Comprehensive Accreditation Manual for Hospitals_

22. **The Joint Commission (TJC)**: _Environment of Care Emergency Management and Life Safety Standards_

23. **U. S. Access Board**: _American with Disabilities Act and Architectural Barriers Act Accessibility Guidelines (ADAAG)_

24. **U. S. Code:** _The Public Buildings Amendment Act_, PL 100-678, (Nov 1988)

25. **U. S. Department of Health and Human Services**: _Health Information Privacy (HIPPA)_

26. **U. S. Department of Justice**: _ADA Standards for Accessible Design_

27. **U. S. Department of Labor, Occupational Safety and Health Administration**: _OSHA 1910-1030 Blood borne Pathogens_

28. **U. S. Department of Labor, Occupational Safety and Health Administration**: _OSHA 3151-12R Personal Protective Equipment_

29. **U. S. Department of Labor, Occupational Safety and Health Administration**: _OSHA Title 29, Part 1910. 1047: Occupational Exposure to Ethylene Oxide_

30. **U. S. Department of Labor, Occupational Safety and Health Administration**: _OSHA Title 29, Part 1910. 95: Occupational Noise Exposure_

31. **U. S. Department of Labor, Occupational Safety and Health Administration**: _OSHA Title 29, Part 1926. 101: Hearing Protection_

32. **U. S. Environmental Protection Agency (EPA)**: _Hospitals and Healthcare Facilities Must Use a Single Chamber when Sterilizing Medical Equipment with ETO_

33. **U. S. Food and Drug Administration (FDA)**: _Guidance Document for Washers and Washer–Disinfectors Intended for Processing Reusable Medical Devices_

34. **U. S. Food and Drug Administration (FDA)**: _Guidance for Industry and for FDA Staff—Enforcement Priorities for Single-Use Devices Reprocessed by Third Parties and Hospitals_

35. **U. S. Access Board**: _Uniform Federal Accessibility Standards (UFAS)_

36. **United States Green Building Council (USGBC)**: _Leadership in Energy and Environmental Design (LEED) Project Certification_

Conflicts between nationally recognized codes and standards and VA requirements shall be brought to the attention of the VA. The resolution of conflict shall be made by the Authority Having Jurisdiction (AHJ) within VA to ensure consistency system-wide.

ARCHITECTURAL DESIGN (SPS)

Process Flow

All SPS spaces shall be consolidated physically in one location with controlled access / egress for soiled and cleaned RMEs as well as staff. The Scope Processing Area may, however, be located closer to the point of use at a particular facility if authorized. The floor plan layout should reflect the SPS workflow

and provide physical separation of soiled, cleaned and sterilized items in order to avoid the possibility of cross contamination.

To this end, the process flow shall be from the Decontamination Area to the Preparation and Assembly Area to the Storage Area. Also, HVAC and plumbing systems shall also follow this separation principle to avoid cross contamination opportunities. Design modularity shall be based on the type of equipment selected (sterilizers, washers, etc.) to allow for expansion in the future. If use of EtO is authorized, the design layout shall also provide adequate means of containment and purification of exhaust emissions; locate the EtO room adjacent to the EtO Abator Room and the exterior envelope of the building in compliance with local, state and national regulations.

Figure 4 illustrates the process flow of Reusable Medical Equipment (RME) in the Sterile Processing Service department. It demarcates the soiled and clean sections and the relative location of the access / egress and vertical circulation within the facility.
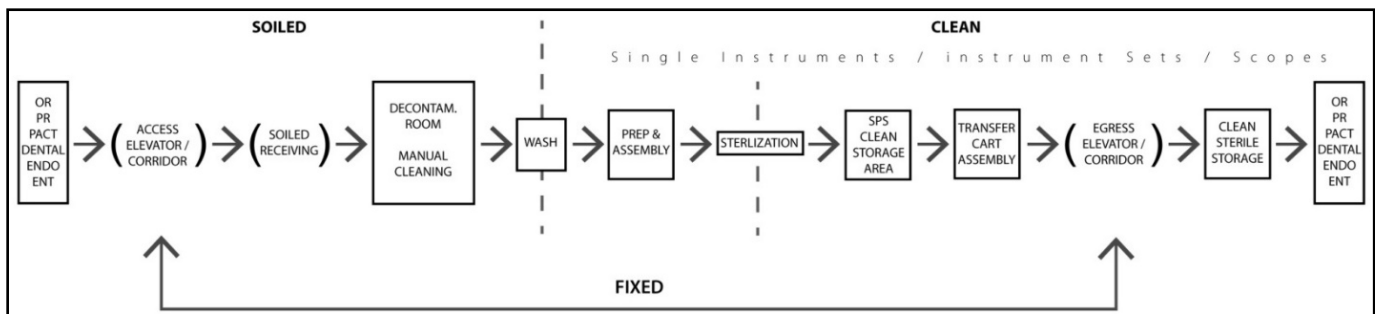

Figure 4: Process Flow Diagram (SPS)

Life Safety
Fire Protection, Sprinkler Systems and Fire Alarm Systems shall be designed following criteria outlined in **PG-18-10**: *VA Fire Protection Design Manual* as well as all applicable local, state and national codes. The Sterilization Area shall be provided with fire separation (fire rated walls / partitions and doors). The fire exits shall be marked with illuminated signage. Fire alarms and extinguishers shall be provided in all work areas. All supplies must be stored at least 18 inches from sprinkler heads.

Accessibility
Refer **PG-18-13**: *VA Barrier Free Design Standard* in addition to the *Architectural Barriers Act Accessibility Standards (ABAAS)* Standards: Appendices C and D to 36 CFR Part 1191; and *ADA Standards for Accessible Design*: (28 CFR Part 36).

Acoustics and Noise Control
Provide acoustical separation between Decontamination, Scope Processing and Sterilization areas and any non SPS clinical or staff and administrative adjacent spaces. Also, provide sound-attenuation devices / elements in the Decontamination Room, the Instrument Assembly Clean Workroom and the Sterilization Area to control noise levels.

Security

Access to the Sterile Processing Service work areas should be provided for authorized staff only. Refer to **PG-18-10**: _Physical Security and Resiliency Design Manual for VA Facilities_ for information related to security for SPS.

Additional Architectural Design Considerations

It is important to determine the security requirements of SPS facilities during the design process. SPS departments will be classified as Mission Critical. As a result, the design must be coordinated with each Medical Center to establish specific planning requirements related to the facilities' security classification. This may include the requirement for, emergency power, alternate utility sources, and building hardening. At least one administrative office should have a direct line of sight into the clean work areas of the department.

INTERIOR DESIGN (SPS)

Refer to **PG-18-10**: _Interior Design Manual_ for the Staff and Administrative Area and to **PG-18-14**: _Room Finishes, Door, and Hardware Schedule_ for all Functional Areas.

Interior finishes of the SPS work areas should be aimed at promoting an adequate and safe environment for staff recognizing the unique function of each of the following Functional Areas: Decontamination, Scope Processing and Sterilization Areas. Durability, moisture and mold resistance, cleanability and high performance should be sought in selecting material and finishes for all work areas and support areas including storage spaces.

Flooring

Floors shall be level with no ridges or bumps in order to prevent pools of water from forming, creating a slipping hazard. A level floor also promotes ease of movement of transport carts, case carts, and other wheeled equipment. Durable flooring materials that can withstand daily or more frequent cleaning as well as the application of chemical agents must be specified. Decontamination, Scope Processing and Sterilization work areas shall be specified with Epoxy based seamless flooring with a built-in waterproofing membrane. The floor to wall transition shall be coved to allow proper cleaning in order to preclude growth of microorganisms in the crevices. Additionally, floors in the Sterilization and Storage work areas should be capable of handling heavy weights and heavy traffic pattern of wheeled fully loaded sterilizer carts.

Walls / Partitions

Interior partitions shall be constructed of metal studs and gypsum wallboard (GWB) with non-particulate or fiber shedding composition capable of withstanding constant cleaning. Wall protection shall be installed to prevent damage by carts and other rolling equipment. Provide wall blocking to support wall-mounted ancillary equipment (recording devices, sensors, SS shelves, hand-cleaners, etc.). Provide sound attenuation per **PG-18-3**: _Design and Construction Procedures_ to achieve a minimum Sound Transmission Coefficient rating (STC) of 45.

Ceilings

Ceilings shall be constructed of gypsum board to attain a flush, non-porous surface. Light fixtures shall be recessed and enclosed. Gypsum board ceiling systems are preferred since they provide a continuous surface with no seams. Provide access panels to allow direct service to mechanical / electrical systems

for maintenance purposes; label each access panel to identify the corresponding utility / system. The following spaces shall have gypsum board ceilings: Decontamination Area, Scope Processing Area, Preparation and Assembly Area, and Sterilization Area. Gypsum board ceilings are not required in the spaces in the Receiving, Storage, and Dispatch and Staff and Administrative Functional Areas.

Doors and Hardware
Provide door protection, vision panels, and hand-free power operated mechanisms where possible in work areas. Consider the use of powered sliding doors in high traffic / high transaction. Door widths should be able to accommodate the movement of carts and equipment. Doors should open from a space of higher level of cleanliness to a space of lower level of cleanliness. Provide door assemblies to maintain the pressure differential in areas where negative pressure is required. Refer to **PG-18-14**: *Room Finishes, Door, and Hardware Schedule*.

Casework
Specify heavy gauge stainless steel (SS) casework in Decontamination, Scope Processing, Preparation and Assembly, and Sterilization Areas. Stainless steel shall be fully welded with a work surface load capacity of at least 300 lbs. per linear foot and antimicrobial treatment in order to inhibit growth of bacteria, fungi, mold, and other microbes. Refer to **PG-18-4**: *Standard Details*. Casework shall not include any products made from wood or fibrous materials.

Finishes
Durability, cleanability, sustainability, and low flammability are critical properties when selecting interior finishes for SPS. In addition, non-slip (safety) and anti-microbial (Infection Control) attributes are important to help provide a safe and secure work environment. Walls / partitions shall have a smooth surface and have a painted with a low gloss finish to promote ease of frequent chemical cleaning. Ceilings shall provide a surface that is non-porous and easily cleaned. Refer to **PG-18-14**: *Room Finishes, Door, and Hardware Schedule*.

Lighting
Refer to the Electrical Design section of this Design Guide.

MEDICAL EQUIPMENT (SPS)
Equipment selection should be based on the ability to achieve the highest quality of performance. It should consider the effectiveness of the processes, efficiency of energy and resource consumption, control and prevention of infections, and space requirements. Equipment selection must be coordinated with the design of the facility in the early phases of the project to ensure that the requirements of each piece of equipment are incorporated into the project. The Room Templates suggest possible locations of utilities with respect to the equipment. However, the exact locations and adequacy of utilities must be addressed for each specific piece of equipment.
Major equipment types in SPS include:

Ultrasonic Cleaners
Ultrasonic Cleaners are often used as the first step in the reprocessing of RMEs. This piece of equipment uses sound waves, water, and detergents to provide an initial cleaning of the instruments. Ultrasonic Cleaners may be either freestanding or tabletop.

Washer / Disinfectors

After the instruments are manually cleaned, they are passed through a Washer / Disinfector and proceed from Decontamination (soiled) to Preparation and Assembly (clean). Washer / Disinfectors use water and detergents to process instruments following manual decontamination and/or ultrasonic cleaning. After this process, the instruments are considered "clean".

Automatic Endoscope Reprocessors (AER)

AERs are a fully automated device for testing and high-level disinfection of various types of flexible fiber optic scopes. These devices are used to minimize hand washing and eliminate soaking scopes in toxic chemical agents. AERs can foster standardized scope re-processing and promote consistent levels of disinfection.

Steam Sterilizers

Steam Sterilizers reprocess instruments that can withstand a high temperature. Sterilizer units are available in various types including cart and floor loading, single door and pass through, and free standing and recessed.

Low Temperature Sterilizers

Low Temperature Sterilizers are used for instruments that cannot withstand high temperature sterilizations. Most commonly used is Gas Plasma in which instruments are sterilized using hydrogen peroxide. Older models use a plasma form of hydrogen peroxide while the later technology uses vaporized hydrogen peroxide. This process may be used to sterilize metal and non-metal instruments and moisture sensitive instruments. Desirable features of HP sterilizers include data and network connectivity, easy to clean surfaces, and multiple cycle options.

EtO Sterilizers

A less commonly used Low Temperature Sterilizer system uses ethylene oxide (EtO). This gas is extremely flammable, is toxic, and has been classified as carcinogenic. As a result, this method of sterilization has been phased out of most SPS departments.

Waste Management

Provide appropriate waste receptacles strategically located for the collection of non-infectious waste that occurs from normal Sterile Processing Service operations. Regulated medical waste containers/receptacles, and sharps collection containers shall be available in the Decontamination and Soiled Workroom to handle items that may inadvertently arrive in SPS from user areas. Linen hampers may also be located in the Decontamination and Soiled Workroom to collect soiled reusable surgical towels that may be returned with certain instrument sets.

Refer to **ANSI/AAMI ST79**:*2010: Comprehensive Guide to Steam Sterilization and Sterility Assurance in Health Care Facilities*, Section 6: Handling, collection, and transport of contaminated items, Sub-section 6. 2: Separation of waste and reusable items at point of use, and **VHA HB 1116. 01**: *Sterile Processing Service Handbook*, and local medical center policy for additional guidance.

MECHANICAL DESIGN (SPS)

General

The HVAC system shall comply with **PG-18-10**: _HVAC Design Manual_, **PG-18-3**: _Design and Construction Procedures_, **PG-18-1**: _Master Construction Specifications_ and **PG-18-4**: _Standard Details_. If specific VA requirements are not available, design criteria from industry standards including **ASHRAE**, **ANSI / AMMI ST79**, and **NFPA** should be submitted for review and approval by VA.

Supply Air Requirements

The supply air volume should be established to meet the cooling, heating, and humidification load requirements of the occupied space. The supply volume should be increased as required to meet minimum air change and maintain proper space pressurization relative to room exhaust. In addition, filtration shall be comprised of a minimum MERV-8 pre-filters and MERV-14 final filters, where filter efficiencies shall be based on the current version of **ANSI / AMMI ST79**.

Ventilation Requirements

A dedicated 100% outside air, constant volume, air-handling unit shall be specified to provide heating, cooling, humidification, dehumidification, and filtration for the entire SPS suite not including staff and administrative areas. Design conditions for all spaces should be maintained in accordance with the current version of **ANSI / AMMI ST79**.

Return and Exhaust Air Requirements

The HVAC design should provide exhaust ducting to spaces to remove air that is unacceptable to return and provide proper room pressurization. Return and exhaust grills shall be located at point of source to maximize their effectiveness at removing point source contaminants from the space. HVAC systems shall be designed to remove or reduce to acceptable levels of volatile chemical and airborne microbiological contaminants within the facility. Systems shall be designed to remove excessive moisture in SPS spaces and to control moisture and dust accumulation in AHUs, distribution elements, and chases, to avoid conditions permitting the growth of pathogenic, allergenic, or otherwise objectionable microorganisms.

Refer to the **PG-18-10** _HVAC Design Manual_ for any spaces requiring constant volume dedicated exhaust systems. In order to separate the soiled and clean areas within SPS, the soiled areas must be under negative pressure in relation to the clean areas.
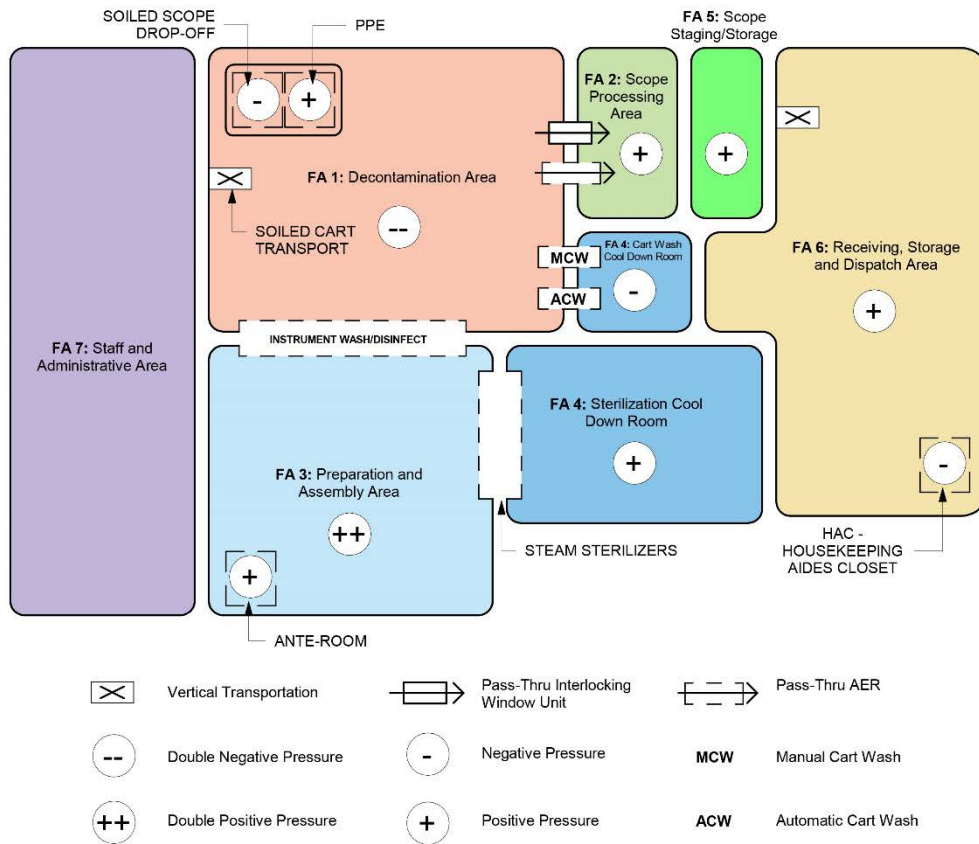
Diagram 1: Room Relative Pressure (SPS)

Noise Abatement

Refer to **PG-18-10** *HVAC Design Manual* for sound control levels for the HVAC system design.

Controls

The SPS Suite air system shall operate continuously to maintain required room pressurization requirements. Rooms requiring positive or negative pressurization shall be provided with room pressurization monitors and alarms to alert the SPS and facilities staff in the event that the room pressure falls above or below the room pressure requirements.

EtO gas monitors and alarms shall be placed both inside and outside the EtO Gas Sterilization Room and EtO Gas Sterilization Abator Room to alert the occupants and facilities staff in the event of a leak of EtO gas.

The Soiled Transition Drop-off Anterooms, PPE Alcoves, Preparation and Assembly Area, and Sterilization Area shall be provided with individual room temperature and humidity controls. Design conditions for all spaces shall be maintained in accordance with the current version of ASHRAE Standard 55.

Sterilizer Steam Source
Steam for sterilization shall be generated from deionized water and may be produced by a dedicated boiler or steam-to-steam heat exchanger. Facility steam may be used for sterilizer steam provided it is determined to be acceptable for use in the sterilization equipment. A supplemental Clean Steam Generator may be introduced to improve the quality of the steam used in the sterilization equipment. This generator uses house steam to heat deionized water that is then used in the steam sterilizer instrument processing.

ELECTRICAL DESIGN (SPS)

General
PG-18-10: _Electrical Design Manual_ prescribes the criteria to be used for the electrical design for SPS facilities.

Lighting
Lighting design for SPS must comply with the **PG-18-10** _Lighting Design Manual_, and IES publication RP-29-06, "Lighting for Hospitals and Health Care Facilities", and the Illuminating Engineering Society (IES). Illumination in SPS shall utilize wet location recessed fluorescent luminaries in Decontamination, Sterilization, Scope Processing and Staff Showers. Lighting fixtures used in Staff and Administrative areas and other non – instrument processing areas may use recessed fluorescent luminaries to control glare on monitor screens per the **IES (Illuminating Engineering Society)**: _Lighting Handbook_.

Power
All receptacles shall comply with the provisions outlined in the **PG-18-10**: _Electrical Design Manual_, Chapter 3. General purpose duplex receptacles shall be provided on each wall within a room. Multiple outlet assemblies i. e. Wiremold© are provided in areas within Preparation and Assembly and Scope Processing. Receptacles in wet areas shall be GFCI with weatherproof covers per **NFPA70**, article 406. Workstations with personal computers (PC) are provided with quadruplex receptacles to accommodate the computer, monitor, and printer. Electrical receptacles supplied from the emergency system shall be colored or marked for identification to match building standard.

Power: Essential Equipment Systems
Essential Equipment Systems within SPS shall serve all essential equipment listed in **NFPA 70**, **NFPA 99**, and all other locations as determined by the proposed facility risk analysis. Under these requirements, a minimum ⅓ of the sterilization equipment shall be on the Essential Equipment System. If the facility is used for Mass Casualty conditions or if the hospital policy dictates, 100% of the sterilization equipment shall be on the Essential Equipment System.

Emergency Power
In the event of a power outage, emergency power must be provided to maintain operations in Sterile Processing Service. For short durations of power interruptions, emergency power is used to complete instrument reprocessing cycles that are already in progress.

Refer to **PG-18-10**: _Electrical Design Manual_ for mechanical systems that shall be connected to the emergency power system and shall remain operational during power outages.

Energy Conservation and Sustainable Design
Refer to the VA Sustainable Design Manual for detailed information and requirements. The minimum energy standard shall be the latest edition of **ANSI/ASHRAE/IESNA**: *Standard 90. 1*.

Communications / Special Systems
Refer to **PG-18-10**: *Telecommunications and Special Telecommunications Systems Design Manual* for communications and special systems requirements.

Telephone and Data
Refer to **PG-18-10**: *Telecommunications and Special Telecommunications Systems Design Manual* for telephone and data system requirements.

Intercom
An intradepartmental communication system shall be provided to allow communication between the various functional areas within SPS. At a minimum, intercom stations should be placed in the Soiled Receiving and Decontamination Area; Preparation, Assembly, Sterilization Area, and Dispatch Area. Other intercom locations should be coordinated with SPS administration staff.

An interdepartmental communication system shall be provided between SPS and Surgical Service, Dental Service and Women's Clinic and any other department deemed necessary by the facility.

Life Safety and Fire Protection
U. S. Code: *The Public Buildings Amendment Act*, PL 100-678, (Nov 1988) requires all Federal agencies to follow the latest editions of nationally recognized fire and life safety codes. VA has adopted the National Fire Codes (NFC), except **NFPA-5000**, published by the National Fire Protection Association (NFPA). Life safety requirements are specifically addressed in the Life Safety Code, **NFPA-101**. Fire protection features not addressed by the NFC shall be designed to comply with requirements of the latest edition of the **International Building Code (IBC)**. For guidance on compliance with other Codes and Standards, refer to **PG-18-3**: *Design and Construction Procedures*, Topic 1.

PLUMBING DESIGN (SPS)
Plumbing shall comply with **PG-18-10**: *Plumbing Design Manual*; **AAMI TIR34**: *Water for the Reprocessing of Medical Devices. Association for the Advancement of Medical Instrumentation,* and **ANSI ST Z358**: *Emergency Eyewash and Shower Equipment.*

Water Quality
The quality of the water used in SPS equipment vastly affects the end result of RME reprocessing. Improved cleaning, chemical effectiveness, prevention of scale forming on the RMEs, and elimination of corrosive substances is attained through the use of quality water. There are four categories of water quality: potable -"tap water"-, softened, deionized, and reverse osmosis water. Potable water shall be tested to determine the levels of contaminants that may affect the reprocessing of RMEs. Softened water is used to reduce scaling on RMEs. Deionized water is used for final washer rinses and the steam sterilization process. This decreases mineral deposits on instrumentation and helps maintain the efficiency of the sterilization equipment. RO water is highly processed to remove microorganisms, inorganic material, and organic material from the water. Refer to **AAMI TIR34**: *Water for the*

Reprocessing of Medical Devices, Association for the Advancement of Medical Instrumentation, for further information regarding water quality for SPS reprocessing.

Steam Quality
Steam quality is measured by the level of dryness and percentage of non-condensable gases (NCGs). Steam dryness is measured in the percentage of moisture by volume. Manufacturers of steam sterilization equipment recommend steam with 97% to 100% dryness. NCGs should be below 3. 5% by volume to prevent the creation of air pockets; these can block the steam from directly contacting the RMEs and prevent effective sterilization.

Floor Drains
Decontamination Room: Locate floor drains near the instrument wash stations and instrument loading / unloading areas; slope the floor towards the floor drain (⅛" per foot min. to ¼" per foot max.). to prevent accumulation of standing water.

Manual Cart Wash: Provide a floor drain with a 4-inch min. diameter, covered with a strainer or grid. The location of the drain should be in the center of the room with the floor sloping to the drain no less than ⅛ inch per foot and no greater than ¼ inch per foot. The Manual Cart Wash flooring slope shall begin 2'-0" outside the access door(s) to prevent excess water from entering adjacent areas.

Equipment Service Areas: Locate floor drain(s) (as required by equipment manufacturer) to facilitate equipment servicing. Include a funnel attached to the floor drain cover for non-direct drainage connections.

Clean Compressed Air
The Decontamination Area shall be provided with a **NFPA 99C-Level** regulated clean compressed air system that is separate from patient and other medical air systems provided at the facility.

STRUCTURAL DESIGN (SPS)
Refer to **PG-18-10**: *Structural Design Manual for Hospital, Replacement Hospital, Clinical Addition, Domiciliary, Nursing Home, Psychiatric Building, Outpatient Clinic, Veterinary Medical Unit Projects*, **H-18-8** *Seismic Design Handbook*, and **VA Directive 7512:** *Seismic Safety of VA Buildings*. SPS departments are generally located in VA facilities that are classified as Mission Critical Facilities. As a result, they must remain functional in the event of a natural disaster or other catastrophic event.

Structural systems in new and existing facilities must be designed to accommodate the heavy loads and equipment vibration associated with the SPS equipment such as washers / disinfectors, steam sterilizers, and the dynamic load of fully stocked case carts.

FUNCTIONAL CONSIDERATIONS (SPS)
The Functional Diagrams in this section show functional relationships, process flow and space organization. Room Templates include Floor Plans, Reflected Ceiling Plans, Interior Elevations and Room Data Sheets for selected rooms in Section 9. They show a suggested room layout, room content allocation, including equipment, and utilities reflecting operational concepts described elsewhere in this document. They should be used as a basis for developing an SPS project.

Based on **PG-18-9**: *285 Sterile Processing Service* is organized into six functional areas:

<u>FA1: Decontamination Area</u>

1. Receive, decontaminate and prepare instruments for sterilization.

2. Specific Activities: Receive soiled instruments and case carts, chemical disinfection of Reusable Medical Equipment (RMEs), cart cleaning, automated cleaning of instruments, instrument loading into reprocessing equipment, and manual cleaning of instruments.

<u>FA2: Scope Processing Area</u>

1. Receive, decontaminate, clean / disinfect and store all types of scopes.

2. Specific Activities: receive soiled scopes, chemical disinfection of scopes, automated cleaning of scopes (AER), manual cleaning of scopes, and scope storage and staging.

<u>FA3: Preparation and Assembly Area</u>

1. Inspect, repair and test RMEs and assemble into Instrument Sets along with prepackaged soft goods.

2. Specific Activities: instrument testing and inspection, instrument packaging and wrapping, inventory of single instruments, instrument maintenance and repair, and instrument tracking.

<u>FA4: Sterilization Area</u>

1. Sterilize Instrument Sets.

2. Specific Activities: monitor sterilization cycles, maintain sterilizers, cooling and handling of sterilized packages, and infection prevention and control.

<u>FA5: Receiving, Storage and Dispatch Area</u>

1. Assemble Case Carts with Instrument Sets and additional medical instrumentation and stage them for transport to the point of use.

2. Specific Activities: store sterile supplies and instruments; assemble case carts, track, and dispatch of sterile supplies to Surgical Service and other clinical areas.

<u>FA6: Staff and Administrative Area</u>

1. Space for staff and administrative functions.

2. Specific Activities: provide office and workstation spaces, conference and training areas, and staff lounges, lockers and toilets.

SPATIAL RELATIONSHIPS (SPS)

Based on the functional relationships, this section further defines all the spaces within each Functional Area and also illustrates the relationships among Functional Areas (see Section 7: Sterile Processing Service Functional Diagrams) and individual spaces at the Departmental and the Functional Area levels.

<u>FA1: Decontamination Area</u>

1. Soiled Transition / Drop-off Anteroom: The Soiled Transition / Drop-off Anteroom provides controlled access to the Decontamination Room for non-SPS staff to drop-off items for reprocessing.

2. PPE Alcove: The PPE Decontamination Alcove is located adjacent to the Soiled Transition / Drop-off Anteroom to provide staff and visitors the opportunity to don Personal Protective Equipment (PPE). This alcove is also used upon exiting Decontamination to remove and dispose of PPE after use.

    Since some staff may be assigned to 'soiled work areas', including Decontamination, they must wear Personal Protective Equipment (PPE), consisting of gloves, hair covers, shoe covers, protective eyewear / face shields, and gowns. The

Figure 5: Decontamination Room (SPS)

    gowns are made of impervious, non-woven fabric or textiles. Due to the nature of the PPE, and to promote personal hygiene, staff should be afforded the opportunity to shower before getting into their personal clothing and leaving the department.

3. Decontamination Room: This space is a clean-up area directly adjacent to the Anteroom and contains sinks and decontamination equipment. This area may include a dedicated soiled elevator for return of contaminated items from Surgery Service if it is aligned vertically. Upon completion of decontamination, RMEs are delivered to the Preparation & Assembly Area.

4. Automated Cart Washer: If authorized, this area provides a means to clean case carts, as well as ridged instrument containers. Workflow should allow direct access to SPS Receiving, Storage and Dispatch Area, for case cart assembly, and indirect access to Preparation and Assembly Area for return of rigid instrument containers.

5. Manual Cart Wash: The Manual Cart Wash is a room in which miscellaneous carts can be washed manually and serves as a back-up to the automated cart washer. The Manual Cart Wash should provide direct access from Decontamination and Receiving, Storage and Dispatch Area.

6. Water Treatment and Detergent Storage Room: This room should be located immediately adjacent to the Decontamination Room and may be accessed from within the department and / or an external service corridor. It accommodates working stock of cleaning chemicals and

Figure 6: Automated Cart Washer (SPS)

detergents, and may contain the water treatment system for producing purified water via reverse

osmosis and / or deionization (RO / DI). The room may also house a dedicated air compressor, if required, to supply air to the SPS equipment.
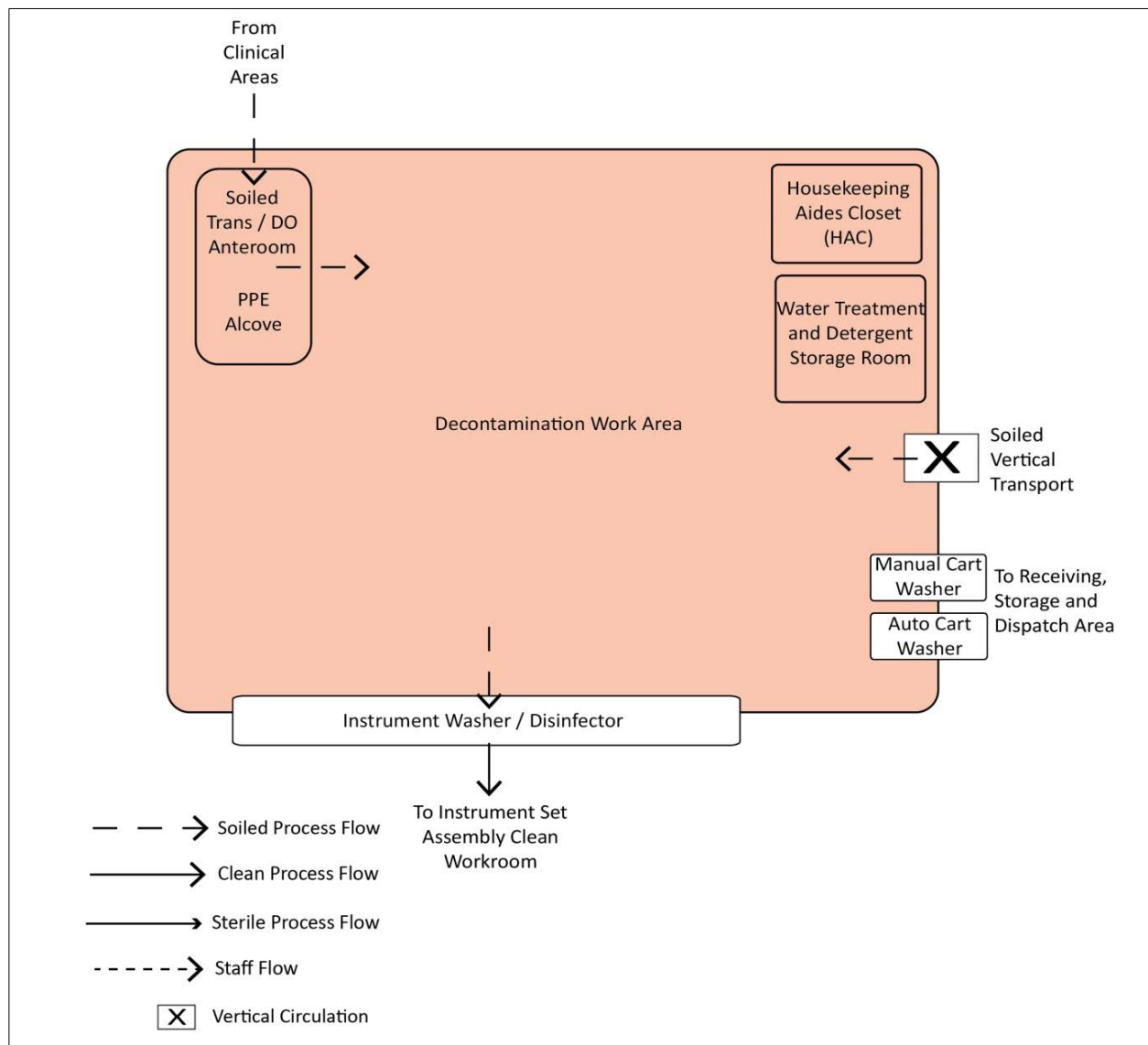

Diagram 2: Decontamination Area (SPS)

7. Housekeeping Aides Closet (HAC): The HAC is dedicated to the Decontamination Area and should be located near the entrance of the Decontamination Area. The HAC will include a wet vacuum and all items needed to clean the Decontamination Area.

FA2: Scope Processing Area

1. Scope Processing Anteroom: This space provides controlled access to the Scope Processing Area for non-SPS staff to drop-off items for reprocessing.

2. PPE Alcove: The PPE Alcove is located within the Anteroom to provide staff and visitors the opportunity to don Personal Protective Equipment (PPE).

3. Decontamination Room: The Decontamination Room should be located immediately adjacent to and with direct access from the Anteroom. It contains the clean-up sink(s) for scopes. A pass-thru window to the Scope Processing Room shall be provided and designed to prevent airflow from the Decontamination Room (negative pressure) to the Scope Processing Room (positive pressure). The SPS soiled elevator, if provided, is accessed from this room.

4. Scope Processing Room: This space contains automated high-level scope disinfection equipment. It is located between the Decontamination Room and the Scope Staging / Storage Room, see Diagram 3

5. Scope Staging Room: This area is located adjacent to the Scope Processing Room and is used for holding scopes prior to distribution to end users. The SPS clean elevator, if provided, is accessed from this room.

Figure 8: Scope Processing Room (SPS)
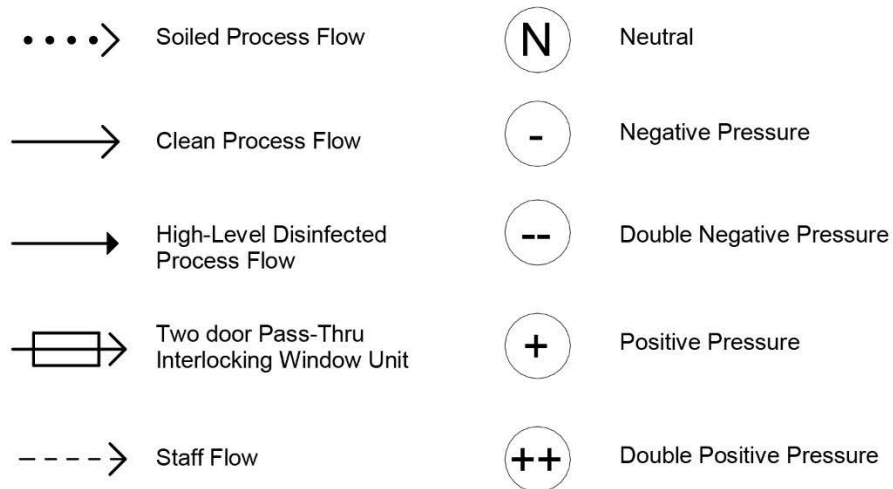

Figure 7: Scope Staging Room (SPS)

From Clinical Areas   To Clinical Areas

Soiled Scope Drop-Off

Scope Storage Drying Cabinet

Scope Staging/Storage Room

PPE Ante Room

Decontamination Room

Scope Processing Room

Two Bay AER

Optional PPE Ante-Room

DIAGRAM 3.1

• • • • >   Soiled Process Flow   N   Neutral

———>   Clean Process Flow   -   Negative Pressure

———▶   High-Level Disinfected Process Flow   --   Double Negative Pressure

⊏══▷   Two door Pass-Thru Interlocking Window Unit   +   Positive Pressure

– – – >   Staff Flow   ++   Double Positive Pressure

Diagram 3.1: Scope Processing Area (SPS)
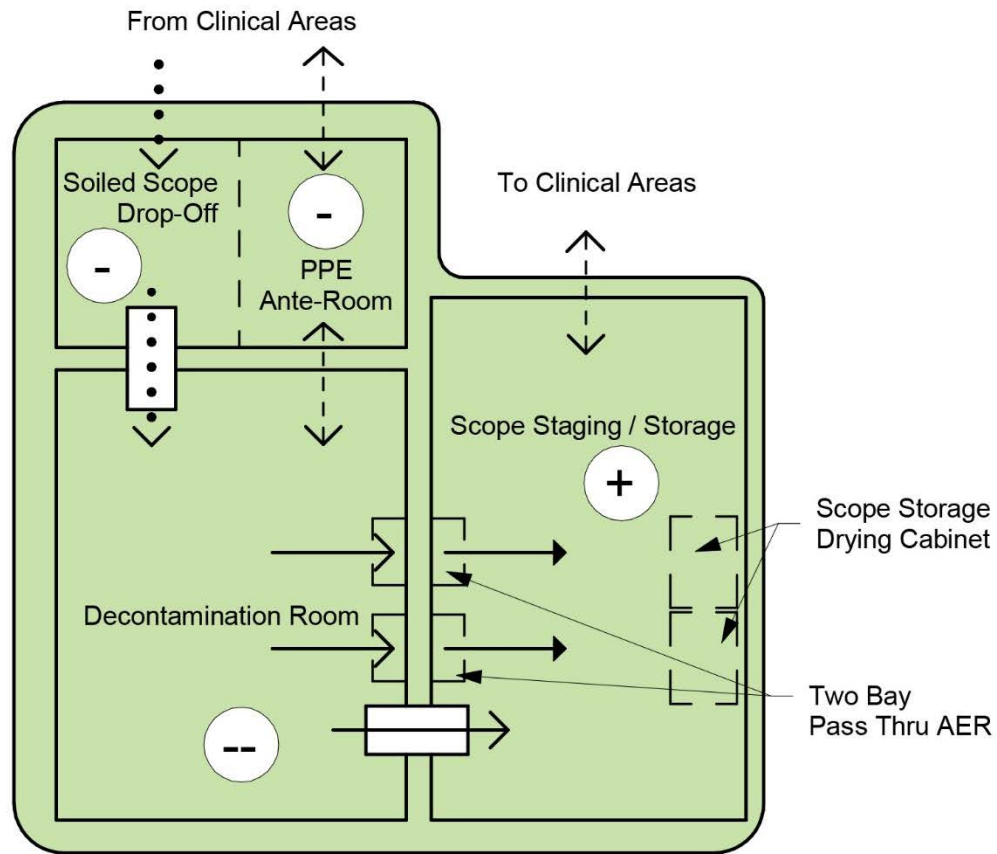
DIAGRAM 3.2
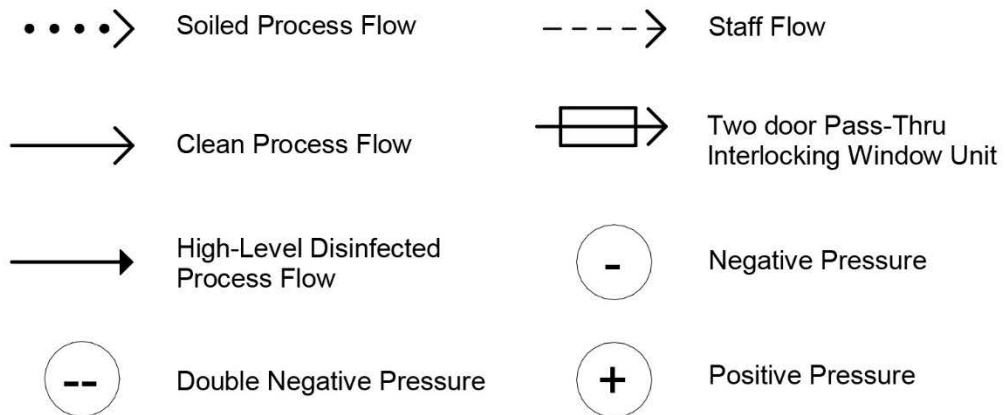
Diagram 3.2: Scope Processing Area (SPS)

FA3: Preparation and Assembly Area

1. Instrument Set Assembly / Clean Workroom: This workroom is immediately adjacent to the Decontamination Room (FA1: Decontamination Area) in order to receive instruments which have been washed and disinfected. It provides workspace to inspect and reassemble instrument sets and to prepare the instruments for sterilization. The space should be open and free from obstructions in order to allow for an efficient, linear workflow. The Instrument Sets, once assembled, are directly loaded into the sterilizers. In addition to access from a common corridor, direct access from the Staff Lockers should be provided.

Figure 9: Instrument Set Assembly / Clean Workroom, View A (SPS)

Figure 10: Instrument Set Assembly / Clean Workroom, View B (SPS)

2. Sterile Processing Supplies Storage: This is a dedicated room for working stock including wrappers, filters, tapes, biological indicators and spare parts.

From
Decontamination
Work Area

Instrument Washer / Disinfector

Instrument Set Assembly Clean Workroom

To Sterilization Area

Sterile Processing
Supplies Storage

— — → Soiled Process Flow

———→ Clean Process Flow

———→ Sterile Process Flow

- - - -→ Staff Flow

X Vertical Circulation
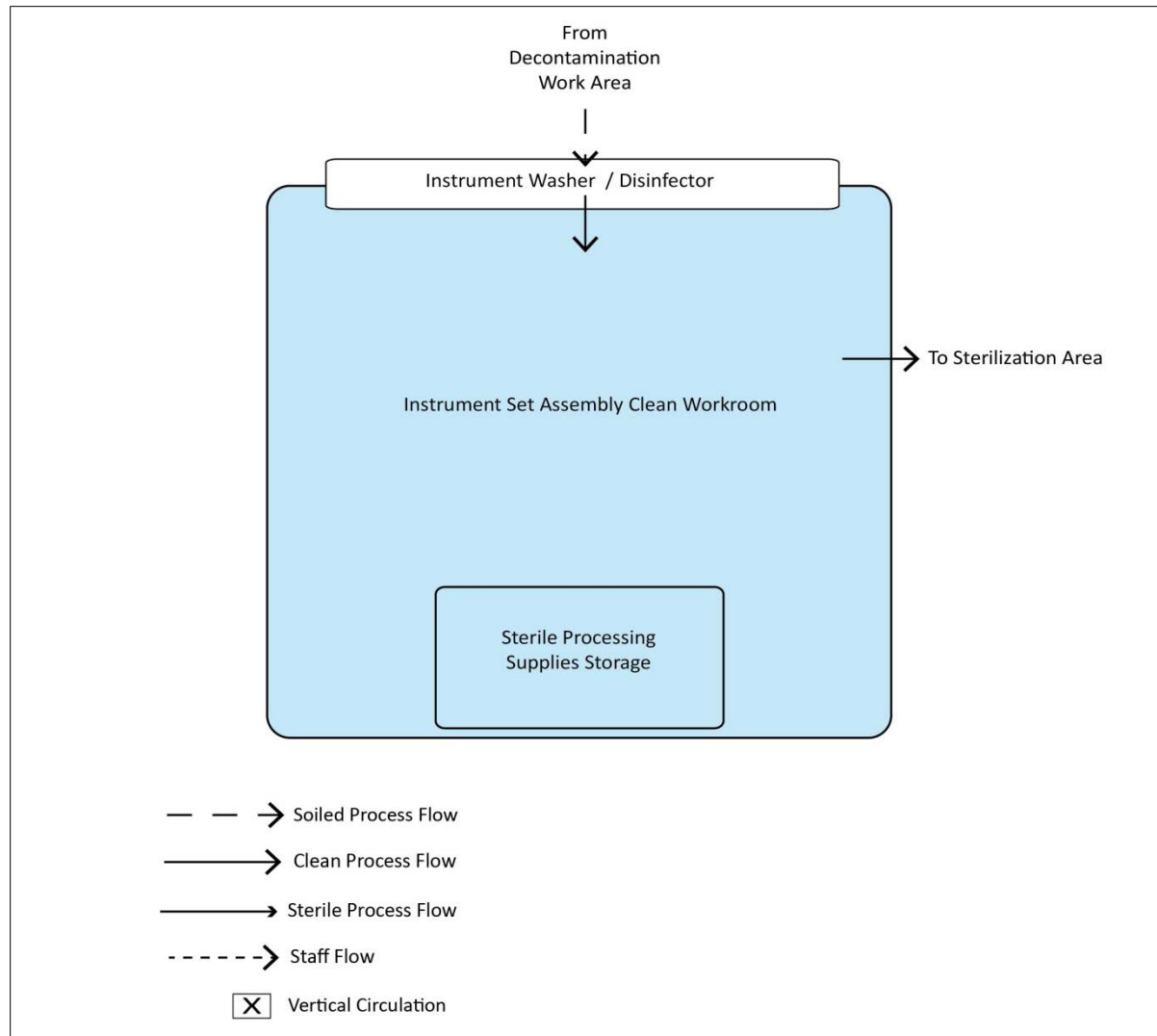
Diagram 4: Preparation and Assembly Area (SPS)

FA4: Sterilization Area

1. Steam Sterilization Area: This space accommodates the sterilizers, and space for cart staging, loading and unloading. Space for maneuvering case carts prior / after loading / unloading is provided. Sterilizers should be immediately adjacent to the assembly workstations and in close proximity to the biological indicators QA / QC workstation. This area includes the mechanical space required for the sterilizers and is typically separated by a wall or modular assembly from the Steam Sterilization Area.

Figure 11: Steam Sterilization Room (SPS)

2. Low Temp Sterilization Area: Low temp sterilizers utilize plasma, hydrogen peroxide or other alternative technology. A drying cabinet is provided for gas plasma sterilizers to aide in the removal of any residual moisture before an item is placed into the sterilizer.

3. Ethylene Oxide Gas Sterilization (EtO) Room: A dedicated room with specific environmental standards for emissions control including a dedicated exhaust. It shall be located adjacent to the EtO equipment / Abator Room.

Figure 13: Front Loading Steam Sterilizer (SPS)

Figure 12: Low Temperature Sterilizer (SPS)

4. Ethylene Oxide Gas Sterilization (EtO) Abator Room: It accommodates the EtO abator equipment that removes the EtO gas from the EtO sterilizer; converting EtO into carbon dioxide and water vapor through a heated catalytic process.

5. Cart Return Area: A passage from the Unloading / Cooling Area back to the Steam Sterilization Room shall be provided if pass-through steam sterilizers are used.

6. Unloading / Cooling Area: Staging area for sterilization carts after completing the steam sterilization cycle (if pass-through sterilizers are to be used).

7. Clean Steam Generator Equipment: In order to achieve and maintain consistently high-quality steam and steam pressure, a clean steam generator may be considered. Clean steam generator units use house steam to produce pure steam. Locate this room within 25 to 30 feet to the steam sterilizers.
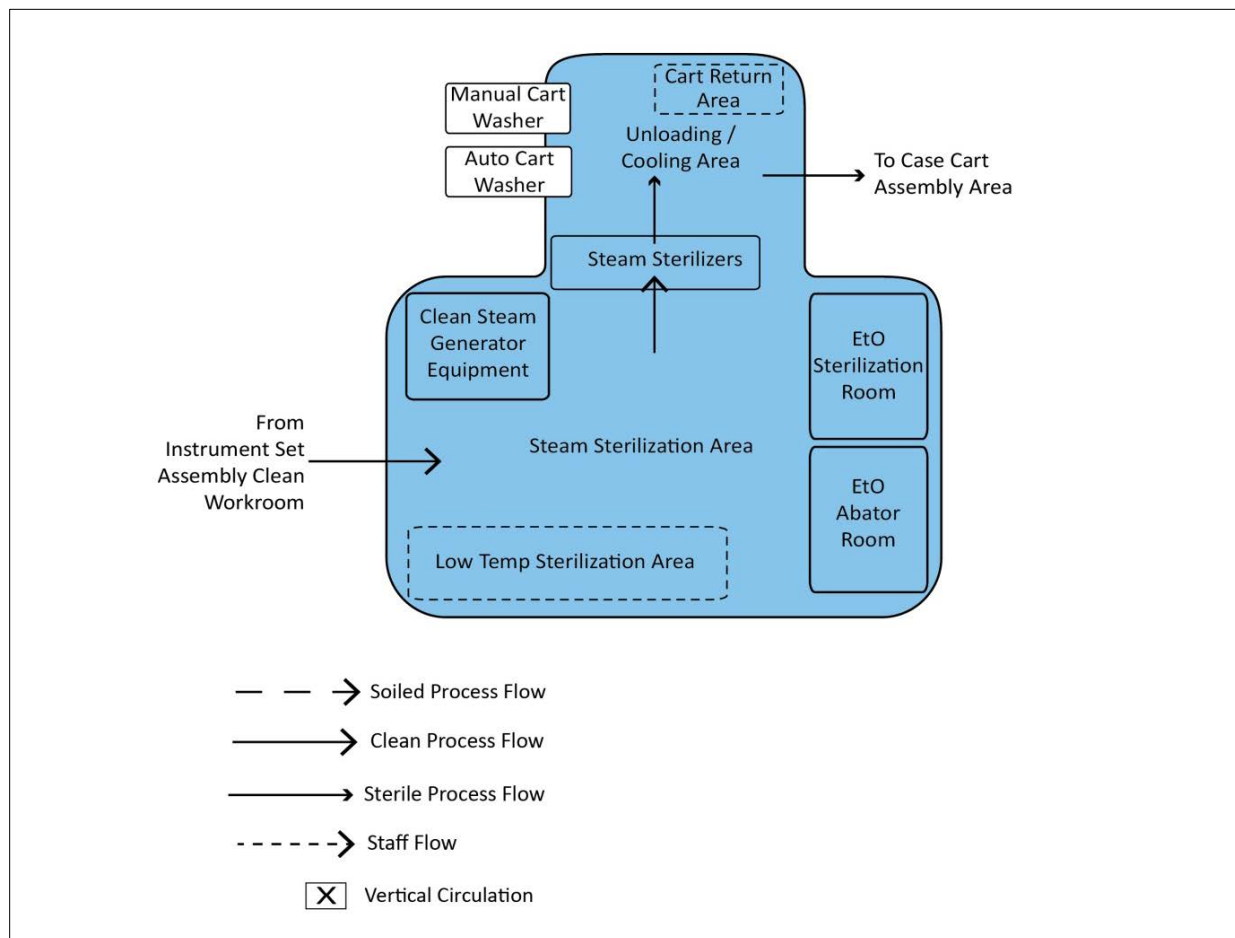
Diagram 5: Sterilization Area (SPS)

<u>FA5: Receiving, Storage and Dispatch Area</u>

1. Vendor drop-off / Pick-up area: Used in medical facilities for procedures which require special instrumentation and / or implantable devices that are loaned to the facility by authorized manufacturers. The room provides a secure environment to receive / inspect / verify the loaned items which have been delivered, and also serves as a holding area for the pick-up and return of the loaned items to the manufacturer.

2. Dispatch Area: Used to stage instruments and case carts before they are issued to end users. If SPS is vertically stacked with the operating rooms, the dispatch area may include a dedicated clean elevator.

3. Case Cart Dispatch Workstation: This workstation is provided to control and document items issued to end users.

4. Sterile Durables (Sterile Instruments) Storage: This storage area is where sterilized instrument sets and related medical devices are stored prior to case cart assembly.

5. Case Cart Assembly Area: This area is where case cart assembly takes place; based on the intended patient procedure, specific instrument sets, scopes, and other medical items are loaded into the case cart.

6. Housekeeping Aides Closet (HAC): A dedicated HAC for Receiving, Storage and maybe Dispatch Area.

The following rooms are assigned to Logistics Service but are physically located in SPS.

1. Receiving Breakout and Inspection Room: This room is used to receive surgical supplies from Logistics Service that may require removal of outer packaging before the items can be brought into SPS.

2. Sterile Consumables (Soft Goods) Storage: This storage area is for all consumable supplies in SPS that are maintained in Logical Unit of Measure (LUM). These items are used to supply the surgical case carts.
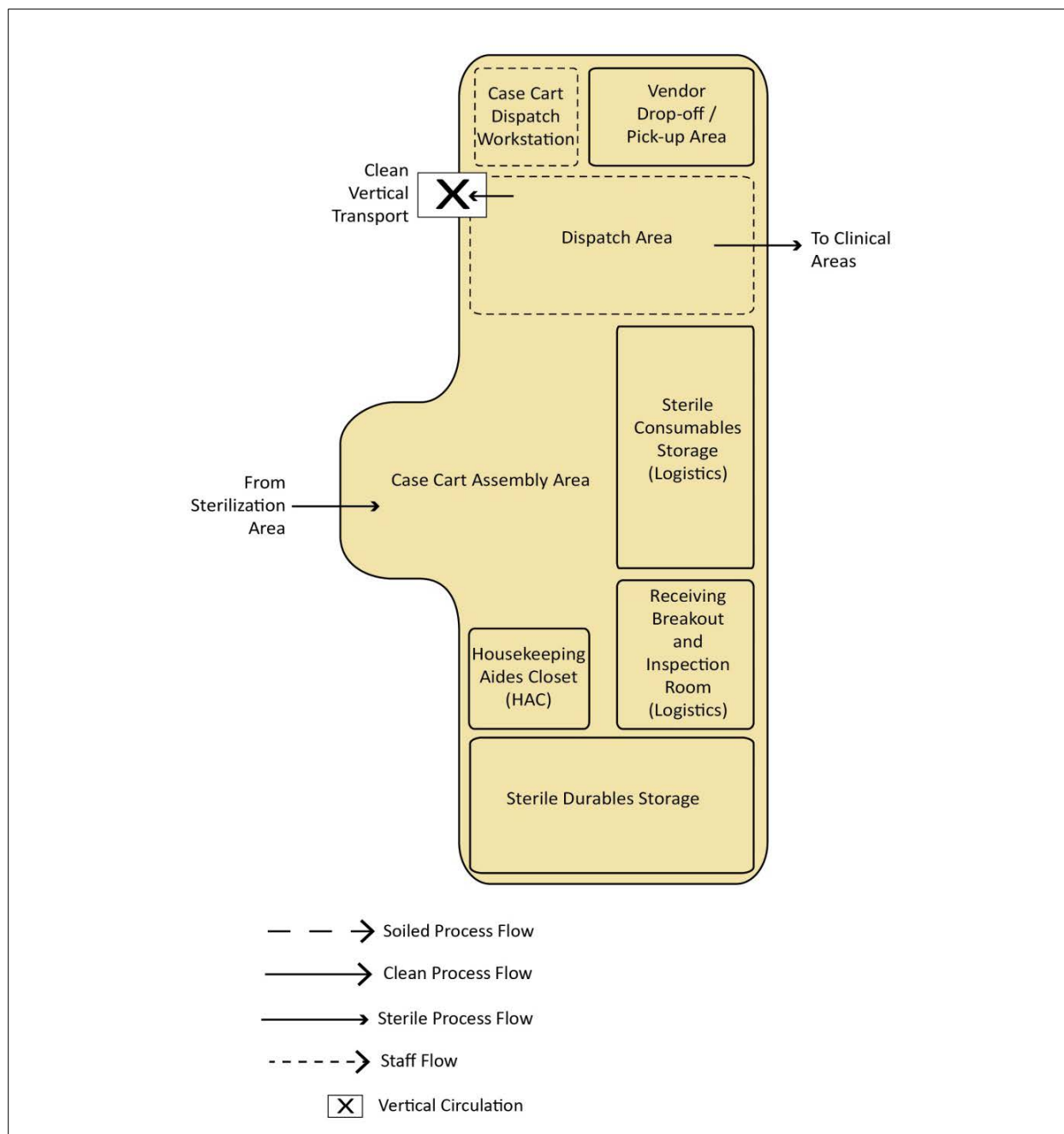
Diagram 6: Receiving, Storage & Dispatch Area (SPS)

FA6: Staff and Administrative Area

1. SPS Chief and Assistant Chief Offices and Clerical Workstations: These spaces are provided for staff to perform administrative duties. They include enclosed office space for the SPS Chief and Assistant Chief, and open workstations for all clerical and other staff assigned to SPS.

2. Conference / Training Room: This dedicated space is used for staff meetings, training and certification maintenance.

3. Copier / Office Supply Room: This area provides a centralized area for copiers and office supplies.

4. Staff Lounge: The Staff Lounge provides an area for staff breaks, dining, and general respite.

5. Staff Toilets: Staff Toilets should be located adjacent to the staff lounge.

6. Male / Female Locker / Changing: This area is provided for SPS staff to change into scrubs or other work clothing.

7. Male / Female Toilet / Shower: Showers are provided for SPS staff for convenience and to support infection control policies.
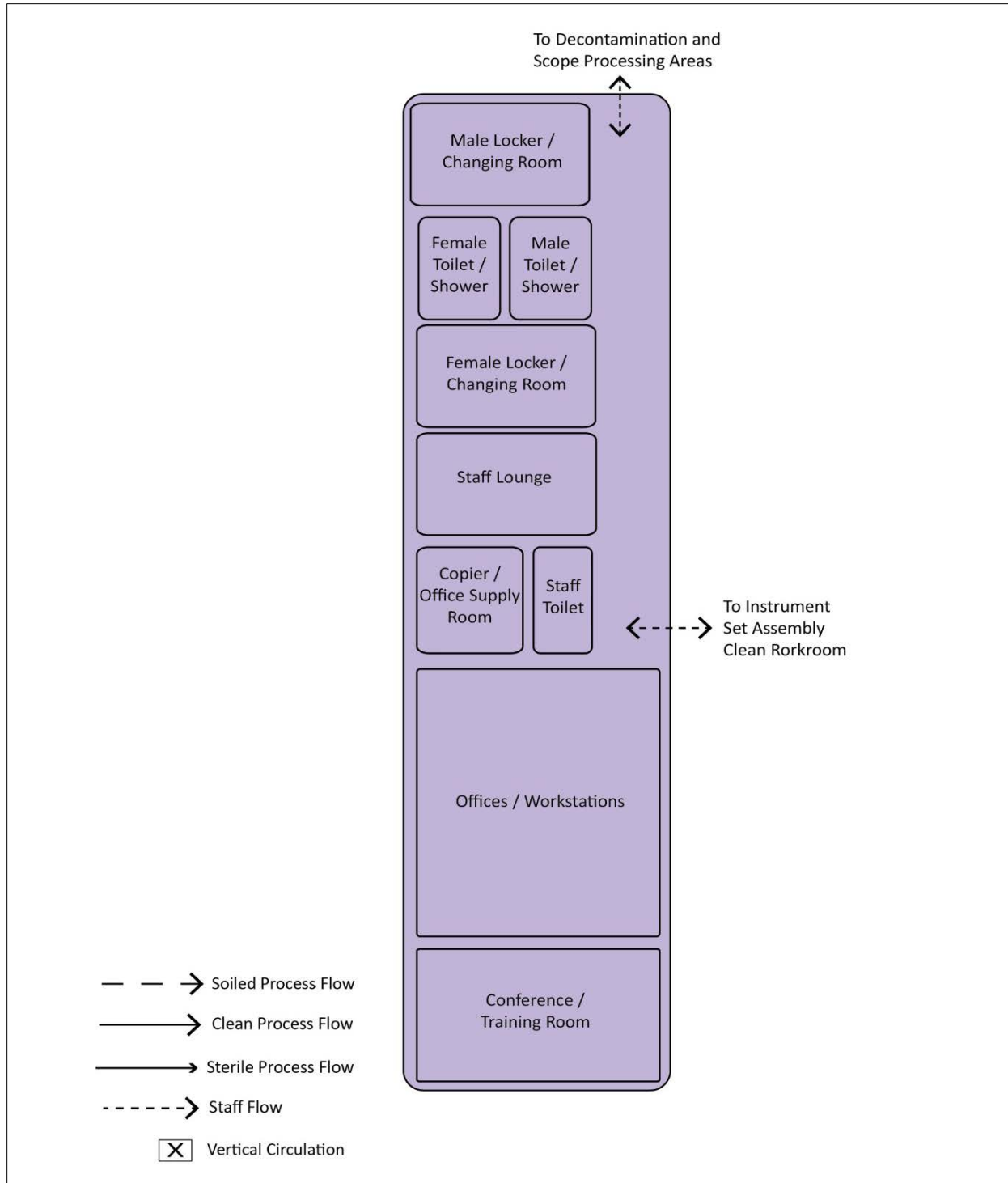
Diagram 7: Staff and Administrative Area (SPS)

SECTION 7: FUNCTIONAL DIAGRAMS (SPS)

The Functional Diagrams provide an overview of the Sterile Processing Service Department and illustrate how the Functional Areas in the Department relate to each other.

Diagrams include:

1. Functional Relationships Diagram
    Represents the functional inter-relationships and adjacencies among the six Functional Areas in Sterile Processing Service.

2. Process Flow Diagram
    Illustrates the process flow of RMEs from soiled arrival to sterile distribution.

3. Staff Flow
    Highlights the appropriate staff flow in the clean and soiled work areas to prevent cross-contamination.

FA 2: Scope Staging/Storage

FA 1: Decontamination Area

CLEAN SCOPES

FA 4: Cart Wash Cool Down Room

FA 6: Receiving, Storage and Dispatch Area

MCW

ACW

SOILED SCOPES

FA 7: Staff and Administrative Area

Instrument Wash / Disinfect

FA 4: Sterilization Cool Down Room

FA 3: Preparation and Assembly Area

STEAM STERILIZERS

Symbol	Description	Symbol	Description	Symbol	Description
• • • • ▷	Soiled Process Flow	– – – ▷	Staff Flow	•[·•·•]▷	Pass-Thru AER
───▷	Clean Process Flow	•[□ • • • •]▷	Pass-Thru Interlocking Window Unit	MCW	Manual Cart Wash
───▶	Sterile Process Flow	⊠	Vertical Transportation	ACW	Automatic Cart Wash

Diagram 8: Functional Relationships (SPS)

FA 6: Staff and Administrative Area
- ML / CR
- F / TS | M / TS
- FL / CR
- Staff Lounge
- C / OSR | ST
- Offices / Workstations
- Conf / TR

FA 1: Decontamination Area
- SPA | PPE
- HAC
- WT & D STOR RM
- Decontamination Work Area
- SOILED SCOPES
- Instrument Wash / Disinfect

FA 2: Scope Staging/Storage

FA 5: Receiving, Storage and Dispatch Area
- Vendor DO/PU Area
- Clean Dispatch Area
- CLEAN SCOPES
- Case Cart Assemby Area
- SCS (LOG)
- Sterile Durables Stor
- RB&I (LOG)
- HAC

MCW
ACW
CRA
Cart Wash Cool Down Area

FA 3: Preparation and Assembly Area
- Instrument Set Assembly Clean Workroom
- Ante Room | Sterile Process Supply Stor

FA 4: Sterilization Area
- CSGE
- Sterilization Cool Down Room
- Low Temp SA
- STEAM STERILIZERS

Legend:
- • • • • • ► Soiled Process Flow
- ——► Clean Process Flow
- ——► Sterile Process Flow
- – – – ► Staff Flow
- Pass-Thru Interlocking Window Unit
- ⊠ Vertical Transportation
- Pass-Thru AER
- **MCW** Manual Cart Wash
- **ACW** Automatic Cart Wash

Diagram 9: Process Flow (SPS)

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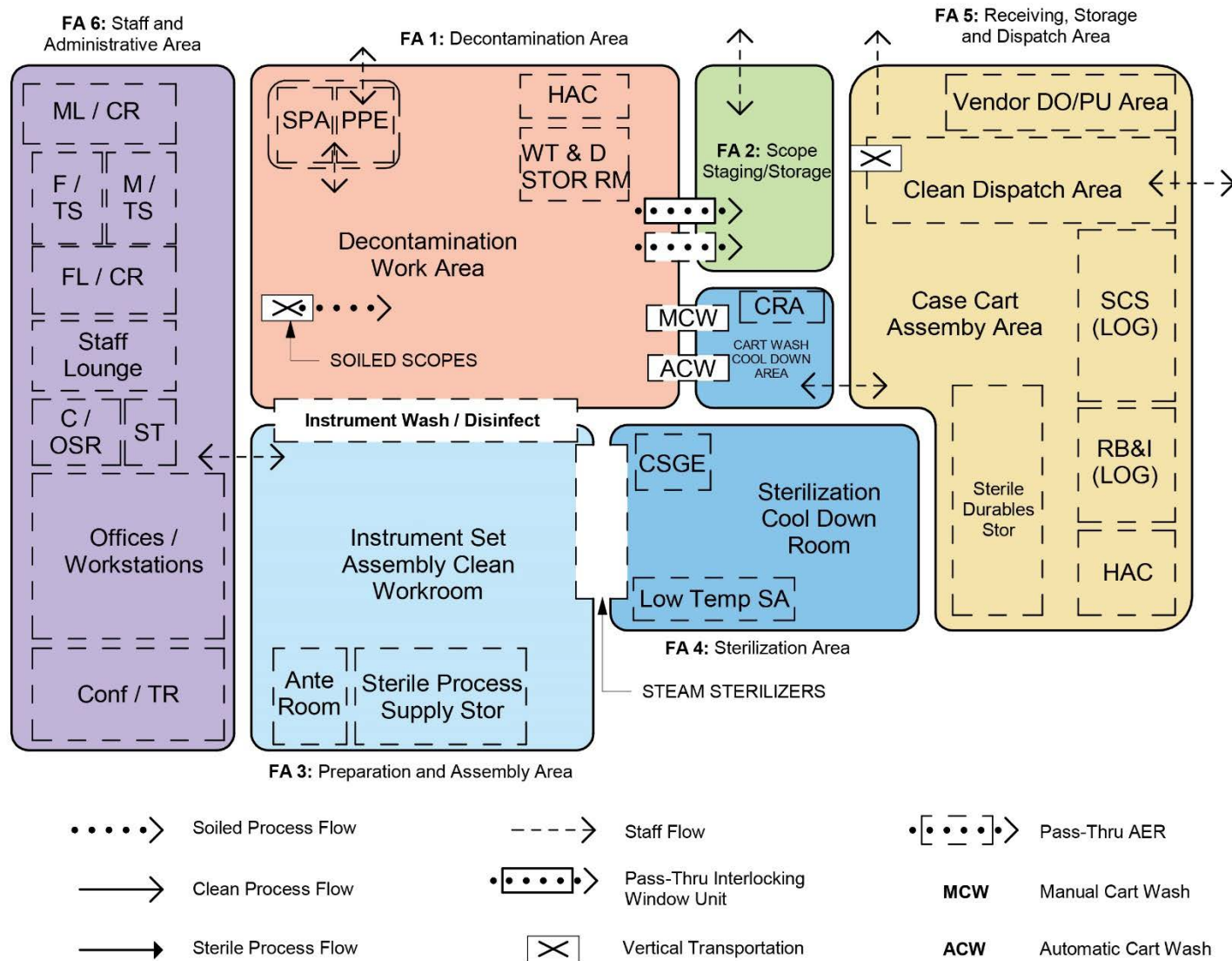
Diagram 10: Staff Flow (SPS)

SECTION 8: STERILE PROCESSING SERVICE ROOM TEMPLATES (SPS)
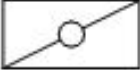
During development of this effort, the following rooms from **PG-18-9**: _285 Sterile Processing Service_ were selected for further planning and design development:

1. FA1: RM3: Decontamination Room (SC861)

2. FA2: RM4: Scope Processing Room (SC885)

3. FA2: RM5: Scope Staging/Storage (SC891)

4. FA3: RM1: Clean Workroom, Instrument Set Assembly (SC892)

5. FA4: RM1: Steam Sterilization Room (SC902)
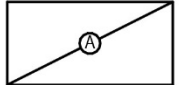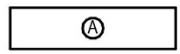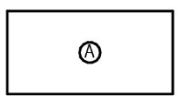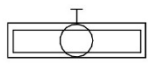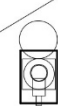
The following detailed information is provided for each one of these rooms:

1. Axonometric View (3D)
    A three-dimensional representation of walls, doors / windows and room contents for the room. The RCP is omitted.

2. Floor Plan (FP)
    A representation of the room layout with all the Room Contents (RCs) drawn to scale showing the appropriate clearances. The RCs are labeled based on their **PG-18-5:** _285 Sterile Processing Service_ JSN Number and JSN Name.

3. Reflected Ceiling Plan (RCP)
    A representation of the Ceiling Plan layout drawn to scale; it includes the ceiling grid, light fixtures, HVAC supply and returns, sprinklers, safety showers, and any other element installed at the ceiling level.

4. Interior Elevations
    A representation of the four interior elevations drawn to scale; it includes Room Contents (RCs) labeled with their JSN number and JSN abbreviated name as well as mounting heights for certain contents as appropriate.

5. Room Data Sheet
    Written information about the room / space in the following categories: Function, NSF, Architectural, Heating, Ventilating and Air Conditioning, Electrical and Plumbing data.

6. Equipment List (Room Contents)
    A list of all the Room Contents (RCs) assigned to the room / space. It includes JSN Number, the JSN Name, quantity, Acquisition Code, Description and Specification Number for each content item. The Equipment List for all the rooms included in **PG-18-9**: _285 Sterile Processing Service_ are presented in **PG-18-5**: _285 Sterile Processing Service_.

7. Floor Plan (FP) Electric (ELEC)
    A representation of the electrical and communication layout drawn to scale.

LEGENDS AND SYMBOLS

	Gypsum Wall Board Ceiling		Telephone Outlet
	2' x 4' Fluorescent Light Fixture	W	Wall Mounted Telephone Outlet
	HVAC Supply Diffuser		Data Outlet
	HVAC Return/Exhaust Diffuser		Duplex Receptacle (Normal)
	Occupancy Sensor (Ceiling mounted)		Duplex Receptacle (Critical)
	Occupancy Sensor (Wall mounted)		Special Receptacle
	Fused Disconnect Switch		Quadraplex Receptacle (Normal)
	Circuit Breaker		Quadraplex Receptacle (Critical)
	Equipment Connection		Power Pole
	Sprinkler Head	GFI	Ground Fault Circuit Interrupter
		EM	Emergency Power

LEGENDS AND SYMBOLS

ROOM NAME (ROOM CODE) AREA NSF AREA NSM	ROOM TAG	JSN TagName	EQUIPMENT JSN NUMBER & NAME	1 ◆ 1 1 1	ELEVATION REFERENCE
℄ CENTERLINE	● SPRINKLER HEAD	- - - - -	OVERHEAD LINES		CLEARANCE LINES
2X2 ACOUSTIC CEILING SYSTEM			COMPOUND CEILING, GYPSUM BOARD ON METAL STUD	(A)	1X4 TROFFER LIGHT FIXTURE
(A) 2X4 TROFFER LIGHT FIXTURE		(A) 2X2 TROFFER LIGHT FIXTURE		(A) 1X4 SURFACE MOUNTED LIGHT FIXTURE	
(A) 2X4 SURFACE MOUNTED LIGHT FIXTURE		(A) 2X2 SURFACE MOUNTED LIGHT FIXTURE		WALL MOUNTED LIGHT FIXTURE	
(A) RECESSED CAN LIGHT FIXTURE	(A) STRIP LIGHT FIXTURE	RETURN REGISTER		SUPPLY DIFFUSER	
EXHAUST REGISTER		SLOT SUPPLY DIFFUSER	FLOOR-MOUNTED DUPLEX OUTLET	FLOOR MOUNTED QUADRAPLEX OUTLET	FLOOR MOUNTED VOICE/DATA OUTLET
TV ◇ TELEVISION OUTLET PLAN	TELEVISION OUTLET ELEVATION	A ☐ MEDICAL AIR OUTLET PLAN	MEDICAL AIR OUTLET ELEVATION	V ☐ MED-VACUUM OUTLET PLAN	MED-VACUUM OUTLET ELEVATION
O ☐ OXYGEN OUTLET PLAN	OXYGEN OUTLET ELEVATION	(P) CEILING MOUNTED PULL SWITCH	EPO ● EMERGENCY POWER SHUTOFF		

LEGENDS AND SYMBOLS

⊙	DROP CORD, SINGLE CONVENIENCE OUTLET	DF	DIFFERENTIAL AIR PRESSURE MONITOR PLAN / DIFFERENTIAL AIR PRESSURE MONITOR ELEVATION	Ⓣ / T	THERMOSTAT PLAN / THERMOSTAT ELEVATION
Ⓒ / C	CLOCK HANGER RECEPTACLE PLAN / CLOCK HANGER RECEPTACLE ELEVATION	S / S	SINGLE SWITCH PLAN / SINGLE SWITCH ELEVATION	S₂ / S2	MULTIPLE SWITCH PLAN / MULTIPLE SWITCH ELEVATION
S_D / SD	DIMMER SWITCH PLAN / DIMMER SWITCH ELEVATION	▼ / ▼	WALL-MOUNTED VOICE/DATA OUTLET PLAN / OUTLET ELEVATION	Ⓝ / N	WALL-MOUNTED NURSE CALL PLAN / OUTLET ELEVATION
⊕	WALL-MOUNTED DUPLEX GFI OUTLET PLAN / OUTLET ELEVATION	⊕	WALL-MOUNTED QUADRAPLEX OUTLET PLAN / OUTLET ELEVATION	⊘	WALL-MOUNTED SPECIAL OUTLET PLAN / OUTLET ELEVATION
⬤	WALL-MOUNTED DUPLEX EMG PWR OUTLET PLAN / OUTLET ELEVATION	⊕	WALL-MOUNTED DUPLEX OUTLET PLAN / OUTLET ELEVATION	⊕S	WALL-MOUNTED DUPLEX SWITCHED OUTLET PLAN / OUTLET ELEVATION

DECONTAMINATION ROOM (SC861)

<u>Axonometric View</u>
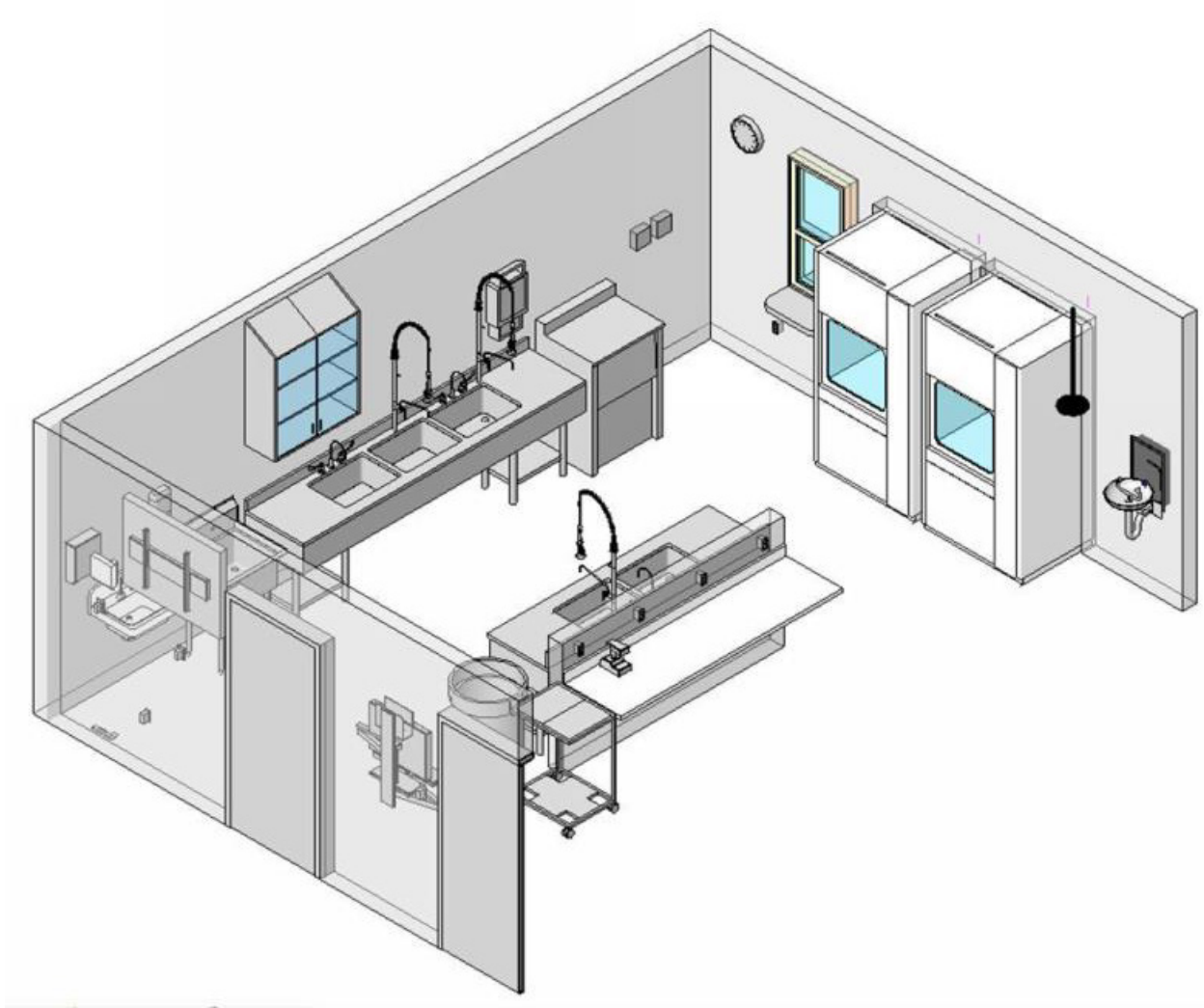
DECONTAMINATION ROOM (SC861)

Floor Plan

390 NSF (36.2 NSM)
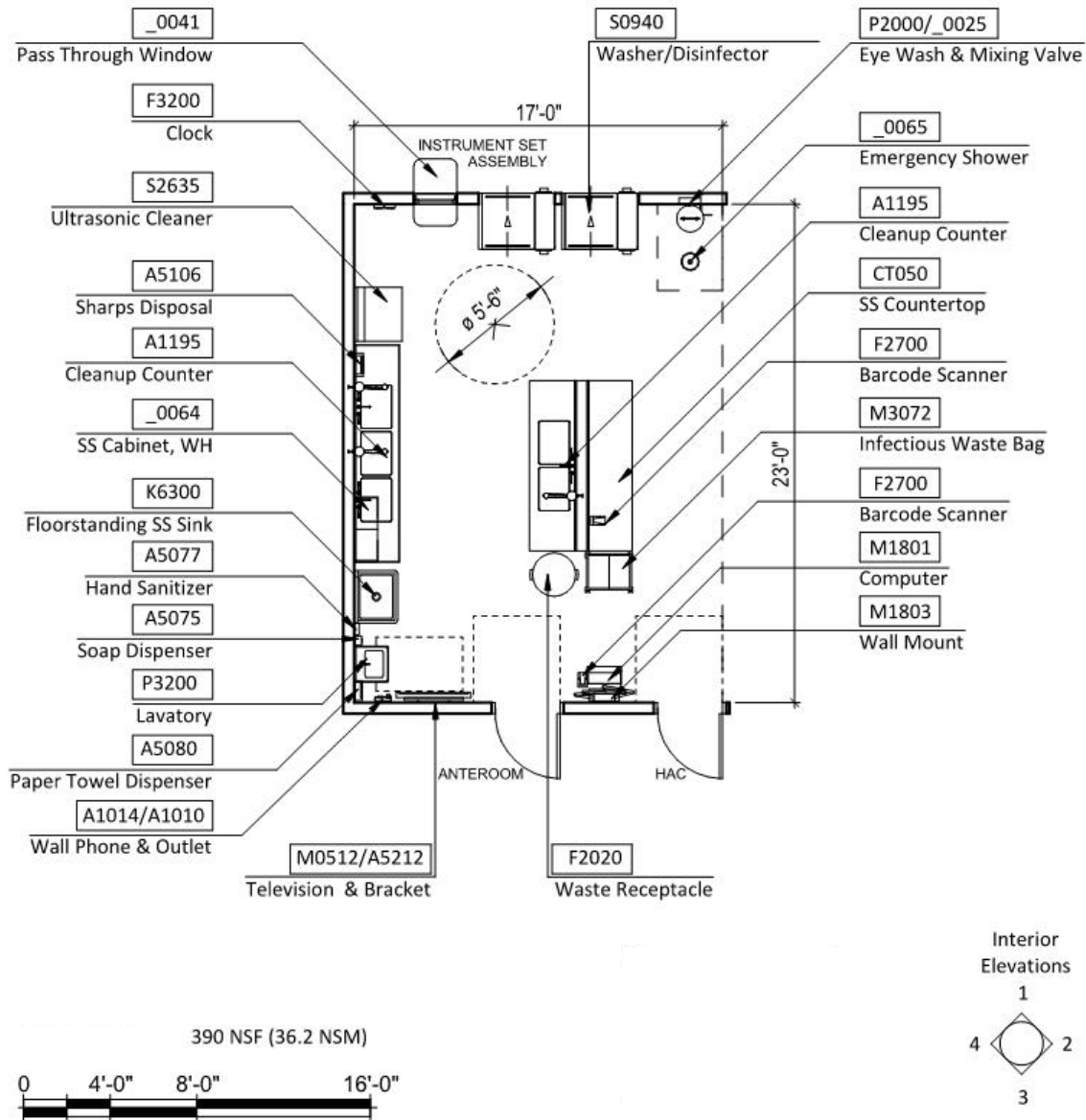
DECONTAMINATION ROOM (SC861)

Reflected Ceiling Plan
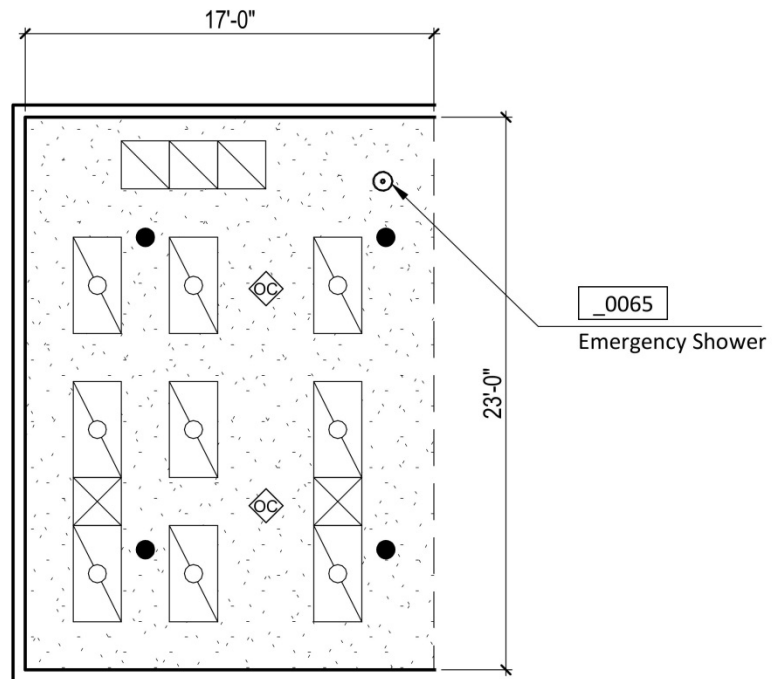
17'-0"

23'-0"

_0065
Emergency Shower

0   4'-0"   8'-0'   16'-0"

U.S. Department
of Veterans Affairs

DECONTAMINATION ROOM (SC861)

<u>Interior Elevations</u>

ELEVATION 1

ELEVATION 2

0   4'-0"   8'-0"   16'-0"
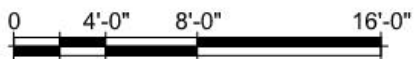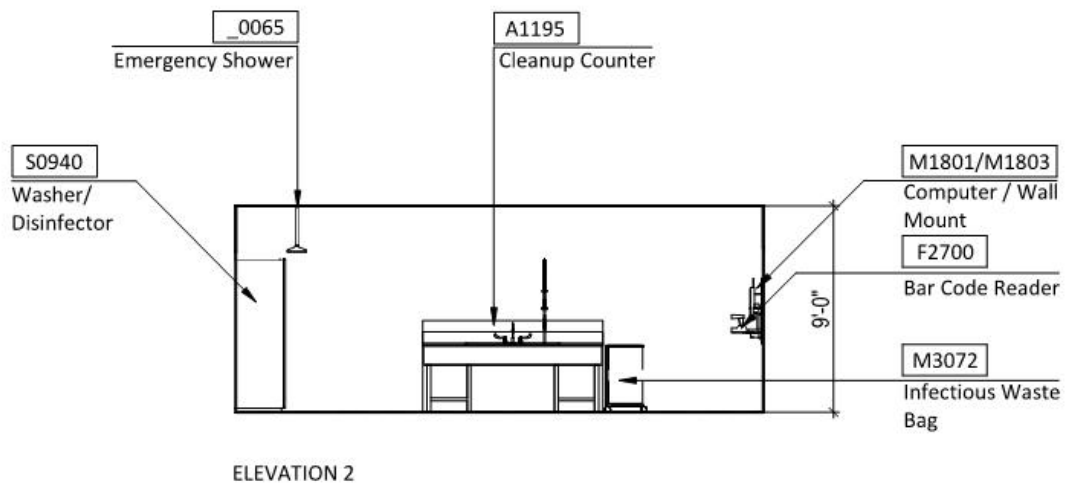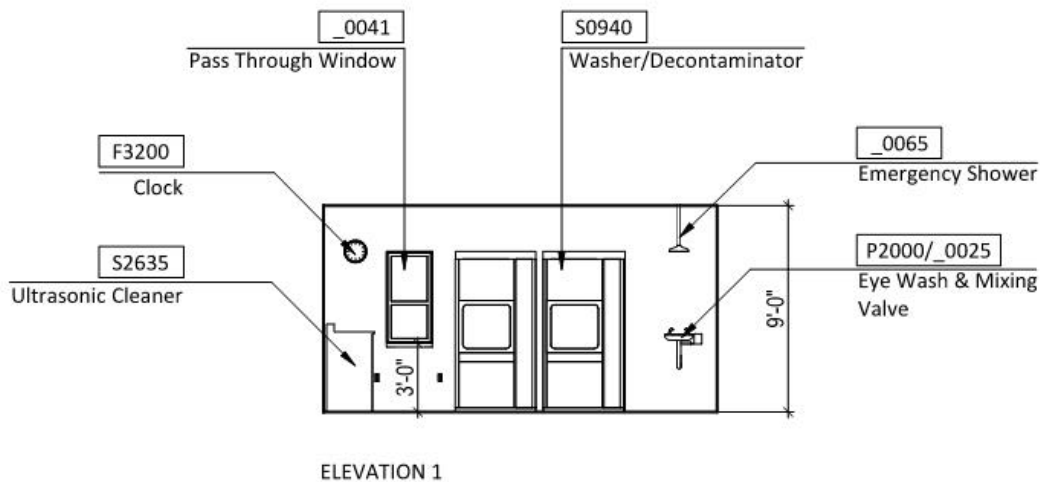
DECONTAMINATION ROOM (SC861)

Interior Elevations
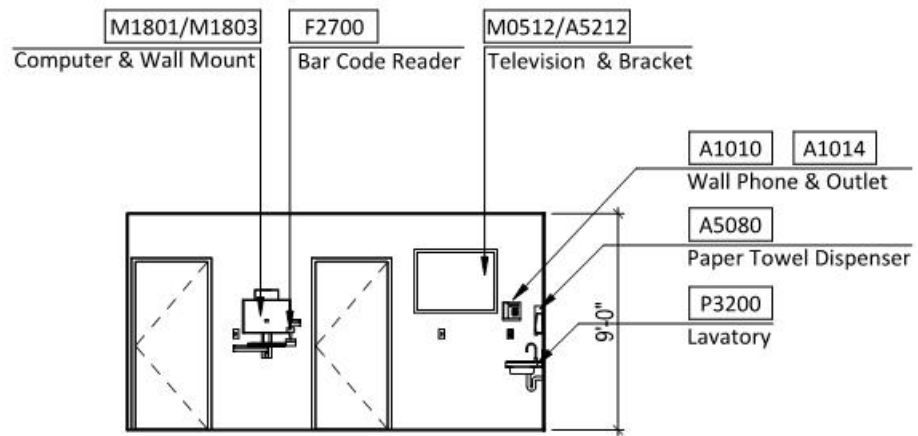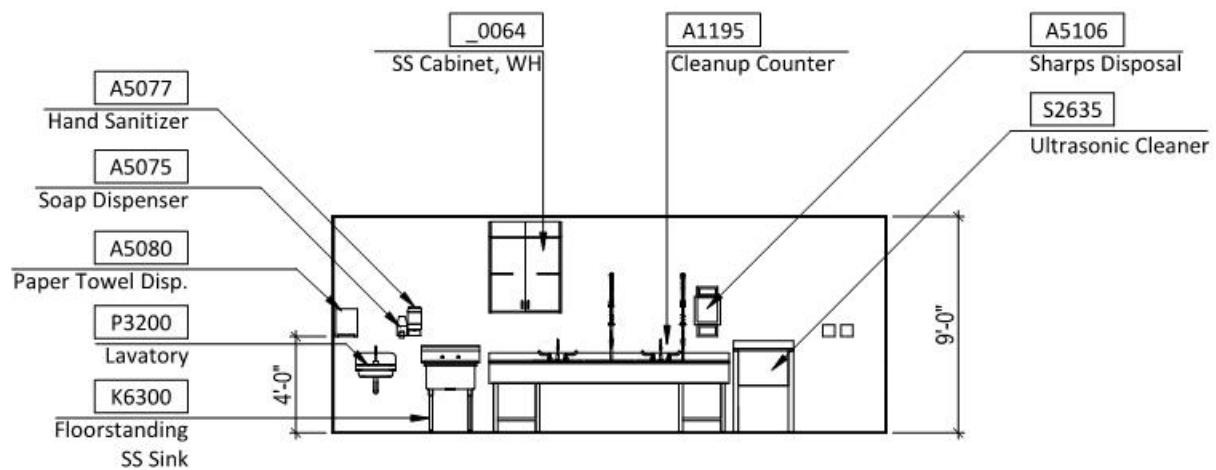
ELEVATION 3

ELEVATION 4
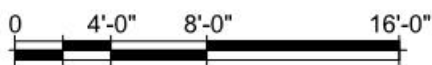
DECONTAMINATION ROOM (SC861)

Electrical FP
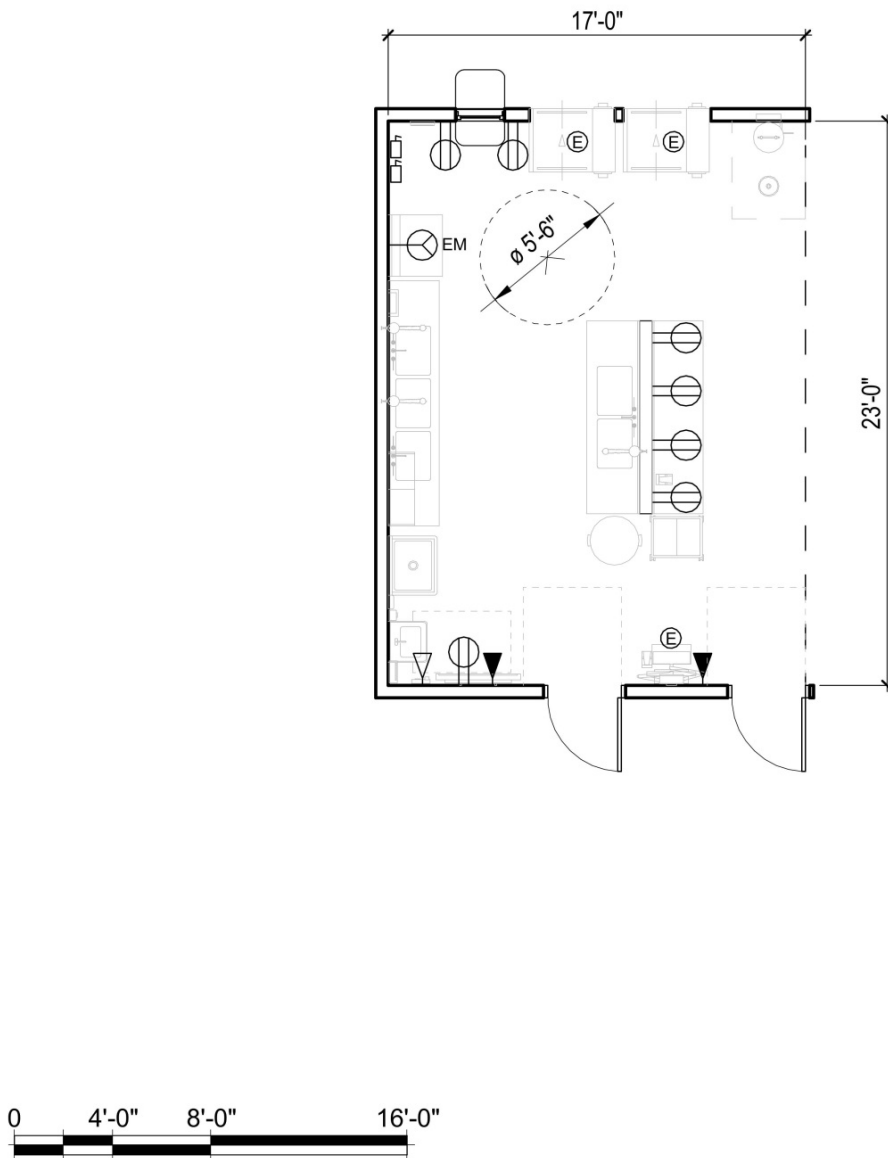
DECONTAMINATION ROOM (SC861)

<u>Room Data Sheet</u>

ARCHITECTURAL

Floor Finish:	RES
Base:	RES
Wall Finish:	P2 / GWB
Ceiling:	P2 / GWB
Ceiling Height:	9'-0"
Noise (STC Rating):	40
Slab Depression:	No
Special Construction:	No
Hardware:	10B
Doors:	2UU-T / 12UU-W
Windows:	Yes

HEATING VENTILATING AND AIR CONDITIONING

Indoor Design Temperature:

Existing Buildings:	72° - 78° F
New Construction:	72° F +/- 1° F

Indoor Design Relative Humidity:

Dehumidification Mode:	60% Max
Humidification Mode:	20% Min

Air Changes per Hour:

Total:	6 Min
Outside Air:	2
Recirculation Permitted:	No
Room Pressure:	Double Negative
Individual Room Control:	Yes
Filtration (MERV:	14
Hood Required:	No

ELECTRICAL

Lighting Levels:

General Illumination:	50 FC
Task Illumination:	Yes
Emergency Power:	Yes

PLUMBING

Cold Water:	Yes
Hot Water:	Yes
Instrument Air:	Yes
Medical Vacuum:	Yes
Eye Wash:	Yes

U.S. Department of Veterans Affairs

DECONTAMINATION ROOM (SC861)

Equipment List

JSN	Content Name	Qty	Acq Code	Description
A1010	Telecommunication Outlet	2	VV	Telecommunication outlet location.
A1014	Telephone, Wall Mounted, 1 Line, With Speaker	1	VV	Telephone, wall mounted, 1 line, with speaker.
A1195	Counter, Cleanup, With 2 or 3 Sinks	2	CC	Two or three sink cleanup counter. Unit is constructed of type 304 corrosion resistant stainless steel. It consists of three sinks 14"W X 16"H X 10"D, hot and cold water faucet, and pre-rinse spray hose. Equipped with channel reinforced drainboards, and backsplash, and supported by tubular stainless steel legs. Unit is designed for use in control sterile supply decontamination areas.
A5075	Dispenser, Soap, Disposable	1	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5077	Dispenser, Hand Sanitizer, Hands-Free	1	VV	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.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility.
A5106	Waste Disposal Unit, Sharps w/Glove Dispenser	1	VV	The unit is designed for the disposal of sharps and complies with OSHA guidelines for the handling of sharps. It shall house a 5 quart container and be capable of being mounted on a wall. It shall have a glove dispenser attached. The unit shall be secured by a locked enclosure.
A5212	Bracket, Television, Wall-Mounted, Tilt/Angle	1	VV	A wall mounted, tilt/angled TV bracket for 37" to 80" TVs. Mount will be a universal and VESA compliant unit with a load capacity of up to 130 lbs.
K6300	Sink, Cook's, 1 Compartment	1	CC	Single compartment cook's sink. The sink bowl is 24" long x 24" wide x 14" deep. The sink meets specification MIL-S-19114 for a type I, style C unit. This sink has no drainboards.
_0064	Cabinet, W/H, 2 Shelf, 2 DO, Sloping Top, 38x30x13	1	CC	Wall hung stainless steel cabinet with adjustable shelves, solid hinged clear glass doors, and sloping top. For storing purpose in areas where stainless steel cabinets are used.

JSN	Content Name	Qty	Acq Code	Description
CT050	Countertop, Stainless Steel	9	CC	Stainless steel countertop (composition of heavy-gauge Type No. 304 stainless steel) having a smooth satin finish and integral 4" backsplash/curb. Also referred to as a corrosion-resistant steel work surface or work top. Available in various depths. Used in areas where excellent ease of cleaning, abrasion resistance, bacteria resistance, impact resistance, load capacity and moisture resistance, are of concern. Pricing based upon a 24" depth.
F2020	Can, Trash, 44 Gallon	1	VV	Forty-four (44) gallon trash can, 32" high X 24" diameter, with lid. Used to collect and transport refuse from a point of origin to point of disposal (example: from soiled utility or a nursing unit to the trash compactor at housekeeping).
F2700	Reader, Bar Code, Hand Held, With Interface	2	VV	Hand held laser bar code reader with computer interface. Used for automated inventory, using bar code stickers / labels. Convenience outlet required at point of use.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M0512	Television, HDTV, Large Screen, 60"	1	VV	A high definition (HDTV) multimedia, slim design, 60"W to 65"W color television. The TV will have a 16.9 wide screen aspect ratio with full HD 1080p resolution and HDMI connections. TV may be LED, Plasma or LCD. TV will include a stand.
M1801	Computer, Microprocessing, w/Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: a 2.8 GHz Pentium processor; 512 MB memory; 80GB hard drive; 32/48x CD-ROMDVD combo; 1.44MB network interface card; video 32 MB NVIDIA; a 18 inch flat panel monitor. The computer is used throughout the facility to input, manipulate and retrieve information.
M1803	Workstation, Computer, Wall Mounted, Adjustable	1	VV	A wall mounted computer workstation with height adjustable monitor and keyboard arms. Keyboard and monitor can be stored within 8" to 10" of wall. Fingertip adjustability for keyboard and monitor enable frequent position changes. Unit contains an integrated cable management system to hide wires. A separate wall-mounted CPU holder is included.
M3072	Frame, Infectious Waste Bag w/Lid	1	VV	Frame for an infectious waste collection bag. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Adjust to hold 18" or 25" trash bags. Mounted on ball bearing casters and includes permanently mounted hinged lid. Provides means of bagging infectious waste at point of waste generation.

JSN	Content Name	Qty	Acq Code	Description
P2000	Eyewash, Wall Mounted, Hands-Free	1	CC	Wall mounted emergency eye wash station. The flow of water from the unit is activated by hand. Upon initiation of water flow the unit will operate hands free to provide streams of water to clear foreign particles or dilute caustic liquids from the eyes in emergency situations. Used in laboratories and areas of the hospital where employees are subject to foreign bodies or liquid material to the eyes.
P2451	Valve, Mixing, Thermostatic, Eyewash	1	CC	Emergency tempering valve thermostatically mixes hot and cold water to provide a safe fluid supply for a single emergency eye/face wash with a flow rate of 10 gpm (38.8L)
P3200	Lavatory, Vitreous China, Slab Type w/Sens Op Fauc	1	CC	Wall mounted, slab type, vitreous china, lavatory (approximately 7 x 15 x 10 inches) with faucet holes on 4 inch centers; electronic sensor operated, goose neck spout and grid strainer. It shall be suitable for use in clinics, offices and patient care areas.
S0940	Washer/Disinfector, STM,1DO, RSCD1WLL,26X24X24 Cham	2	CC	A recessed mounted (through one wall), single door (vertical sliding with tempered glass window), multi-level, mechanical, washer/disinfector, minimum chamber size 26X24X24, utilizing facility supplied steam. The unit is controlled by a microcomputer that monitors and controls all unit operations and functions and provides both audible and visual indications of deviations. A printer-recorder documents and records each cycle performance. Processing cycles are pre-programmed with pre-wash, wash/cleaning, rinse, and thermal rinse/disinfection. For use in health care facilities and laboratories where reusable items (instruments, utensils, anesthesia/respiratory goods, and glassware) are handled for decontamination purposes. This unit is not a substitute for terminal sterilization. Unit available with manual or power door, various electrical configurations, options, and accessories. Price based upon power door, 208V, 3-phase, with various options.
S2635	Cleaner, Ultrasonic, SNGL Chamber, CAB, F/S	1	VV	A free-standing, cabinet mounted, single stainless steel chamber (minimum size 10X24X12), ultrasonic cleaner. The cleaning unit includes the following minimum features: power lid, automatic detergent injector, automatic level controls, automatic timer, and switch fill and drain controls. Sonic cleaning energy provided to the chamber by transducers which are powered by a solid-state generator(s) at a frequency of 40 kHz. Designed for use in surgery reprocessing areas, central processing departments and laboratories to clean surgical instruments and other hardware with sonic energy.
_0065	Shower, Emergency, Ceiling Mounted	1	CC	Deluge safety shower. This is a complete, semi concealed safety station consisting of a ceiling mounted emergency shower. Used anywhere exposure to hazardous substances may occur.

JSN	Content Name	Qty	Acq Code	Description
S1905 (_0041)	Window, Sliding Service	1	CC	A sliding glass transaction window without a screen. Used as a pass thru between two spaces. It has a single operable window and one fixed. The sliding window remains in position where left. The window can open vertically or horizontal and typically is made of aluminum or stainless steel with tempered or laminated glass.

Plot Date: 5/4/2022 9:51:53 AM   SCALE:

0'   4'   8'   16'

OPTIONAL
ANTE-ROOM

DECONTAMINATION
ROOM

PPE
ANTE-ROOM

SCOPE STAGING / STORAGE

U.S. Department
of Veterans Affairs

Plot Date: 5/4/2022 9:51:53 AM

SCALE:

0'   4'   8'   16'

Plot Date: 5/4/2022 9:51:53 AM   SCALE: 1/4" = 1'-0"

0'   4'   8'   16'

A5080
Dispenser, Paper Towel, SS, Surface Mounted

PASS THRU DOUBLE DOOR WITH MAGNETIC INTERLOCKING MECHANISM

F2010
Basket, Wastepaper, Step-On

P2000
Eyewash, Wall Mounted, Hands-Free

P3100
Lavatory, Vitreous China, Slab Type

A5075
Dispenser, Soap, Disposable

OPTIONAL ANTE-ROOM

S2615
Washer, Disinfecting, Ultrasound Probe

M1801
Computer, Microprocessing, w/Flat Panel Monitor

CT050
Countertop, Stainless Steel

F3200
Clock, Battery, 12" Diameter

10' - 0"
(3.05m)

DECONTAMINATION ROOM

PPE ANTE-ROOM

SCOPE STAGING/STORAGE

GFI

5' - 6"

1
4   2
3

11' - 0"
(3.35m)

A1012
Telephone, Wall Mounted, 1 Line

A5077
Dispenser, Hand Sanitizer, Hands-Free

PASS THRU DOUBLE DOOR WITH MAGNETIC INTERLOCKING MECHANISM

F0540
Cart, Scope, Transport

S2627
Automated Endoscope Reprocessor

15' - 6"
(4.72m)

SCOPE PROCESSING ROOM
(SC885)
170 NSF
16 NSM

VA | U.S. Department of Veterans Affairs

Plot Date: 5/4/2022 9:51:53 AM

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

0'   4'   8'   16'

10' - 0"
(3.05m)

11' - 0"
(3.35m)

15' - 6"
(4.72m)

**SCOPE PROCESSING
ROOM**
(SC855)

170 NSF
16 NSM

DISCLAIMER: ROOM TEMPLATES ARE GRAPHICAL REPRESENTATIONS OF SELECTED ROOM TYPES THAT ILLUSTRATE VA PLANNING REQUIREMENTS FOR SPACE, ROOM CONTENTS, AND ROOM SPECIFIC ENGINEERING SYSTEMS. THEY PROVIDE TYPICAL CONFIGURATIONS, PLANNING CRITERIA, AND GENERAL TECHNICAL GUIDANCE, AND ARE NOT INTENDED TO BE PROJECT SPECIFIC REQUIREMENTS.

Plot Date: 5/4/2022 9:51:53 AM

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

0'   4'   8'   16'

P2000
Eyewash, Wall Mounted,
Hands-Free

PASS THRU DOUBLE DOOR WITH
MAGNETIC INTERLOCKING MECHANISM

A5080
Dispenser, Paper Towel,
SS, Surface Mounted

A5077
Dispenser, Hand
Sanitizer, Hands-Free

A5075
Dispenser, Soap,
Disposable

P3100
Lavatory, Vitreous China,
Slab Type

F2010
Basket, Wastepaper,
Step-On

ELEVATION 1

A1012
Telephone, Wall Mounted, 1
Line

PASS THRU DOUBLE DOOR WITH
MAGNETIC INTERLOCKING MECHANISM

F0540
Cart, Scope, Transport

ELEVATION 2

Plot Date: 5/4/2022 9:51:54 AM

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

0'   4'   8'   16'

F3200
Clock, Battery, 12" Diameter

M1801
Computer, Microprocessing, w/Flat Panel Monitor

S2627
Automated Endoscope Reprocessor

S2615
Washer, Disinfecting, Ultrasound Probe

F0540
Cart, Scope, Transport

CT050
Countertop, Stainless Steel

ELEVATION 3

S2615
Washer, Disinfecting, Ultrasound Probe

DOOR TO OPTIONAL ANTE-ROOM

M1801
Computer, Microprocessing, w/Flat Panel Monitor

PASS THRU DOUBLE DOOR WITH MAGNETIC INTERLOCKING MECHANISM

CT050
Countertop, Stainless Steel

ELEVATION 4

DISCLAIMER: ROOM TEMPLATES ARE GRAPHICAL REPRESENTATIONS OF SELECTED ROOM TYPES THAT ILLUSTRATE VA PLANNING REQUIREMENTS FOR SPACE, ROOM CONTENTS, AND ROOM SPECIFIC ENGINEERING SYSTEMS. THEY PROVIDE TYPICAL CONFIGURATIONS, PLANNING CRITERIA, AND GENERAL TECHNICAL GUIDANCE, AND ARE NOT INTENDED TO BE PROJECT SPECIFIC REQUIREMENTS.
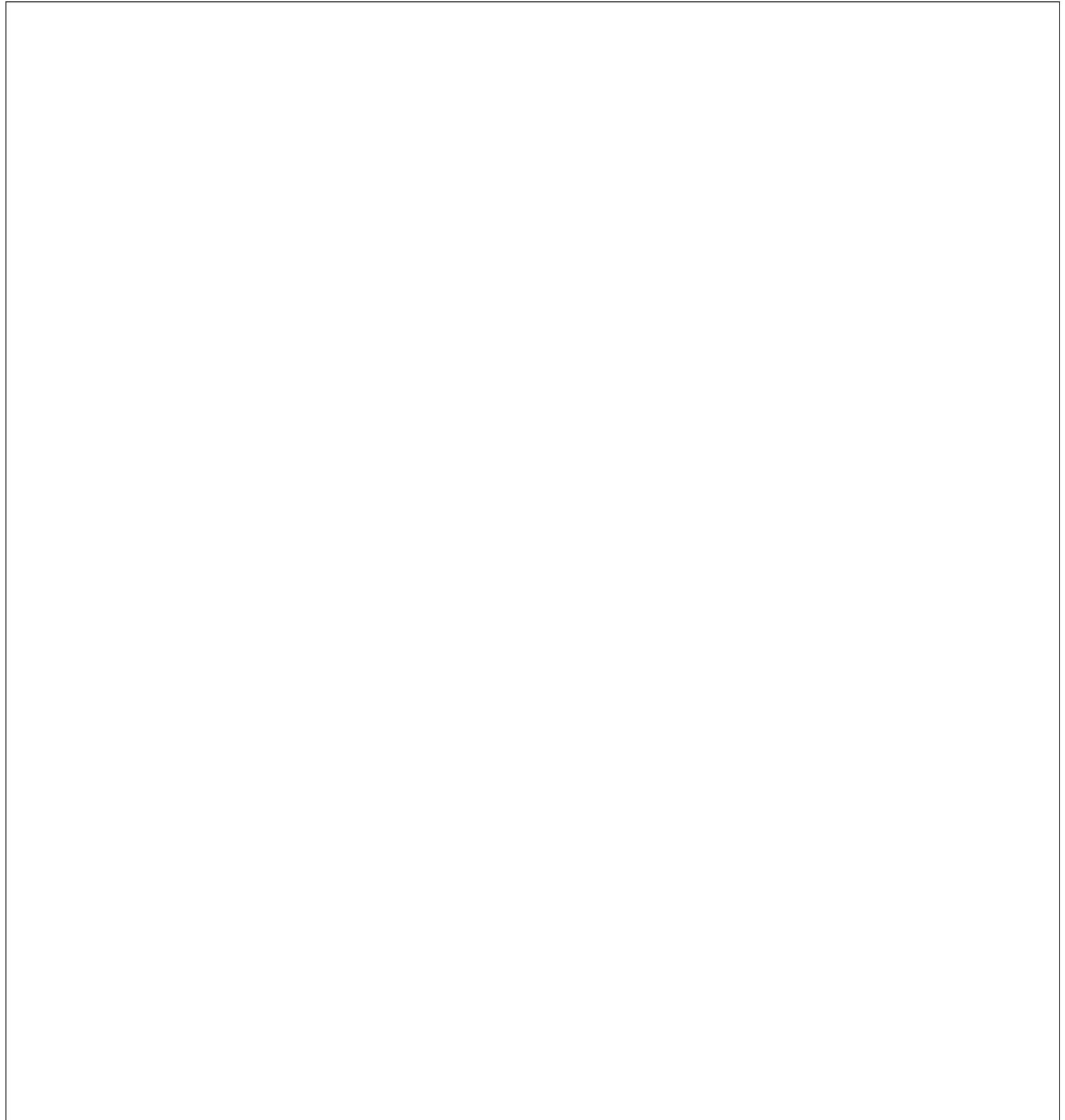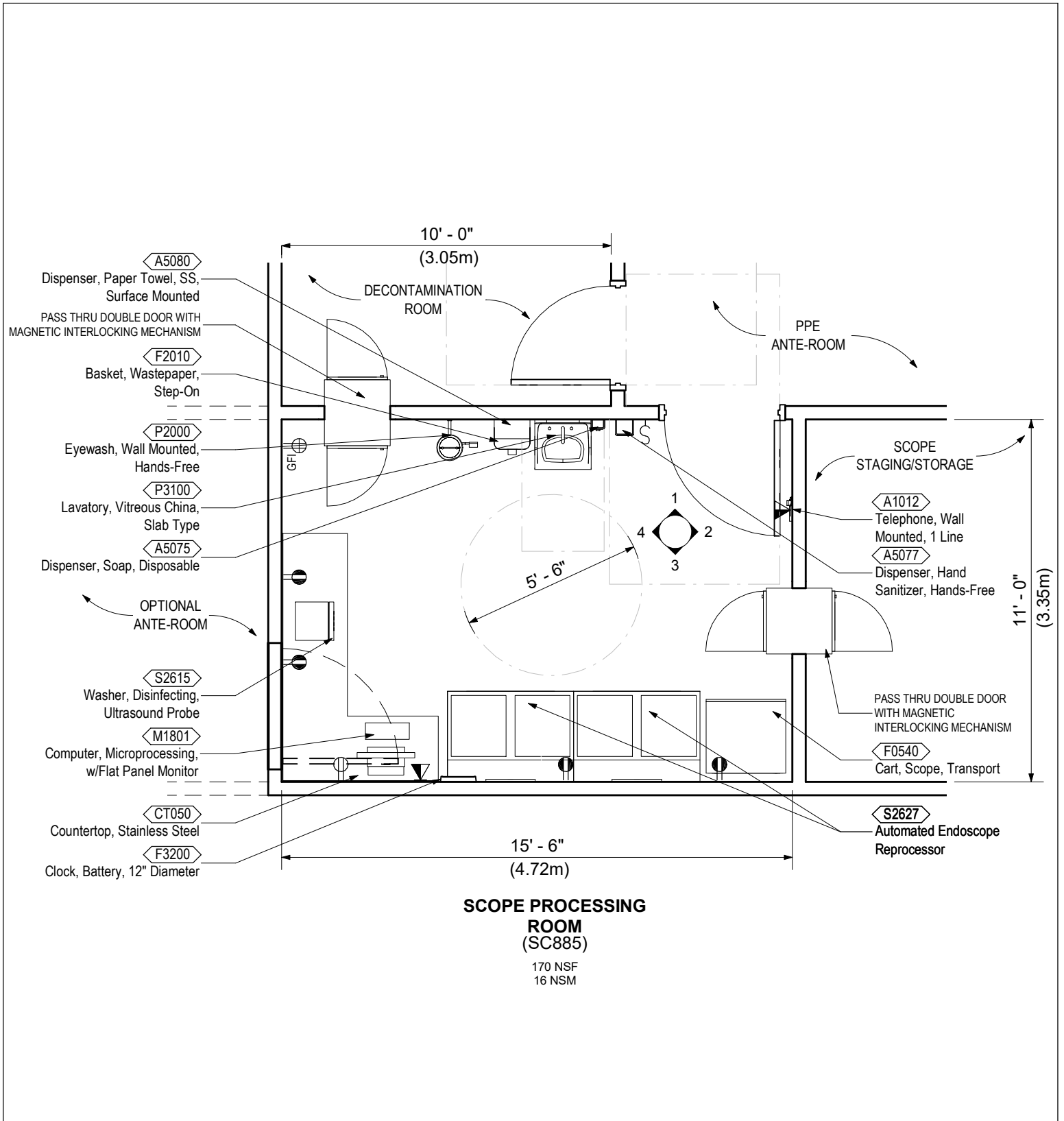
SCOPE PROCESSING ROOM (SC885)

Room Data Sheet

ARCHITECTURAL

Floor Finish:	RES
Base:	RES
Wall Finish:	P2 / GWB
Ceiling:	P2 / GWB
Ceiling Height:	9'-0"
Noise (STC Rating):	40
Slab Depression:	No
Special Construction:	No
Hardware:	10 B
Doors:	2UU-T / 12UU-W
Windows:	Yes

ELECTRICAL

Lighting Levels:	
General Illumination:	50 FC
Task Illumination:	Yes
Emergency Power:	Yes

PLUMBING

Cold Water:	Yes
Hot Water:	Yes
Instrument Air:	Yes
Medical Vacuum:	Yes
Eye Wash:	Yes

HEATING, VENTILATING AND AIR CONDITIONING

Indoor Design Temperature:	
Existing Buildings:	72° - 78° F
New construction:	72° F +/-1°F
Indoor Design Relative Humidity:	
Dehumidification Mode:	60% Max
Humidification Mode:	20% Min
Air Changes per Hour:	
Total:	6 Min
Outside Air:	2
Recirculation Permitted:	No
Room Pressure:	Positive
Individual Room Control:	Yes
Filtration (MERV):	14
Hood Required:	No

SCOPE PROCESSING ROOM (SC885)

Equipment List

JSN	Content Name	Qty	Acq Code	Description
A1010	Telecommunication Outlet	2	VV	Telecommunication outlet location.
A1012	Telephone, Wall Mounted, 1 Line	1	VV	Telephone, wall mounted, 1 line.
A5075	Dispenser, Soap, Disposable	1	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5077	Dispenser, Hand Sanitizer, Hands-Free	1	VV	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.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility.
CT050	Countertop, Stainless Steel	2	CC	Stainless steel countertop (composition of heavy-gauge Type No. 304 stainless steel) having a smooth satin finish and integral 4" backsplash/curb. Also referred to as a corrosion-resistant steel work surface or work top. Available in various depths. Used in areas where excellent ease of cleaning, abrasion resistance, bacteria resistance, impact resistance, load capacity and moisture resistance, are of concern. Pricing based upon a 24" depth.
F0540	Cart, Scope, Transport	1	VV	A cart designed specifically for the safe transport of endoscopy scopes. The cart will have a lightweight frame of a tubular welded construction. The sides and back panels will be of a foamed resin with a work top of seamless, raised edge plastic. The cart will have rectangle or round trays with lids and will have 4 casters with 2 locking. Cart may have a roll-top door with a key lock.
F2010	Basket, Wastepaper, Step-On	1	VV	"Step-on" wastepaper basket with inner liner and foot petal activated flip top.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).

JSN	Content Name	Qty	Acq Code	Description
M1801	Computer, Microprocessing, w/Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: a 2.8 GHz Pentium processor; 512 MB memory; 80GB hard drive; 32/48x CD-ROMDVD combo; 1.44MB network interface card; video 32 MB NVIDIA; a 18 inch flat panel monitor. The computer is used throughout the facility to input, manipulate and retrieve information.
P2000	Eyewash, Wall Mounted, Hands-Free	1	CC	Wall mounted emergency eye wash station. The flow of water from the unit is activated by hand. Upon initiation of water flow the unit will operate hands free to provide streams of water to clear foreign particles or dilute caustic liquids from the eyes in emergency situations. Used in laboratories and areas of the hospital where employees are subject to foreign bodies or liquid material to the eyes.
P3100	Lavatory, Vitreous China, Slab Type	1	CC	Wall mounted, slab type, vitreous china, lavatory (approximate bowl size 7"x15"x10") with: faucet holes on 4" centers; gooseneck spout; wrist blade handles; and grid strainer. It shall be suitable for use in clinics, offices, washrooms or patient care area.
S2615	Washer, Disinfecting, Ultrasound Probe	1	VV	A complete ultrasound transducer high-level disinfection system that is fast, easy to use and environmentally friendly. It uses a unique platform technology to effectively disinfect the transducer, including the shaft and handle in just seven minutes with no exposure to harmful chemicals. The process operates within a closed system.
S2627	Washer, Fiber Scope	2	VV	A low temperature sterile processing system for sterilizing immersible surgical and diagnostic scopes, cameras, instruments and accessories. The unit shall provide a digital display of cycle data and shall record and print a permanent record of cycles. Units are available in floor, counter top, cart models and pass thru models.

**U.S. Department
of Veterans Affairs**

Plot Date: 5/4/2022 10:02:40 AM

SCALE:

0'   4'   8'   16'

PPE
ANTE-ROOM

DECONTAMINATION ROOM

73

Plot Date: 5/4/2022 10:02:40 AM

SCALE:

0' 4' 8' 16'

Plot Date: 5/4/2022 10:02:40 AM

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

0'   4'   8'   16'

S2627
Pass-Thru AER

PASS THRU DOUBLE DOOR WITH
MAGNETIC INTERLOCKING
MECHANISM

18' - 6"
(5.64m)

DECONTAMINATION
ROOM

PPE
ANTE-ROOM

1
4   2
3

5' - 6"

9' - 6"
(2.9m)

GFI

M3160
Cabinet, Storage, Endoscope

S2615
Washer, Disinfecting,
Ultrasound Probe

CT050
Countertop, Stainless Steel

F3200
Clock, Battery, 12" Diameter

**SCOPE
STAGING/STORAGE
(SC891)**

176 NSF
16 NSM

P2000
Eyewash, Wall Mounted,
Hands-Free

F2010
Basket, Wastepaper,
Step-On

A5080
Dispenser, Paper Towel, SS,
Surface Mounted

P3100
Lavatory, Vitreous China,
Slab Type

A5077
Dispenser, Hand
Sanitizer, Hands-Free

A5075
Dispenser, Soap,
Disposable

Plot Date: 5/4/2022 10:02:40 AM   SCALE: 1/4" = 1'-0"

0'   4'   8'   16'

18' - 6"
(5.64m)

9' - 6"
(2.9m)

**SCOPE
STAGING/STORAGE**
(SC891)

176 NSF
16 NSM

Plot Date: 5/4/2022 10:02:40 AM   SCALE: 1/4" = 1'-0"

0'   4'   8'   16'

S2627
Pass-Thru AER

PASS THRU DOUBLE DOOR WITH
MAGNETIC INTERLOCKING
MECHANISM

ELEVATION 1

S2627
Pass-Thru AER

M3160
Cabinet, Storage,
Endoscope

A5077
Dispenser, Hand
Sanitizer, Hands-Free

ELEVATION 2

DISCLAIMER: ROOM TEMPLATES ARE GRAPHICAL REPRESENTATIONS OF SELECTED ROOM TYPES THAT ILLUSTRATE VA PLANNING REQUIREMENTS FOR SPACE, ROOM CONTENTS, AND ROOM SPECIFIC ENGINEERING SYSTEMS. THEY PROVIDE TYPICAL CONFIGURATIONS, PLANNING CRITERIA, AND GENERAL TECHNICAL GUIDANCE, AND ARE NOT INTENDED TO BE PROJECT SPECIFIC REQUIREMENTS.

Plot Date: 5/4/2022 10:02:40 AM

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

0'   4'   8'   16'

ELEVATION 3

M3160
Cabinet, Storage, Endoscope

A5075
Dispenser, Soap, Disposable

A5080
Dispenser, Paper Towel, SS, Surface Mounted

P3100
Lavatory, Vitreous China, Slab Type

P2000
Eyewash, Wall Mounted, Hands-Free

F2010
Basket, Wastepaper, Step-On

F3200
Clock, Battery, 12" Diameter

S2615
Washer, Disinfecting, Ultrasound Probe

CT050
Countertop, Stainless Steel

ELEVATION 4

F3200
Clock, Battery, 12" Diameter

S2615
Washer, Disinfecting, Ultrasound Probe

CT050
Countertop, Stainless Steel

PASS THRU DOUBLE DOOR WITH MAGNETIC INTERLOCKING MECHANISM

S2627
Pass-Thru AER

SCOPE STAGING/STORAGE (SC891)

Room Data Sheet

ARCHITECTURAL

Floor Finish:	RES
Base:	RES
Wall Finish:	P2 / GWB
Ceiling:	P2 / GWB
Ceiling Height:	9'-0"
Noise (STC Rating):	40
Slab Depression:	No
Special Construction:	No
Hardware:	10 B
Doors:	2UU-T / 12UU-W
Windows:	Yes

ELECTRICAL

Lighting Levels:		
General Illumination:	50 FC	
Task Illumination:	Yes	
Emergency Power:	Yes	

PLUMBING

Cold Water:	Yes
Hot Water:	Yes
Instrument Air:	Yes
Medical Vacuum:	Yes
Eye Wash:	Yes

HEATING, VENTILATING AND AIR CONDITIONING

Indoor Design Temperature:	
Existing Buildings:	72° - 78° F
New construction:	72° F +/-1°F
Indoor Design Relative Humidity:	
Dehumidification Mode:	60% Max
Humidification Mode:	20% Min
Air Changes per Hour:	
Total:	6 Min
Outside Air:	2
Recirculation Permitted:	No
Room Pressure:	Positive
Individual Room Control:	Yes
Filtration (MERV):	14
Hood Required:	No

SCOPE STAGING/STORAGE (SC891)

Equipment List

JSN	Content Name	Qty	Acq Code	Description
A1010	Telecommunication Outlet	2	VV	Telecommunication outlet location.
A5075	Dispenser, Soap, Disposable	1	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5077	Dispenser, Hand Sanitizer, Hands-Free	1	VV	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.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility.
CT050	Countertop, Stainless Steel	1	CC	Stainless steel countertop (composition of heavy-gauge Type No. 304 stainless steel) having a smooth satin finish and integral 4" backsplash/curb. Also referred to as a corrosion-resistant steel work surface or work top. Available in various depths. Used in areas where excellent ease of cleaning, abrasion resistance, bacteria resistance, impact resistance, load capacity and moisture resistance, are of concern. Pricing based upon a 24" depth.
F2010	Basket, Wastepaper, Step-On	1	VV	"Step-on" wastepaper basket with inner liner and foot petal activated flip top.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M3160	Cabinet, Storage, Hanging Scopes	2	VV	Scope hanging cabinet. Cabinet has the capacity to hold up to nine scopes. Some cabinets may have a roll top closure and optional storage drawer.
P2000	Eyewash, Wall Mounted, Hands-Free	1	CC	Wall mounted emergency eye wash station. The flow of water from the unit is activated by hand. Upon initiation of water flow the unit will operate hands free to provide streams of water to clear foreign particles or dilute caustic liquids from the eyes in emergency situations. Used in laboratories and areas of the hospital where employees are subject to foreign bodies or liquid material to the eyes.
P3100	Lavatory, Vitreous China, Slab Type	1	CC	Wall mounted, slab type, vitreous china, lavatory (approximate bowl size 7"x15"x10") with: faucet holes on 4" centers; gooseneck spout; wrist blade handles; and grid strainer. It shall be suitable for use in clinics, offices, washrooms or patient care area.

JSN	Content Name	Qty	Acq Code	Description
S2615	Washer, Disinfecting, Ultrasound Probe	1	VV	A complete ultrasound transducer high-level disinfection system that is fast, easy to use and environmentally friendly. It uses a unique platform technology to effectively disinfect the transducer, including the shaft and handle in just seven minutes with no exposure to harmful chemicals. The process operates within a closed system.
S2627	Washer, Fiber Scope	2	VV	A low temperature sterile processing system for sterilizing immersible surgical and diagnostic scopes, cameras, instruments and accessories. The unit shall provide a digital display of cycle data and shall record and print a permanent record of cycles. Units are available in floor, counter top, cart models and pass thru models.

CLEAN INSTRUMENT SET ASSEMBLY WORKROOM (SC892)

<u>Axonometric View</u>
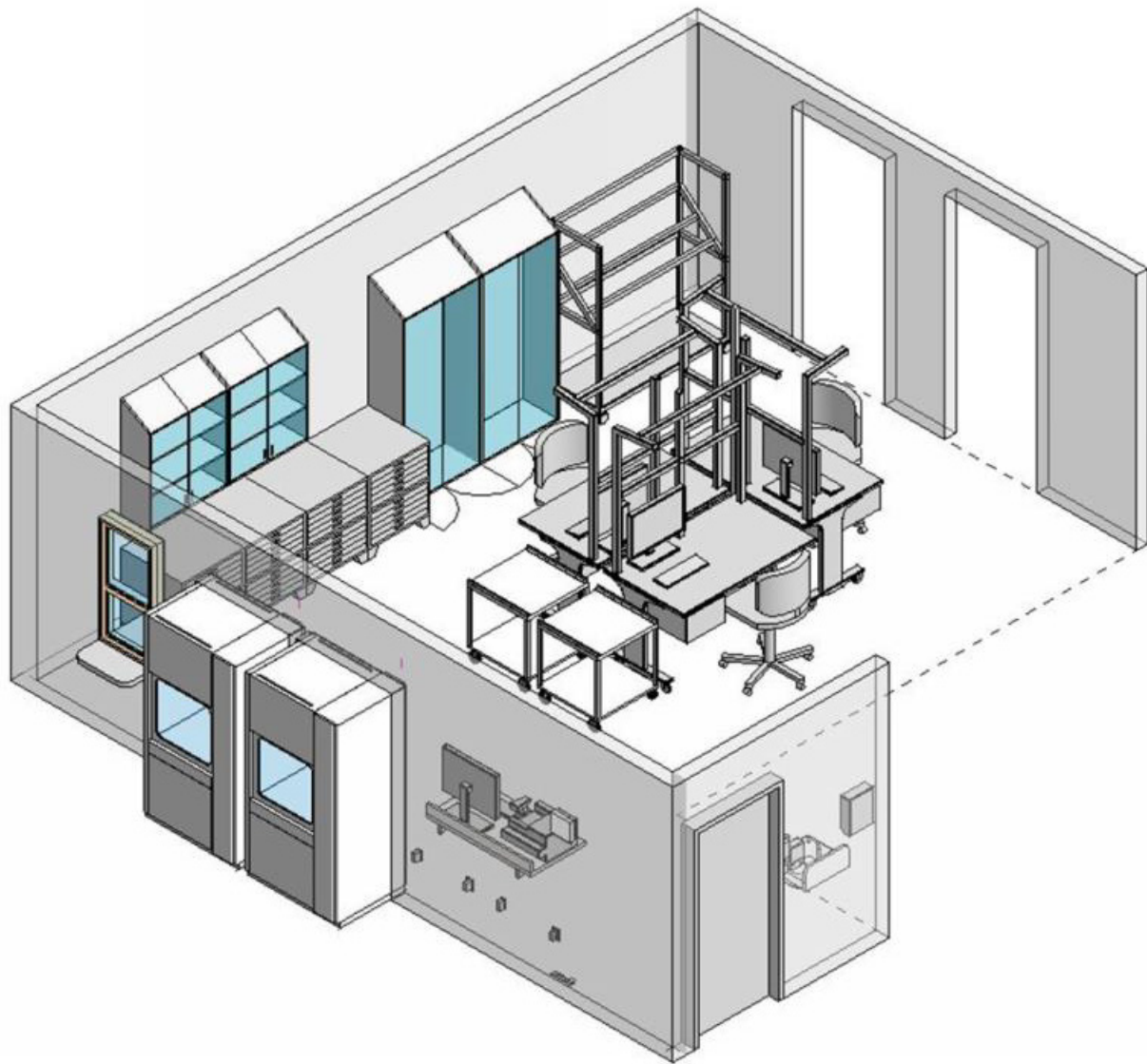
CLEAN INSTRUMENT SET ASSEMBLY WORKROOM (SC892)

Floor Plan

_0064 Wall Mounted Cabinet
_0045 Instrument Cabinet
_0046 Pegboard Cabinet
_0047 Utility/Rack Station
S9610 Assembly WS
F0230 Drafting Chair

25'-0"

DECONTAMINATION ROOM

S0940 Washer/Disinfector
M1801 Computer
F2700 Barcode Scanner
M1825 Printer
_CT050 SS Countertop

Ø 5'-6"

LOW TEMP. STERILIZATION
SUPPLY STORAGE
24'-0"

STEAM STERILIZATION

M1801 Computer
_0048 Transfer Cart
P3100 Lavatory

STORAGE

A5077 Hand Sanitizer
A5075 Soap Dispenser
A5080 Paper Towel Dispenser

1/8 IN = 1 FT   475 NSF (44.1 NSM)

0   4'-0"   8'-0"   16'-0"

Key Plan

Interior Elevations
1
4 ◇ 2
3

CLEAN INSTRUMENT SET ASSEMBLY WORKROOM (SC892)

Reflected Ceiling Plan
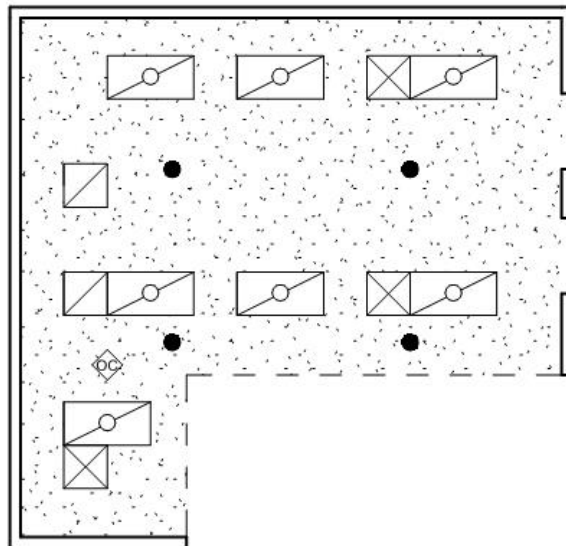
1/8 IN = 1 FT
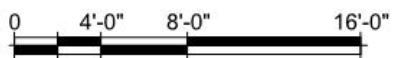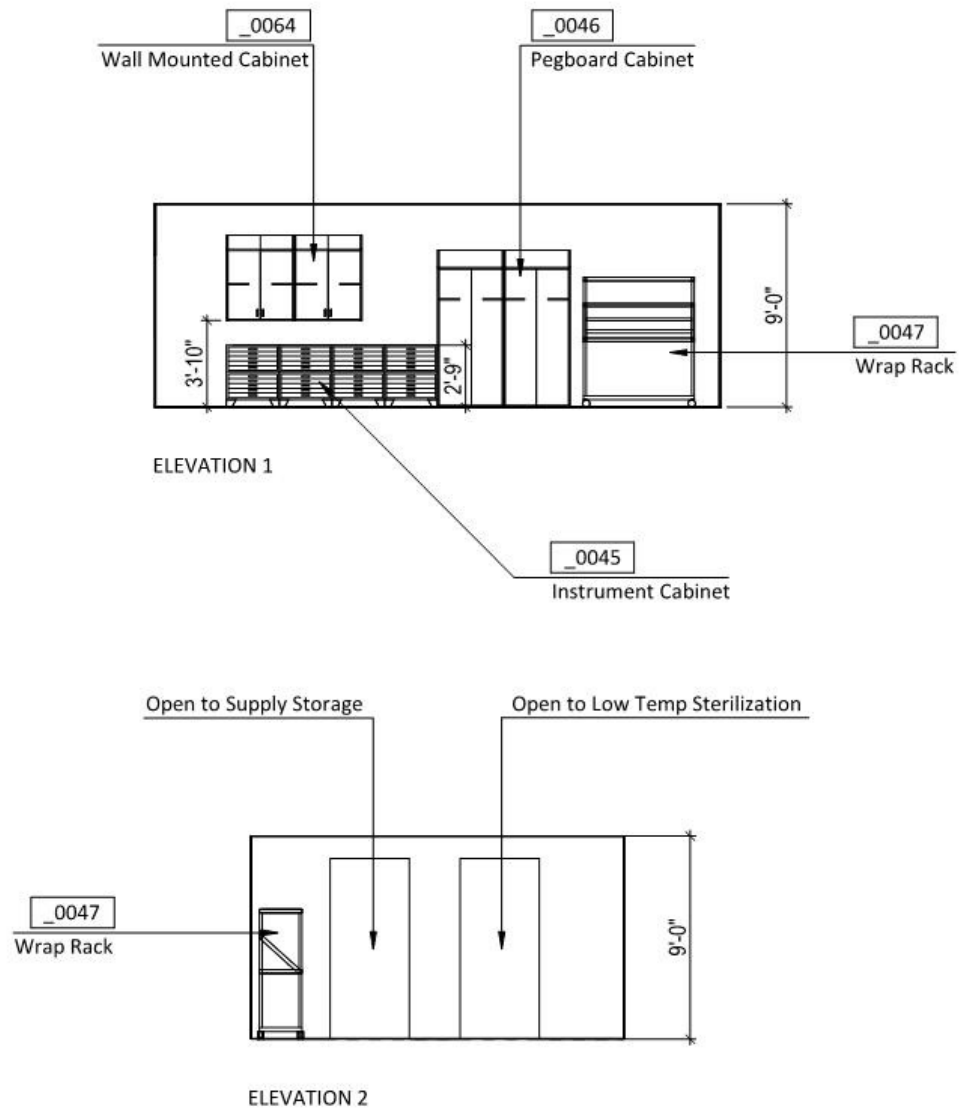
0   4'-0"   8'-0"   16'-0"

CLEAN INSTRUMENT SET ASSEMBLY WORKROOM (SC892)

Interior Elevations

_0064
Wall Mounted Cabinet

_0046
Pegboard Cabinet

_0047
Wrap Rack

9'-0"

3'-10"

2'-9"

ELEVATION 1

_0045
Instrument Cabinet

Open to Supply Storage

Open to Low Temp Sterilization

_0047
Wrap Rack

9'-0"

ELEVATION 2

0   4'-0"   8'-0"   16'-0"

U.S. Department
of Veterans Affairs

CLEAN INSTRUMENT SET ASSEMBLY WORKROOM (SC892)

Interior Elevations

ELEVATION 3

ELEVATION 4
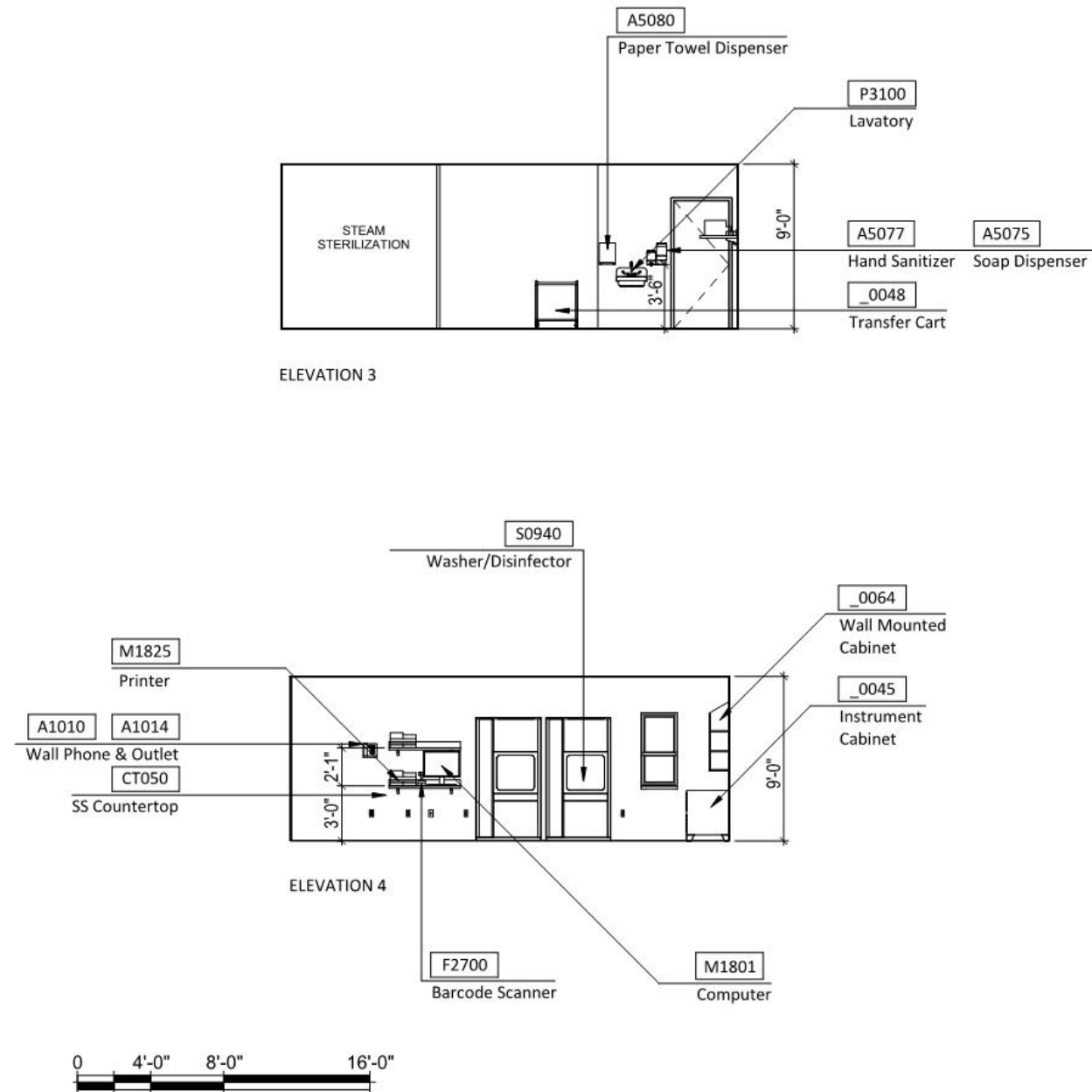
CLEAN INSTRUMENT SET ASSEMBLY WORKROOM (SC892)

Electrical FP
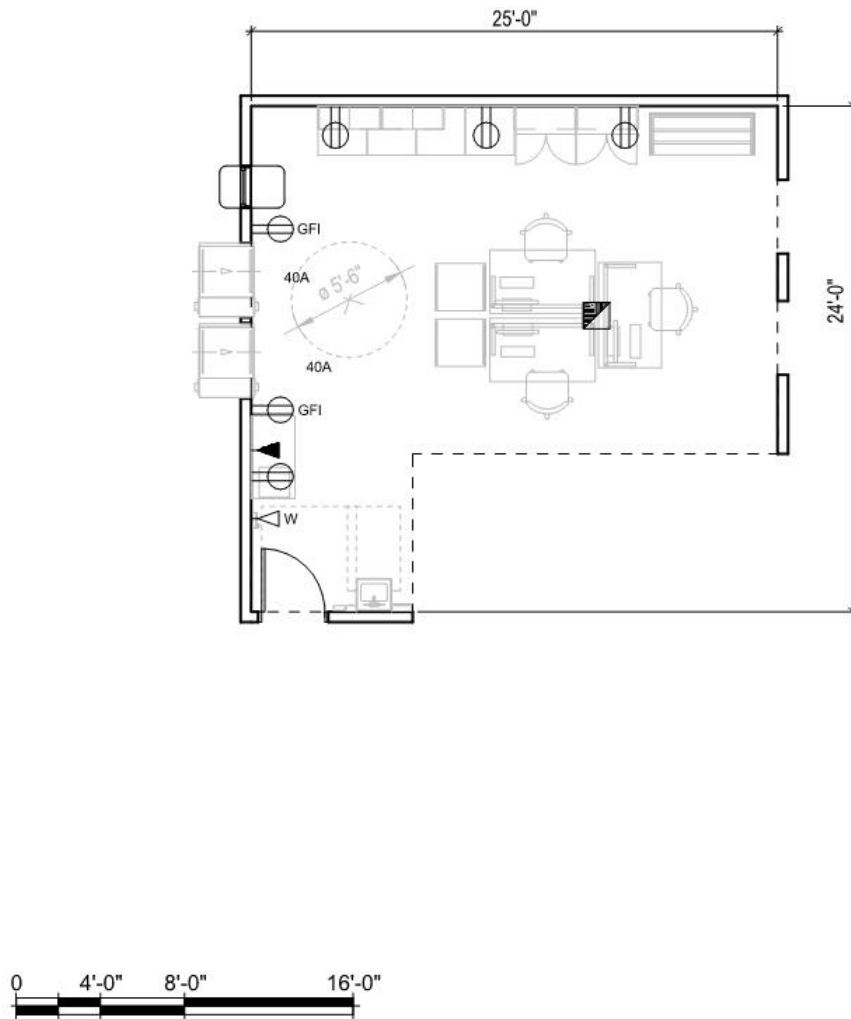
CLEAN INSTRUMENT SET ASSEMBLY WORKROOM (SC892)

Room Data Sheet

ARCHITECTURAL

Floor Finish:	RES
Base:	RES
Wall Finish:	P2 / GWB
Ceiling:	P2 / GWB
Ceiling Height:	9'-0"
Noise (STC Rating):	40
Slab Depression:	No
Special Construction:	No
Hardware:	10 B
Doors:	2UU-T / 12UU-W
Windows:	Yes

HEATING, VENTILATING AND AIR CONDITIONING

Indoor Design Temperature:	
Existing Buildings:	72° - 78° F
New Construction:	72° F +/- 1° F
Indoor Design Relative Humidity:	
Dehumidification Mode:	60% Max
Humidification Mode:	20% Min
Air Changes per Hour:	
Total:	4 Min
Outside Air:	2
Recirculation Permitted:	No
Room Pressure:	Positive
Individual Room Control:	Yes
Filtration (MERV):	14
Hood Required:	No

ELECTRICAL

Lighting Levels:	
General Illumination:	50 FC
Task Illumination:	Yes
Emergency Power:	Yes

PLUMBING

Cold Water:	Yes
Hot Water:	Yes
Instrument Air:	Yes
Medical Vacuum:	Yes
Eye Wash:	No

CLEAN INSTRUMENT SET ASSEMBLY WORKROOM (SC892)

Equipment List

| JSN	Content Name	Qty	Acq Code	Description
A1010	Telecommunication Outlet	2	VV	Telecommunication outlet location.
A1014	Telephone, Wall Mounted, 1 Line, With Speaker	1	VV	Telephone, wall mounted, 1 line, With Speaker
A5075	Dispenser, Soap, Disposable	1	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5077	Dispenser, Hand Sanitizer, Hands-Free	1	VV	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.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility.
CT050	Countertop, Stainless Steel	1	CC	Stainless steel countertop (composition of heavy-gauge Type No. 304 stainless steel) having a smooth satin finish and integral 4" backsplash/curb. Also referred to as a corrosion-resistant steel work surface or work top. Available in various depths. Used in areas where excellent ease of cleaning, abrasion resistance, bacteria resistance, impact resistance, load capacity and moisture resistance, are of concern. Pricing based upon a 24" depth.
F0230	Chair, Drafting, Rotary	3	VV	Drafting chair approximately 47" high X 20" wide X 20" deep with rotary stool and a 5 (five) star base with casters. Padded seat and back. Foot ring adjusts with chair.
F2700	Reader, Bar Code, Hand Held, With Interface	1	VV	Hand held laser bar code reader with computer interface. Used for automated inventory, using bar code stickers / labels. Convenience outlet required at point of use.
M1801	Computer, Microprocessing, w/Flat Panel Monitor	4	VV	Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: a 2.8 GHz Pentium processor; 512 MB memory; 80GB hard drive; 32/48x CD-ROMDVD combo; 1.44MB network interface card; video 32 MB NVIDIA; a 18 inch flat panel monitor. The computer is used throughout the facility to input, manipulate and retrieve information.

JSN	Content Name	Qty	Acq Code	Description
M1825	Printer, Computer	2	VV	High resolution computer printer with a variety of type styles and sheet/envelope feeder trays. Database information reflects network ready, medium duty office style laser printers. Other types of printers (bubble jet, dot matrix, line or plotter) as well as light or heavy use capabilities are available.
P3100	Lavatory, Vitreous China, Slab Type	1	CC	Wall mounted, slab type, vitreous china, lavatory (approximate bowl size 7"x15"x10") with: faucet holes on 4" centers; gooseneck spout; wrist blade handles; and grid strainer. It shall be suitable for use in clinics, offices, washrooms or patient care area.
S9610	Station, Utility / Rack	3	CC	Rack / utility station. The station consists of a stainless steel countertop, 4-1/2" apron, legs and necessary cross-member supports. The stations are specially designed to handle loading racks or trays for use with a specific manufacturer's related equipment and accessories but may also serve a variety of general uses, such as an accumulating, sorting, inspecting, or processing station. Various station widths/lengths (25" to 126", depending upon manufacturer) are available. Pricing based on 48' width/length.
S0940	Washer/Disinfector	2	CC	A recessed mounted (through one wall), single door (vertical sliding with tempered glass window), multi-level, mechanical, washer/disinfector, minimum chamber size 26X24X24, utilizing facility supplied steam. The unit is controlled by a microcomputer that monitors and controls all unit operations and functions and provides both audible and visual indications of deviations. A printer-recorder documents and records each cycle performance. Processing cycles are pre-programmed with pre-wash, wash/cleaning, rinse, and thermal rinse/disinfection. For use in health care facilities and laboratories where reusable items (instruments, utensils, anesthesia/respiratory goods, and glassware) are handled for decontamination purposes. This unit is not a substitute for terminal sterilization. Unit available with manual or power door, various electrical configurations, options, and accessories. Price based upon power door, 208V, 3-phase, with various options.
_0045	Cabinet, Instrument, SS surface	4	CC	Instrument Cabinet is made of solid steel. Cabinet top working surface is stainless steel. Cabinet has separate drawer storage compartments. Each drawer has a maximum load capacity of at least 440 lbs evenly distributed. 28"w x 33"h x 28"d. Used for instrument storage.
_0046	Cabinet, FS, Pegboard	2	CC	Floor standing storage cabinet approximately 35"w x 76"h x 16"d, with removable stainless pegboard, 2 framed glass hinged doors, and sloping top. Used to store endoscopy equipment, large instruments and other equipment items.
_0047	Rack, Sterile Wrap	1	VV	Chrome plated rack used to hang sterile wrapping materiel. The unit is mobile consisting of 4 swivel casters, 4 posts, 4 support bars and wire bottom shelf. 60"w x 24"d

JSN	Content Name	Qty	Acq Code	Description
_0048	Cart, Washer Transfer	2	VV	Stainless steel transfer cart for transferring instruments and accessories into and out of washer / disinfector. Includes one storage shelf with 4 casters and an integrated tub / docking and rack locking devices. Fixed height.
_0064	Cabinet, Wall Mounted, SS, Sloping Top	2	CC	'Wall hung stainless steel cabinet with adjustable shelves, solid hinged clear glass doors, and sloping top. For storing purpose in areas where stainless steel cabinets are used.

STEAM STERILIZATION ROOM (SC902)

<u>Axonometric View</u>
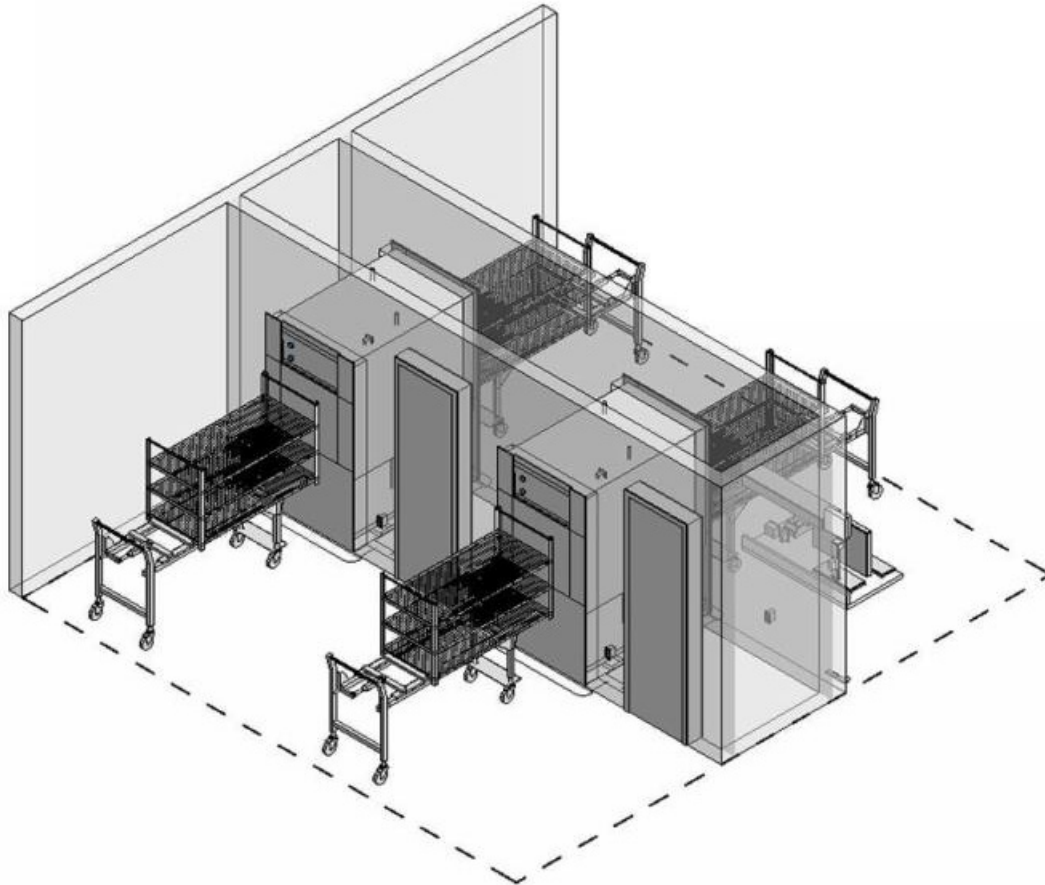
STEAM STERILIZATION ROOM (SC902)

Floor Plan
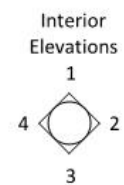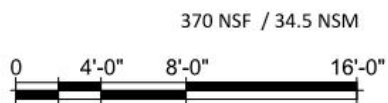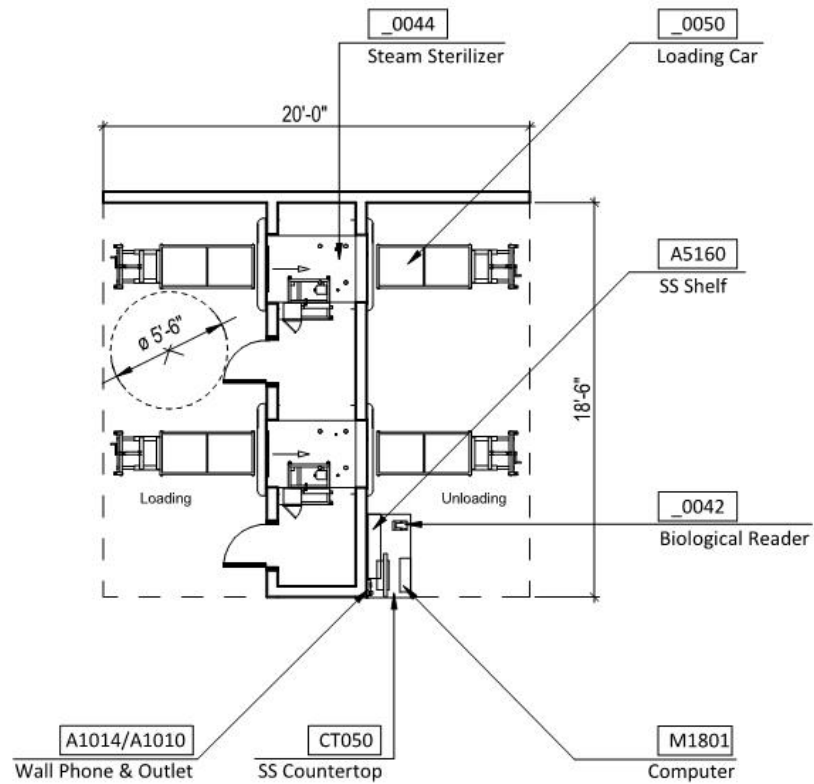
STEAM STERILIZATION ROOM (SC902)

Reflected Ceiling Plan
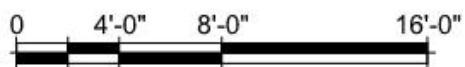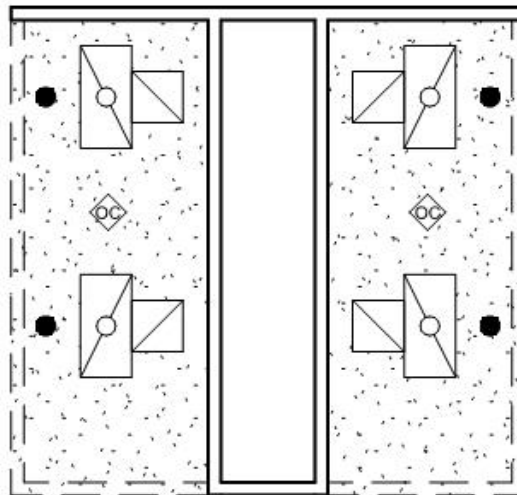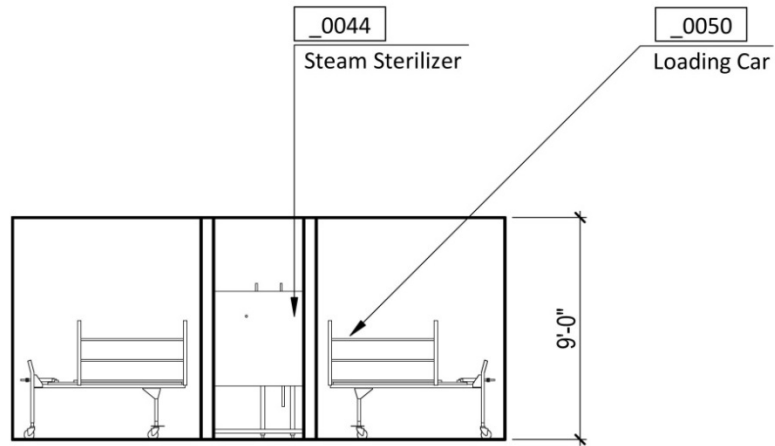
| 0 | 4'-0" | 8'-0" | 16'-0" |

STEAM STERILIZATION ROOM (SC902)

Interior Elevations

_0044
Steam Sterilizer

_0050
Loading Car

9'-0"

ELEVATION 1

_0044
Steam Sterilizer

_0050
Loading Car

9'-0"

ELEVATION 2

0   4'-0"   8'-0"   16'-0"

STEAM STERILIZATION ROOM (SC902)

Interior Elevations

M1801
Computer

_0042
Biological Reader

CT050
SS Countertop

A5160
SS Shelf

A1014/A1010
Telephone & Outlet

2'-10"

ELEVATION 3

A5160
SS Shelf

A1014/A1010
Telephone & Outlet

M1801
Computer

CT050
SS Countertop

_0042
Biological Reader

_0044
Steam Sterilizer

_0050
Loading Car

ELEVATION 4

0   4'-0"   8'-0"   16'-0"
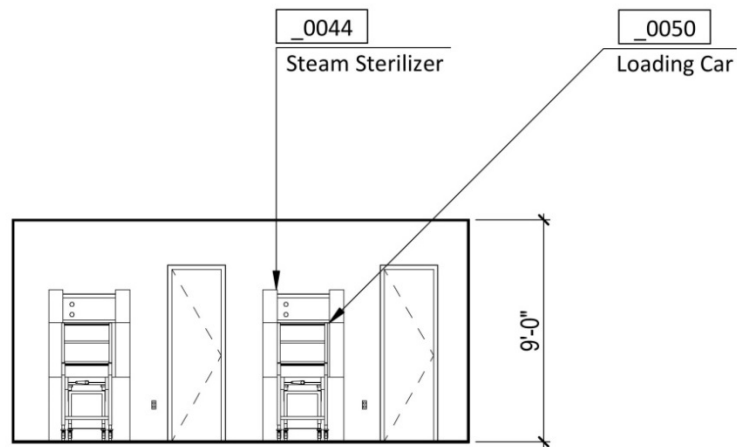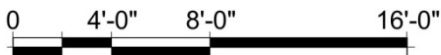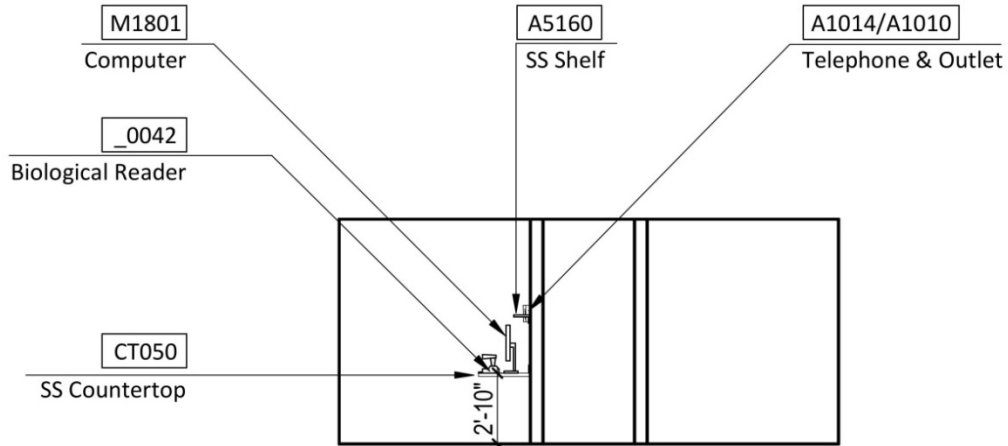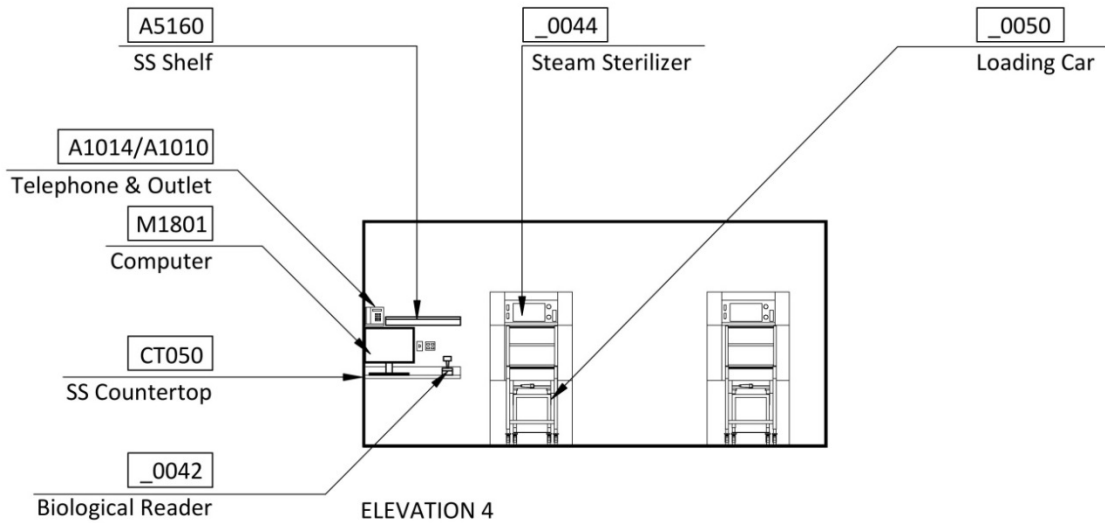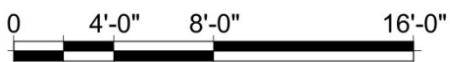
STEAM STERILIZATION ROOM (SC902)

Electrical FP
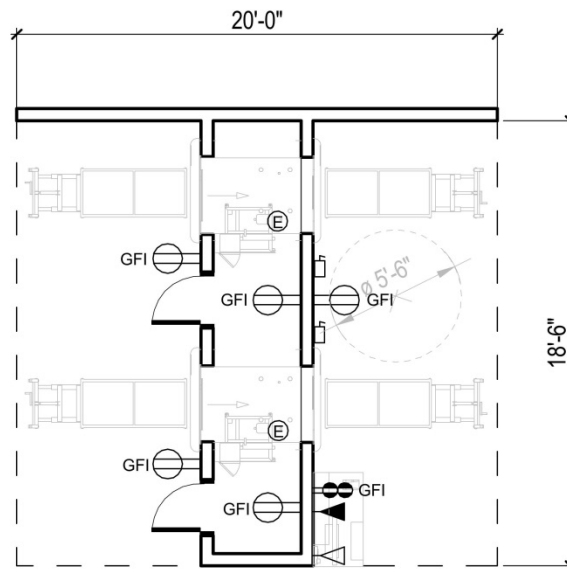
STEAM STERILIZATION ROOM (SC902)

Room Data Sheet

ARCHITECTURAL

Floor Finish:	RES
Base:	RES
Wall Finish:	P2 / GWB
Ceiling:	P2 / GWB
Ceiling Height:	9'-0"
Noise (STC Rating):	40
Slab Depression:	No
Special Construction:	No
Hardware:	No
Doors:	No
Windows:	No

ELECTRICAL

Lighting Levels:	
General Illumination:	50 FC
Task Illumination:	No
Emergency Power:	Yes

PLUMBING

Cold Water:	Yes
Hot Water:	No
Instrument Air:	No
Medical Vacuum:	No
Eye Wash:	No

HEATING, VENTILATING AND AIR CONDITIONING

Indoor Design Temperature:	
Existing Buildings:	72° - 78° F
New Construction:	72° F +/- 1° F
Indoor Design Relative Humidity:	
Dehumidification Mode:	60% Max
Humidification Mode:	20% Min
Air Changes per Hour:	
Total:	4 Min
Outside Air:	2
Recirculation Permitted:	No
Room Pressure:	
Loading:	Positive
Equipment Area:	Negative
Individual Room Control:	Yes
Filtration (MERV):	14
Hood Required:	No

STEAM STERILIZATION ROOM (SC902)

Equipment List

JSN	Content Name	Qty	Acq Code	Description
A1010	Telecommunication Outlet	2	VV	Telecommunication outlet location.
A1014	Telephone, Wall Mounted, 1 Line, With Speaker	1	VV	Telephone, wall mounted, 1 line, With Speaker
A5106	Waste Disposal Unit, Sharps w/Glove Dispenser	1	VV	The unit is designed for the disposal of sharps and complies with OSHA guidelines for the handling of sharps. It shall house a 5 quart container and be capable of being mounted on a wall. It shall have a glove dispenser attached. The unit shall be secured by a locked enclosure.
CT050	Countertop, Stainless Steel	1	CC	Stainless steel countertop (composition of heavy-gauge Type No. 304 stainless steel) having a smooth satin finish and integral 4" backsplash/curb. Also referred to as a corrosion-resistant steel work surface or work top. Available in various depths. Used in areas where excellent ease of cleaning, abrasion resistance, bacteria resistance, impact resistance, load capacity and moisture resistance, are of concern. Pricing based upon a 24" depth.
_0042	Incubator, Biological Indicator	1	VV	A rapid readout biological that monitors the effectiveness of the sterilization process with results usually within one hour. System consists of biological indicators and auto-reader. Auto-reader has advance electronics LCD panel and audible alarm.
_0044	Sterilizer, Stm, VAC, 2DO, RCSD, 2WLL, 26wx26hx49d	2	CC	A recessed mounted (through two walls) double doors (right of left hinged, appropriate door configuration to be indicated on equipment elevation drawings), vacuum sterilizer. The unit is controlled by a microcomputer that monitors and controls all unit operations and functions and provides both audio and visual indications of deviations. A printer-recorder documents and records each cycle performance. Doors may be power operated.
_0050	Loading Cart and Transfer Carriage	4	VV	Loading cart and transfer carriage for use with sterilizers having a 26hx26wx49d chamber. Loading cart is a framework with two full length adjustable shelves of CRS welded sheet metal and wire. Transfer carriage is constructed of welded CRS or painted for corrosion protection frame. Loading cart is secured to the transfer carriage by a locking mechanism. For loading and unloading 26wx26hx49d sterilizers and transferring goods to/from processing areas.

JSN	Content Name	Qty	Acq Code	Description
M1801	Computer, Microprocessing, w/Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: a 2.8 GHz Pentium processor; 512 MB memory; 80GB hard drive; 32/48x CD-ROMDVD combo; 1.44MB network interface card; video 32 MB NVIDIA; a 18 inch flat panel monitor. The computer is used throughout the facility to input, manipulate and retrieve information.

SECTION 9: LOGISTICS SERVICE (LOG)

PLANNING AND DESIGN CONSIDERATIONS (LOG)

The function of VA Logistics Service is the reception, inprocessing, storage, protection, control and distribution of all medical and non-medical supplies (materials and products) for a VA facility or a group of VA facilities. Supplies for the Veterans Canteen are typically processed and handled directly by Veterans Canteen Service personnel. Logistics Service interacts with all departments in a healthcare facility by providing a conduit for the movement of inbound supplies and materials, outbound recyclables and trash or interdepartmental. Additionally, VA Logistics Service handles all incoming and outgoing mail and package items for one VA facility or a group of VA facilities.

The primary entry port to Logistics Service from outside the facility is the Loading Dock(s). Medical and non-medical items are received, electronically or manually entered in the inventory control system and tracked internally afterwards. Depending on the packaging modality, items are either broken down into Logical Unit of Measure Delivery (LUM) items and distributed to the using department or stored in the warehouse.

Methods for moving material items range from simple carts, or manual transport, to semi-automated devices that may pull or tug various cart types. More advanced methods include automated guided vehicles (AGVs) and pneumatic tube systems for distributing items. The costs and benefits of each method are typically analyzed as part of a comprehensive study for new construction and major renovation/expansion projects.
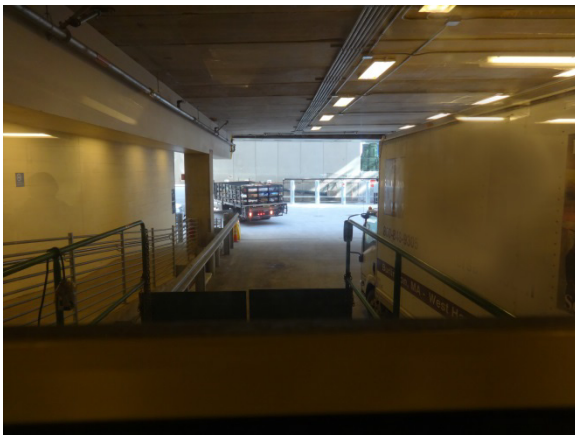
Figure 14: Loading Area (LOG)

Figure 15: Warehouse Area (LOG)

Within Logistics Service, the supply / stocking functions rely upon various logistics methods including vendor-direct low-unit-of-measure systems, scheduled automatic replenishment via exchange carts, and demand-based requisitions. Inventory control covers other logistics methods, ranging from open shelf / supply bins, and decentralized supply pods and patient room servers, two enclosed automated dispensing cabinets. The selected restocking and inventory control method will impact space requirements in user areas, and within the Logistics Service Warehouse.

Logistics Service is organized in the following Functional Areas (FAs), refer to **PG-18-9**: _284: Logistics Service_.

1. Loading Dock Area

2. Warehouse Area

3. Postal / Mail Service Area

4. Staff and Administrative Area

Future Trends

Technology developments have impacted the way the field of Logistics responds to increasing demands on timely distribution, control accuracy, shorter processing times, etc. and will continue to do so. Greater use of mobile and wearable computing devices, use of robotics and automation, use of sensors for tacking items through the distribution chain, and Wi-Fi enabled Healthcare will impact the way VA's Logistics Service operates; these technologies will allow a more accurate and efficient inventory control and faster ordering processes that will ultimately have an impact in the supply chain. Additionally, the industry expects a reduced dependence on bulk (multiple-pallet) purchases due to wider implementation of advanced vendor provided Logical Unit of Measure (LUM) systems which will decrease the volume of bulk storage. Customized department deliveries, automated material management system ordering at point of use, and use of automated guided vehicles (AGV) for distribution are other technologies that will help streamline the material handling process.

Lean Approach

A Lean analysis, sometimes called a Process Improvement Project (PIP), is recommended prior to beginning the design process of a Logistics Service project in order to facilitate operational improvement by identifying waste, encouraging standardization, and streamlining operational practices. Lean is a way of achieving more with less.

The Logistics Service Lean process includes the analysis of adjacencies, both within the department and with other departments within the facility. Consideration of alternative transport systems for the movement of supplies, equipment, and clean and soiled materials; use of material transport systems; both manual and automated, fast-track systems, material management software and tracking systems, and point of use supply replenishment systems shall be given to reduce waste and increase efficiency in the distribution process.

Location

The location of Logistics Service shall be based on an analysis of external and internal factors. These include:

1. Accessibility to the truck bays and loading docks from the facility campus internal road network.

2. Analysis of the internal, intra-building, travel distances, including horizontal and vertical travel paths.

3. Location of departments heavily relying on the Logistics Service.

Off-site warehouse storage may be considered as an alternative in the event adequate area is not available in the main facility.

Security
In addition to item tracking via hand-held devices, additional supporting security systems such as monitoring cameras and door alarms / sensors in the storage and warehouse areas as well as at access points in the Loading Dock Area and internal entry / exit points to the Logistics Service areas should be provided.

Refer to **PG-18-10**: *Physical Security and Resiliency Design Manual*, sections 5.9: Loading Dock and Service Entrances, and 5.10: Mailroom for detailed considerations in planning and designing the Logistics Service.

Refer to **PG-18-10**: *Physical Security Design Manual for Mission Critical Facilities* for information related to security for Logistics Service as well as **PG-18-3**: *VA Design and Construction Procedures*, Topic 14: Security and latest VA directives for specific partition and door / hardware requirements for secure spaces.

Disaster Planning
In the event of natural disasters and other catastrophic events, Logistics Service may be required to continue operations; refer to specific policies for each facility for further details. Provision of adequate storage space for disaster response equipment and supplies such as linen, uniforms, PPEs, ready-to-eat meals, and drinking water shall be incorporated.

Seismic Considerations
Refer to **VA H-18-8:** *Seismic Design Handbook* during the planning and design phase to determine the impact of the static and movable racks on the overall design of the Warehouse storage spaces.

Space Planning
The Department of Veterans Affairs **PG-18-9**: *284: Logistics Service* provides the Space Planning Criteria to be used in generating a baseline space program for a Logistics Service project. It also includes background information relative to planning this department. **PG-18-9**: *284: Logistics Service* has been implemented in the Space and Equipment Planning System (SEPS). A project created in SEPS will generate a Program for Design (PFD) based on answers to the Input Data Statements (IDSs) – **PG-18-9**: *284: Logistics Service*, Section 4- These statements relate to Mission, Workload, and Staffing parameters for the specific project. Once the PFD is generated, planners shall use it as a basis to develop the Space Program for the project by making the necessary adjustments, project based room nomenclature, NSF, or by adding or deleting specific rooms.

Codes and Standards
Refer to the current applicable national, regional, and local codes and standards in addition to the VA specific guidelines and directives when planning and designing a Logistics Service department. Additional codes and standards, not listed below, may also apply.

VA Program Guides

VA Technical Information Library (TIL)
(https://www.cfm.va.gov/til/)

1. **PG-18-1**: *Master Construction Specifications*

2. **PG-18-3**: *Design and Construction Procedures*

3. **PG-18-4**: *Standard Details*

4. **PG-18-5**: *Equipment Guide List*

5. **H-18-8**: *Seismic Design Handbook*

6. **PG-18-9**: *Space Planning Criteria* (implemented in Space and Equipment Planning System (VA-SEPS)

7. **PG-18-10**: *Design Manual* (by discipline)

8. **PG-18-10**: *Signage Design Manual*

9. **PG-18-13**: *Barrier Free Design Standard*

10. **PG-18-14**: *Room Finishes, Door, and Hardware Schedules*

11. *Environmental Planning Guidance*

VHA Directives, Handbooks and Design Manuals
(https://www.va.gov/vhapublications/)

1. **VHA-D 7002**: *Logistics Management Policy*

2. **VHA-H 7002/1**: *Logistics Management Procedures*

3. **VHA-H 1761. 1:** *Standardization of Supplies and Equipment Procedures*

4. **VHA-H 1761. 02**: *VHA Inventory Management*

5. **VHA-H 1173. 08**: *Medical Equipment and Supplies*

6. **VHA-DM:** *Structural Design Manual for Ancillary Facilities / Outpatient Clinics / Laundries / Warehouses Projects*

7. *VA Sustainable Design Manual*

National Codes, Standards and Guidelines

1. **ASME A 17. 1**: *Safety Code for Elevators and Escalators*

2. **ASHRAE / IESNA** *Standard 90. 1. Communications / Special Systems*

3. **Centers for Disease Control and Prevention (CDC)**: *Guidelines for Environmental Control in Health-Care Facilities*

4. **Facility Guidelines Institute (FGI)**: *Guidelines for Design and Construction of Hospitals and Outpatient Facilities*

5. **General Services Administration (GSA)**: _ABA Accessibility Standard for Federal Facilities_

6. **International Building Code (IBC)**: _Mechanical and Plumbing Codes_

7. **IES RP-29-06**: _Lighting for Hospitals and Health Care Facilities_

8. **NFPA 70**: _National Electric Code_

9. **NFPA 99**: _Health Care Facilities Code_

10. **NFPA 101**: _Life Safety Code_

11. **The Joint Commission (TJC)**: _Comprehensive Accreditation Manual for Hospitals_

12. **The Joint Commission (TJC)**: _Environment of Care Emergency Management and Life Safety Standards_

13. **Uniform Federal Accessibility Standards, (UFAS)**

14. **U.S. Access Board**: _Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines (ABAAG)_

15. **U. S. Access Board**: _Uniform Federal Accessibility Standards (UFAS)_

16. **U. S. Code:** _The Public Buildings Amendment Act_, PL 100-678, (Nov 1988)

17. **U. S. Department of Justice**: _ADA Standards for Accessible Design_

18. **U. S. Department of Labor, Occupational Safety and Health Administration**: _OSHA 3151-12R Personal Protective Equipment_

19. **U. S. Department of Labor, Occupational Safety and Health Administration**: _OSHA Title 29, Part 1910. 95: Occupational Noise Exposure_

20. **U. S. Department of Labor, Occupational Safety and Health Administration**: _OSHA Title 29, Part 1926. 101: Hearing Protection_

21. **United States Green Building Council (USGBC)**: _Leadership in Energy and Environmental Design (LEED) Project Certification_

ARCHITECTURAL DESIGN (LOG)

General Considerations

Provide direct controlled access from the Loading Dock Area to the Warehouse Area. Minimum internal corridor clear width shall be 8'-0"; and minimum clear door width shall be 48" for single leaf door or 72" for double leaf to allow for adequate pallet and material handling equipment access. In new construction projects, provide minimum clearance of 16'-0" from finished floor level to the underside of the structural element or building system (plumbing, HVAC, etc.); in renovation projects, provide the maximum feasible clearance from finished floor level to the underside of the structural element or building system (plumbing, HVAC, etc.) in Bulk Storage areas.

A 16'-0" vertical clearance will accommodate a two-tier pallet racking system with a full pallet placed at finish floor level. Ensure that the storage system selected for the Warehouse Bulk Items Storage does not interfere with air handling ductwork, drains and sprinkler heads. Provide a minimum clearance of 10'-0" from finished floor level to underside of the structural element, building system (plumbing, HVAC, etc.) or finished ceiling in the Unit Items Storage.

Locate Staff and Administrative Area in an adjacent and easily accessible section from the Loading Dock and Warehouse Area.

Life Safety

Fire Protection, Sprinkler Systems and Fire Alarm Systems shall be designed following criteria outlined in **PG-18-10**: _VA Fire Protection Design Manual_ as well as current applicable local, state and national codes.

The fire exits shall be marked with illuminated signage. Fire alarms and extinguishers shall be provided in all work areas. All supplies must be stored at least 18 inches below sprinkler heads.

Accessibility

Refer **PG-18-13**: _VA Barrier Free Design Standard_ in addition to the _Architectural Barriers Act Accessibility Standards (ABAAS)_ Standards: Appendices C and D to 36 CFR Part 1191; and _ADA Standards for Accessible Design_: (28 CFR Part 36).

Acoustics and Noise Control

Material handling equipment intrinsically generates loud noise that can affect staff productivity and safety; hence sound control in these areas is recommended. Operational noise contributes to difficult communication and reduces mental concentration which may yield errors and unsafe working conditions. Depending on the expected use of material handling equipment, the planning and design team shall consider providing noise control methods such as sound barriers in partitions / walls to block the transmission of sound from area to area, and sound absorptive finish materials for partitions and ceilings to attenuate sound.

Storage Space Design Considerations:

The layout of storage racks in a warehouse has a major impact on the efficiency of material handling operations. The number of storage racks, and the length and width of the picking and cross aisles, must be considered when designing the rack system layout. Picking aisles provide direct access to the material being stored on the rack system while cross aisles provide access to the picking aisles.

Rack System Types

The material load is a major consideration when determining the type of rack system used in the warehouse area; there are two types: Product Load and Unit Load. Product Load is the weight of the material on the rack system. Unit Load is the weight of the Product Load with the weight of the pallet.

Cantilever Rack

A Cantilever Rack storage system is primarily used for bulk storage and it has four basic structural components: uprights, base, racking arms, and braces. The uprights are the vertical components that support the arms and connect directly to the base in order to provide stability and support. Racking arms are horizontal beams that support the material load. Braces are provided to connect and support the uprights. Cantilever Rack systems may be freestanding or connected to the structure overhead.

Movable-Shelf Rack

Movable-shelf Rack systems are comprised of vertical upright frames with horizontal shelf beams and are primarily used for deep pallet or hand-stack storage. Some of the shelves are 'fixed' while others are movable.

Figure 16: Cantilever Rack (LOG)

Figure 17: Movable Shelf Rack (LOG)

Seismic Design

This is addressed in the Structural portion of this Design Guide.

INTERIOR DESIGN (LOG)

Refer to **PG-18-14**: *Room Finishes, Door and Hardware Schedule*.

Flooring

Floor surface shall be smooth and level to facilitate movement of materials using hand powered and automated material handling equipment. Floor finishes in the Warehouse Area shall be selected based on an analysis of the static and live loads expected. Sealed concrete finishes shall be used on the loading docks, Receiving and Issue, Flammable Storage, and Gas Cylinder Storage. Epoxy based flooring finish shall be used in all warehouse storage areas. Consider the use of colored flooring to identify high traffic areas from static storage areas in the warehouse to alert staff of potential hazards associated with the

movement of materials. In Unit Items Storage, seamless and non-wax flooring with an integral cove base shall be specified. Flooring in staff areas; offices, workstations, conference, and other support areas shall be per **PG-18-14:** _Room Finishes, Door, and Hardware Schedules_.

Walls / Partitions
Internal walls / partitions in areas where material is stored or distributed shall be constructed of concrete masonry units or similar impact resistant construction to minimize damage from material handling equipment. Wall protection including wall and corner guards shall be provided in high traffic areas. Extend walls to the structure above where a secure area is required. Metal cage material may also be specified for secure areas.

Ceilings
Warehouse areas typically do not require a ceiling and are open to the structure above. Clean / Unit Storage shall be provided with a suspended ceiling system with a non-porous surface that is easily cleanable. Staff and Administrative areas as well as support spaces shall comply with **PG-18-14**: _Room Finishes, Door, and Hardware Schedules_.

Doors and Hardware
Provide door protection, vision panels, and hand-free power operated mechanisms on doors in high traffic / high transaction areas. Consider the use of power operated and high-speed roll-up doors to accommodate material handling equipment traffic between the Loading Dock and the Receiving Area. Refer to **PG-18-14**: _Room Finishes, Door, and Hardware Schedules_.

Casework
Casework in staff and support areas including the Mailroom, High Volume Reproduction Room, Copy / Office Supply Room and Staff Lounge shall be specified with solid surface counter tops that resist staining and chipping. Refer to **PG-18-4**: _Standard Details_ for additional casework details.

Finishes
The key criteria in the selection of interior finishes for Logistics Service are durability, sustainability, safety / security, and low flammability. Refer to **PG-18-14**: _Room Finishes, Door, and Hardware Schedules_ and **PG-18-1**: _Master Construction Specifications_.

Lighting
Refer to the Electrical Design section of this Design Guide.

Waste Management
Receiving and Warehouse activities generate considerable amounts of packaging and shipping materials waste. Recycling equipment such as dedicated compactors, which eliminate double handling and are safer to operate, shall be provided.

MECHANICAL DESIGN (LOG)

General
The HVAC system shall comply with **PG-18-10**: _HVAC Design Manual_, **PG-18-3**: _Design and Construction Procedures_, **PG-18-1**_: Master Construction Specifications_ and **PG-18-4**: _Standard Details_. If specific VA requirements are not available, design criteria from industry standards including **ASHRAE**, **ANSI / AMMI ST79**, and **NFPA** shall be used with and approval by VA.

Supply Air Requirements
The supply air volume should be established to meet the cooling, heating, and humidification load requirements of the occupied space. The supply volume should be increased as required to meet minimum air change and maintain proper space pressurization relative to room exhaust. In addition, filtration shall be comprised of a minimum MERV-8 pre-filters and MERV-14 final filters, where filter efficiencies shall be based on the current version of **ASHRAE** Standard 52. 2. Refer to the Physical Security Design Manual for HVAC requirements for Mailrooms located in VA Mission Critical Facilities.

Ventilation Requirements
A dedicated variable volume air-handling unit shall be specified to provide ventilating, heating, cooling, humidification, dehumidification, and filtration for the entire Logistics Service.

Return and Exhaust Air Requirements
The HVAC design should provide exhaust from spaces to remove air that is unacceptable to return and provide proper room pressurization. Air from a space with no contaminants shall be returned to the AHU. Exhaust grilles shall be located at source of contaminants to maximize their effectiveness at removing point source contaminants. HVAC systems shall be designed to remove, or reduce to acceptable levels, volatile chemical and airborne contaminants. These systems shall be designed to remove excessive moisture and to control moisture and dust accumulation in ductwork and AHUs to avoid conditions permitting the growth of pathogenic and /or allergenic microorganisms. Refer to the **PG-18-10** *HVAC Design Manual*.

Noise Abatement
Refer to **PG-18-10** *HVAC Design Manual* for sound control levels for the HVAC system design.

ELECTRICAL DESIGN (LOG)

General
Power, lighting and telecommunications distribution systems shall comply with the most current version of **PG-18-10**: *Electrical Design Manual*, **PG-18-3**: *Design and Construction Procedures*, **PG-18-1**: *VA Master Construction Specifications*, and **PG-18-4**: *VA Standard Details*.

Lighting
Lighting design for Logistics facilities shall comply with the **PG-18-10** *Lighting Design Manual*; and **IES RP-29-06**: *Lighting for Hospitals and Health Care Facilities* Medical Gas Storage and Flammable Storage lighting shall comply with **NFPA 70**.

Power
All Receptacles shall comply with **PG-18-10**: *Electrical Design Manual*, Chapter 3. Provide general-purpose duplex receptacles on each wall; these shall be in addition to the special purpose and dedicated outlets required for equipment. An analysis of the equipment items shall determine the type and location of special purpose receptacles. Medical Gas Storage and Flammable Storage shall not have receptacles. Provide power for charging forklifts and other equipment.

Power: Essential Equipment Systems
The equipment system shall serve all essential equipment listed in **NFPA 70** and **NFPA 99**, and other locations as determined by risk analysis of the facility. If the facility is used for Mass Casualty conditions, or if hospital policy dictates, additional Logistics equipment shall be on the essential equipment system.

Coordinate with the specific VA facility to determine how Logistics Service shall operate during a power outage.

Power: Emergency Systems
Refer to **PG-18-10**: *Electrical Design Manual*, Chapter 4. and **NFPA 70**, Article 517.

Energy Conservation and Sustainable Design
Refer to the *VA Sustainable Design Manual* for detailed information and requirements. The minimum energy standard shall be the latest edition of **ASHRAE / IESNA** *Standard 90. 1*.

Communications / Special Systems
Refer to **PG-18-10**: *Telecommunications and Special Telecommunications Systems Design Manual* for communications and special systems requirements.

Telephone and Data
Refer to **PG-18-10**: *Telecommunications and Special Telecommunications Systems Design Manual* for telephone and data system requirements.

Life Safety and Fire Protection
U. S. Code: *The Public Buildings Amendment Act*, PL 100-678, (Nov 1988), requires all Federal agencies to follow the latest editions of nationally recognized fire and life safety codes. VA has adopted the National Fire Code (NFC), except **NFPA 5000**, published by the National Fire Protection Association (NFPA). Life safety requirements are specifically addressed in the Life Safety Code, **NFPA 101**. Fire protection features not addressed by the NFC shall be designed to comply with the latest edition of the International Building Code (IBC). For guidance on compliance with other Codes and Standards, refer to **PG-18-3**: *Design and Construction Procedures*, Topic 1.

STRUCTURAL DESIGN (LOG)

Refer to **PG-18-10**: *Structural Design Manual for Hospital, Replacement Hospital, Clinical Addition, Domiciliary, Nursing Home, Psychiatric Building, Outpatient Clinic, Veterinary Medical Unit Projects*, and **VA Directive 7512:** *Seismic Safety of VA Buildings.* The structural system shall accommodate the specific live and dead loads associated with Logistics Service requirements.

VA facilities are classified as either Mission Critical or Life Safety Facilities. If Logistics Service is located in a Mission Critical facility it must remain functional after a natural disaster or other catastrophic event and is assigned to IBC Occupancy Category IV; Buildings and Occupancies designated as essential. If Logistics Service is located in a facility classified as a Life Safety Facility, continuous operation is not required unless Logistics Service is part of the emergency preparedness program.

In Mission Critical VA Facilities, Loading Docks shall be adjacent to, but structurally isolated from the main building. The portion of the structural system containing the mailroom shall be designed to withstand blast / explosion conditions.

FUNCTIONAL CONSIDERATIONS (LOG)
Refer to **PG-18-9**: *284 Logistics Service*.

Logistics Service is organized in five functional areas:

FA1: Truck Bay Calculation
Determines the number of Truck Bays based on the resulting total NSF of Logistics Service Storage area.

FA2: Loading Dock Area
Provides separate Clean, Soiled and Food Service Loading Docks.

Specific Activities: Manage the clean, soiled and Nutrition and Food Service items at point of entry /exit including material uncrating and staging.

FA3: Warehouse Area
Provides storage space for clinical and non-clinical materials.

Figure 18: Loading Area (LOG)

Specific Activities: Verify and scan into the electronic inventory system materials and goods received, separate materials for storage, and distribute to point of use.

FA4: Postal / Mail Service Area
Provide space for Postal operations.

Specific Activities: Receive, sort and distribute mail and packages.

FA5: Staff and Administrative Area
Provide space for Logistics Service Staff and Administrative functions.

Figure 19: Warehouse Area (LOG)

Specific Activities: Conduct administrative activities to manage Logistics Service; including conferencing and training sessions.

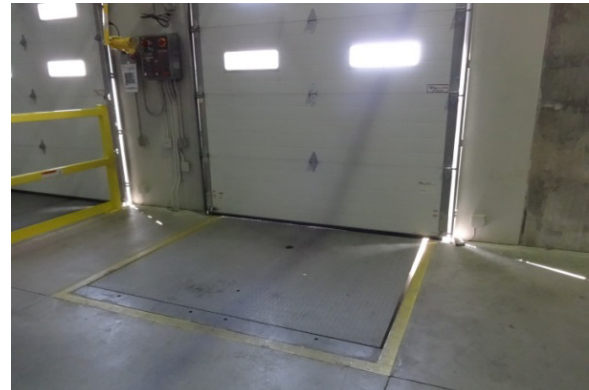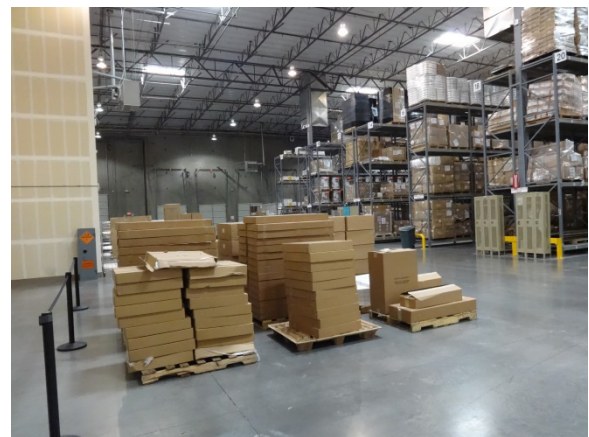## SPATIAL RELATIONSHIPS (LOG)
This section further defines all the spaces within each Functional Area and also illustrates the relationships among Functional Areas, see Section 10: Functional Diagrams (LOG), and individual spaces at the Departmental and the Functional Area levels.

FA1: Truck Bay Calculation
1.   No space allocated; used for calculations only.

FA2: Loading Dock
1.   Clean Receiving Dock: The Clean Receiving Dock(s) and associated truck bays align with the Receiving and Breakout Area. Additional adjacencies include access to the Medical Gas Storage, Flammable Storage and Logical Unit of Measure (LUM) delivery staging.

2. Soiled Receiving Dock: The Soiled Receiving Dock(s) provide access to compactors for trash (non-infections medical waste) and recyclables, including cardboard. The full spatial and functional requirements for the soiled docks are defined in **PG-18-9**: *408 Environmental Management Service – Laundry and Linen Operation*.

3. Nutrition and Food Service Receiving Dock: If not accommodated as part of the facility's main clean loading docks, a separate dock may be provided for handling foodstuffs. Functionally, the food service dock(s) require direct access to a service corridor connecting to Nutrition and Food Service.

4. Breakout Room: The Breakout Room is adjacent to the clean loading dock(s) to control the flow of materials into and out of the facility. Therefore, direct access to a service corridor to facilitate internal distribution and to the Warehouse is recommended. The Breakout Room should also have a line of sight to the clean docks and Service Yard.

5. Logical Unit of Measure (LUM) Delivery Staging Room: The LUM Delivery Staging Room shall be adjacent to the clean loading dock(s) to allow vendors to drop sealed supply totes. Totes may be placed on pallets, but typically will be held on transport carts to facilitate internal distribution to user area storage spaces.

6. Full Gas Cylinder Storage: This space temporarily holds portable medical gas cylinders. This room may need to be located along a perimeter wall to comply with NFPA and/or local fire code requirements.

7. Empty Gas Cylinder Storage: Empty gas cylinders are treated in the same manner as full cylinders. Typically, the Empty Gas Cylinder Storage Room shall be adjacent to the Full Gas Cylinder Storage room for ease of access / exchange.

8. Flammable Storage: The Flammable Storage holds chemicals in bulk or semi-bulk quantities. As more vendors are adopting Logical Unit of Measure (LUM) systems, the need for bulk storage of chemicals is greatly reduced.

9. Staff Toilet: The Staff Toilet shall be located adjacent to the Loading Dock(s) and Breakout Room for use by delivery personnel, including VA staff.
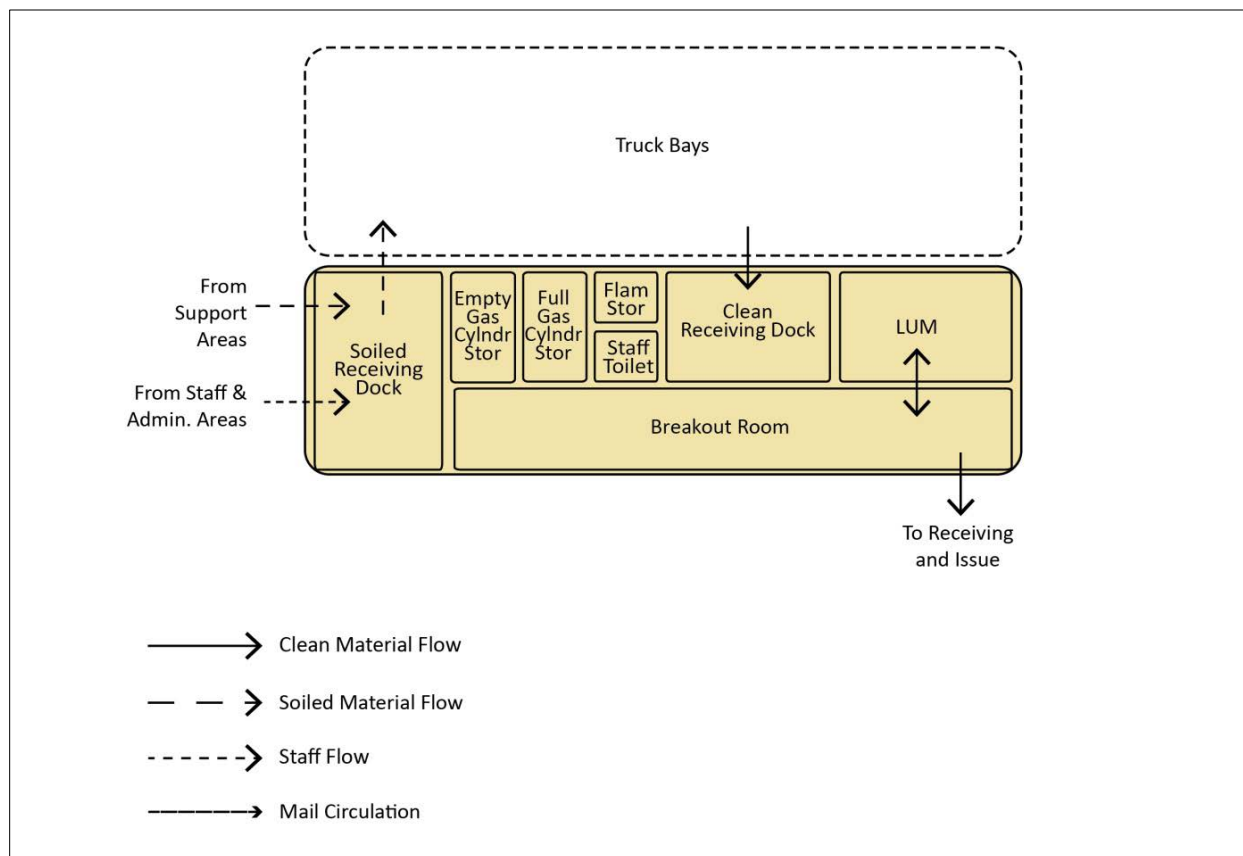
Diagram 11: Loading Dock (LOG)

FA3: Warehouse

1. Receiving and Issue: This space is used to verify and scan received materials and goods into the electronic inventory system and to prepare items that will be placed in bulk, unit item, or sterile consumables storage. This area is also used to stage outgoing transport carts to restock supplies in user areas.

2. Equipment Preparation and Staging Storage: This area temporarily accommodates equipment and furnishings before internal distribution. It may be a zone within Bulk Item Storage, and may require a separate secure area, demarcated by wire cage or similar.

3. Flex Storage: The Flex Storage area shall be adjacent to the Bulk Items Storage to facilitate the temporary holding of goods such as beds, computers, and other equipment delivered for use or installation in the facility at a later time. Flex Storage shall be secured as deemed necessary.

4. Pandemic Storage: An area or zone adjacent or within Bulk Items Storage, which consists of wide-span pallet racking, to store medical supplies for use in pandemic events. This space shall be adjacent to or integrated with Emergency Preparedness Storage.

5. Emergency Preparedness Storage: This area or zone shall be adjacent or within Bulk Items Storage and consists of wide-span pallet racking to store a range of medical and non-medical supplies including sustenance /ready-to-eat-meals (REMs), bottled water, disposable linens, etc. in quantities sufficient to meet the medical facility's defend-in-place requirements. Emergency Preparedness Storage shall be adjacent to, or integrated with, Pandemic Storage.

6. Bulk Items Storage: This is the main storage area for the medical facility. It is typically outfitted with high-bay / high capacity storage racks, which may include wide-span pallet racking, deep shelving, etc. to accommodate the storage of items in case-lots as well as full pallet storage for items that must be procured in bulk quantities. This area shall be open with high ceiling clearances and no internal partitions (see the Architectural Design section).

Figure 20: Bulk Items Storage (LOG)

7. Unit Items Storage: This area is for medical supplies storage for less than case quantities ready to be delivered to the point of use. Medical supplies may be stored in packaging with multiple units, i. e. package of 12 each, to facilitate the efficient restocking of supplies to user areas. Unit item storage may be restocked from Bulk Storage, or may be restocked directly from vendor deliveries in less than case lot quantities.

8. Receiving Breakout and Inspection Room: *This area is administratively assigned to Logistics Service but functionally located in Sterile Processing Service (SPS)*. This area accommodates the removal, discarding and recycling of outer packaging material.

9. Sterile Consumables (Soft Goods) Storage: *This area is administratively assigned to Logistics Service but functionally located in Sterile Processing Service (SPS)*. All sterile consumable supplies in SPS are maintained in low unit of measure. This storage area is for surgical supplies that are part of a fully integrated case cart /surgical supply system. If not located within SPS, careful consideration must be given to where case cart assembly occurs, where and when sterile instruments are added to the case carts, and how the case carts will access the point(s) of use.

Figure 21: Sterile Consumables Storage (LOG)

10. Pneumatic Tube Station: The Pneumatic Tube station, as part of an overall unit item distribution system for the medical facility, may be located in Logistics Service to facilitate immediate delivery of certain supplies.

From
Breakout
Room

PTS

Unit Items Storage

Receiving and Issue

To
Support
Areas

Equipment
Prep
& Staging
Storage

Flex
Storage

Bulk Items Storage

Emergency
Preparedness
Storage

Pandemic
Storage

→ Clean Material Flow

– – → Soiled Material Flow
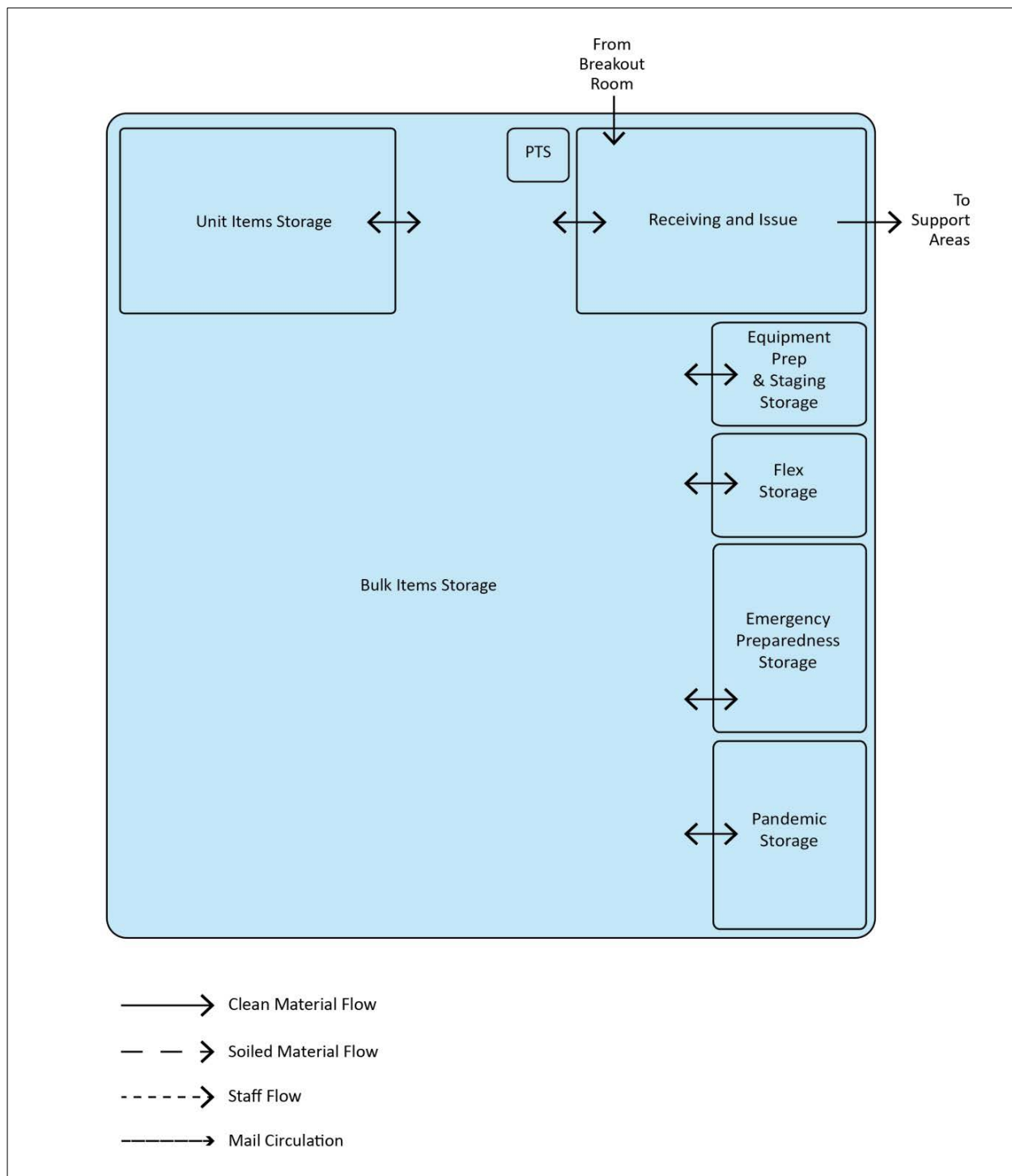
- - - → Staff Flow

———→ Mail Circulation

Diagram 12: Warehouse (LOG)

FA4: Postal / Mail Service

1. Postal / Mail Service Chief Office and Postal Clerk Workstations: These spaces are provided for staff to perform administrative duties. They include, enclosed office space for the Postal / Mail Service Chief and open workstations for all Postal Clerks.

2. Mailroom: The Mailroom is a controlled access space provided for receiving, sorting and distributing mail and small packages and should be located near the clean loading dock and accessible to the main circulation corridor(s) within the facility.

3. High Volume Reproduction Room: This space is provided to produce large quantities of printed material.

4. Courier Service Drop-off / Pick-up: This area accommodates the receiving and distribution of courier services transported packages.

5. Storage Room: This space is provided for storage of Mailroom and Reproduction supplies.
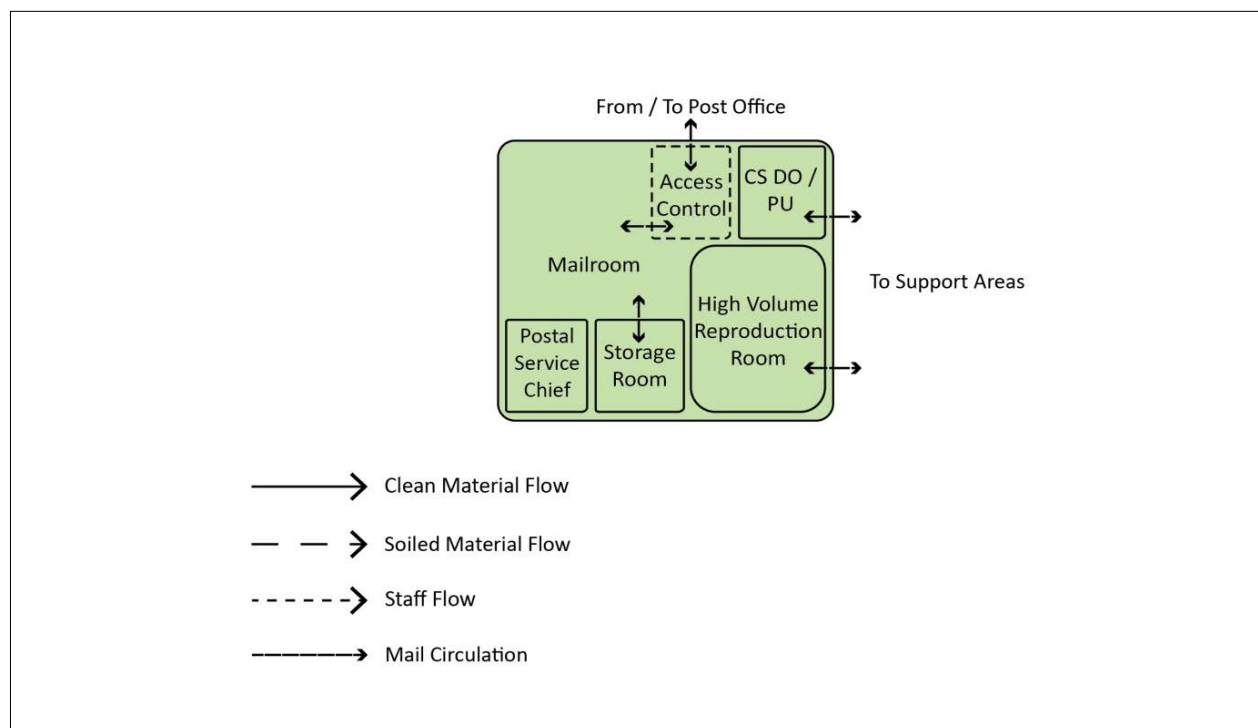

Diagram 13: Postal / Mail Service (LOG)

<u>FA5: Staff and Administrative Area</u>

1. Logistics Chief Office, Logistics Assistant Chief Office, Secretary / Waiting Office, and Clerical Workstation: These spaces are provided for staff to perform administrative duties. They include, enclosed office space for the Logistics Service Chief and Logistics Assistant Chief; and open workstations for Secretary and Clerks assigned to the Logistics Service.

2. Conference / Training Room: This dedicated space is used for staff meetings and training.

3. Copier / Office Supply Room: This area provides a centralized area for copiers and office supplies.

4. Staff Lounge: The Staff Lounge provides an area for staff breaks, dining, and general respite.

5. Male / Female Locker / Changing: This area is provided for Logistics Service staff to change into work clothing.

6. Staff Toilet: This space should be located near to the staff lounge.
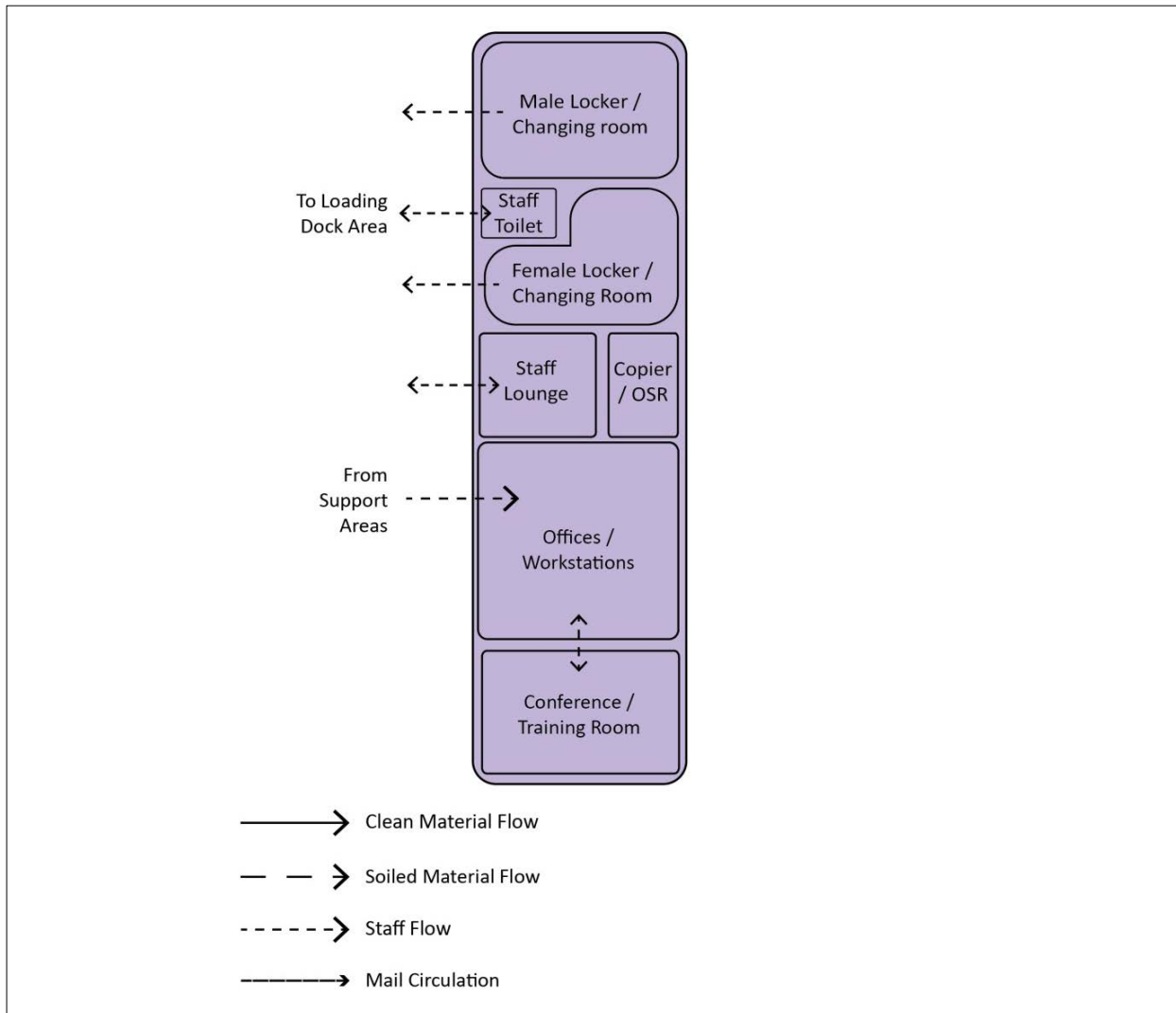
Diagram 14: Staff and Administrative Area (LOG)

SECTION 10: FUNCTIONAL DIAGRAMS (LOG)

The Functional Diagrams provide an overview of the Logistics Service Department and illustrate how the Functional Areas in the Department relate to each other.

Diagrams include:

1. Functional Relationships Diagram
    It represents the functional inter-relationships and adjacencies among the four Functional Areas in Logistics Service.

2. Material Flow Diagram
    It illustrates the material flow of medical and non-medical supplies and its storage and distribution.
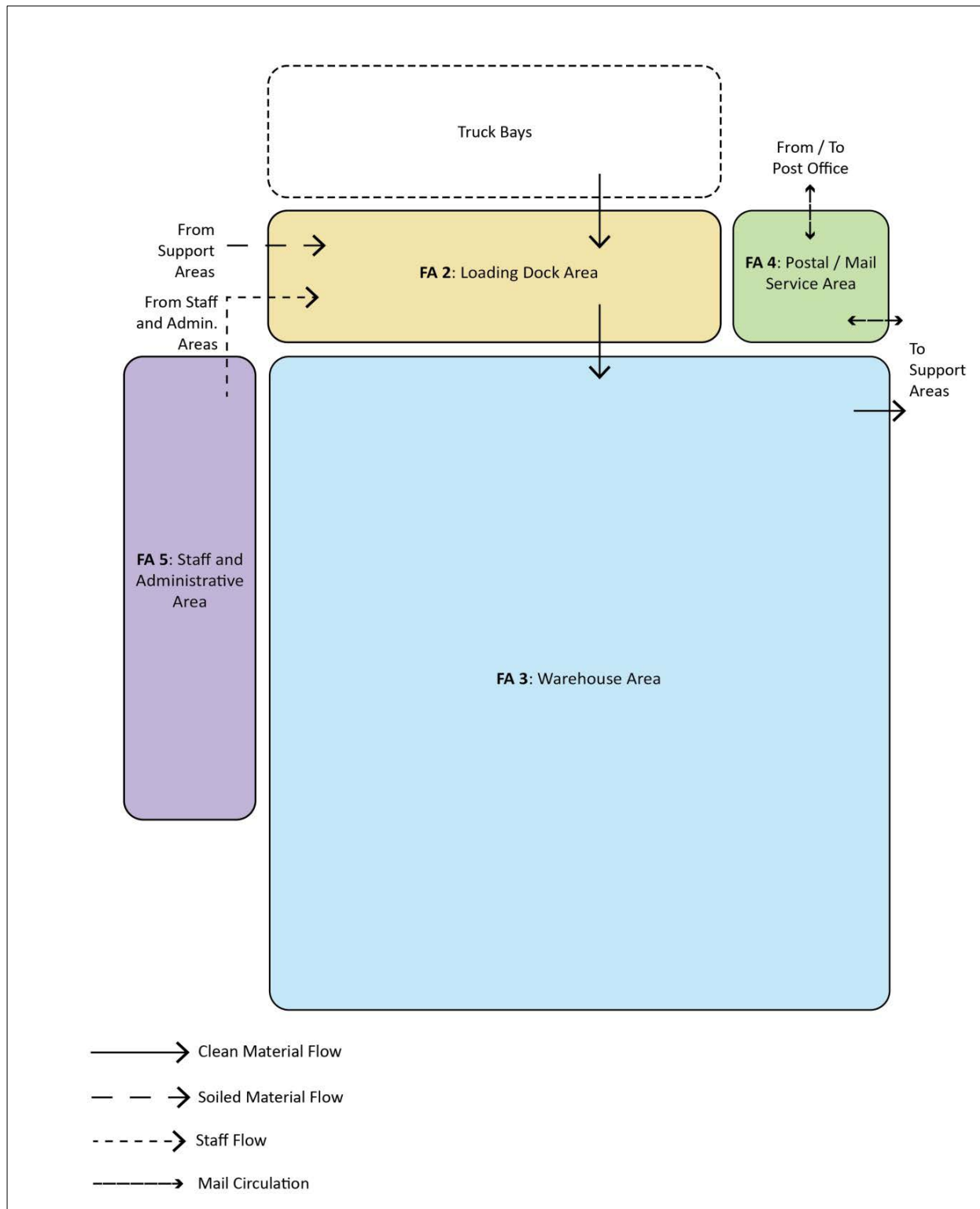
Truck Bays

From / To
Post Office

From
Support
Areas

From Staff
and Admin.
Areas

FA 2: Loading Dock Area

FA 4: Postal / Mail
Service Area

To
Support
Areas

FA 5: Staff and
Administrative
Area

FA 3: Warehouse Area

———————▶ Clean Material Flow

— — — ▶ Soiled Material Flow

- - - - -▶ Staff Flow

————————▶ Mail Circulation
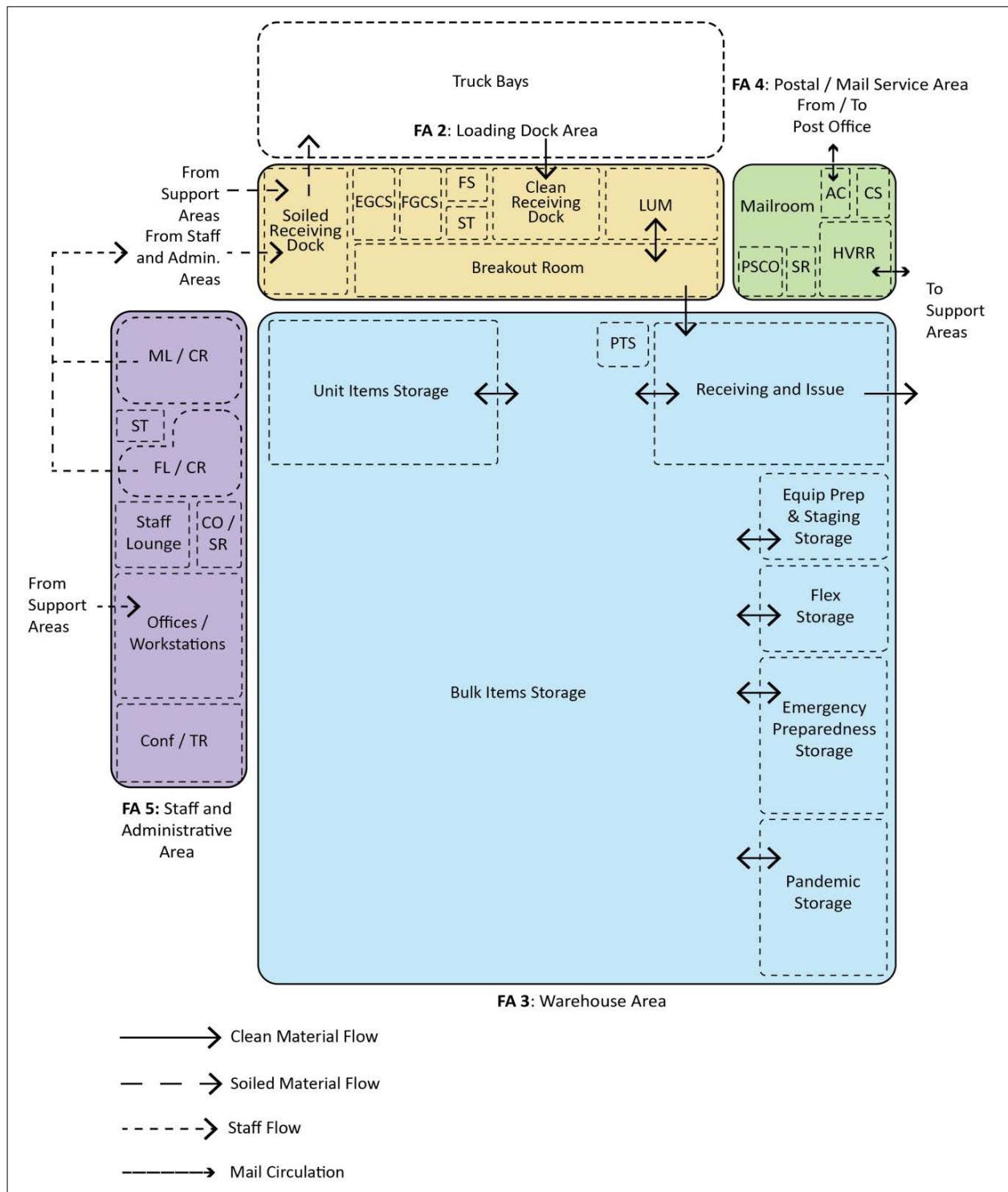
Diagram 15: Functional Relationships (LOG)

Diagram 16: Material Flow (LOG)

SECTION 11 LOGISTICS SERVICE ROOM TEMPLATES (LOG)

During development of this effort, the following rooms from **PG-18-9**: _284 Logistics Service_ were selected for further planning and design development:

1. FA3:RM9: Sterile Consumables (Soft Goods) Storage (SB644)

2. FA4: RM3: Mailroom (SB653)

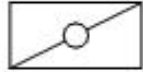3. FA4: RM4: High Volume Reproduction Room (SB661)

The following detailed information is provided for each one of these rooms:

1. Axonometric View (3D)
   A three-dimensional representation illustrating walls, doors / windows and room contents for the room. The RCP is omitted.

2. Floor Plan (FP)
   A representation of the room layout with all the Room Contents (RCs) drawn to scale showing the appropriate clearances. The RCs are labeled based on their **PG-18-5:** _284 Logistics Service_ JSN Number and JSN Name.

3. Reflected Ceiling Plan (RCP)
   A representation of the Ceiling Plan layout drawn to scale; it includes the ceiling grid, light fixtures, HVAC supply and returns, sprinklers, safety showers, and any other element installed at the ceiling level.

4. Interior Elevations
   A representation of the four interior elevations drawn to scale; it includes Room Contents (RCs) labeled with their JSN number and JSN abbreviated name as well as mounting heights for certain contents as appropriate.

5. Room Data Sheet
   Written information about the room / space in the following categories: Function, NSF, Architectural, Heating, Ventilating and Air Conditioning, Electrical and Plumbing data.

6. Equipment List (Room Contents)
   A list of all the Room Contents (RCs) assigned to the room / space. It includes JSN Number, the JSN Name, quantity, Acquisition Code, Description and Specification Number for each content item. The Equipment List for all the rooms included in **PG-18-9:** _284 Logistics Service_ are presented in **PG-18-5**: _284 Logistics Service_.

7. Floor Plan (FP) Electric (ELEC)
   A representation of the electrical and communication components layout drawn to scale.

LEGENDS AND SYMBOLS

|	
Gypsum Wall Board Ceiling	Telephone Outlet
2' x 4' Fluorescent Light Fixture	Wall Mounted Telephone Outlet
HVAC Supply Diffuser	Data Outlet
HVAC Return/Exhaust Diffuser	Duplex Receptacle (Normal)
Occupancy Sensor (Ceiling mounted)	Duplex Receptacle (Critical)
Occupancy Sensor (Wall mounted)	Special Receptacle
Fused Disconnect Switch	Quadraplex Receptacle (Normal)
Circuit Breaker	Quadraplex Receptacle (Critical)
Equipment Connection	Power Pole
Sprinkler Head	GFI — Ground Fault Circuit Interrupter
	EM — Emergency Power

STERILE CONSUMABLES (SOFT GOODS) STORAGE (SB644)

<u>Axonometric View</u>
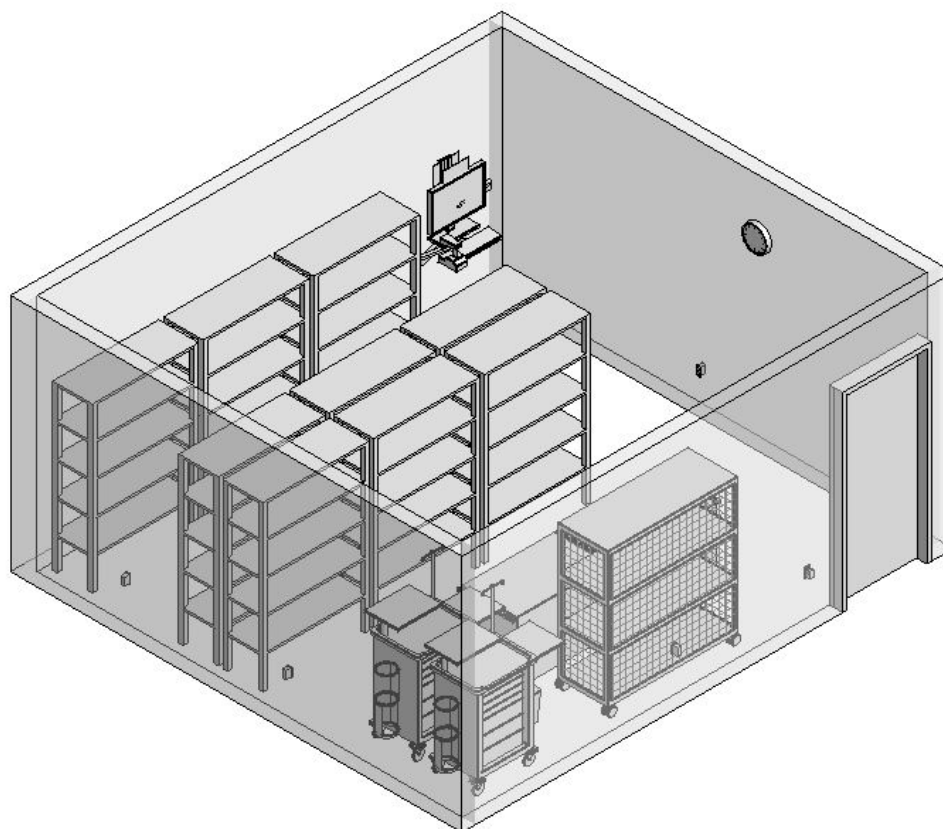
STERILE CONSUMABLES (SOFT GOODS) STORAGE (SB644)

<u>Floor Plan</u>

280 NSF (26.1 NSM)
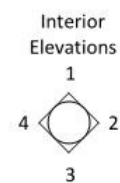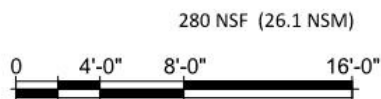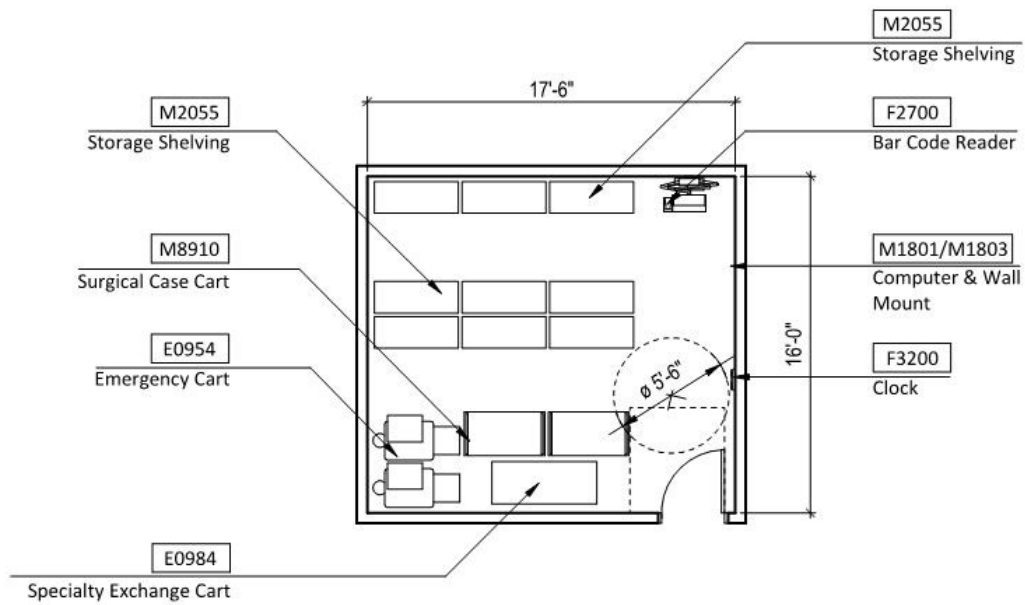
STERILE CONSUMABLES (SOFT GOODS) STORAGE (SB644)

<u>Reflected Ceiling Plan</u>
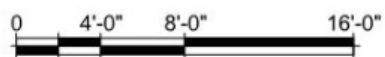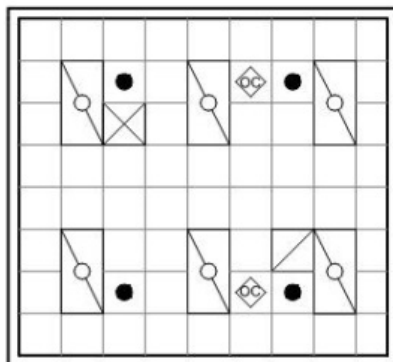
STERILE CONSUMABLES (SOFT GOODS) STORAGE (SB644)
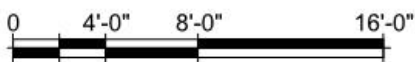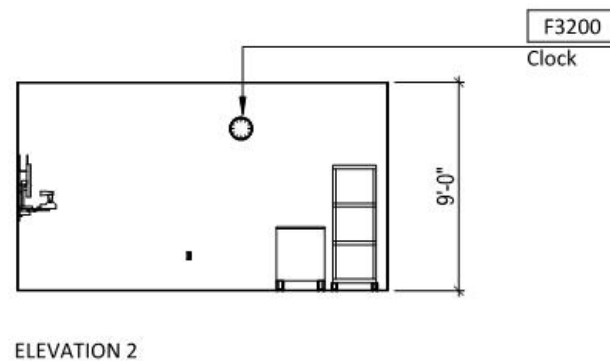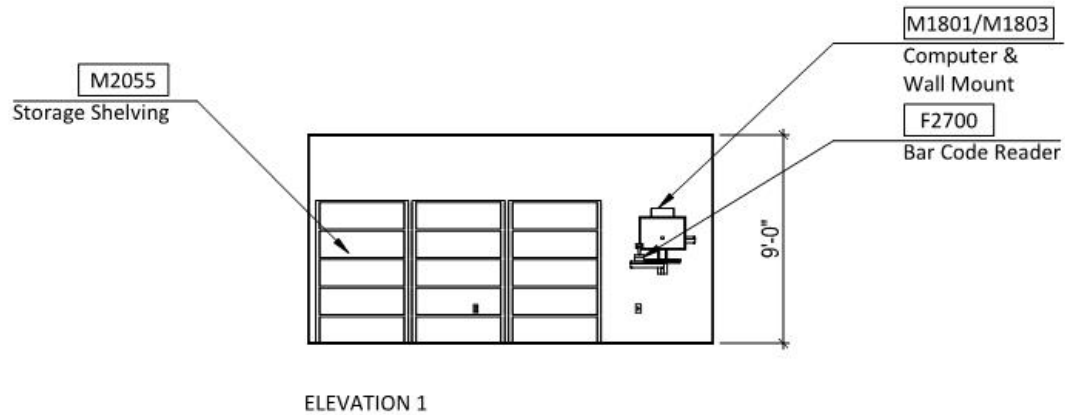
Interior Elevations

ELEVATION 1

ELEVATION 2

STERILE CONSUMABLES (SOFT GOODS) STORAGE (SB644)

Interior Elevations

ELEVATION 3

ELEVATION 4
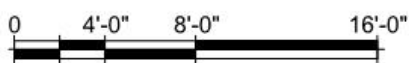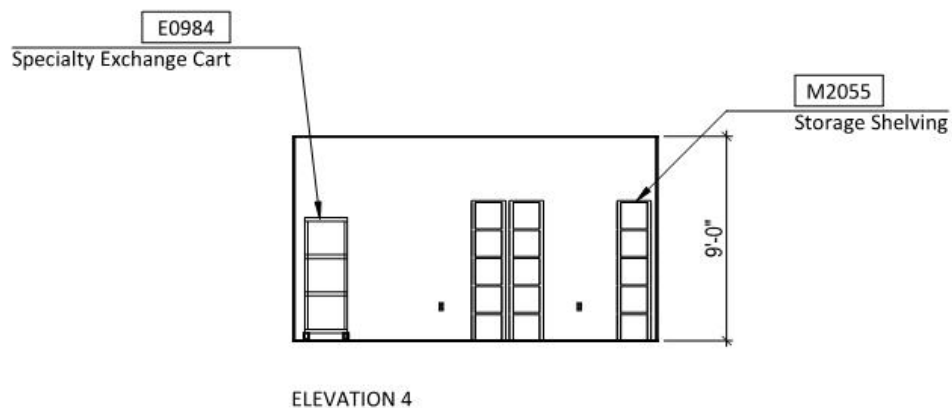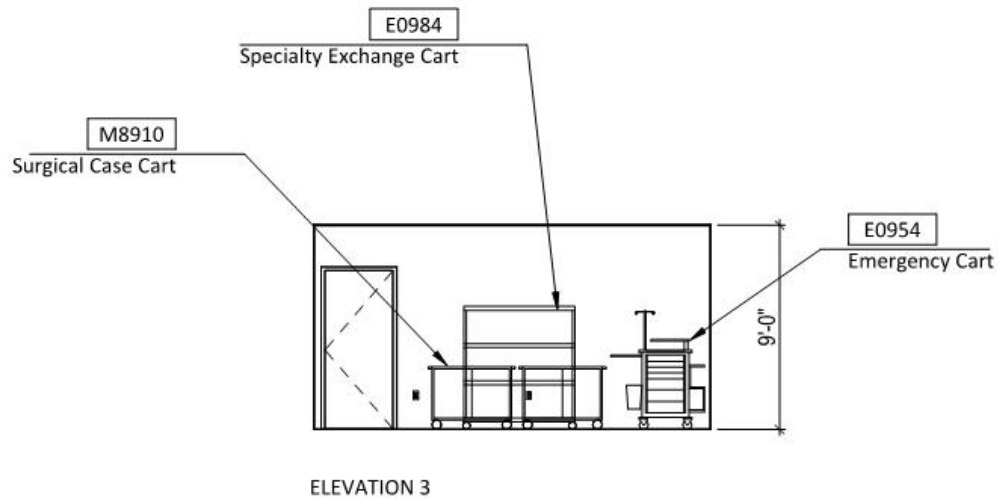
STERILE CONSUMABLES (SOFT GOODS) STORAGE (SB644)

Electrical FP
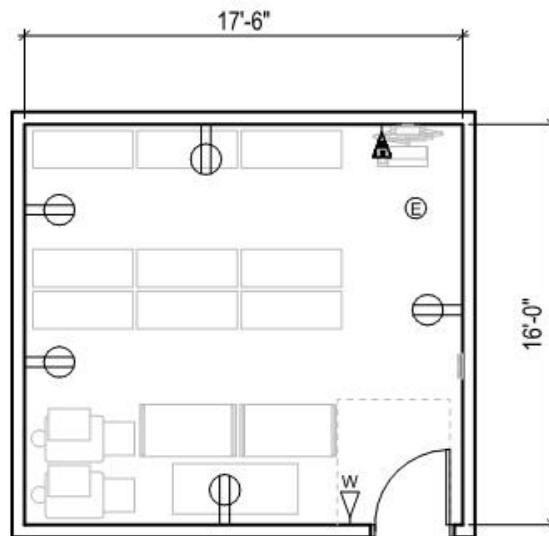
1/8 IN = 1 FT
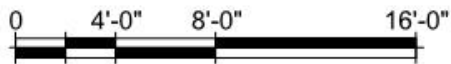
STERILE CONSUMABLES (SOFT GOODS) STORAGE (SB644)

Room Data Sheet

ARCHITECTURAL

Floor Finish:	PVCF
Base:	RB
Wall Finish:	P1 / GWB
Ceiling:	ACT 2
Ceiling Height:	10'-0"
Noise (STC Rating):	45
Slab Depression:	No
Special Construction:	No
Hardware: :	B
Doors:	12UU-W
Windows:	No

ELECTRICAL

Lighting Levels:		
General Illumination:	30 FC	
Task Illumination:	No	
Emergency Power:	No	

PLUMBING:

Cold Water:	No
Hot Water:	No
Instrument Air:	No
Medical Vacuum:	No
Eye Wash:	No

HEATING, VENTILATING AND AIR CONDITIONING

Indoor Design Temperature:	
Cooling Mode:	Mode: 72° - 78° F
Heating Mode:	72° - 78° F
Indoor Design Relative Humidity:	
Dehumidification Mode:	60% Max
Humidification Mode:	20% Min
Air Changes per Hour:	
Total:	4 Min
Outside Air:	2
Recirculation Permitted:	No
Room Pressure:	Positive
Individual Room Control:	No
Filtration (MERV):	14
Hood Required:	No

STERILE CONSUMABLES (SOFT GOODS) STORAGE (SB644)

Equipment List

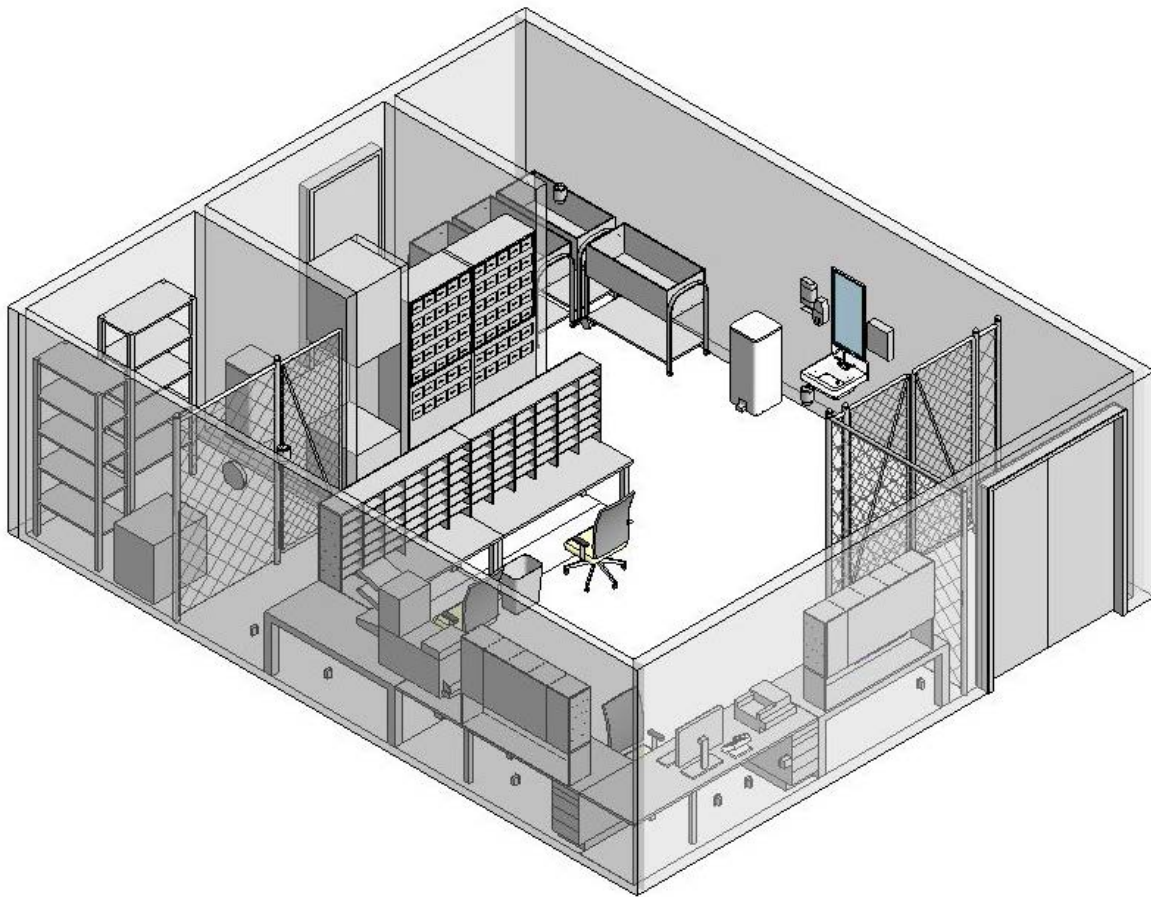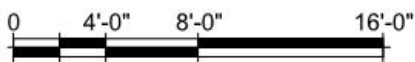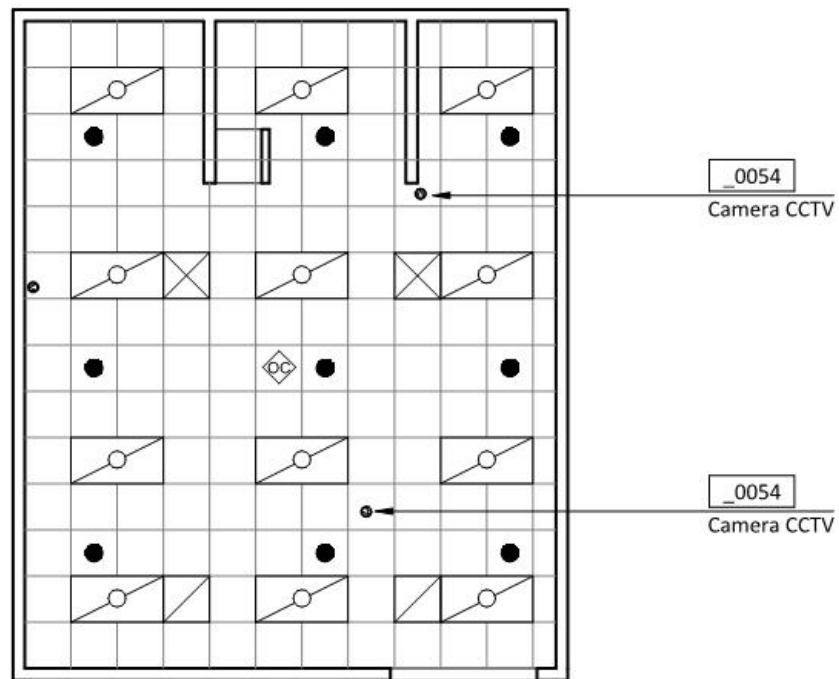| JSN	Content Name	Qty	Acq Code	Description
E0954	Cart, Emergency, Mobile, 66"H x 32"W x 22"D	2	VV	THIS TYPICAL INCLUDES: 1 Cart body, style-A narrow, w/raised edge top 1 Accessory rail, side 1 Accessory rail, back 1 Defibrillator tray 1 IV pole 1 Breakaway bar 1 Flip-up shelf 1 Wastebasket 1 Oxygen tank holder 1 Electrical box-4 outlet 1 Cord wrap 4 Drawer, 3"H 3 Drawer, 6"H Drawer organizer bins.
E0984	Specialty Exchange Cart	1	VV	THIS TYPICAL INCLUDES: 1 Wire Cart, w/Casters 5 Wire Shelves w/Dividers 5 Vertical Back/Side Panels 2 Storage Frame 4 Drawers, 6"H 1 Cart Cover Label Clips Drawer Dividers
F2700	Reader, Bar Code, Hand Held, With Interface	1	VV	Hand held laser bar code reader with computer interface. Used for automated inventory, using bar code stickers / labels. Convenience outlet required at point of use.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M1801	Computer, Microprocessing, w/Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: a 2.8 GHz Pentium processor; 512 MB memory; 80GB hard drive; 32/48x CD-ROMDVD combo; 1.44MB network interface card; video 32 MB NVIDIA; a 18 inch flat panel monitor. The computer is used throughout the facility to input, manipulate and retrieve information.
M1803	Workstation, Computer, Wall Mounted, Adjustable	1	VV	A wall mounted computer workstation with height adjustable monitor and keyboard arms. Keyboard and monitor can be stored within 8" to 10" of wall. Fingertip adjustability for keyboard and monitor enable frequent position changes. Unit contains an integrated cable management system to hide wires. A separate wall-mounted CPU holder is included.
M2055	Shelving, Storage, Wire, CRS, w/Adjustable Shelves	9	VV	Stationary, wire, shelving unit. Unit has fully adjustable shelves constructed of stainless steel. For use in general purpose storage areas. Shelving is provided in various sizes and configurations. Price provided is for a unit approximately 74"H x 18"D x 48"W with four shelves.
M8910	Cart, Surgical Case	2	VV	Surgical case cart. Unit consists of two hinged cabinet sections, each section equipped with two pull-out shelves with stops. The entire unit is mounted on four heavy duty conductive swivel casters. Used to transport surgical packs and supplies to surgery and soiled items back to central supply.

MAILROOM (SB653)

Axonometric View

MAILROOM (SB653)

Floor Plan

M2070 — Storage Shelving
F2017 — Waste Receptacle
_0078 — Package Locker
A1055 — Mail Box
_0052 — Lockable Mail Cart
_0054 — CCTV Camera
F0275 — Swivel Chair
F2017 — Waste Receptacle
A5077 — Hand Sanitizer
A5075 — Soap Dispenser
P3100/A1066 — Lavatory/Mirror
A5080 — Paper Towel Dispenser
F0775 — Work Table

M2070 — Storage Shelving
F3100 — Safe
F3200 — Clock
_0051 — Mail Sorter w/Riser
F2025 — Recyclg. Container
_0061 — Mail Inserting Machine
F2000 — Waste Basket
F0100 — Mail Sorting Bin
_0077 — Large Single Pedestal Desk

M1801 — Computer
A1015/A1010 — Desk Phone & Outlet
M1825 — Printer
F0100 — Mail Sorting Bin
_0062 — Mail Meter

23'-0"
7'-9"   8'-3"   6'-0"
28'-0"
Ø 5'-6"

650 NSF (60.5 NSM)

0   4'-0"   8'-0"   16'-0"

Interior Elevations

1
4   2
3

U.S. Department of Veterans Affairs

MAILROOM (SB653)

Reflected Ceiling Plan

_0054
Camera CCTV

_0054
Camera CCTV

0   4'-0"   8'-0"   16'-0"

MAILROOM (SB653)

Interior Elevations

_0078
Package Locker

A1055
Mail Box

_0054
CCTV Camera

_0052
Lockable Mail Cart

9'-0"

ELEVATION 1

A5077
Hand Sanitizer

A1066
Mirror

_0054
CCTV Camera

_0052
Lockable
Mail Cart

A5080
Paper Towel
Dispenser

9'-0"

ELEVATION 2

F2017
Waste Receptacle

A5075
Soap Dispenser

P3100
Lavatory

1/8 IN = 1 FT

0   4'-0"   8'-0"   16'-0"

MAILROOM (SB653)

Interior Elevations

ELEVATION 3

ELEVATION 4

0   4'-0"   8'-0"   16'-0"
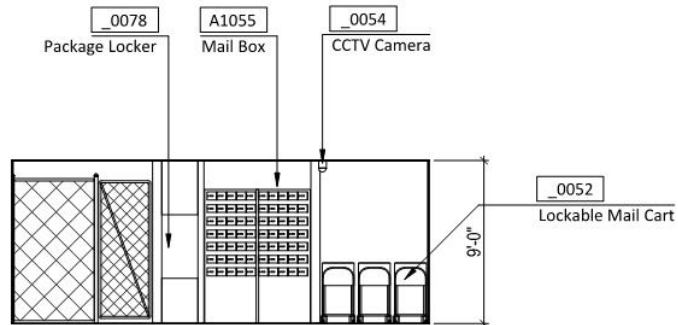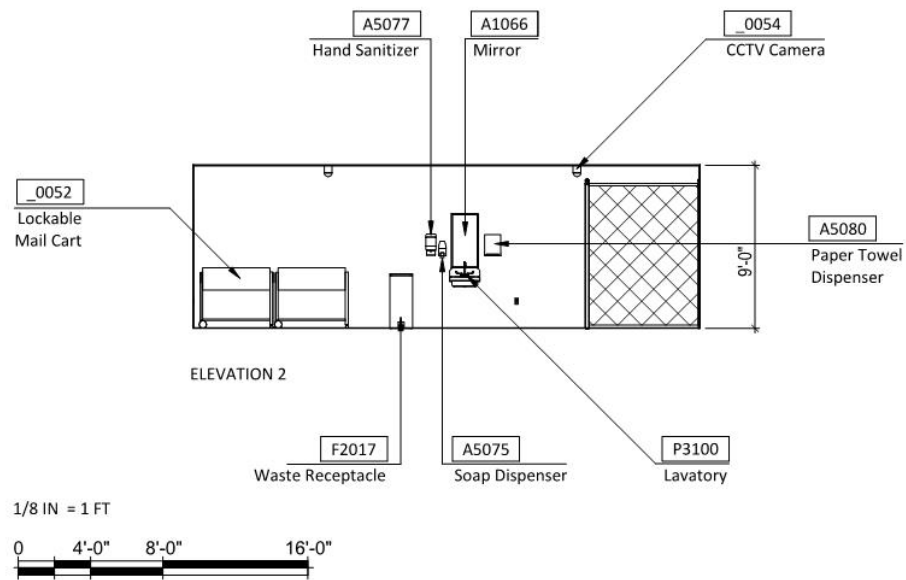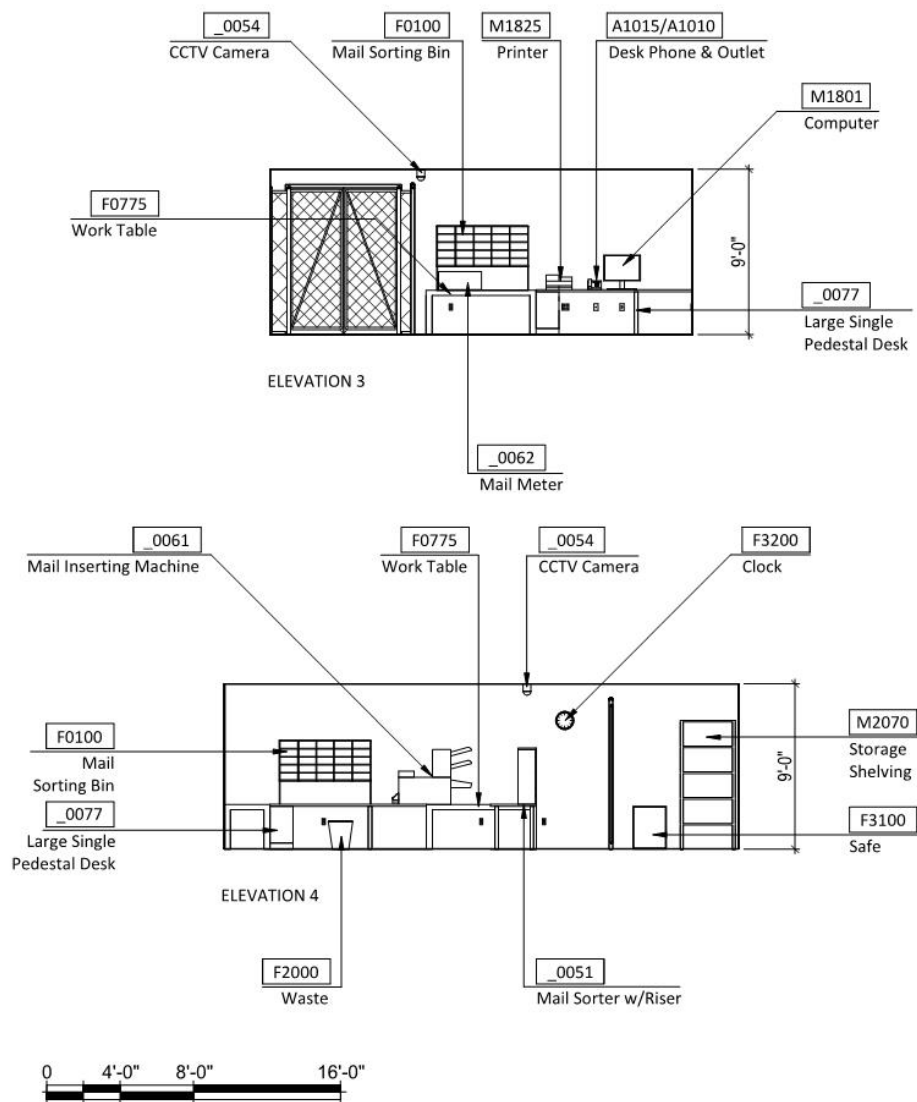
MAILROOM (SB653)

Electrical FP
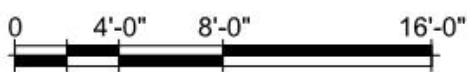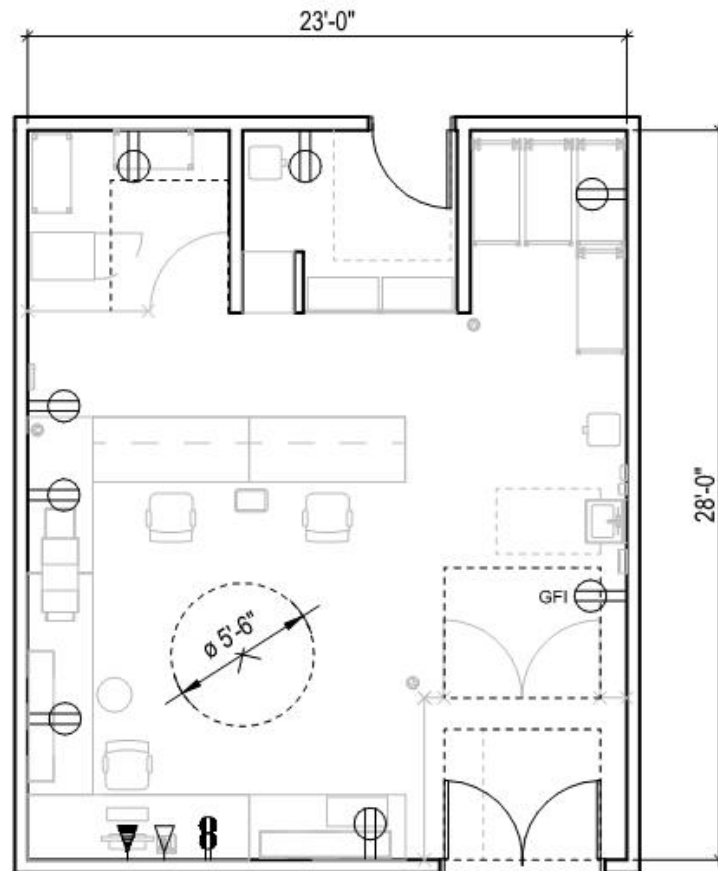
MAILROOM (SB653)

Room Data Sheet

ARCHITECTURAL

Floor Finish:	PVCT
Base:	RB
Wall Finish:	P1 / GWB
Ceiling:	ACT 1
Ceiling Height:	9'-0"
Noise (STC Rating):	50
Slab Depression:	No
Special Construction:	No
Hardware:	4 M
Doors:	3/4U-T
Windows:	No

HEATING, VENTILATING AND AIR CONDITIONING

Indoor Design Temperature:	
Cooling Mode:	72° - 78° F
Heating Mode:	72° - 78° F
Indoor Design Relative Humidity:	
Dehumidification Mode:	60% Max
Humidification Mode:	20% Min
Air Changes per Hour:	
Total:	4 Min
Outside Air:	2
Recirculation Permitted:	No
Room Pressure:	Negative
Individual Room Control:	Yes
Filtration (MERV):	8 / 13
Hood Required:	No

ELECTRICAL

Lighting Levels:	
General Illumination:	75 FC
Task Illumination:	Yes
Emergency Power:	

PLUMBING

Cold Water:	Yes
Hot Water:	Yes
Instrument Air:	No
Medical Vacuum:	No
Eye Wash:	No

MAILROOM (SB653)

Equipment List

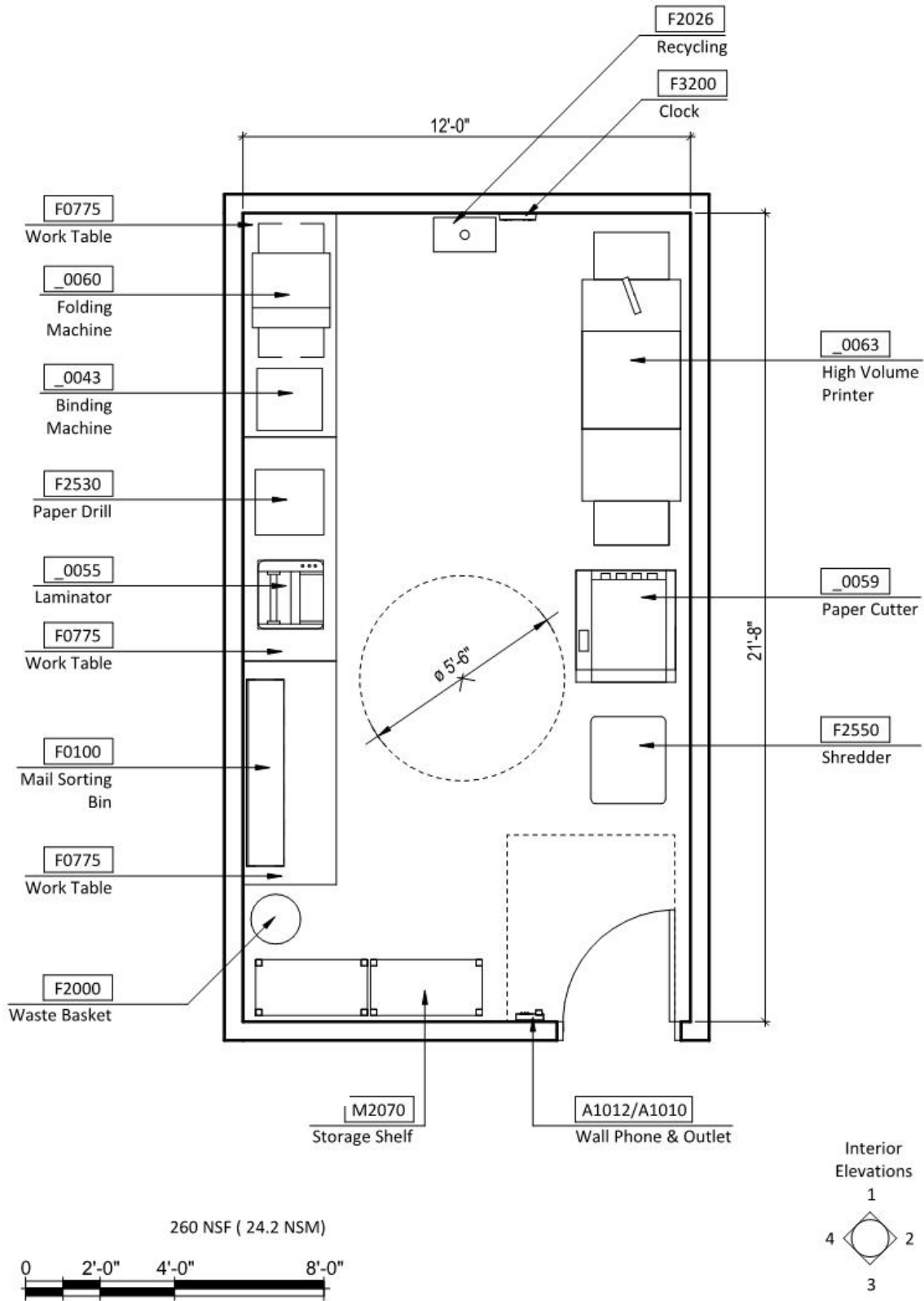| JSN	Content Name	Qty	Acq Code	Description
A1010	Telecommunication Outlet	1	VV	Telecommunication outlet location.
A1015	Telephone, Desk, Multiple Line	1	VV	Telephone, Desk, Multiple Line
A1055	Mailbox, Horizontal, Rear Loading	2	CC	Horizontal, rear loading mail box. Consists of aluminum compartment doors with single dial reset-table combination lock, and zinc plated steel compartments. Used for mail distribution. Unit consists of 60 doors (door sizes either 12" high and 5" wide or 12" wide and 5" high). Size as required.
A1066	Mirror, Float Glass, With SS Frame	1	CC	A high quality 1/4" polished float glass mirror 36X18, framed in a one-piece, bright polished, stainless steel channel frame with 90Â° mitered corners. All edges of the mirror are protected by absorbing filler strips. Mirror has a galvanized steel back with integral horizontal hanging brackets and wall hanger for concealed mounting. For mounting above single wall mounted lavatories located in toilet areas, Doctors examination offices, etc. May also be used above double lavatories, either wall or countertop mounted, found in restroom areas.
A5075	Dispenser, Soap, Disposable	1	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5077	Dispenser, Hand Sanitizer, Hands-Free	1	VV	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.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels. For general purpose use throughout the facility.
F0100	Bin, Mail Sorting, Table Mounted	2	VV	Table mounted mail sorting bin with sufficient adjustable dividers to accommodate all standard size papers, and computer reports. Typical number of compartments for bin is forty eight (48).
F0275	Chair, Swivel, High Back	3	VV	Highback contemporary swivel chair, 41" high X 23" wide X 23" deep with five (5) caster swivel base and arms. Chair may be used at desks or in conference rooms. Back and seat are foam padded and upholstered with either woven textile fabric or vinyl.
F0775	Table, Work, 2 Drawer	2	VV	Work table approximately 32" high X 72" wide X 30" deep with two drawers and a hard wood top.

JSN	Content Name	Qty	Acq Code	Description
F2000	Basket, Wastepaper, Fire Resistant	1	VV	Wastepaper basket, fire resistant, approximately 40 quart capacity. This unit is used to collect and temporarily store small quantities of paper refuse in patient rooms, administrative areas and nursing stations. Size and shape varies depending on the application and manufacturer selected.
F2017	Waste Receptacle, 24 GAL	2	VV	Rectangular steel waste receptacle with step-on lid and 24 gallon capacity. The receptacle is used to collect and temporarily store small quantities of paper refuse. Can be used in restrooms, patient areas, laboratories, pharmacies, etc.
F2025	Container, Recycling, Small	1	VV	Recycling container shall be approximately 10-gallons in capacity. The container may be Recycle Blue in color with the recycle symbol identified on the container.
F3100	Safe, Collection Agent	1	VV	Collection agent safe. Unit consists of thick door equipped with combination lock. All steel welded construction. For special document and record storage.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M1801	Computer, Microprocessing, w/Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers. The system shall have the following minimum characteristics: a 2.8 GHz Pentium processor; 512 MB memory; 80GB hard drive; 32/48x CD-ROMDVD combo; 1.44MB network interface card; video 32 MB NVIDIA; a 18 inch flat panel monitor. The computer is used throughout the facility to input, manipulate and retrieve information.
M1825	Printer, Computer	1	VV	High resolution computer printer with a variety of type styles and sheet/envelope feeder trays. Database information reflects network ready, medium duty office style laser printers. Other types of printers (bubble jet, dot matrix, line or plotter) as well as light or heavy use capabilities are available.
M2070	Shelving, Storage, 77hx36wx18d	2	VV	Storage shelving unit approximately 77" H X 36" W X 18" D. Corrosion resistant baked enamel, galvanized or stainless steel open unit with adjustable shelves. The closed version is also available. For use in the storage room.
P3100	Lavatory, Vitreous China, Slab Type	1	CC	Wall mounted, slab type, vitreous china, lavatory (approximate bowl size 7"x15"x10") with: faucet holes on 4" centers; gooseneck spout; wrist blade handles; and grid strainer. It shall be suitable for use in clinics, offices, washrooms or patient care area.

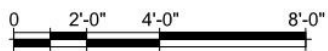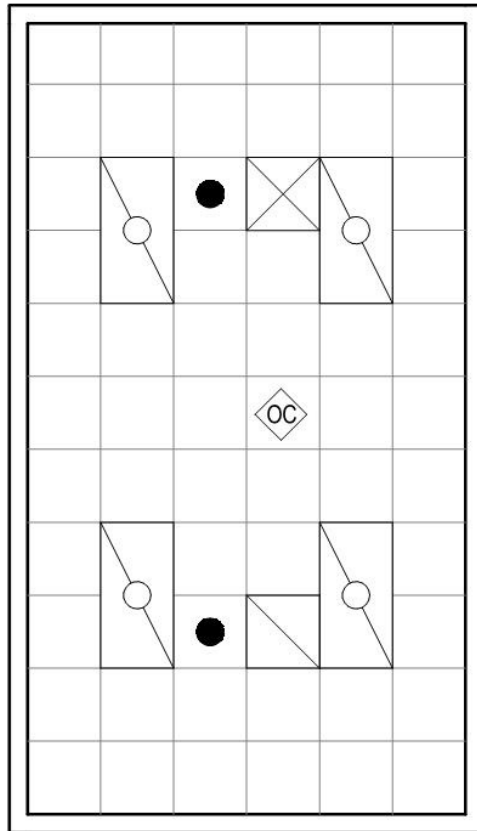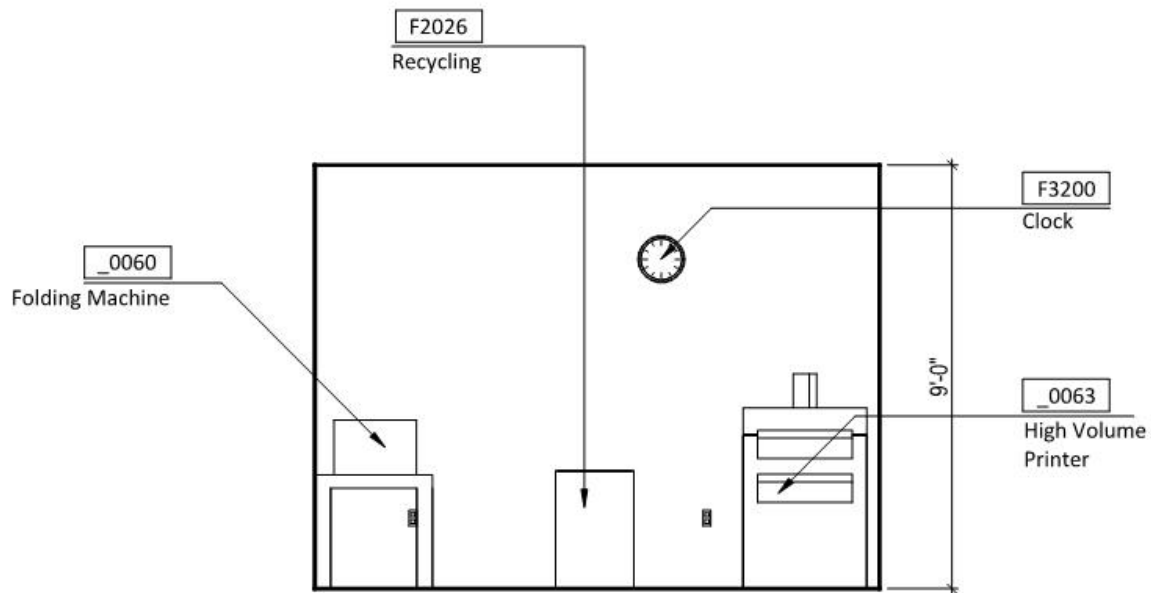| JSN	Content Name	Qty	Acq Code	Description
_0051	Bin, Mailroom Sorting w/Riser	2	VV	Mail distribution cabinet. Horizontal style distribution boxes. Unit consists of adjustable horizontal dividers and/or adjustable shelves. Unit can be customized to fit the client needs. Used for mail distribution.84"w x 60"h x 30"d
_0052	Mail Cart, Lockable	4	VV	Large capacity lockable mail cart. Top box section constructed of 18 gauge steel, lower section contains mail cart wire basket. The cart has 10" rear tires and 4 " front casters. Overall size is 22"w x 49"d x 40"h
_0054	Camera, Dome, Ceiling Mounted, CCTV	3	CC	A high definition video surveillance camera. The camera is capable of full 1080p resolution at 30 frames per second while optimizing network usage with H.264, MPEG-4 and JPEG compression formats. Camera will have an open, standards-based design providing a platform for integration and operation as an independent device or as part of a surveillance network.
_0061	Mail, Paper Inserter	1	VV	A tabletop or floor standing device used to fold documents and insert them into envelopes with speeds exceeding 2,100 envelopes per hour. Optional metering function.
_0062	Postage Meter	1	VV	A device used to electronically document the correct postage of each piece of mail with capability to print directly on the mail or on a label.
_0077	Desk, Single Pedestal, Large	2	VV	Single pedestal flat top desk, 30" high X 66" wide X 30" deep with right or left hand pedestal, one (1) box drawer, one (1) file drawer, modesty panel and floor glides.
_0078	Locker, Package	2	VV	Rear loading parcel box for the delivery of parcels with dual locking system Consists of aluminum compartment doors and zinc plated steel compartments. Used for mail distribution. Unit consists of 2 doors

HIGH VOLUME REPRODUCTION ROOM (SB661)

<u>Axonometric View</u>
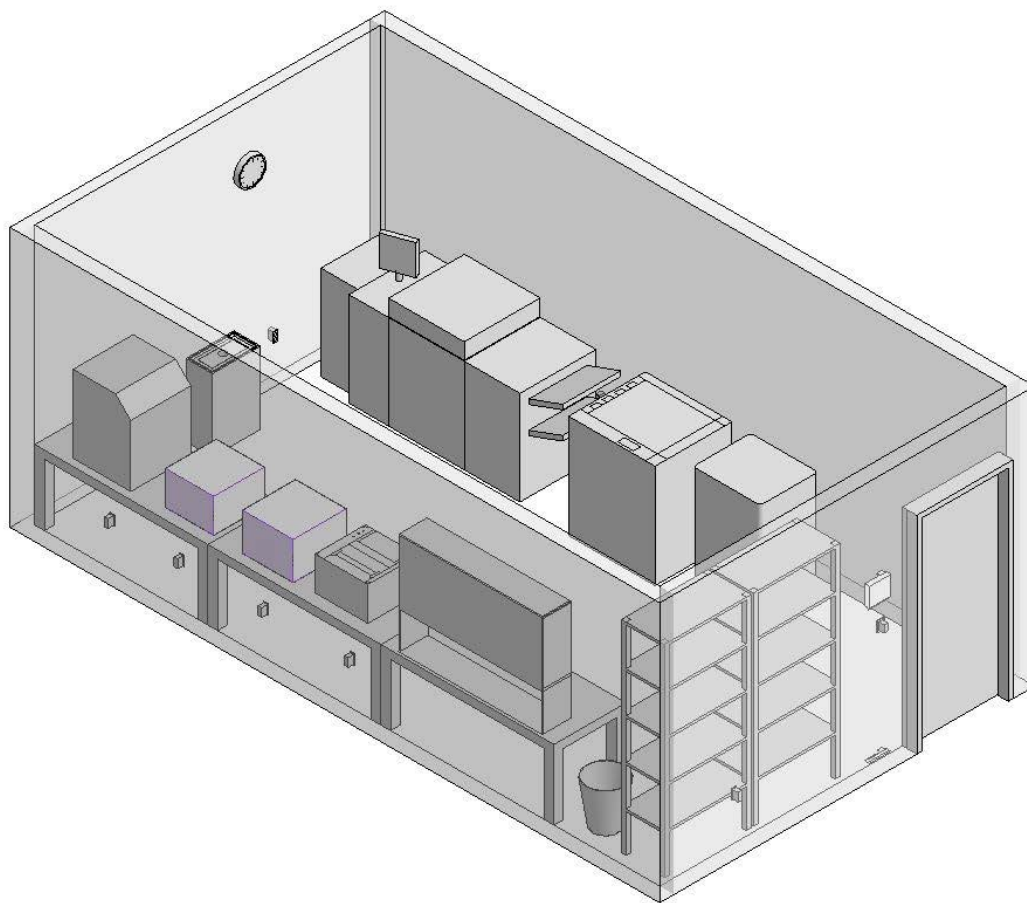
HIGH VOLUME REPRODUCTION ROOM (SB661)

Floor Plan

| F2026 |
| Recycling |

| F3200 |
| Clock |

12'-0"

| F0775 |
| Work Table |

| _0060 |
| Folding Machine |

| _0043 |
| Binding Machine |

| F2530 |
| Paper Drill |

| _0055 |
| Laminator |

| F0775 |
| Work Table |

| F0100 |
| Mail Sorting Bin |

| F0775 |
| Work Table |

| F2000 |
| Waste Basket |

| _0063 |
| High Volume Printer |

| _0059 |
| Paper Cutter |

| F2550 |
| Shredder |

Ø 5'-6"

21'-8"

| M2070 |
| Storage Shelf |

| A1012/A1010 |
| Wall Phone & Outlet |

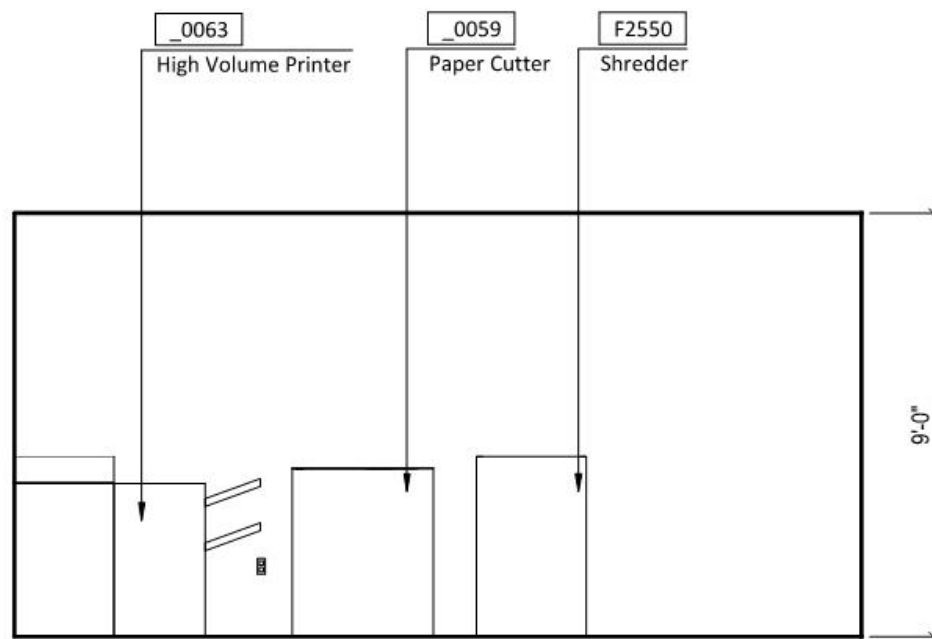Interior Elevations

260 NSF (24.2 NSM)

0   2'-0"   4'-0"   8'-0"

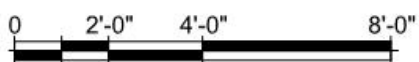## HIGH VOLUME REPRODUCTION ROOM (SB661)

<u>Reflected Ceiling Plan</u>

HIGH VOLUME REPRODUCTION ROOM (SB661)

<u>Interior Elevations</u>

ELEVATION 1

ELEVATION 2

HIGH VOLUME REPRODUCTION ROOM (SB661)

Interior Elevations

A1012/A1010
Wall Phone & Outlet

M2070
Storage Shelf

ELEVATION 3

M2070
Storage Shelf

F0100
Mail Sorting Bin

_0055
Laminator

F2530
Paper Drill

_0043
Binding Machine

_0060
Folding Machine

F0775
Work Table

F2026
Recycling

F2000
Waste Basket

ELEVATION 4
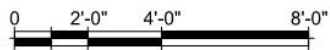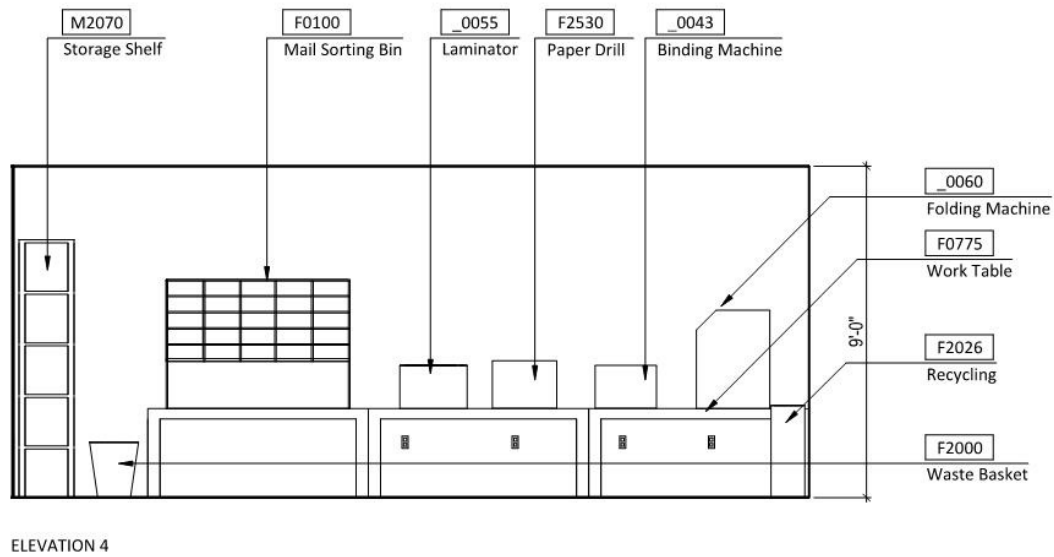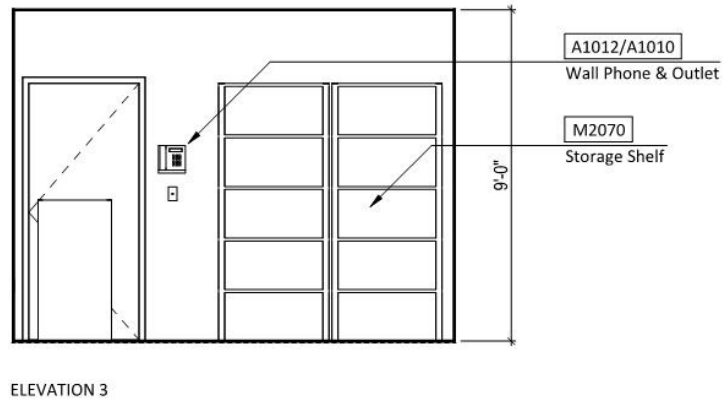
HIGH VOLUME REPRODUCTION ROOM (SB661)

<u>Electrical FP</u>
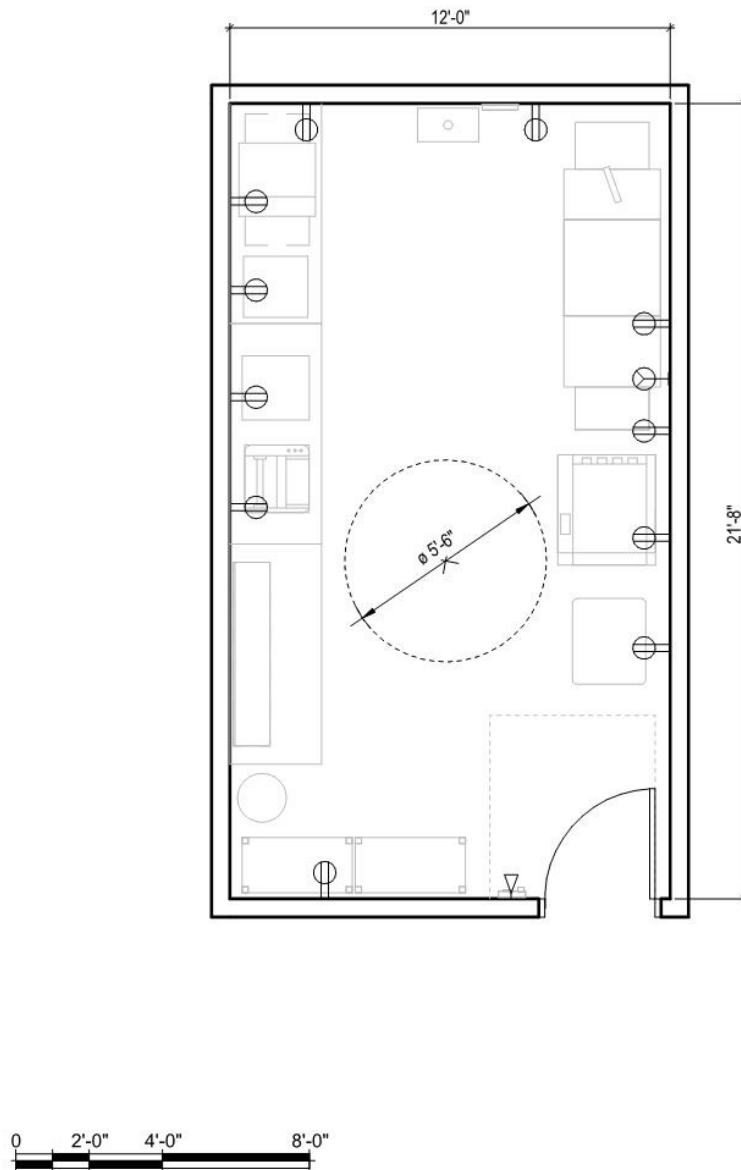
HIGH VOLUME REPRODUCTION ROOM (SB661)

Room Data Sheet

ARCHITECTURAL:

Floor Finish:	PVCF
Base:	RB
Wall Finish:	P1 / GWB
Ceiling:	ACT 1
Ceiling Height:	9'-0"
Noise (STC Rating:	50
Slab Depression:	No
Special Construction:	No
Hardware:	4 G
Doors:	3/4U-T
Windows:	No

HEATING, VENTILATING AND AIR CONDITIONING

Indoor Design Temperature:	
Cooling Mode:	72° - 78° F
Heating Mode:	72° - 78° F
Indoor Design Relative Humidity:	
Dehumidification Mode:	60% Max
Humidification Mode:	20% Min
Air Changes per Hour:	
Total:	4 Min
Outside Air:	2
Recirculation Permitted:	No
Room Pressure:	Negative
Individual Room Control:	Yes
Filtration (MERV:	8 / 13
Hood Required:	No

ELECTRICAL:

Lighting Levels:	
General Illumination: Meet IES and VA DC	
Task Illumination:	Yes
Emergency Power:	No

PLUMBING:

Cold Water:	No
Hot Water:	No
Instrument Air:	No
Medical Vacuum:	No
Eye Wash:	No

HIGH VOLUME REPRODUCTION ROOM (SB661)

Equipment List

JSN	Content Name	Qty	Acq Code	Description
A1010	Telecommunication Outlet	1	CC	Telecommunication outlet location.
A1012	Telephone, Wall Mounted, 1 Line	1	VV	Telephone, Wall Mounted, 1 Line
F0100	Bin, Mail Sorting, Table Mounted	1	VV	Table mounted mail sorting bin with sufficient adjustable dividers to accommodate all standard size papers, and computer reports. Typical number of compartments for bin is forty eight (48).
F0775	Table, Work, 2 Drawer	3	VV	Work table approximately 32" high X 72" wide X 30" deep with two drawers and a hard wood top.
F2000	Basket, Wastepaper, Fire Resistant	1	VV	Wastepaper basket, fire resistant, approximately 40 quart capacity. This unit is used to collect and temporarily store small quantities of paper refuse in patient rooms, administrative areas and nursing stations. Size and shape varies depending on the application and manufacturer selected.
F2026	Container, Recycling, Large	1	VV	Recycling container shall be approximately 30-gallons in capacity. The container may include a lid and be Recycle Blue in color with the recycle symbol identified on the container.
F2530	Drill, Paper	1	VV	Paper drill, 17" high X 20" wide X 20" deep with spring-loaded paper hold down bar, and 1 (one) 1/4" drill. Unit used to drill holes in stacks of paper up to one inch thick. This is a table top unit. Requires convenience outlet at point of use.
F2550	Shredder, Paper Heavy Duty	1	VV	Shredder shall be able to process a minimum of 25 sheets of paper per pass at a minimum rate of 20 feet per minute. The unit shall have a 16 inch throat to accept paper. Paper shall be shredded into 1/4 inch strips.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M2070	Shelving, Storage, 77hx36wx18d	2	VV	Storage shelving unit approximately 77" H X 36" W X 18" D. Corrosion resistant baked enamel, galvanized or stainless steel open unit with adjustable shelves. The closed version is also available. For use in the storage room.

JSN	Content Name	Qty	Acq Code	Description
_0055	Laminator, Thermal Roll 12"	1	VV	Table top thermal roll laminating device able to laminate documents up to 12" wide. Laminating speeds of at least 39" per minute. Auto trimming and reverse function.
_0059	Cutter, Paper	1	VV	Floor standing or table top device used for a variety of print finishing details including cutting, creases, scores and perforating. Device has preprogrammed cutting templates. The Floor standing device has heavy duty casters for mobility.
_0060	Folding Machine, Paper	1	VV	A device used to fold and stack paper documents. Settings are adjustable for different folds; letter, half-fold, z-fold, right-angle and custom folds. Device can handle bond or index paper.
_0063	Printer, Color Laser, High Volume	1	VV	Color laser printer designed for high volume use and network capable. The printer shall be capable of printing a minimum of 25 pages per minute (ppm) of black print and 20 ppm color print. Resolution shall be no less than 600 X 600 dpi. It shall be capable of printing on multiple media types (plain, inkjet, photo paper and transparencies) and be capable of accepting media sizes of 3 X 5 to 8.5 X 14 inches. The printer is used in multi-user network offices.