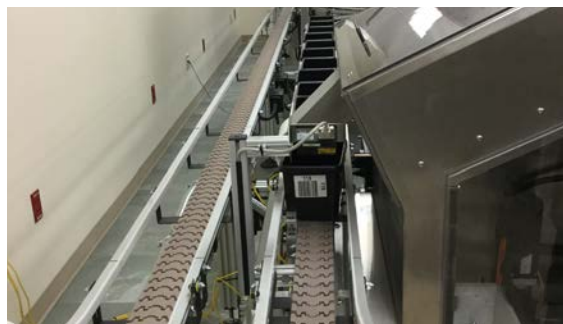




U.S. Department
of Veterans Affairs



Pharmacy Service design guide

April 1, 2018
rev. July 1, 2022

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1.1 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 and 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, Expert 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.



1.2 Acknowledgments

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

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1.3 Introduction

This Pharmacy Service Design Guide (PG-18-12) replaces the first Design Guide for Pharmacy Service which dates from 1995. One of the primary drivers for developing this update to the Design Guide is due to the age of the current information available within VA for use on facility design and construction projects, with the knowledge that there have been significant changes to Pharmacy Service over this period of time.

The Office of Construction & Facilities Management worked with the Pharmacy Benefits Management Service and Pharmacy Service field based personnel on this effort to establish a new 'Best Practice' standard for VA facilities providing pharmacy services to the nations Veterans. This effort involved site visits, research, information development and testing of related information used in the formulation of space projections for potential new facility projects.

The Design Guide represents planning and design standards that have been developed to support the delivery of patient care for Pharmacy Service. These standards apply to Inpatient Pharmacy and Outpatient Pharmacy contained within a VA Medical Center (VAMC) as well as Outpatient Pharmacy in large Outpatient Clinics / Ambulatory Care Centers or in off-site locations from a VAMC. The Pharmacy Service contained in a CBOC setting (most often under 100,000 BGSF) are addressed in the PACT / Outpatient Clinic Space Planning Criteria Chapter and Design Guide.

The standards set forth herein are not intended to be project-specific, nor are they crafted as a regulatory code. The Design Guide addresses space and equipment planning, based on the functional, technical, and systems requirements to support the operational requirements associated with the various Pharmacy services. The narrative and graphic material developed in this document are based on the site visits of both recently built/renovated and older facilities, staff interviews, collaborative work sessions and meetings, and research of relevant publications and standards.



The Design Guide, in conjunction with PG-18-9, Space Planning Criteria Chapter 268: Pharmacy Service and PG-18-5, Equipment Guide List – Pharmacy Service, is a design tool for VA Medical Center clinical and administrative staff, planners, architects, interior designers, engineers, and consulting architects and engineers (A/E's) to assist with understanding the unique functional and technical requirements associated with this patient care service. The concepts and standards set forth in these documents address the space needs for Pharmacy Service when provided within a VA Medical Center environment and when provided within a VA Ambulatory Care or Outpatient Environment. In addition, within the context of the information contained in the Design Guide an approach is discussed on how to apply these standards to pharmacy projects planned to be renovated within an existing building.



1.4 VA Policies / Standards and Industry Policies / Standards

1.4.1 VA Policies/Standards

1. Master Construction Specifications PG-18-1
2. Design and Construction Procedures PG-18-3 (Refer to the PG-18-3 (Topic 1) for the list of Codes, Standards and Executive Orders.)
3. Standard Details PG-18-4
4. Equipment Guide List PG-18-5
5. VA Handbook 0730
6. Barrier-Free Design Standard H-18-13
7. Room Finish, Door, and Hardware Schedule PG-18-14
8. Refer to the following PG 18-9 Space Planning Criteria Chapters and MH RRTP that often require Pharmacy space:
 - Chapter: Ambulatory Care (Hospital-Based)
 - Chapter: Inpatient Nursing Units
 - Chapter: Small House Model
 - Chapter: CBOC Prototype Study
 - Chapter: Surgical and Endovascular Services
 - VHA HANDBOOK 1162.02: Mental Health Residential Rehabilitation Treatment Program (MH RRTP)
9. Various Technical Criteria (Design Manuals) pertaining to Architectural, HVAC, Plumbing, Electrical and Physical Security
10. Consensus Information from various VA medical centers
11. Seismic Design Requirements H-18-8
12. Physical Security Design Manuals
 - For VA Mission Critical Facilities
 - For VA Life-Safety Protected Facilities

1.4.2 Industry Codes/ Standards

1. FGI Guidelines for Design and Construction of Hospital and Outpatient Facilities - Current Edition
2. United States Pharmacopeia Convention (USP) Compounding Compendium - Current Edition

1.4.3 HIPAA

The Healthcare Insurance Portability and Accountability Act of 1996 (HIPAA) protects individuals rights to audible as well as visual privacy. This is especially the case with respect to protection of each individual's medical records, private information and communications. The law protects all conversations between patients and admission interviewers, caregivers, nurses, physicians and families. ARRA passed by U.S. government in 2009 enacts special provisions and legal enforcement tools for patient privacy, protection and security. Office of Civil Rights (OCR) monitors HIPAA security rule compliance based on ARRA provisions. Current penalties that can be implied by OCR for non-compliance with HIPAA are divided in four categories: (i) without knowledge; (ii) based on reasonable cause; (iii) willful neglect and (iv) willful neglect, not corrected. Penalties differ per violation versus maximum penalty according to these four categories and vary between \$100 and up to \$1,500,000.

1.4.4 Disaster Planning

Situations can arise in which it may not be feasible to evacuate patients for extended periods of time. In those cases, emergency electrical power will be required to maintain seamless equipment operation, heating, ventilating and vertical transportation systems, and life safety systems. This is especially important to keep the patient population reasonably comfortable and safe. These Design Standards recommend that the project consider planning for this contingency in order to care for the veteran population especially when the facility is located in an area where a high probability of threat exists from natural disasters such as hurricanes and earthquakes.

Refer to the Physical Security Design Manual For Va Life-Safety Protected Facilities, and Physical Security Design Manual for VA Mission Critical Facilities.



1.5 Abbreviations

A	Amps/Amperes
ABA	Architectural Barriers Act
ABAAS	Architectural Barriers Act Accessibility Standard
AC/HR	Air Changes per Hour
ACT	Acoustical Ceiling Tile
ADA	Americans with Disabilities Act
ADAAG	ADA Accessibility Guidelines
ADM	Automated Dispensing Machine
A/E	Architectural / Engineering Firm
AFF	Above Finished Floor
AHJ	Authority Having Jurisdiction
AIA	American Institute of Architects
ANSI	American National Standards Institute
ASHRAE	American Society of Heating, Refrigerating & Air Conditioning Engineers
AR	As Required
ASC	Ambulatory Surgery Center
AT	Acoustical Ceiling Tile
AT (SP)	Acoustical Ceiling Tile (with Sprayed Plastic Finish)
BC	Base Cabinet
BMS	Building Management System
C	Degree Celsius
CC	Contractor Furnished, Contractor Installed
CFM	Cubic Feet per Minute
CFM	Office of Construction & Facilities Management
CMS	Centers for Medicare and Medicaid Services
CON	Certificate of Need
CV	Control Valve
CLG	Ceiling
CO2	Carbon Dioxide



CP	Carpet (without cushion broadloom)
CT	Ceramic Tile
DG	Design Guide
DOE	Department of Energy
DP	Automatic Push Plate
DS	Door Switch
EDM	Electrical Design Manual
EES	Essential Electrical System
EMER	Emergency
F	Degrees Fahrenheit
FC	Foot-candle
FD	Floor Drain
FIXT	Fixture
FLUOR	Fluorescent
FM	Facilities Management
FMS	Facilities Management Service
FPS	Fire Protection System
GFI	Ground Fault Circuit Interrupter
GSF	Gross Square Feet
GSM	Gross Square Meters
GWB	Gypsum Wallboard
HAC	Housekeeping Aides Closet
HD	High Density Storage / Hazardous Drugs
HATCH	Holistic Approach to Transformational Change
HIPAA	Health Insurance Portability and Accountability Act of 1996
HVAC	Heating, Ventilating and Air Conditioning
HP	Horsepower
HR	Hour
IDS	Investigational Drug Services
IES	Illuminating Engineering Society



IESNA	Illuminating Engineering Society of North America
IP	Inpatient
IPS	Isolation Power System
JSN	Joint Schedule Number
kW	Kilowatt
LED	Light Emitting Diode
LEED	Leadership in Energy and Environmental Design
LB	Pound/Pounds
LLTS	Lockers, Lounges, Toilets & Showers
MATV	Master Antenna Television
MCS	Master Construction Specifications
MID	Motion Intrusion Detection
MTD	Mounted
NEC	National Electrical Code
NFPA	National Fire Protection Association
NSF	Net Square Feet
NSM	Net Square Meters
O	Oxygen
OBRA	Omnibus Budget Reconciliation Act of 1987
OIT	Office of Information & Technology
OP	Outpatient
OSHA	Occupational Safety and Health Administration
PACU	Post Anesthesia Care Unit
PG	Program Guide
PH	Phase
PFD	Program for Design
PP	Push Plates
PSDM	Physical Security Design Manual
PTS	Pneumatic Tube Station
RB	Resilient Base



RCP	Reflected Ceiling Plan
RES	Resinous Flooring
RF	Rubber Flooring
RPS	Radio Paging System
RSF	Resilient Sheet Flooring
SC	High Build Glazed Coating (Special Coating)
SD	Standard Detail
SF	Square Foot, Square Feet
SOPC	Satellite Outpatient Clinic
SP	Special Faced
STC	Sound Transmission Class
TIL	Technical Information Library provided by the VA online @ http://www.cfm.va.gov/TIL/
UPS	Uninterruptible Power Supply
USGBC	United States Green Building Council
USP	United States Pharmacopeia
V	Volts
VA	Department of Veterans Affairs
VACO	Veterans Affairs Central Office
VAMC	Veterans Affairs Medical Center
VA-SEPS	Space and Equipment Planning System (see definitions)
VAV	Variable Air Volume
VC	VA Furnished, Contractor Installed
VHA	Veterans Health Administration
VISN	Veterans Integrated Health Network
VOC	Volatile Organic Compound
VSO	Veterans Service Organizations
VTEL	Video Teleconferencing
VV	VA Furnished, VA Installed
W	Watts



1.6 Definitions

Clean Room	A room in which the concentration of airborne particles is controlled to meet a specified airborne particulate cleanliness class.
Doff	To remove PPE
Don	To put on PPE
Essential Electrical System (EES)	A system comprised of alternate sources of power, all connected distribution systems, and ancillary equipment, designed to ensure continuity of electrical power to designated areas and functions of a health care facility during disruption of normal power sources, and designed to minimize disruption within the internal wiring system.
Gross Square Feet (GSF)	Total building gross areas measured from exterior faces of exterior walls
Hazardous Drugs	Drugs are classified as hazardous if studies in animals or humans indicate that exposures to them have a potential for causing cancer, development or reproductive toxicity, or harm to organs
High-efficiency particulate air (HEPA) filtration	An extended-medium, dry-type filter in a rigid frame, having a minimum particle collection efficiency of 99.97% for particles with a mass median diameter of 0.3 mm
Leadership in Energy and Environmental Design (LEEDTM)	Includes a rating system for building design as well as professional accreditation for people working in the design building industry.
Mechanical Area	Main boiler room and other mechanical and electrical areas; included in gross areas and excluded in net areas.
National Fire Protection Association (NFPA)	Produces a code used in many jurisdictions to define fire protection requirements of building codes. VA uses several of the NFPA codes including NFPA 101, Life Safety Code.



Negative Pressure Room	A room that is at a lower pressure than the adjacent spaces and, therefore, the net flow of air is into the room
Net Area / Net Square Feet (NSF) / Net Square Meters (NSM)	The area of rooms or spaces as measured from the inside wall to inside wall and assigned to functional use by occupants.
Pass-through	An enclosure with interlocking doors that is positioned between two spaces for the purpose of reducing particulate transfer while moving materials from one space to another. A pass-through serving negative-pressure rooms needs to be equipped with sealed doors
Personal protective equipment (PPE)	Items such as gloves, gowns, respirators, goggles, faceshields, and others that protect individual workers from hazardous physical or chemical exposures
Positive Pressure Room	A room that is at a higher pressure than the adjacent spaces and, therefore, the net airflow is out of the room
Repackaging	The act of removing a product from its original primary container and placing it into another primary container, usually of smaller size
Spill kit	A container of supplies, warning signage, and related materials used to contain the spill of an HD.
United States Green Building Council (USGBC)	The United States Green Building Council is a national coalition of leaders in the building industry that developed the LEED™ system.
VA-SEPS	Acronym for Space and Equipment Planning System, a digital tool developed by the Department of Defense (DoD) and the Department of Veterans Affairs to generate a Program for Design (PFD) and an Equipment List for a VA healthcare project based on specific information entered in response to Input Data Statements. SEPS 3, the current version, incorporates the propositions set forth in all VA space planning criteria chapters. SEPS 3 is designed to aid healthcare planners in creating a Program for Design (PFD) and Program Room Contents (PRC) based on a standardized set of criteria parameters.



2.0 NARRATIVE

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2.1 Clinical and Operational Summary

The Pharmacy Department serves both inpatient and outpatient needs. This includes, but is not limited to Inpatient Nursing Units, Small House Model units, Surgical Services, Emergency Departments, Pain Management and Ambulatory/Outpatient Care Clinics.

Although it is ideal for both inpatient and outpatient pharmacies to be combined, or in close adjacency, it is not always possible due to space constraints and facility needs. Some facilities operate with cross trained staff that are able to flex easily between the different work-flows and is recommended that a combined pharmacy be considered when possible.

2.1.1 Pharmacy Staff and Role Descriptions:

To help the design team better understand the roles of the staff and their level of interaction with the pharmacy, a brief description of the more common positions are listed below for reference. These roles are here for reference only and may vary per facility

Chief of Pharmacy: Full and final responsibility for technical, clinical, professional, and administrative activities of the Pharmacy department. The Chief of Pharmacy Services is the uppermost position in the pharmacy organizational hierarchy. The Chief of Pharmacy services works collaboratively with mid-level managers and clinicians to direct pharmacy services in all areas (clinical, educational, administrative, professional, research, technological, financial), but assumes ultimate responsibility for decisions made and their outcomes.

Assistant Chief of Pharmacy: Coordinates daily management of pharmacy operations to align with facility philosophies, policies, procedures, goals and objectives. The Assistant Chief of Pharmacy plays an active role in pharmacy program management and ongoing monitoring and evaluation of pharmacy programs. He or she is also involved with administrative and educational activities as well as human resource management and medication safety and security. Also will assume responsibility of the director when the Chief Pharmacist is absent.

Administrative Officer: Personnel management/administration, budgeting and financial management, procurement and contracting, property management. Works with human resource and sets up HR documents. Duties may perform contracting officer monitoring for pharmacy contracts. Assist the preparation of presentations and data gathering.



Program Support Assistant: Performs administrative work at the direction of the pharmacy management, such as preparing documents, spreadsheets, Memo's, Budgeting and functions as directed. Scheduling and coordinating meetings, interviews, events and other similar activities. Assisting with all aspects of administrative management, directory maintenance, logistics, equipment. Preparing business correspondence, agendas for service meetings. Answering phones and providing customer service.

Clinical Pharmacy Supervisor: Daily professional and administrative operation of the clinical pharmacy program and the professional guidance and development of professional pharmacy staff. Responsible for designing, developing, implementing, and assessing progressive and comprehensive clinical pharmacy services and education programs to promote continued advancement of clinical pharmacy services within the organization.

Informatics Pharmacist: Responsible for the operation of the computer database systems. Key functions include the management of pharmaceutical pricing, drug accountability, drug information, pharmacy benefits management, and management of the drug file. Activities are designed to improve medication use through appropriate utilization of available technology. The ADPAC pharmacist is involved in development and assessment of clinical order sets to promote safe and effective medication use. ADPAC pharmacists also continually assess and update pharmacy technology as appropriate.

Pharmacoeconomist: Responsible for pharmacoeconomic program development, implementation, monitoring, and reporting. Key functions include: pharmacy formulary management, medication conversions, drug utilization evaluation, economic and clinical medication therapy assessments, patient outcomes assessments, and medical education and information communication. Primarily, the responsibility of this role is to ensure an appropriate balance between financial and clinical stewardship with respect to medication therapy.

Procurement Technician: Procurement technicians must be able to perform all responsibilities of inpatient and outpatient pharmacy technicians. Primary responsibilities, however, include maintenance and adherence to drug and supply inventory system to ensure that inpatient and outpatient pharmacies can function adequately. Inventory management, contractual assessments, and financial stewardship



with respect to medication and supply acquisition are key functions. Procurement technicians are also responsible for ensuring supply chain integrity and for appropriate receipt, storage, and reverse distribution of medication inventory under the supervision of pharmacy administrators.

Research Pharmacist: Responsible for the receipt, custody, distribution, billing, and preparation of all records for all investigational drugs used in the facility and for serving as the Pharmacy representative in all research-related committees. The research pharmacist reviews study protocols prior to Research and Development Committee consideration and negotiates and establishes mechanisms to allow appropriate handling of investigational medications. Research pharmacists ensure compliance with facility and regulatory requirements in the handling of investigational medications.

Pharmacy Resident (PGY1): PGY1 Pharmacy residents comprise the introductory post-graduate training program. Residents are responsible for a variety of clinical, administrative, and research-related activities. Residents rotate through a variety of pharmacist positions under the supervision of qualified preceptors. Completion of a PGY1 residency program should equip graduates to perform at a high level across the spectrum of pharmacist roles.

Pharmacy Resident (PGY2): PGY2 Pharmacy residents comprise the specialized post-graduate training program. PGY2 pharmacy residencies are designed to produce highly-qualified practitioners in a designated pharmacy specialty. Rotations of PGY2 pharmacy residents are tailored to a specific field of interest. Common PGY2 programs include: infectious disease, pharmacy administration, psychiatry, critical care, ambulatory care, oncology, transplant, and others. Responsibilities include a combination of clinical, administrative, and research-related activities.

2.1.2 Pharmacy Educational Program

Like most clinical modalities, VAMC's pharmacies provide education and training for residents and students around the country and are affiliated with major medical, nursing and allied health professional schools and colleges. For this reason additional space is required to support the educational program and staff support areas to accommodate training requirements. The additional space and size needs must be taken into consideration when determining the size and number of support spaces for teaching and educating, i.e., conference rooms, offices, staff lounges, resident spaces, etc.



2.1.3 Inpatient Pharmacy



Figure 2.1 Jesse Brown VAMC Inpatient Pharmacy

The Inpatient Pharmacy is comprised of all functional areas required to receive, process, fill, store and distribute all manners of medications to the inpatient population on the hospital campus. Although the Inpatient Pharmacy is responsible for monitoring and stocking medication supplies via medication rooms, medication dispensing stations and satellite pharmacies, these spaces are not addressed in this pharmacy design guide and should be referred to the appropriate design guide those rooms support.

The Inpatient Pharmacy should be centralized to the hospital and connected to key departments through close adjacency or delivery systems; e.g., pneumatic tube system and/or robotics, and have close proximity to the loading dock area.

Security: The Inpatient Pharmacy is a staff only secured space and is typically detached from public access by design. Secured access is used to not only refuse public admittance, but also to allow only approved hospital staff members in appropriate areas. The wall construction around the Pharmacy is of a non scalable construction, meaning the partitions will run to the underside of the floor or roof deck above. See the VA Architectural and the Physical Security Design Manual for VA Mission Critical Facilities for design requirements.



2.1.4 Primary Inpatient Pharmacy Spaces and Functions

Filling / Assembly Area: Pharmacy Tech work area with access to carousel and/or storage shelving for filling orders and assembling medications for ADM restock.

Processing Area: Pharmacist workstation for initial receiving/validation of medication orders and conducting phone consultations with providers.

Secured Dispensing / Storage: Restricted access work area for storing/processing narcotics and controlled substances. Includes space for expired drug collection/disposal.

Filling / Assembly Shelving: Active shelving for storage of drugs and medication supplies required for filling orders.

Filling / Assembly Carousel: Automated storage and retrieval system for drugs and medication supplies required for filling orders. Space includes static shelving for overstock or bulky items that are not compatible with the carousel bins.

Repackaging Area: Work area and equipment for processing bulk medications into individual unit doses

Expired Drug Collection: Secured collection bins for expired/waste medications for return or disposal.

Restock Area, Crash Cart: Work space and storage area for crash cart replenishment and maintenance operations.

Non-Sterile Compounding Area: Work area for conducting Category 1-nonsterile / simple compounding activities.

Sterile Non-Hazardous Drug Buffer Room: Positive pressure buffer area / clean room for mixing, transferring, and assembling components of non-hazardous drug compounded sterile preparations.

Sterile Hazardous Drug Buffer Room [C-SEC]: Negative pressure buffer area / clean room for mixing, transferring, and assembling components of hazardous drug compounded sterile preparations.



Sterile Hazardous Drug Storage: Negative pressure space for storing sterile compounding operations.

Work Area, Sterile Compounding: Non-sterile work area adjacent to clean rooms for support of both hazardous and non-hazardous compounded sterile preparation activities

Ante-room, Sterile Compounding: An ISO Class 7 or cleaner room where personnel hand hygiene, garbing procedures, and other activities that generate high particulate levels are performed. The ante-room is the transition room between the unclassified area of the facility and the buffer room.

Storage, Sterile Compounding: Storage for sterile fluid bags and IV admixture materials and supplies.

Housekeeping, Sterile Compounding: For storage of disposable cleaning supplies specifically for use in Sterile Compounding areas. Keep separate from general Pharmacy housekeeping supplies.

Inventory Receiving / Breakdown: Space for receiving, verification, and breakdown of deliveries.

Procurement: Work area for inventory control/stock management staff.

Investigational Drug Services (IDS): Work space for conducting investigational drug studies, including space for securable filing cabinets and refrigerator.

Pharmacy Cache: Secured storage space for emergency medical supplies and pharmaceuticals. Actual NSF required for pharmaceutical portion of storage may vary by project - to be determined during planning process.



2.1.5 Outpatient Pharmacy



Figure 2.2 Gainesville VAMC Outpatient Pharmacy

The Outpatient Pharmacy is comprised of all functional areas required to receive, process, fill, store and distribute all manners of medications to the outpatient population in either the hospital or satellite pharmacy. The Outpatient Pharmacy should be easily accessible to public space near or on the path to major circulation spines of the facility and should have strong adjacency to outpatient clinics and main points of entry.

The Outpatient Pharmacy is also responsible for dispensing medications for discharge patients. Hospital protocol for discharge patients should be considered to help determine best location or flow between the Outpatient Pharmacy and the units the Outpatient Pharmacy is serving.

Security: Security will remain a concern when controlled substances are available. There is a balance between patient experience and security for both patient and the Pharmacy staff that needs to be taken into consideration when designing dispensing and consultation areas. The outpatient narcotic secured room is designed per the VA Construction Standard H-18-3, CD-49.

Refer to the Physical Security Design Manual for VA Mission Critical Facilities, for specific security measures.



2.1.6 Primary Outpatient Pharmacy Spaces and Functions

Dispensing and Consult Area: Work area with secure transaction windows / pass throughs for dispensing medication to patients, and for conducting general (non-confidential) consults with Pharmacists.

Dispensing Window: Secure transaction window with pass-thru for dispensing medication to patients; not intended for patient consults

Consult Window: Semi-private station located outside of secure Pharmacy perimeter for general (non-confidential) patient consults with Pharmacists; not intended for medication distribution; open configuration with no window or pass-through between patient and Pharmacist.

Consult Room: Private space for confidential patient consults with Pharmacists.

Filling / Assembly Area: Pharmacist / Technician work stations, and active shelving for storage of medications and prepackaged items required for filling of prescriptions.

Automated Filling / Storage: Space for automated filling robot, and for storage of bulk medications and supplies.

Processing Area: Pharmacist workstation for initial receiving and validation of prescriptions, and for conducting phone consultations with providers. Can also accommodate Community Care coordination.

Secured Dispensing / Storage: Restricted access work area for storing / processing narcotics and controlled substances. Includes space for packaging and holding mail-out prescriptions, handling returned mail, and for expired drug collection / disposal.

Mail Out Area: Work space for packaging and shipping of filled prescriptions, and for processing returned mail.

Expired Drug Collection / Disposal: Secured collection bins for expired/ waste medications for return or disposal.

Discharge Pharmacy: Work area for provider coordination and processing of medications prior to patient being released from inpatient / emergency care.



Call Center: Space for Pharmacy Technicians to conduct phone consults with patients.

Inventory Receiving / Breakdown: Space for receiving, verification, and breakdown of deliveries

Procurement: Work area for inventory control/stock management staff.

Storage: Storage for non-medicinal/bulky items/supplies required for filling of prescriptions, i.e., Prosthetics.

2.1.7 Satellite Pharmacy

Inpatient satellite pharmacies can be in a number of departments to help support immediate needs that would require a dedicated Pharmacist. The needs of the facility should be discussed at the time of design in an effort to provide the best level of care possible. A Satellite Pharmacy could be included in Oncology, Surgical Services, Intensive Care Units, Neurology, Cardiac Services, Emergency Services among other departments and nursing units.

In addition to inpatient satellite pharmacies located within the hospital proper, Long Term Care and Mental Health Residential Rehabilitation and Treatment Programs could use a Satellite Pharmacy managed by the Inpatient Pharmacy that is not in the hospital.

Satellite Pharmacies are not included in this design guide as they are specific to the modality they serve and should be addressed within those specific design guides.

2.1.8 Waste Management

Rx Waste: Expired drug waste is generated most often by the medication shelf life running out. Expired medication is collected by their drug categories in a designated central accumulation area for either reverse distribution, if applicable, or collected for disposal and taken to the loading dock to be held in a secured location until pick up. This includes, but not limited to partial vials, hospital repacks, un-dispensed, pre-filled syringes, partial syringes, discontinued medications, unadministered medications, patient prescriptions, and physician RX samples.



Hazardous Rx Waste: Hazardous waste is collected separately from Rx Waste and stored in a secured location, typically adjacent to the loading dock, until such time a licensed hazardous waste hauler can collect and transport it.

Sharps: Sharp containers shall be located at key locations to allow for immediate disposal in areas where syringes will be used. Sharps container are used to dispose partial, full or used syringes and will be collected separately for proper disposal.

Satellite Rx Accumulation Areas: Satellite accumulation areas should be discussed with each facility and identified in patient care areas. Regular collection of expired and unused medications in these satellite locations should be discussed and planned for.

General Waste: General waste is generated in all spaces and held in waste containers within the various rooms or bulk storage in the receiving area. The waste is then collected by cart and transported via the loading dock to a waste handling facility.

Recycling: The sorting, collecting, transporting and disposing of recyclable material should be analyzed by locality and modified to suit local conditions and practices.

Product types used in the Pharmacy: disposable vs. recyclable products should be discussed as it is an important design consideration that impacts physical space, pharmacy operations, staffing and waste disposal volumes.

Refer to the NEPA Interim Guidance for Projects for more information regarding recycling requirements.



2.2 Trends in Pharmacy

Over the years there have been numerous updates to Pharmacy function, operation and delivery of care. Below are some key elements of significant changes to note.

2.2.1 Research Based Design

Although using design to affect outcomes is not a new concept, the use of research based design has become common in helping designers and facilities determine courses of action that help in the design of safer and more patient centric environments based on real data and outcomes. One such example is medication errors, which can derive from poor lighting, ergonomics, fatigue, distractions and general lack of efficiency can all be improved with research based solutions.

2.2.2 Technology Advancements:



Figure 2.3 Orlando VAMC Inpatient Pharmacy Robotics

Robotics play a significant role in the reduction of medication errors, efficiency of staff as well as how drugs are stored, filled and delivered. Robotics in conjunction with conveyor systems for outpatient pharmacies bring the medication to technicians for filling, limiting technician fatigue, thereby reducing medication errors. Advancement in automated medication storage and dispensing systems is significantly helping facilities with inventory control and space management

for medication storage. Storage systems like medication carousels increase the amount of medications that can be stored in a given square footage when compared to static shelving by condensing the storage need in a compact and vertical solution. These systems save square footage requirements and also staffing assigned to manual check par levels on a regular basis.



Specialty equipment such as compounding robotics have also been advancing to help in repetitive tasks with high volume. Given the right conditions and facility needs, robotics are able to provide a significant savings in operation and possible FTE costs.

2.2.3 Codes and Standards

With advancement in research studies of the long term effects of medication exposure to staff, there have been significant updates to the USP chapter <797> Pharmaceutical Compounding - Sterile Preparations, and the addition of the USP chapter <800> Hazardous Drug - Handling in Healthcare Settings. These chapters are provided by the United States Pharmacopeia (USP) to help mitigate workplace exposure in the sterile environments with potential exposure to hazardous drugs.

2.2.4 Meds to Beds

The Meds to Beds concept describes part of a discharge process where the patient receives prescriptions, hand delivered at bedside, before or during discharge. The theory behind Meds to Beds is to not only limit the number of stops and wait time a patient has before leaving the hospital by eliminating the need to visit the outpatient pharmacy after being discharged, but also to make sure the patient receives their medication, the medication is explained to them and the patient has the ability to have their questions answered by a pharmacist.

There are benefits to this program as well as challenges with staffing and current practices. Revised communication protocols between nursing and pharmacy staff will need to be discussed with the stakeholders to determine if it is right for the facility, works with their current or future staffing demand and nursing unit configuration.



2.2.5 Storage



Figure 2.4 Inventory management system

Advanced storage systems and inventory management with just-in-time deliveries from vendors, results in storage needs that have the potential to be reduced, or at the very least better managed through integrated tracking systems. Using these types of storage systems could help eliminate medication shortage or stock overruns that could lead to more expired medications.

2.2.6 Consolidated Mail Outpatient Pharmacy (CMOP)

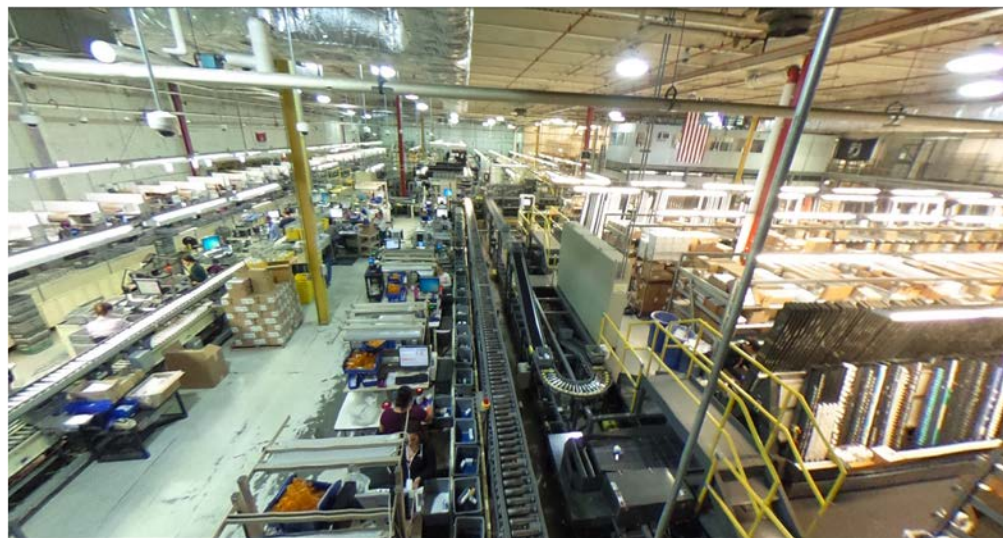


Figure 2.5 Hines VA CMOP



The VA Mail Order Pharmacy processed 119.7 million outpatient prescriptions in fiscal year 2016. The Department of Veterans Affairs provides approximately 80% of all outpatient prescriptions to Veterans via mail order utilizing the VA Mail Order Pharmacy, a system of 7 highly automated pharmacies. The VA Mail Order Pharmacy processes 470,000 prescriptions daily and every work day over 330,000 Veterans receive a package of prescriptions in the mail. The VA utilization of VA Mail Order Pharmacy results in exceptional accuracy and lower processing costs than filling prescriptions at each VA Medical Center. Each facility will vary in the overall medication utilized via the CMOP, however, that ratio could play a role in the size of the pharmacy being designed.

2.2.7 Personalized Healthcare: DNA Driven Drug Development

The advent of consumer health services and devices, along with supporting infrastructure such as telehealth & rapid DNA sequencing, has made obtaining care more accessible and eventually, more affordable. Sometimes referred to as personalized medicine, precision medicine, among others, for pharmacies, the emergence of DNA-driven drugs that can be synthesized in a bespoke manner and tailored to each patient is of special interest. A particular individual's BMI, caloric intake, family history and other factors can be analyzed and considered in a drug mixture best suited to their needs. As these patient-specific drugs are developed in automated processes, the benefits of mitigating allergic reactions, minimizing side effects and increasing the effectiveness of existing or new drugs has become more apparent. As pharmacies become more consumer-oriented, this type of customization will become increasingly commonplace as a patient's seek to control how they consume healthcare.



2.3 Technical Considerations

2.3.1 VA Policies, Directives, Handbooks and Standards

VA functions as the Authority Having Jurisdiction (AHJ) for all VA facilities and projects and has the responsibility to guard public health and safety through enforcement of its own standards.

Planning, design, and construction of all VA pharmacies must be in accordance with this document and with the latest editions and/or versions of all VA policies and standards. The more stringent code and/or standard are to be applied to VA facilities. Requirements in this Design Standard shall not be construed as authorization or permission to disregard or violate applicable local codes and regulations.

Please refer to section 1.4.2 Industry Codes/ Standards for a list of Codes, Standards and Executive orders.

Local/State Codes and References

For VA owned properties the VA is not subject to local imposition of code enforcement procedures, such as drawing reviews, building permits, inspections, fees, etc. For leased properties, the VA will be subject to the local AHJ codes and regulations.

Other Recommended Reference Standards

FGI Guidelines for Design and Construction of Hospital and Outpatient Facilities – Current Edition, published by the Facilities Guidelines Institute with the assistance of the U.S. Department of Health & Human Services.

USP Compounding Compendium - Current Edition. Published by The United States Pharmacopoeia Convention.

<795> Pharmaceutical Compounding - Non-sterile Preparations
<797> Pharmaceutical compounding - Sterile Preparations
<800> Hazardous Drugs - Handling in Healthcare Settings



2.3.2 Architecture

Ceilings

The finished ceiling height of typical Pharmacy spaces should be a minimum of 9'-0" (2743 mm) above the floor and be free of dust-collecting overhangs. Consideration of acoustics should be addressed as required by the function of the space.

The surfaces of the ceilings in the sterile compounding spaces shall be smooth, impervious, free from cracks and crevices, and non-shedding, thereby promoting cleanability, and minimizing spaces in which microorganisms and other contaminants may accumulate.

Floors

Cleanability of the flooring material is of primary importance in the buffer rooms. Consider the following when choosing a flooring material:

- Smooth, impervious, non-shedding, free from cracks
- Readily cleanable
- Resistant to damage by disinfectant agents
- Able to be have seams sealed

Flooring in the sterile compounding areas, including the ante-room, shall be seamless and of non-porous material, such as resinous flooring or a rubber sheet flooring with heat-welded or chemical welded seams and integral cove base to the wall. The buffer area shall not contain sources of water or floor drains. Refer to PG 18-14 for flooring spec.

Staff in main pharmacies are often standing for long durations. The use of softer, ante-fatigue, ergonomic flooring should be considered.

Walls

Due to the use of supply and distribution carts in the Pharmacy, consideration shall be given to the durability of partitions. It is recommended that walls are fitted with a crash rail and wall protection in high traffic areas or areas where movable equipment and carts could come in contact with wall surfaces.



Security consideration should be made around the perimeter of the pharmacy with walls going to the underside of structure of the floor above. If a medication vault room is built, partitions should be constructed in accordance with VA Handbook 0730.

Casework

Modular casework storage systems should be utilized for flexibility including the incorporation of typical dimensions for ease of multiple re-use applications. Casework systems should be integrated with space planning to avoid corner installations and filler panels.

Countertops

For all clinical and clinical support areas, countertops should be made of impervious, solid surface material (per PG 18-14: Room Finishes, Door & Hardware Schedule) with integral sinks, which offers long-term durability, and resists chipping and staining from medical agents expected to be used in clinical environments. Plastic laminate veneer materials may be used in non-clinical staff and administrative areas.

Acoustics / Noise Control

Interior acoustics that support speech intelligibility while providing comfort can be difficult to obtain in an open Pharmacy work area where large automation equipment could be present along with non-porous materials that are required for infection control purposes. It is important to find ways to control reverberation and noise transmission in these spaces. Noise should be minimized by the planning and design of the physical environment by isolating equipment and staff workflow that requires quiet environments from the noisier functions. Selection of pharmacy equipment and other systems (compounding robots, automated shelving, etc) could also help in reducing excessive noise.

Refer to PG 18-3: Topic 11 - Noise Transmission Control and the FGI guidelines for additional information regarding the acoustical requirements.

Doors

The doors entering directly into any Pharmacy space from a public space are required to be secured with staff specific access; e.g., keycard or keypad. Service doors to Receiving should be double leaf and large enough to accommodate supplies on pallets to be easily moved into the Receiving Area.



For doors between the Anteroom and Buffer rooms, a glazed, 2 panel sliding door with a push panel activator is recommended. If a swing door is used a door lite is recommended.

Access into the Secure Dispensing & Storage, Outpatient (vault) is required to have a steel secured door with day gate and limited staff with keycard or keypad access.

2.3.3 Interior Design

Interior Finishes

Refer to the Room Finishes, Door & Hardware Schedule Program Guide (PG 18-14), consider the following key factors in the design process, which have an impact on the built environment and the user experience:

- Maintenance
- Durability
- Life cycle cost
- Warranty
- Therapeutic attributes (specifically for staff standing for long durations)
- Improved wayfinding (clear demarcation between staff and patient spaces)
- Specify appropriate materials to maximize infection control. These materials can include but are not limited to upholstery fabric with special coatings and moisture resistant backings, stainless steel or solid surface counter tops.



Wayfinding

Clear delineation of staff spaces and patient/visitor spaces helps reduce stress and aid efficient operations in the Pharmacy. Also, it should be noted that some staff members may be present in the facility do not frequent the department regularly. It is therefore important to consider both off-stage and on-stage routes when designing wayfinding.

- Patients / visitors touch pharmacy services at the perimeter to pick-up scripts / have consults
- Pharmacy service visitors / delivery personnel required to access pharmacy administration area and interior pharmacy areas for dropping deliveries or picking up returns / waste etc.

2.3.4 Heating, Ventilation, and Air Conditioning Systems

HVAC systems shall be provided to heat, cool, and ventilate the individual rooms or areas as required to satisfy design criteria. The HVAC system shall comply with NFPA 72, 90A, 99, and 101, and the current version of Department of Veterans Affairs (VA) HVAC DMs (<http://www.cfm.va.gov/til/dManual/dmMEhosp.pdf>), VA Design and Construction Procedures (<http://www.cfm.va.gov/TIL/cPro.asp>), VA Master Construction Specifications (<http://www.cfm.va.gov/TIL/spec.asp>) and VA Standard Details (<http://www.cfm.va.gov/TIL/sDetail.asp>) where applicable. The current VA design and construction criteria are available on the VA Technical Information Library (TIL) at <http://www.cfm.va.gov/til/>. Deviations from the VA guidelines may be made provided approval is obtained from the VA. Where specific VA requirements are not available or indicated in this DM, design criteria from industry standards such as American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), National Fire Protection Association (NFPA), and Department of Energy (DOE), etc. , should be submitted to VA for review and approval.

Life Cycle Analysis

The HVAC system shall be selected based on an economic life cycle analysis performed as outlined in the current edition of the VA HVAC DM.



Energy Conservation

Energy conservation shall be emphasized in all aspects of the building design. The building shall meet the requirements of the current version of the VA Sustainable Design and Energy Reduction Manual (<http://www.cfm.va.gov/til/sustain.asp>), the VA HVAC DMs, the VA Electrical DM, and the VA Plumbing DM. These design manual energy standards apply to HVAC systems as well as the building envelope, service water heating, lighting and energy management.

Exterior Design Conditions: Exterior summer/winter design conditions and cooling tower wet bulb design temperatures shall be based on the current edition of the VA HVAC DM. The Architect/Engineer (A/E) may recommend more severe outdoor climatic conditions for review and approval by the VA.

Interior Design Conditions: Interior design conditions for each space shall be maintained throughout the year. In accordance with the current version of the VA HVAC DM.

Supply Air Requirements: The supply air volume shall be established to meet the heating and cooling load requirements of the occupied space. The supply volume shall, however, be modified to meet a) meet minimum air change requirements if this air quantity is more than the heating and cooling load requirements, b) maintain proper space pressurization relative to room exhaust requirements. For all air systems the supply air minimum airflows shall follow the current version of the VA HVAC DM.

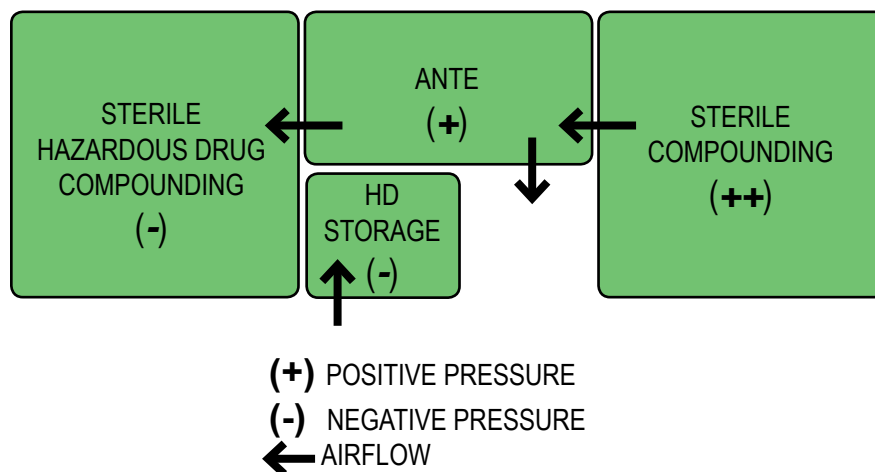


Figure 2.6 Sterile compounding pressurization diagram



Filtration: Filtration for the HVAC systems shall be provided in conformance with the current version of the VA HVAC DM

Sterile Compounding Rooms: Sterile compounding rooms used for hazardous and non-hazardous drug compounding and intravenous admixtures shall follow the current version of the VA HVAC Design Manual (DM). The Design Manual includes information on air handling unit and room requirements for these rooms such as room air changes, room design temperatures, relative humidity ranges, noise levels, and space pressure relationships.

Pharmacy spaces: Pharmacy support spaces shall follow the current version of the VA HVAC DM unless noted otherwise. The room data sheets provided in the Room Templates chapter of this document refers the user to specific room types shown in the VA HVAC DM unless noted otherwise. The room type referenced in the HVAC DM is found in Table 6 that will provide the needed information for room design temperatures, relative humidity range, room air changes, and space pressure relationships.

Outdoor Air Requirements: The HVAC design shall provide each space with not less than the minimum recommended quantity of ventilation air indicated in the current version of the VA HVAC DM.

Exhaust and Return Air Requirements: The HVAC design for each space shall provide return air and exhaust air as required to control the transfer of odors and provide proper room pressurization. At a minimum, exhaust air and pressurization should be provided as indicated in the VA HVAC DM.

Noise Criteria: The HVAC design shall provide resulting sound levels in occupied spaces not to exceed the levels shown in the current version of the VA HVAC DM.

Design Features: HVAC design features such as the use of economizers shall follow the design criteria outlined in the current version of the VA HVAC DM.

Temperature Control Criteria: The automatic temperature controls systems and the use of individual temperature controls for Pharmacy spaces shall be provided in accordance with the current version of the VA HVAC DM.

Humidity Criteria: Humidity levels for all spaces shall be provided in conformance with the current version of the VA HVAC DM.



2.3.5 Pneumatic Tube System

Pneumatic Tube System: A pneumatic tube system shall be considered in order to provide an efficient means of delivering medications between Pharmacy areas and patient prescription receiving locations.

2.3.6 Plumbing Systems

The plumbing systems shall comply with the current version of Department of Veterans Affairs (VA) Plumbing DM (<http://www.cfm.va.gov/til/dManual/dmPlbg.pdf>), VA Design and Construction Procedures (<http://www.cfm.va.gov/TIL/cPro.asp>), VA Master Construction Specifications (<http://www.cfm.va.gov/TIL/spec.asp>) and VA Standard Details (<http://www.cfm.va.gov/TIL/sDetail.asp>), where applicable. Deviations from the VA guidelines may be made, provided approval is obtained from the VA-CFM. Where state or local codes are more stringent than the above requirements, submit criteria to the VA for review and approval.

Domestic Water: Domestic water shall be distributed to the plumbing fixtures and equipment. Design of the domestic water system shall follow the VA PDM. This includes design of water hammer arrestors, domestic booster pump design, and central domestic hot water and recirculating systems.

Plumbing Fixtures: Plumbing fixture types (including fixtures required to meet person with disabilities requirements) and fixture flow restrictors (aerators are prohibited) shall be in accordance with the current version of the VA PDM.

Sanitary Systems: Provide sanitary drain connections to plumbing fixtures designed in accordance with the current version of the VA PDM.



2.3.7 Electrical Systems

Lighting: Lighting systems are essential for the Pharmacy staff to perform and function safely, efficiently, and effectively. The VA Lighting DM (LDM - <http://www.cfm.va.gov/til/dManual/dmLighting.pdf>) provides design guidance for lighting design parameters, as well as recommended types of luminaires. The Illuminating Engineering Society of North America (IESNA) can also be used as a reference by the design for the recommended illuminance target if LDM does not provide direct guidance. The A/E has the option of using either fluorescent or LED lighting technology. The A/E shall follow the Reflected Ceiling Plan in Section 4 – Room Templates of this Design Manual for the placement of luminaires. Areas not covered by the room templates lighting shall follow the architectural and interior design features of the building. The design A/E shall select appropriate number of lamps in each luminaire to render the required illuminance level for each room and task.

Lighting levels in the Pharmacy room are also required to fluctuate from high to low in order to accommodate specific tasks. Therefore, the design A/E must implement luminaires with dimming capabilities using multi-level switching, dimming arrangements, or both. Point-to-point foot-candle calculation for each room or area must be performed using commercially available computer software to validate compliance with lighting level and energy conservation requirements during the project design phase. The calculations must be documented and provided to VA for review and concurrence.

Normal Power: The A/E shall provide electrical design. Power connection shall be provided for all electrically operated equipment. The A/E shall confirm electrical requirements of all equipment to provide correct design and load calculations. A/E shall show receptacles or hardwire connections for all electrically operated equipment.

Emergency Power: Emergency power connection shall be provided for equipment that needs to operate continuously and cannot be interrupted. Equipment such as refrigerators/freezers, safes, etc., shall be connected to the building emergency power system, or as an option for refrigerators/freezers, a contingency plan shall be provided for moving drugs to another refrigeration location in the event of a power failure if the building is not provided with an emergency generator system.



2.3.8 Telecommunication, Monitoring, and Signaling Systems

Intercom, telephone and computer systems are all required in the Pharmacy rooms. The Office Information & Technology (OIT) design guide provides A/E design guidance on equipment room layout. The design A/E can also refer to Electronic Industries Alliance/ Telecommunication Industries Association (EIA/TIA) if OIT does not provide direct guidance.

2.3.9 Fire Protection and Life Safety

Fire Detection and Sprinkler System: Hazard classification indicated on the room data sheets is based on the Occupancy Hazard Definitions provided in NFPA 13. Provide fire alarm and detection systems in compliance with NFPA 101 and NFPA 72 as well as VA Fire Protection Design Manual (<http://www.cfm.va.gov/til/dManual/dmFire.pdf>). Coordinate the location of sprinklers with other ceiling systems in accordance with the current version of the VA Master Construction Specifications (<http://www.cfm.va.gov/TIL/spec.asp>) and VA HVAC Design Manual (<http://www.cfm.va.gov/til/dManual/dmMEhosp.pdf>) and VA Plumbing Design Manual (<http://www.cfm.va.gov/til/dManual/dmPlbg.pdf>).



3.0 FUNCTIONAL CONCEPTS

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3.1 General

The diagrams in the following section show general adjacencies for both inpatient and outpatient pharmacies, as well as some of the more major department flows.

There are several different methods a pharmacy will receive medication orders or scripts to begin the filling and dispensing process. Within the pharmacy there are also different variations on the processing of medication orders depending on a manual picking and medication filling flow vs one that is more automated. The different medication flows though the pharmacy are outlined in diagrams below.

With the new USP <800> Hazardous Drugs - Handling in Healthcare Settings chapter there are clarifications on the delivery, handling and storage of hazardous drugs. HD delivery and storage diagram **Figure 3.8** shows the variation in the flow of hazardous drugs from the loading dock to HD storage locations.

Each facility will be unique with varying staffing and spacial needs, as such the various adjacency and flow diagrams in this chapter are not meant to be all-encompassing, but to give the design team a starting point to base future discussions with the pharmacy team and to help reach an appropriate flow base for the pharmacy to design towards.



3.2 Adjacency Diagrams

3.2.1 Bubble Diagram - Inpatient Pharmacy (IP)

The adjacency between the various inpatient space planning criteria should be considered carefully as they have significant impact on the function and efficiency of the pharmacy being designed. There are some natural primary and secondary adjacencies to pay close attention to as illustrated below.

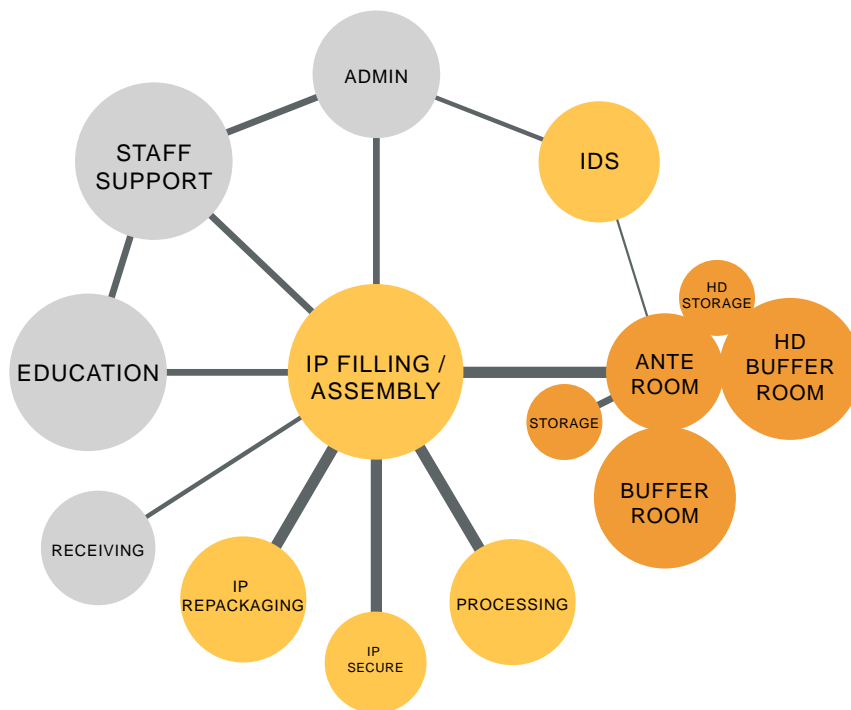


Figure 3.1 Inpatient pharmacy adjacency bubble diagram

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation
- Secure Entry



3.2.2 Mockup Diagram - Inpatient Pharmacy (IP)

The following image is a diagrammatic conceptual layout showing key adjacency attributes for the inpatient pharmacy

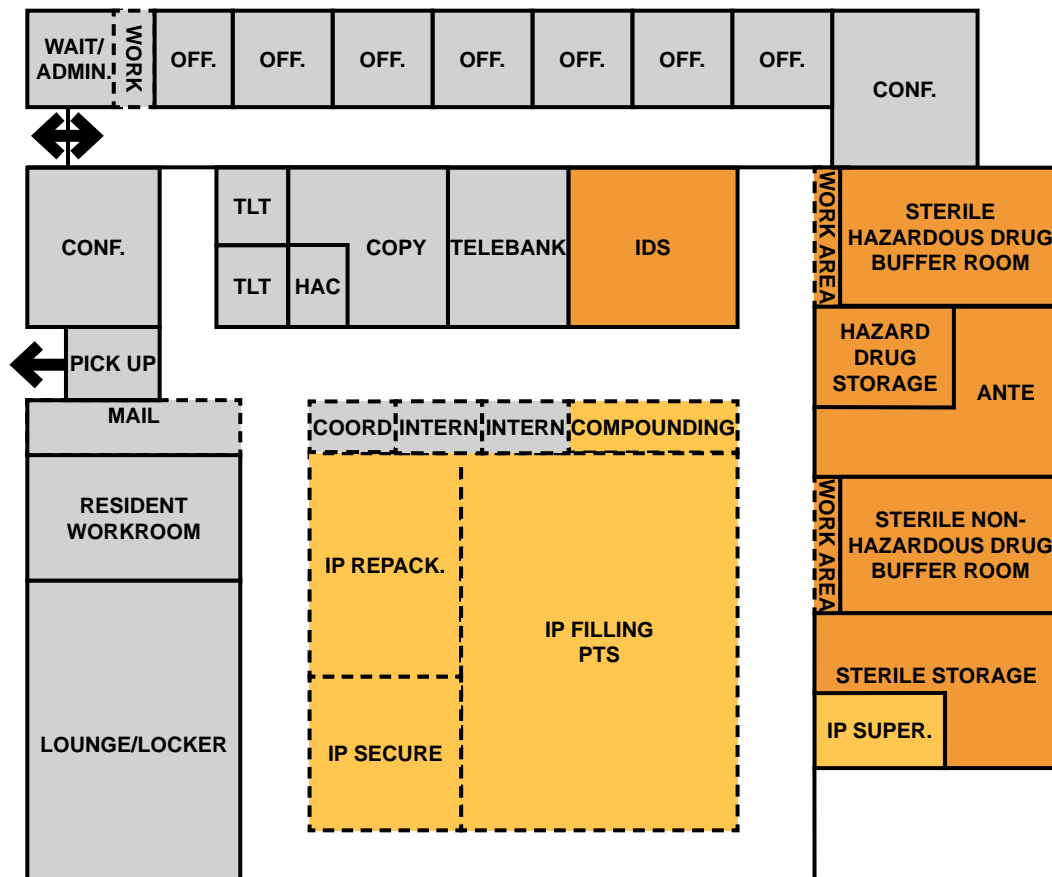


Figure 3.2 Inpatient pharmacy adjacency mockup diagram

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation
- Secure Entry



3.2.3 Bubble Diagram - Outpatient Pharmacy (OP)

The adjacency between the various outpatient space planning criteria should be considered carefully, not only how the OP pharmacy functions but also in relation to the general public. Special attention needs to be focused on how the public access dispensing and consultation and where those spaces are located in relation to outpatient clinics, emergency, surgical and inpatient services. Major relationships shown below.

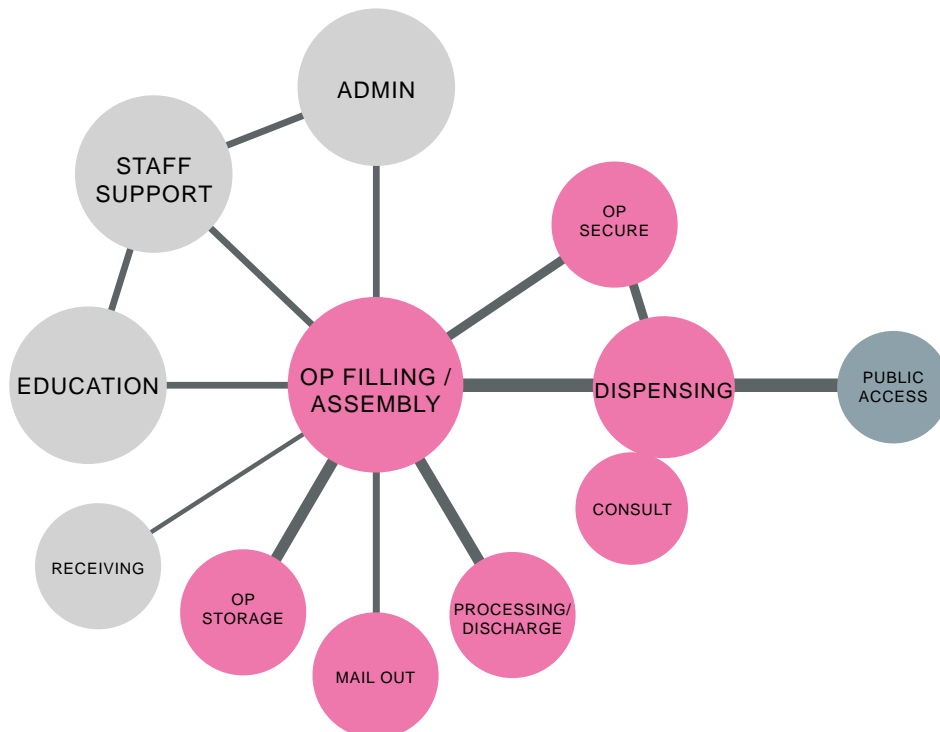


Figure 3.3 Outpatient pharmacy adjacency bubble diagram

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation
- Secure Entry



3.2.4 Mockup Diagram - Outpatient Pharmacy (OP)

The following image is a diagrammatic conceptual layout showing key adjacency attributes for the outpatient pharmacy

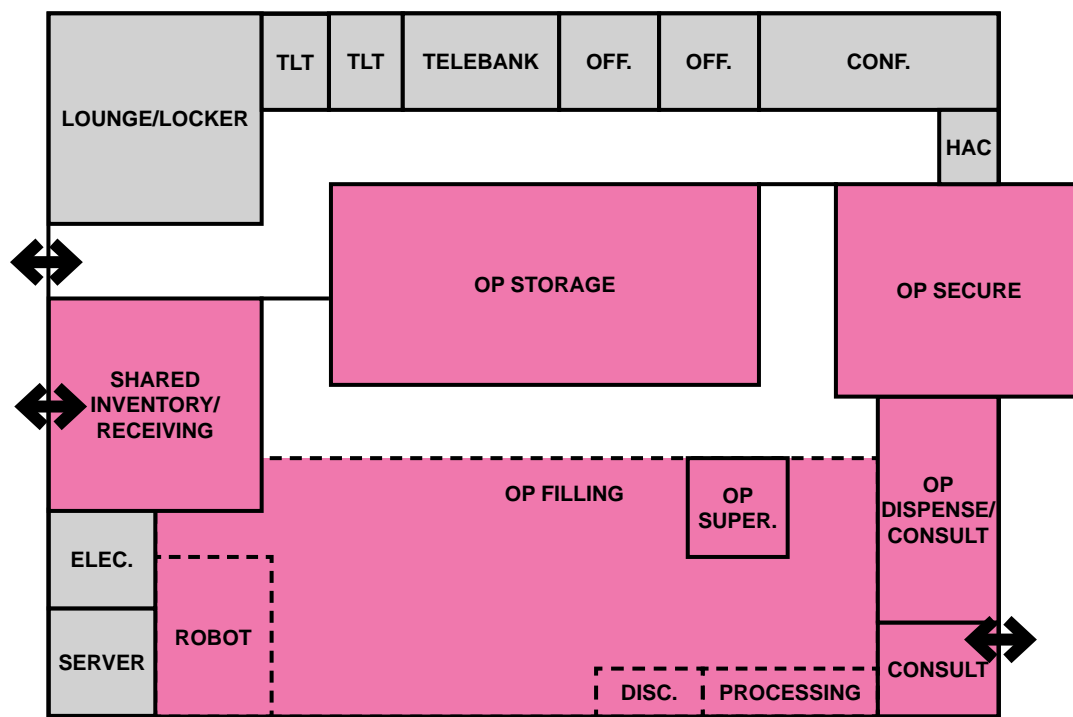


Figure 3.4 Outpatient pharmacy adjacency mockup diagram

Legend:

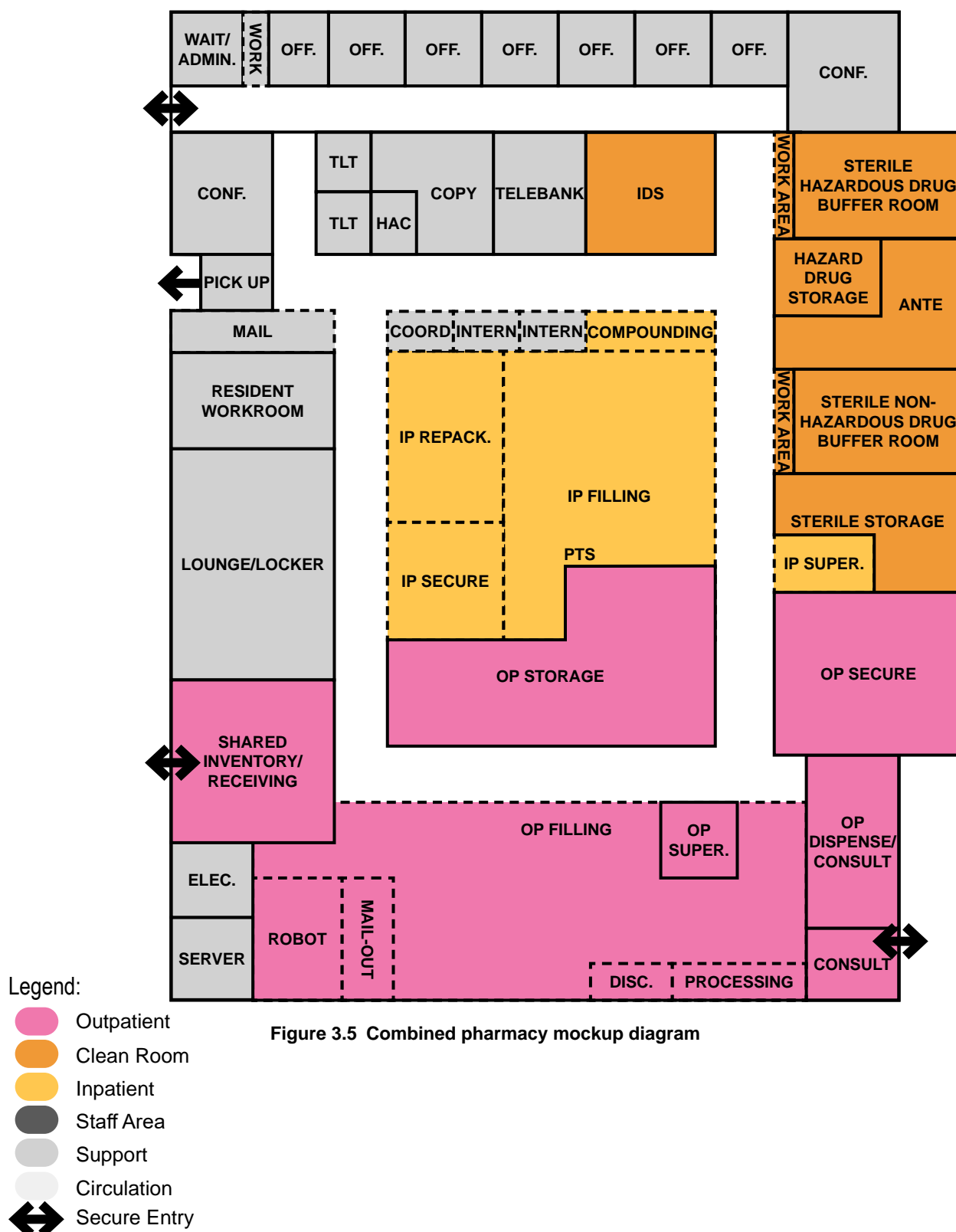
- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation
- ←
→
 Secure Entry



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3.2.5 Mockup Diagram - Combined IP/OP Pharmacy



3.3 Medication Flow Diagrams

3.3.1 Inpatient Pharmacy (IP)

Medication ordered from a nursing unit, surgical services, the emergency department or an oncology unit for example, have different flows from the main inpatient pharmacy. The typical flows are outlined below, however, specific flows for each facility should be discussed with the pharmacy stakeholders and adjusted accordingly.

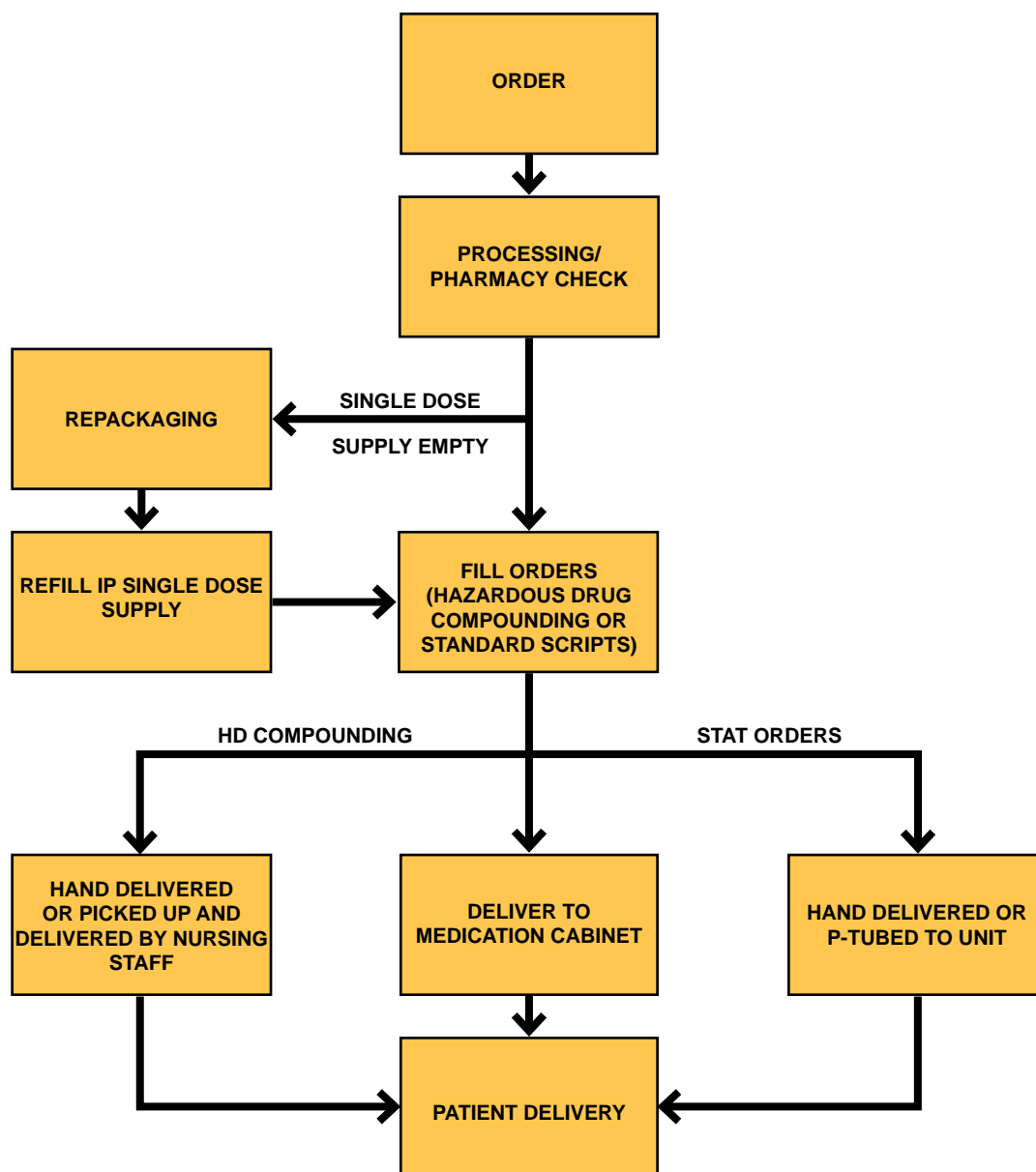


Figure 3.6 Inpatient pharmacy medication flow diagram



3.3.2 Combined Pharmacy IP Flow

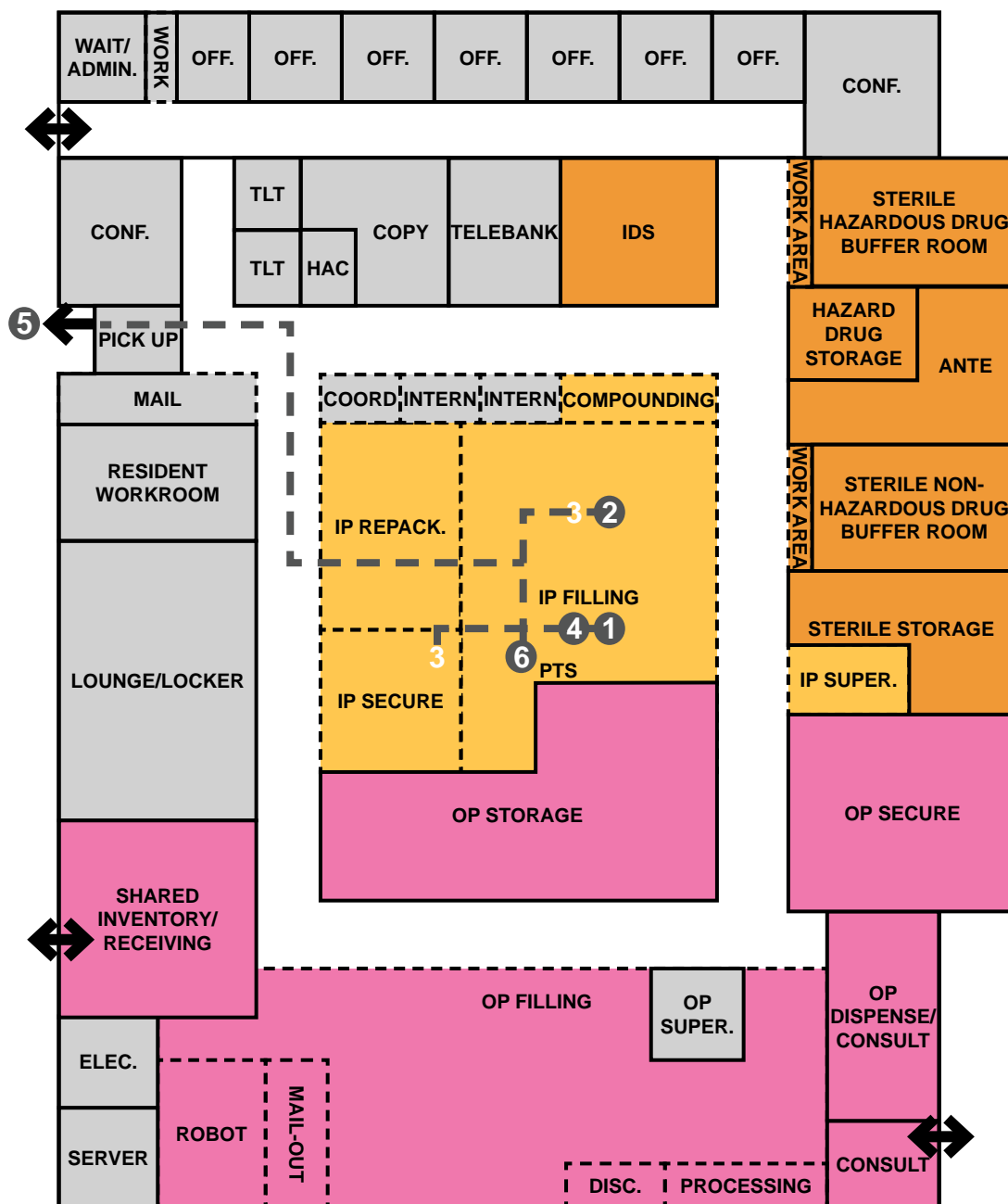


Figure 3.7 Combined pharmacy IP flow

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation
- Secure Entry

Key Notes:

- 1** ADM system monitors quantity throughout hospital and places order at scheduled intervals.
- 2** Orders sent to printer.
- 3** Tech fills order from med-carousel or picks form static shelving.
- 4** Pharmacist checks order.
- 5** Order delivered to ADM cabinets throughout the facility.
- 6** STAT orders delivered through PTS or hand delivered to department



3.3.3 Hazardous Drug (HD) Receiving/Storage

Hazardous drugs require special consideration from delivery at the loading dock to pharmacy receiving and eventually storage and use. The preferred flow is described below allowing access to the HD storage separate from the HD Buffer Room, however, the A/E should become familiar with all USP 800 requirements for additional options as pharmacy needs or function change.

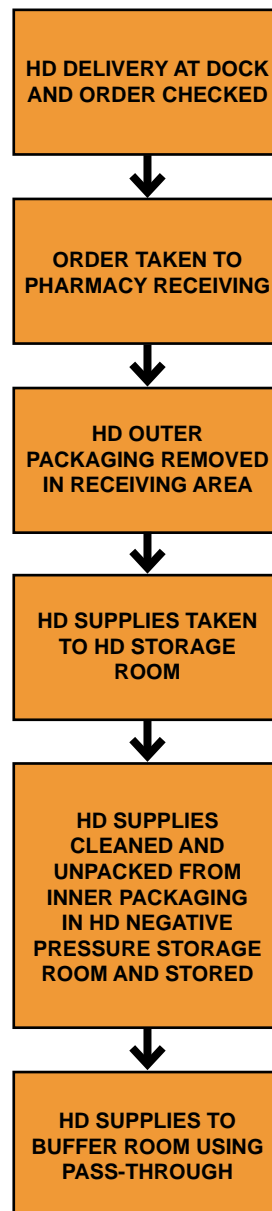


Figure 3.8 Inpatient pharmacy medication flow diagram for hazardous drug receiving to storage



3.3.4 Sterile Compounding Flow

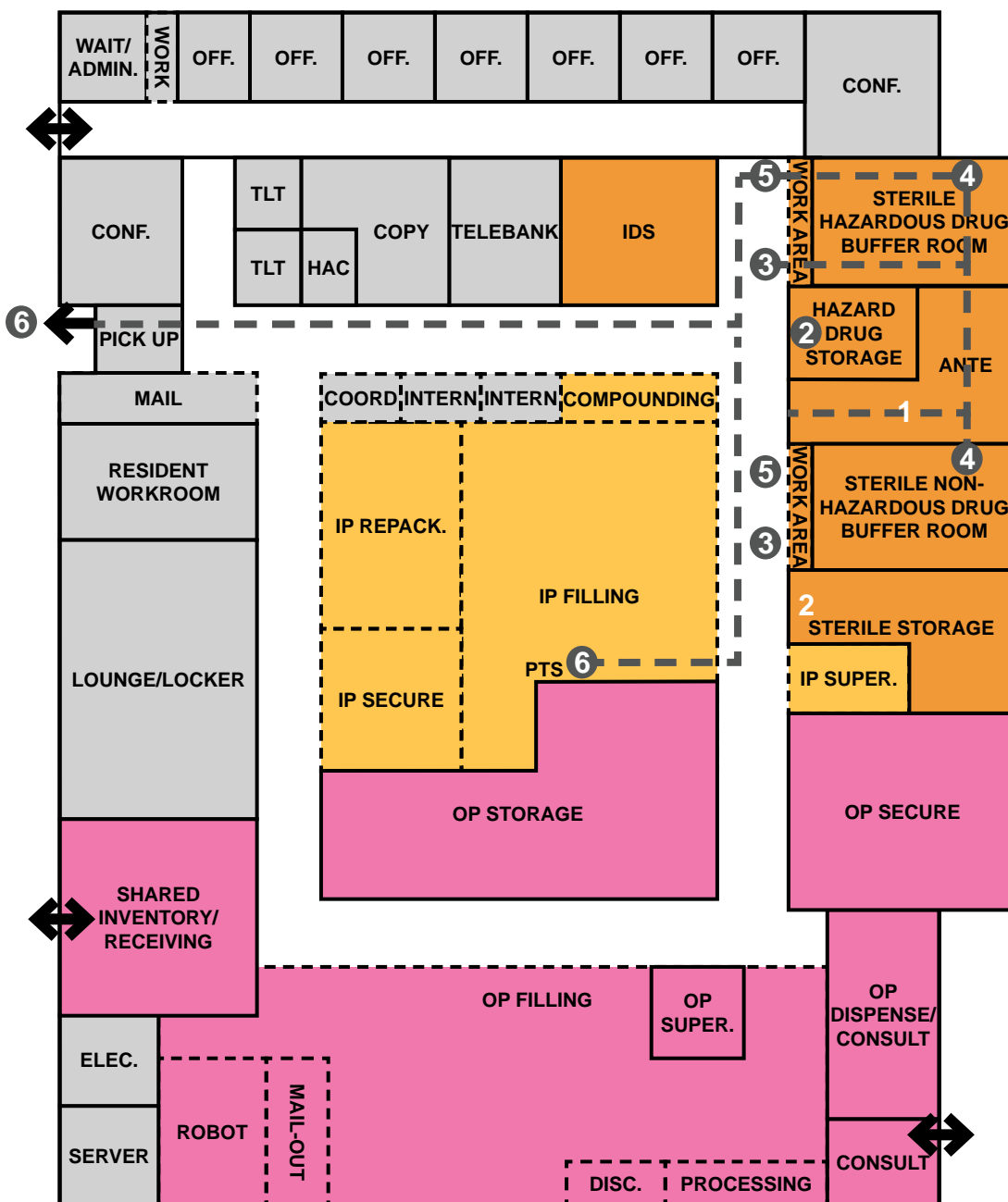


Figure 3.9 Combined pharmacy sterile compounding flow

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation
- Secure Entry

Key Notes:

- 1** Staff enters anteroom for donning PPE.
- 2** Supplies retrieved from storage.
- 3** Labels printed in work area and passed to staff in buffer room.
- 4** IV bag(s) are compounded in buffer room.
- 5** Pass through transfer for pharmacist check.
- 6** IV bag is sent via PTS, picked up or hand delivered.



3.3.5 Outpatient Pharmacy (OP)

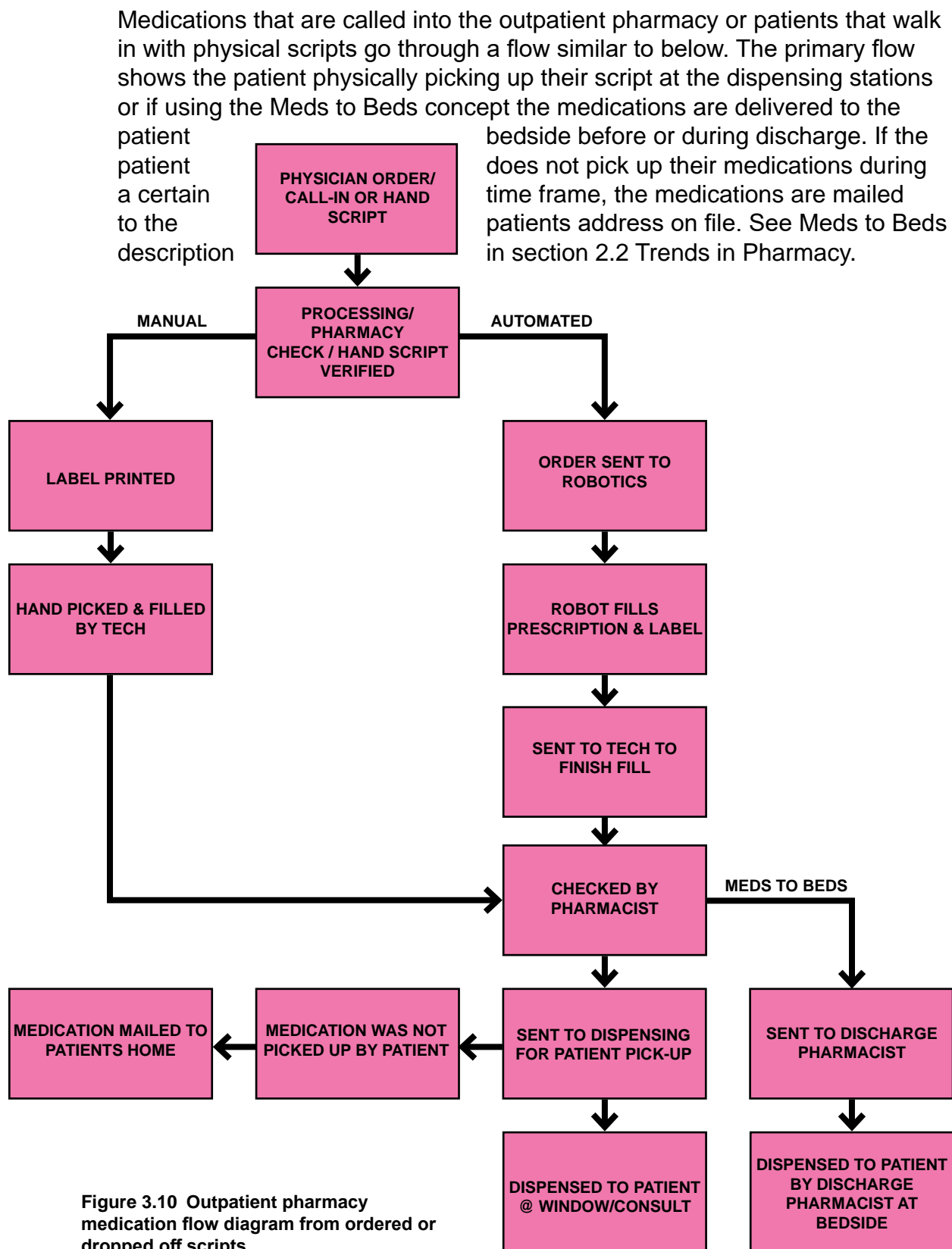


Figure 3.10 Outpatient pharmacy medication flow diagram from ordered or dropped off scripts



3.3.6 Combined Pharmacy: OP Flow

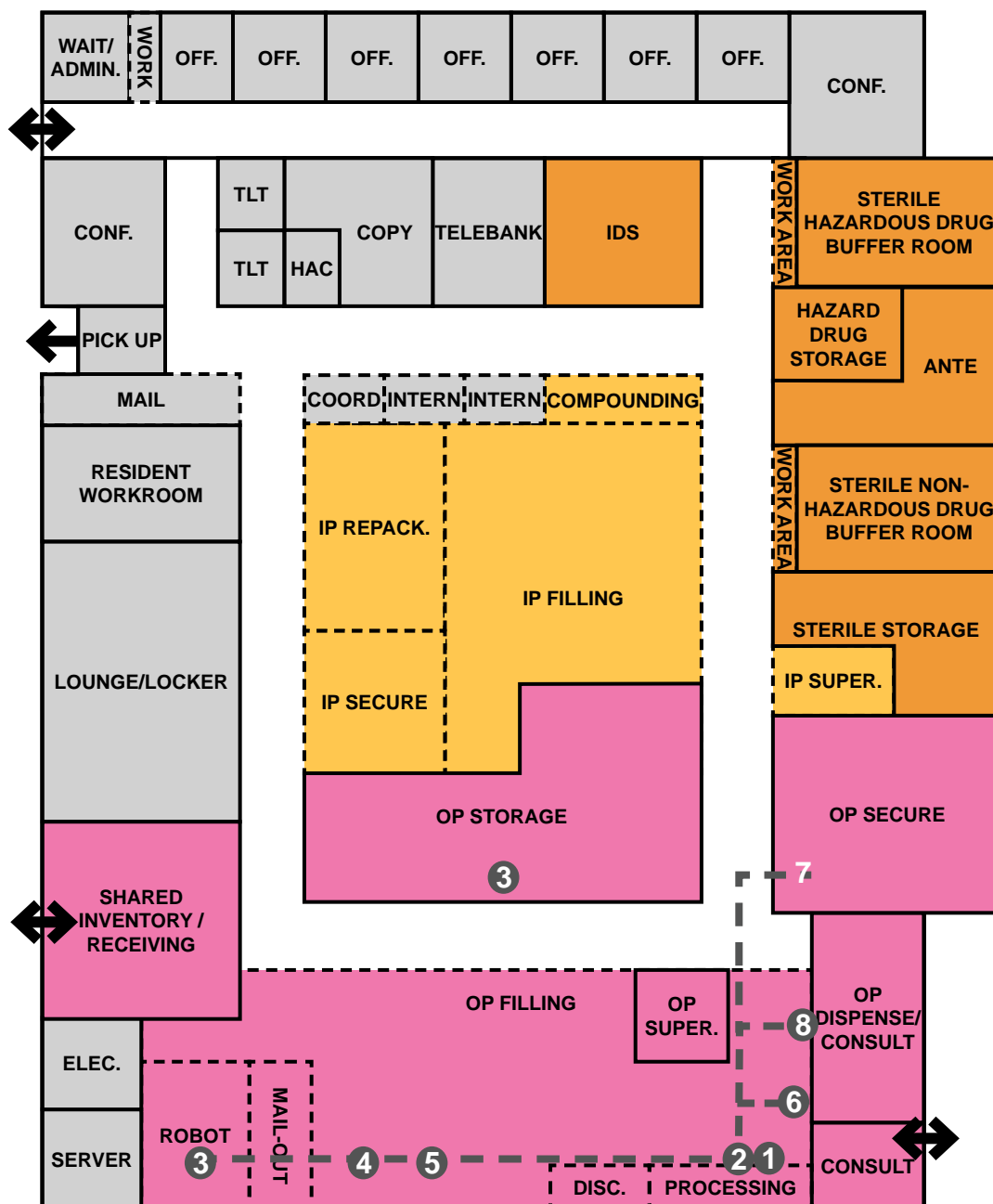


Figure 3.11 Combined pharmacy OP flow

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation
- Secure Entry

Key Notes:

- ① Order received.
- ② Pharmacist processes order and sends to automation.
- ③ Order processed through automation or picked through storage.
- ④ Order checked by tech and hand-pick if necessary.
- ⑤ Pharmacist checks order.
- ⑥ Order stored ready to dispense.
- ⑦ Narcotics processed through OP Vault & stored in vault until picked up by patient.
- ⑧ Order dispensed to patient.



3.4 Security Diagram - Combined Pharmacy

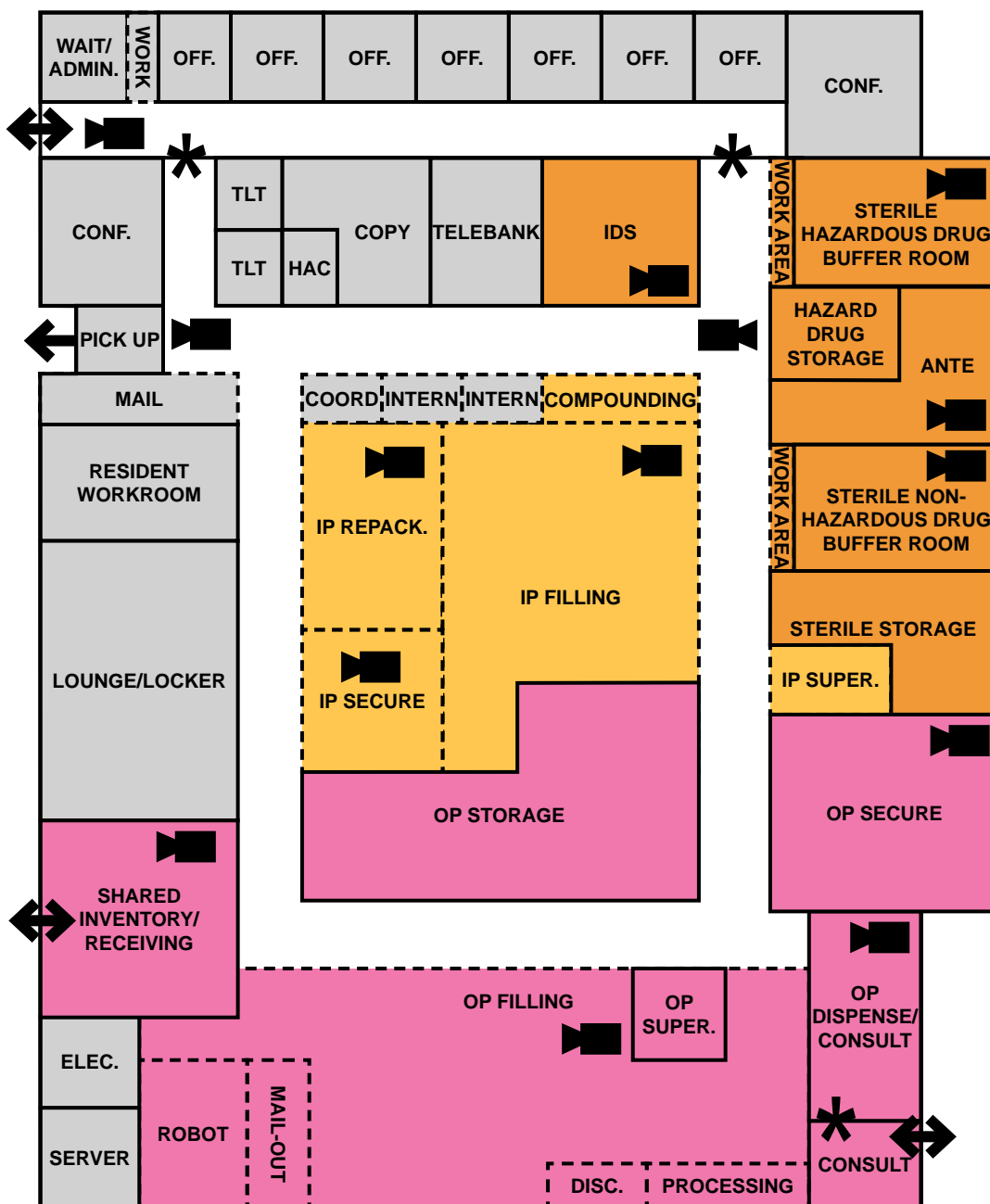


Figure 3.12 Combined Pharmacy Security Diagram

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation
- Secure Perimeter Access
- Surveilled Areas
- * Secure Interior Access

Disclaimer: Surveilled Areas and Secure Access points indicated are for spaces in Section 4.3 Room Templates. Refer to the VA Physical Security Design Manual for specific requirements regarding common spaces.



3.5 Prototype - Combined Pharmacy

3.5.1 Prototype Floor Plan



Figure 3.13 Combined Pharmacy Prototype Floor Plan



The floor plan is organized into several main sections:

- Top Section:** Includes a long 'WAITING' area on the left, followed by a row of offices: 'PHARMACY CHIEF', 'OFFICE, ADMIN', 'OFFICE, ADMIN', 'OFFICE, CLINICAL PHARMA', 'OFFICE, QUALITY MGMT. PHARMA', 'OFFICE, INFO PHARMA', and 'OFFICE, PHARMACOE - CONOMIST'. A 'CONF.' room is located on the far right.
- Second Section:** Features a 'CONF.' room on the left, followed by 'COPY', 'TELE BANK', 'IDS', and a 'STERILE HAZARDOUS DRUG BUFFER ROOM' on the right. Below the buffer room is a 'STORAGE, STERILE HAZARDOUS DRUG' area with a 'HAC' (Hazardous Area Control) room.
- Third Section:** Includes a 'PICKUP' area, 'STAFF MAIL', 'COORD', 'STUDENT', 'STUDENT', 'COMPOUNDING AREA', and an 'ANTEROOM'.
- Fourth Section:** Contains a 'WORKROOM, RESIDENT', 'INPATIENT REPACKAGING', 'FILLING/ASSEMBLY, INPATIENT', 'FILLING/ASSEMBLY, INPATIENT', 'ADM STATION PROCESSING AREA', 'LOUNGE/LOCKER', 'IP SECURED DISPENSING', 'TUBE STATION', 'RESTOCK AREA, CRASH CART', 'IP SUPERVISOR', and 'STERILE STORAGE'.
- Fifth Section:** Includes 'RECEIVING', 'OP SECURE', 'OP STORAGE', 'OP SUPERVISOR', and 'STERILE STORAGE'.
- Bottom Section:** Features 'ELEC.', 'SERVER', 'OUTPATIENT AUTOMATED FILLING/STORAGE', 'MAIL OUT', 'OUTPATIENT FILLING/ASSEMBLY AREA', 'DISCHARGE', 'PROCESSING', and 'CONSULT'.

The plan also includes a legend for symbols: a circle with a dot for 'Pharmacy Chief', a circle with a cross for 'Office, Admin', a circle with a triangle for 'Office, Clinical Pharma', a circle with a square for 'Office, Quality Mgmt. Pharma', a circle with a diamond for 'Office, Info Pharma', and a circle with a plus sign for 'Office, Pharmacoec - Conomist'.

Figure 3.14 Combined Pharmacy Prototype RCP

4.0 DESIGN GUIDE PLATES

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4.1 Introduction

The Room Template plans are intended as general representations of typical furniture, equipment, and functional and personnel space needs. The Room Template reflected ceiling plans are a representation of HVAC diffusers/grilles, sprinklers, lighting, speakers, and other ceiling-mounted equipment locations.

The Room Templates were developed as a design tool to assist the Project Team in understanding the choices to be made during design, as well as to assist designers in understanding the VA's functional requirements for the specific room identified. The Room Templates are not intended to be project specific and are not meant to limit design opportunities. While the Room Templates are provided for a majority of spaces required in the Pharmacy, it is not possible to foresee all possible variations of future requirements. JSN numbers listed on the plans may not reflect all equipment in the space. Refer to all plans, reflected ceiling plans, elevations and equipment list to get the full range of equipment.

A project's specific space program shall be used as the basis for individual project design. In all cases the Room Templates must be reviewed against project criteria and any special requirements. In situations when a test-fit plan was required to arrive at a new NSF and equipment layout, the plan and equipment list have been included in this document. The test-fit rooms do not have room data sheets, RCPs, or interior elevations. The Room Templates were designed per the subject matter experts from the VA, the consultants, and the industry standards stated in Section 1. Users shall refer to other VA criteria and standards (listed in Section 1) when information is either too detailed or too broad to be included in the Room Templates.


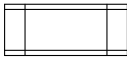



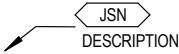

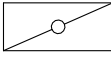
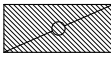
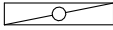

Equipment requirements and technologies are continually evolving. Equipment manufacturers shall be consulted for actual dimensions and utility requirements. See the PG18-9 Space Planning Criteria for a cross reference to the Room Names and SEPS designation codes used in this section.




















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





4.2 Legend of Symbols

Architectural	2'x2' Acoustic Ceiling Tile	
	2'x4' Acoustic Ceiling Tile	
	Gypsum Board	
	Interior Elevation Reference	
	Height of Ceiling Above Finish Floor	
	JSN and Equipment Name	
	Centerline	CL
Wiring Devices and Switches	Single Pole Switch (subscript indicates fixture controlled)	\$
	Three-Way Switch	\$ ₃
	Dimmer Switch	\$ _D
	Occupancy Sensor	(OS)
Lighting Devices	2'x2' Efficient Light Fixture	
	2'x4' Efficient Light Fixture	
	2'x4' Efficient Light Fixture (emergency power)	
	1'x4' Efficient Light Fixture	
	Recessed Down Light Fixture	



	Recessed Down Light Fixture (emergency)	
	Sconce Light	
	Undercabinet Light	
	Night Light	
	Exit Sign	
Receptacles	Duplex	
	Ground Fault Interrupter Duplex	
	Quad	
	Floor-mounted Receptacle	
	Special Purpose Receptacle	
	Floor Mounted Receptacle on Emergency Power	
	Duplex on Emergency Power	
	Junction Box	
	Floor Mounted Junction Box	
Auxiliary Systems	Telephone Data Outlet	
	Floor-mounted Data Outlet	
	Television Cable Outlet	



	Nurse Call	
	Nurse Call Ceiling Light	
	Speaker	
	Push Plate	
Mechanical	Room Thermostat	
	HVAC Supply	
	HVAC Return	
	Exhaust Register	
Plumbing	Sprinkler Head	



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4.3 Room Templates

The Room Templates listed in this chapter include a floor plan, reflected ceiling plan, elevations, axonometric, interactive 3D PDF, room data sheets and the equipment list of each space.

When viewing the interactive 3D view there are a couple of suggestions below that will help in the navigation of each space. Each element is adjustable to your preference, however, these settings will be a good starting point to view each space.

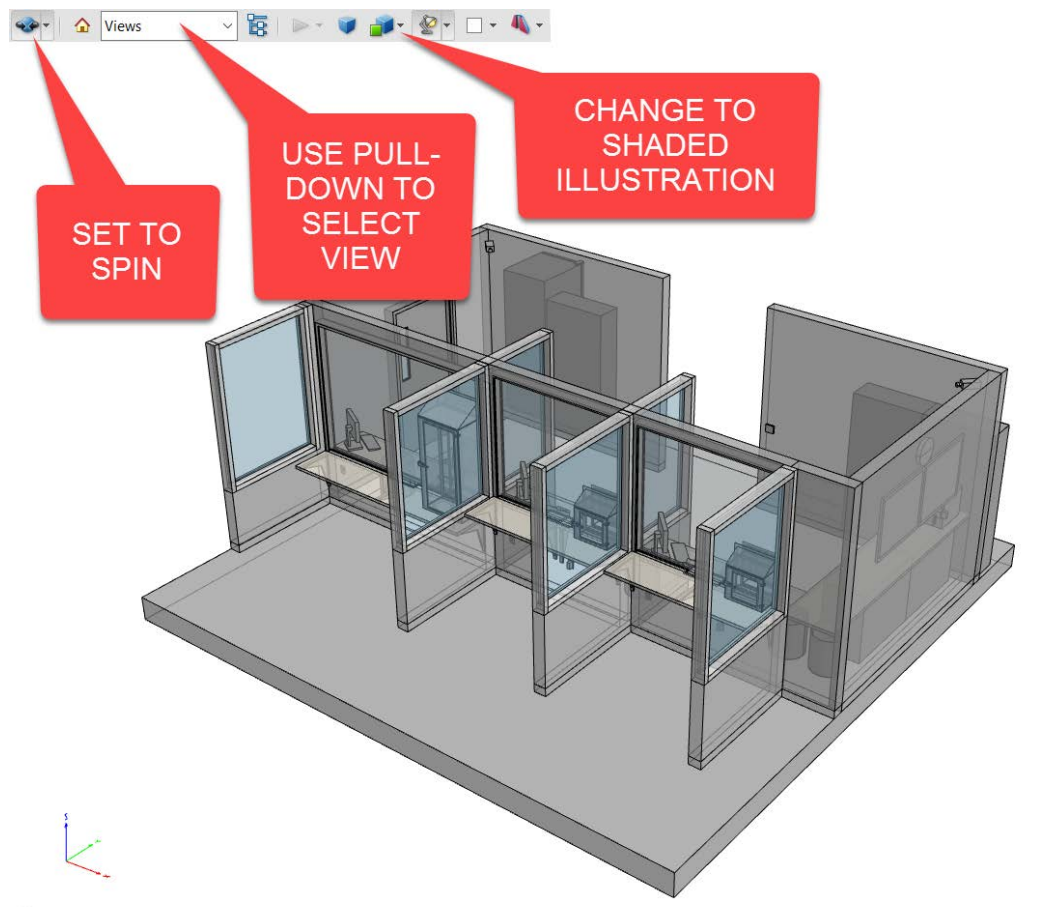


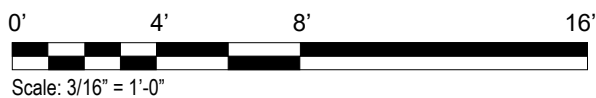
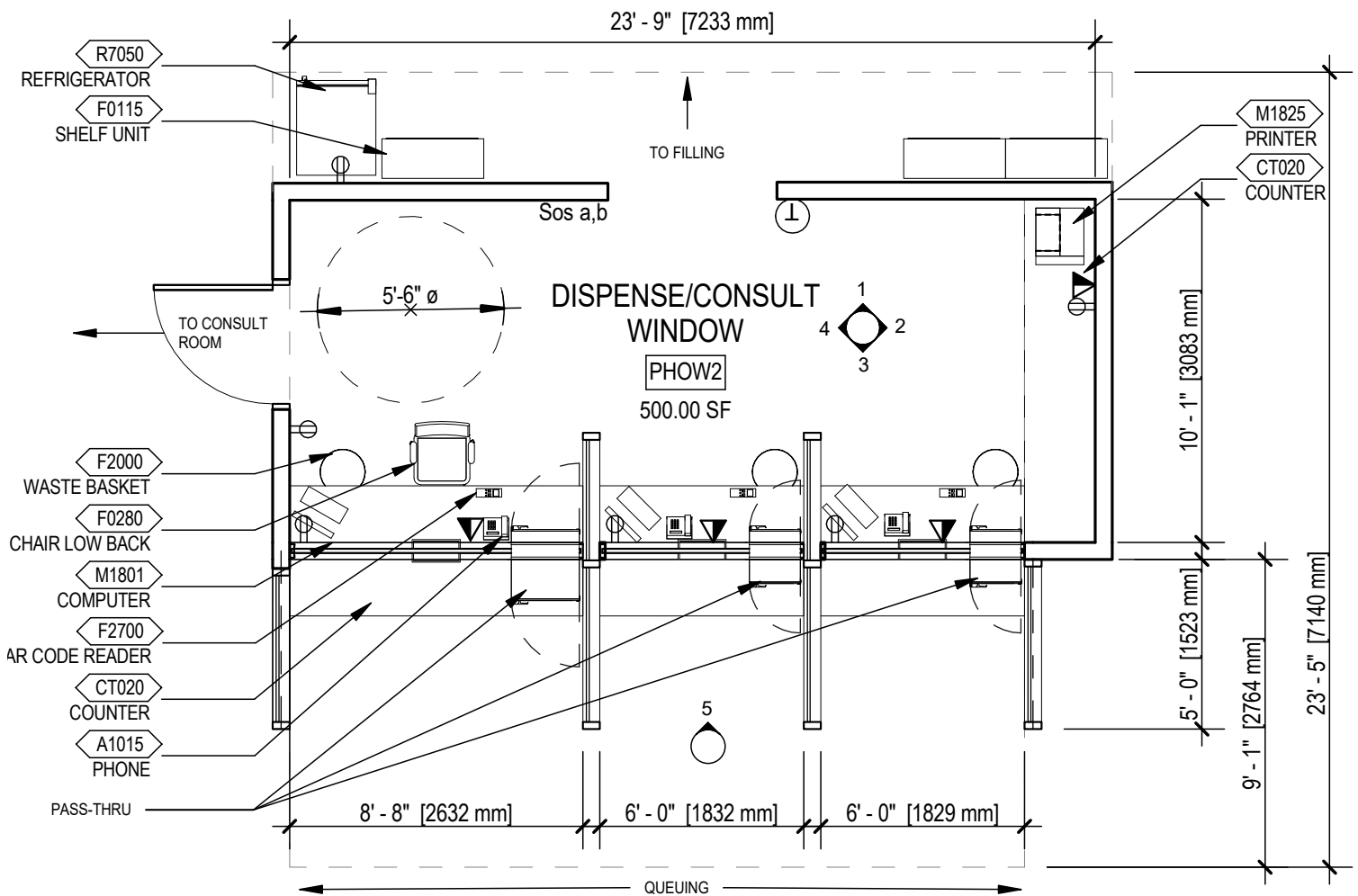
Figure 4.1 Interactive 3D PDF example in adobe acrobat

***Disclaimer:** Room Templates are graphical representations of selected room types that illustrate the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library (TIL).



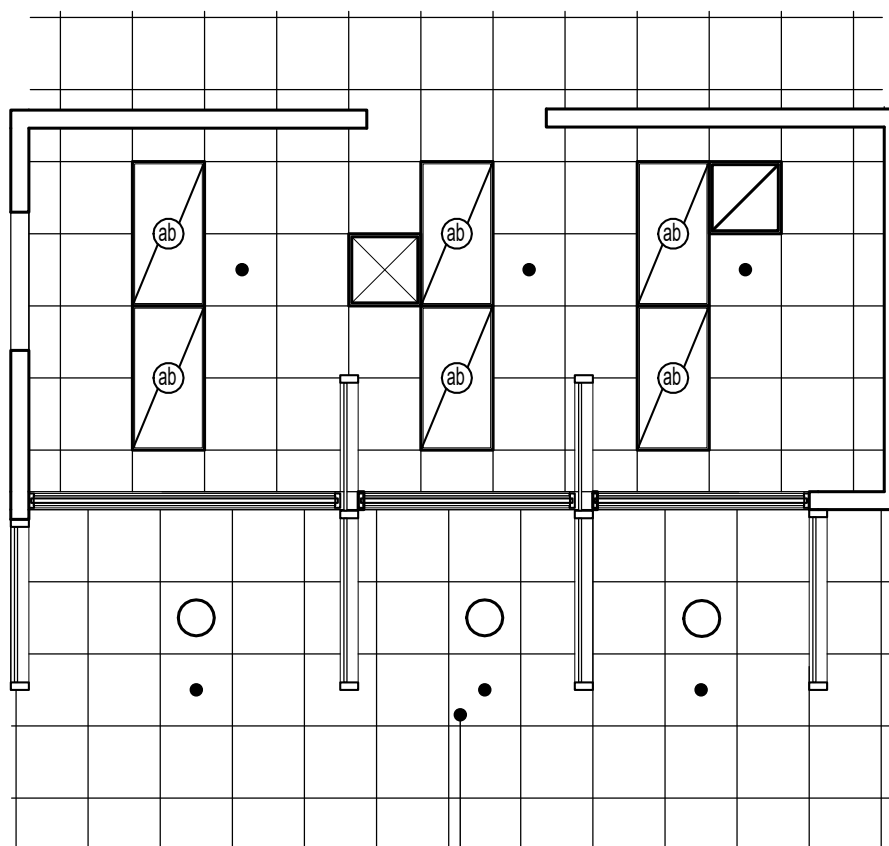
4.3.1 Dispense/Consult Window - (PHOW2)

Floor Plan



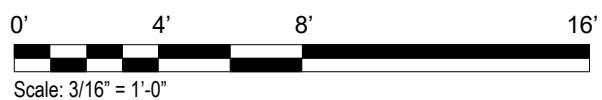
4.3.1 Dispense/Consult Window - (PHOW2)

Reflected Ceiling Plan

DISPENSE/CONSULT
WINDOW

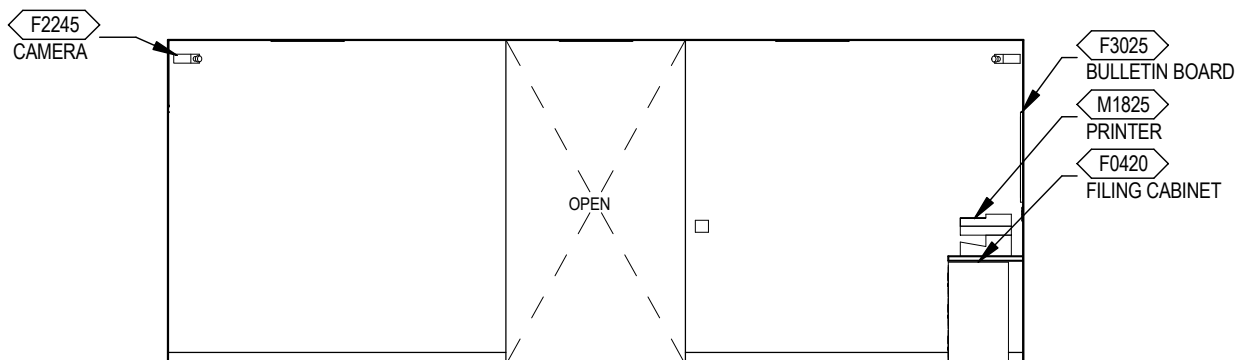
PHOW2

500.00 SF

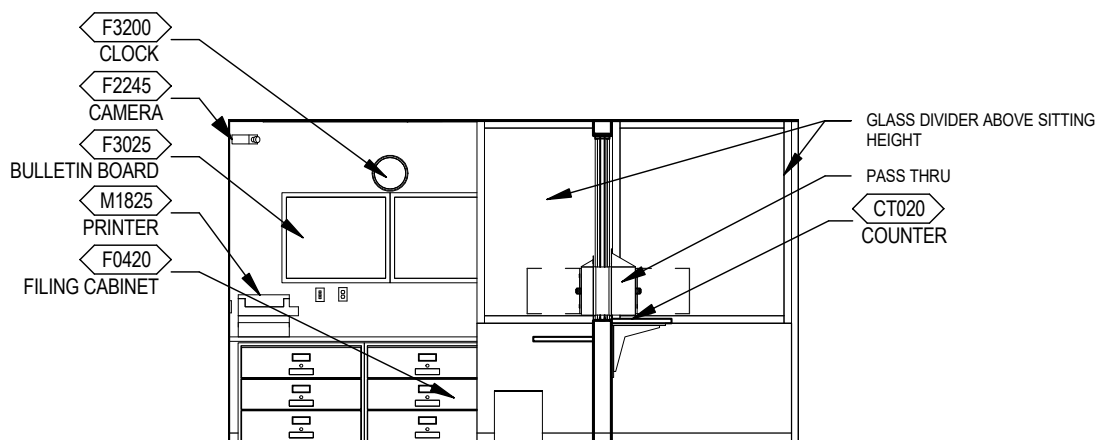


4.3.1 Dispense/Consult Window - (PHOW2)

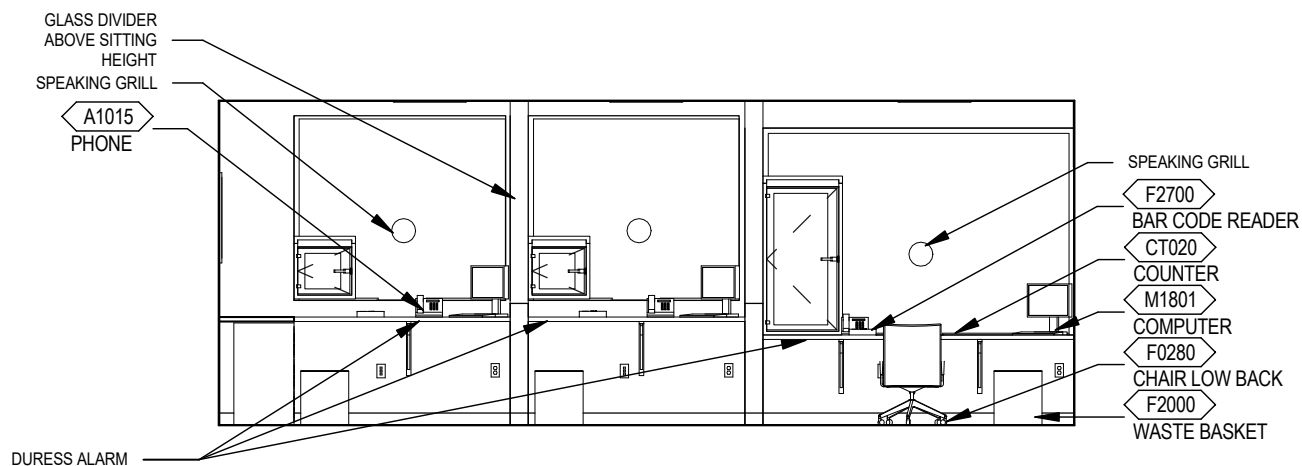
Elevations



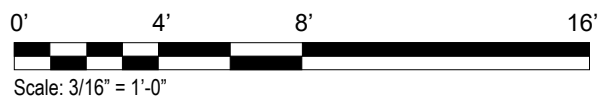
ELEVATION 1



ELEVATION 2

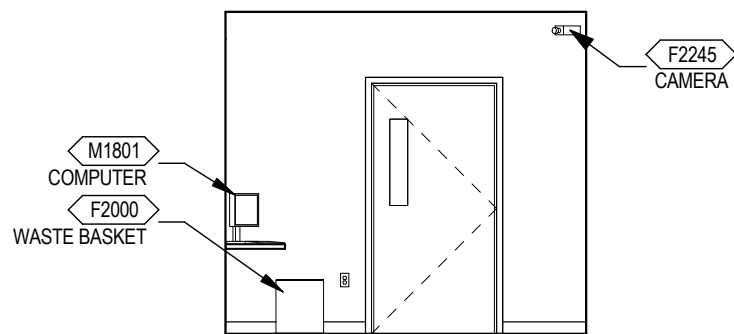


ELEVATION 3

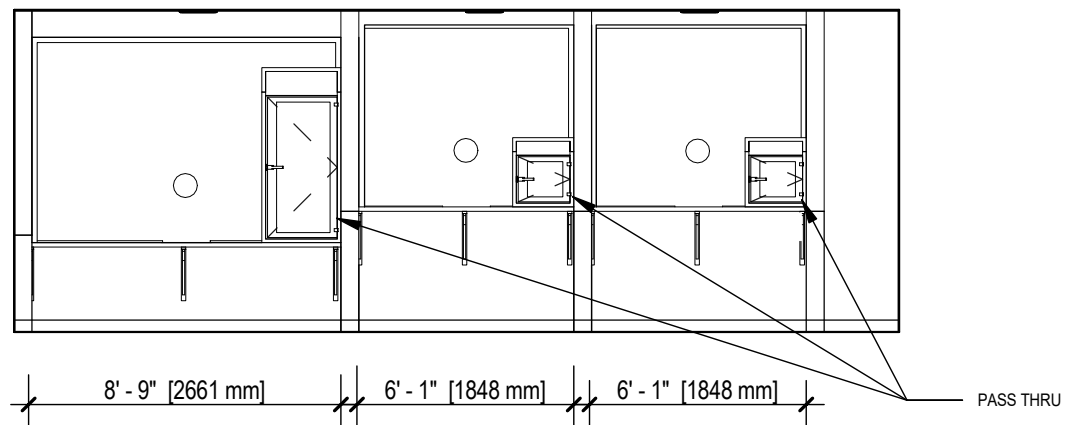


4.3.1 Dispense/Consult Window - (PHOW2)

Elevations



ELEVATION 4

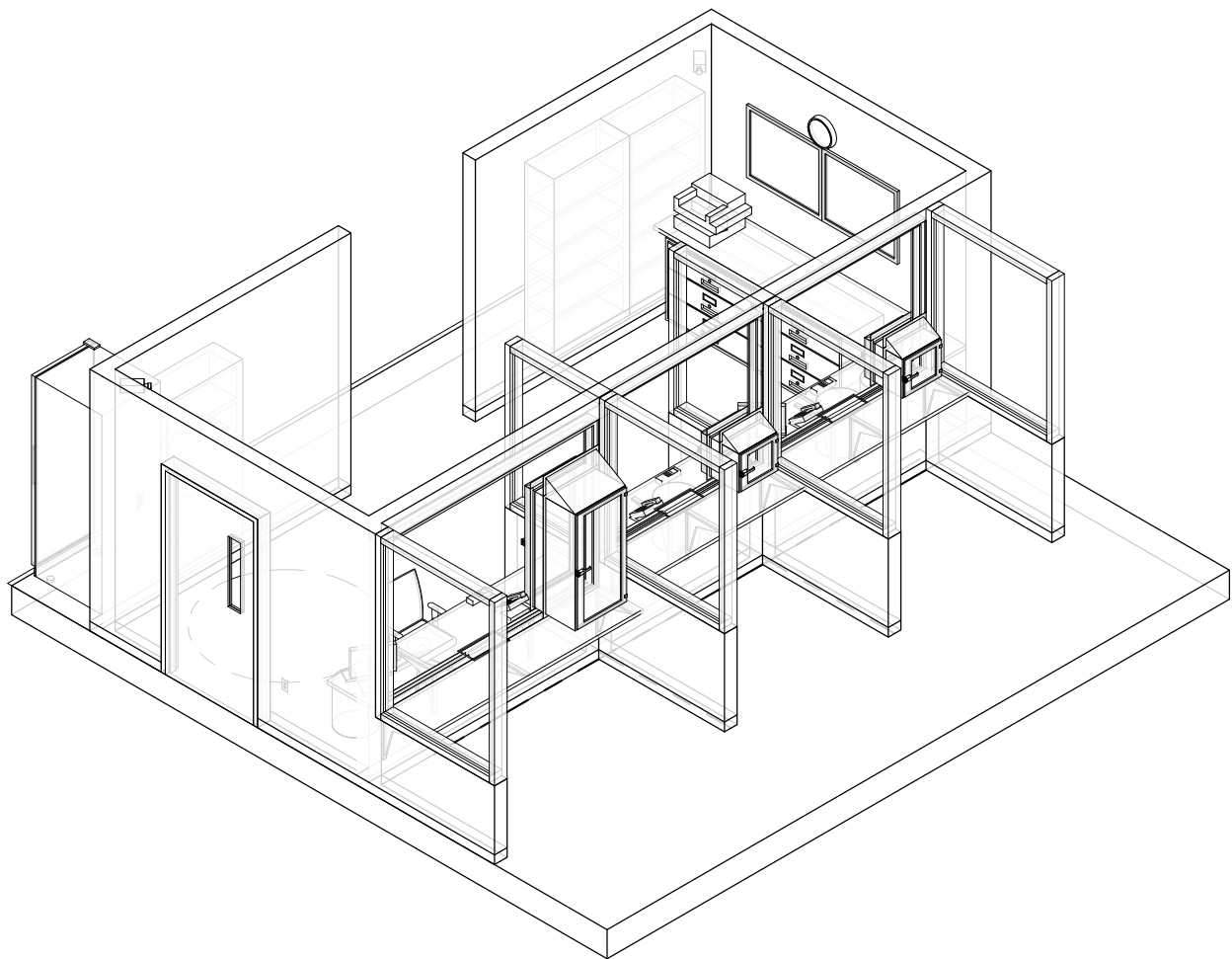


ELEVATION 5



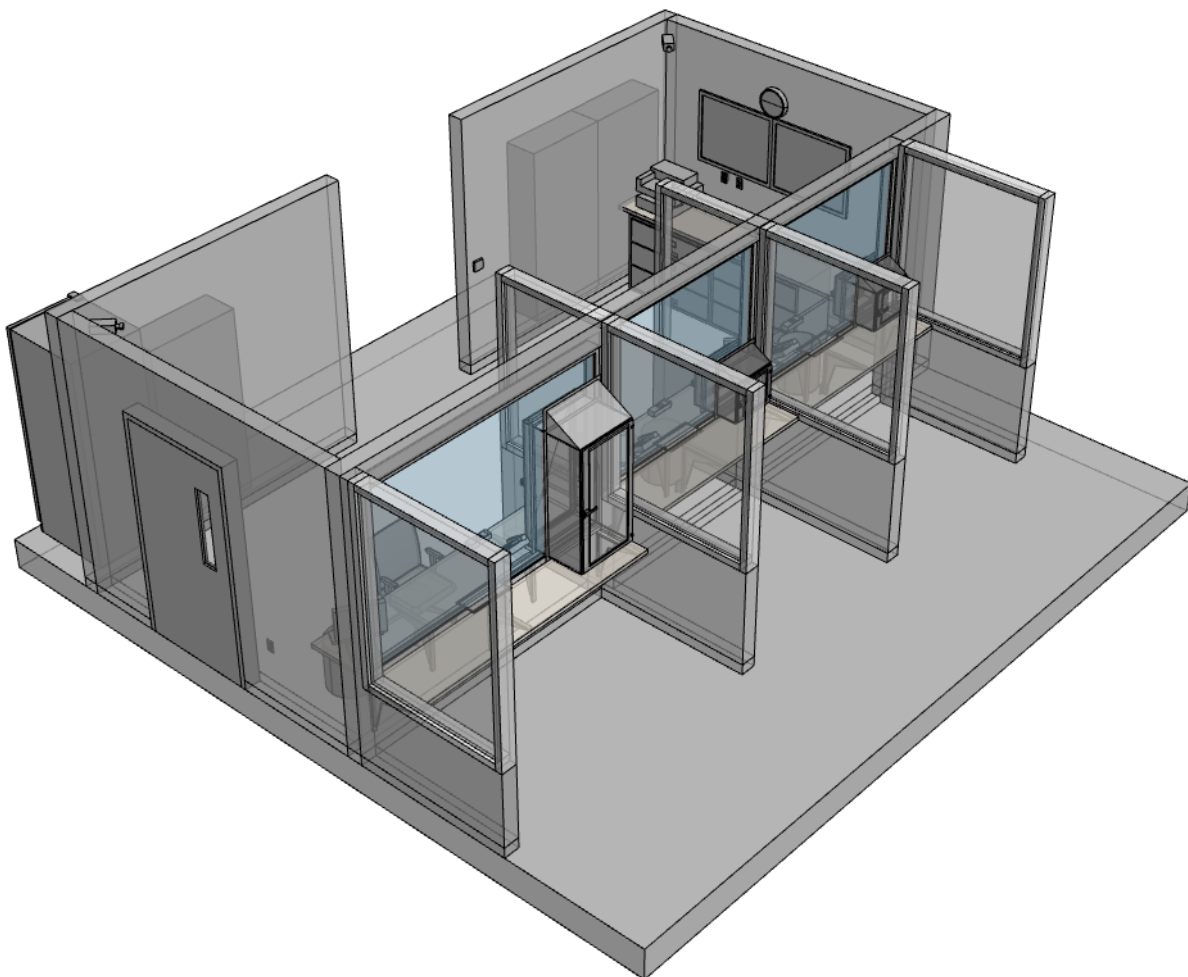
4.3.1 Dispense/Consult Window - (PHOW2)

Axonometric



4.3.1 Dispense/Consult Window - (PHOW2)

Interactive 3D PDF



4.3.1 Dispense/Consult Window - (PHOW2)

Room Data

ARCHITECTURE & INTERIOR DESIGN		COMMUNICATIONS	
Ceiling Type	AT (Acoustical Ceiling Tile)	Electronic Access	No
Ceiling Height	9'-0"	Intercom	No
Wall Finish	GWB (Gypsum Wallboard); P (Paint)	Motion Intrusion Detection (MID)	Yes
Base	RF (Integral Base-4")	Public Access	No
Floor Finish	RF (Rubber Flooring)	Security Surveillance Television (SSTV)	Yes
Slab Depression	No	Clock	Yes
Sound Protection	N/A	Motion Sensor	Wall
Doors	Single Size Door, 3'-6" x 7'-0" (1066.8 mm x 2133mm), Steel with Lite	Other	N/A
Hardware	Electronic Entry		
LIGHTING		HVAC	
General Requirement: Refer to VA Lighting Design Manual Chapter 4 Patient Areas Lighting Guidelines 4.2.18 Pharmacy for design approach and recommended luminaires.		General Requirement: Refer to Outpatient Dispensing data sheet in the current version of the VA HVAC Design Manual for room temperatures, humidity range, room air change requirements, and pressurization.	
POWER		PLUMBING	
Normal	Yes	Cold Water	No
Emergency	No	Hot Water	No
		Waste	No
COMMUNICATIONS		FIRE PROTECTIONS AND LIFE SAFETY	
Data	Yes	Alarm Detection	Smoke
Telephone	Yes	Alarm Annunciator	Audio/Visual
Cable Television	No	Sprinkler	Yes
Duress Alarm	Yes	Hazard Type	Light



4.3.1 Dispense/Consult Window - (PHOW2)

Equipment List

JSN	NAME	AI	QTY	DESCRIPTION
A1015	Telephone, Desk, Multiple Line	V / V	3	Telephone, desk, multiple line.
CT020	Countertop, Solid Surface	C / C	32	A solid, nonporous countertop with a smooth seamless appearance. Easy to clean and maintain and with proper cleaning does not support the growth of mold. An acrylic-based solid surface product. Standard thickness of 1", and a 4" butt backsplash/curb. Also referred to as a work surface or work top. Available in a choice of colors and depths. Used in lab and other hospital areas requiring optimum physical and chemical resisting properties.
F0115	Bookcase, Open, 5 Shelf	V / V	3	Freestanding open shelf bookcase, approximately 82" high X 37" wide X 18" deep with 5 (five) adjustable shelves. Unit can be separate or part of a system with available add-on shelving.
F0280	Chair, Swivel, Low Back	V / V	1	Low back contemporary swivel chair, 37" high X 25" wide X 31" deep with a five (5) caster swivel base, arms and foam padded seat and back upholstered with either woven textile fabric or vinyl.
F0420	Cabinet, Filing, Lateral, Half Height	V / V	2	Half height two (2) or three (3) drawer lateral filing cabinet, 28" high X 42" wide X 18" deep with recessed handles, locking device and drawer label holders. Drawers are adaptable to either letter or legal size materials.
F2000	Basket, Wastepaper, Fire Resistant	V / V	3	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.
F2245	Camera, Video Surveillance, HD, IP Powered	V / V	1	A high definition, full functional 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-base
F2700	Reader, Bar Code, Hand Held, With Interface	V / V	3	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.



4.3.1 Dispense/Consult Window - (PHOW2)

Equipment List (continued)

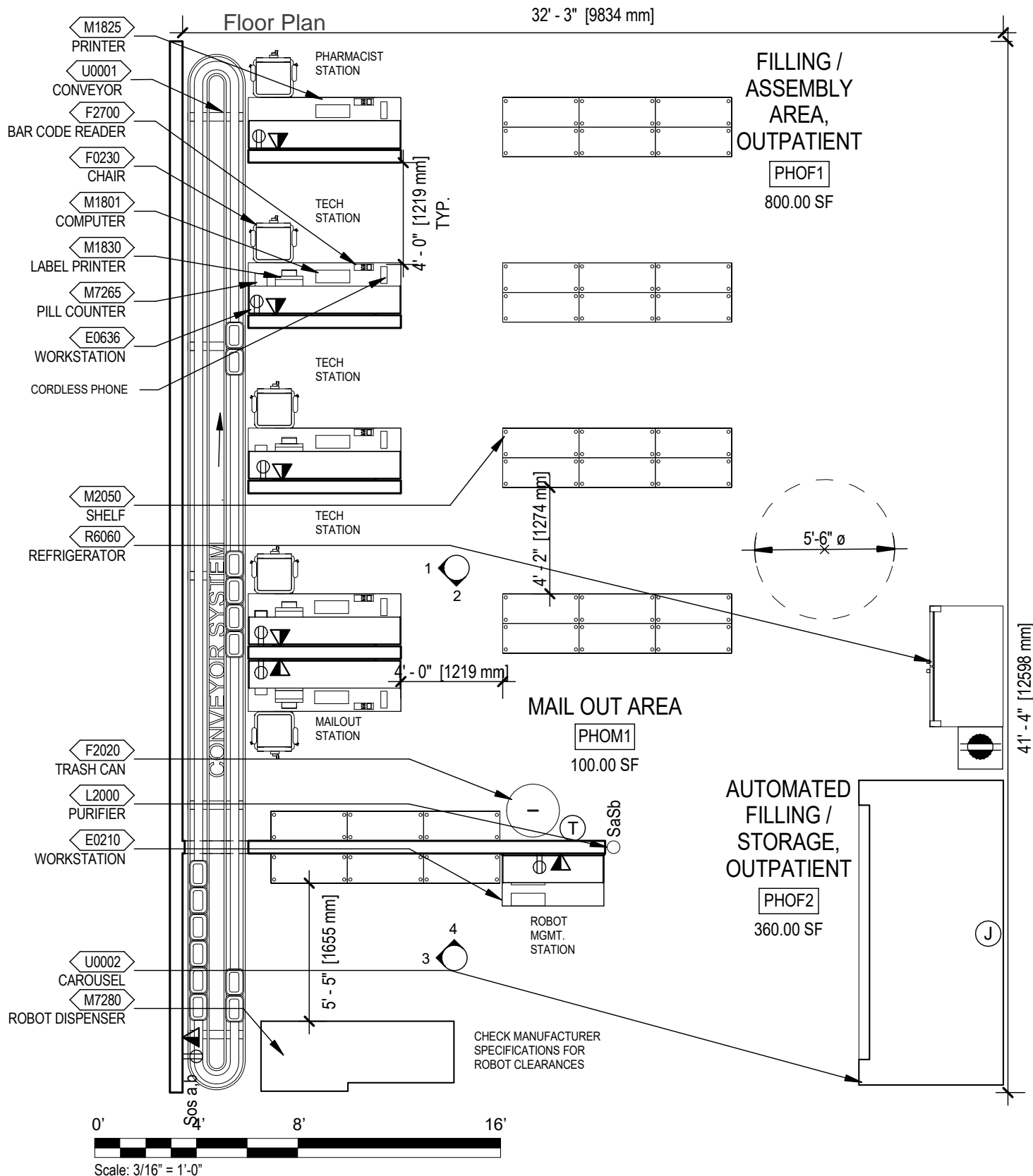
F3025	Board, Bulletin, Wood Framed	V / V	2	Bulletin board approximately 36"W x 24"H. Wood framed 1/2" cork posting panel with moisture proof backing. Units are factory assembled and have keyhole hangers for easy installation.
F3200	Clock, Battery, 12" Diameter	V / V	1	Clock, 12" diameter. Round surface, 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, Micropro- cessing, w/Flat Panel Monitor	V / V	3	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	V / V	1	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.
R7050	Refrigerator, 25 Cubic Feet	V / V	1	General purpose refrigerator approximately 84x27x37. This unit is corrosion resistant stainless steel. It has a single self closing door with safety stops. This refrigerator is generally used in commercial kitchens, hospitals and schools.



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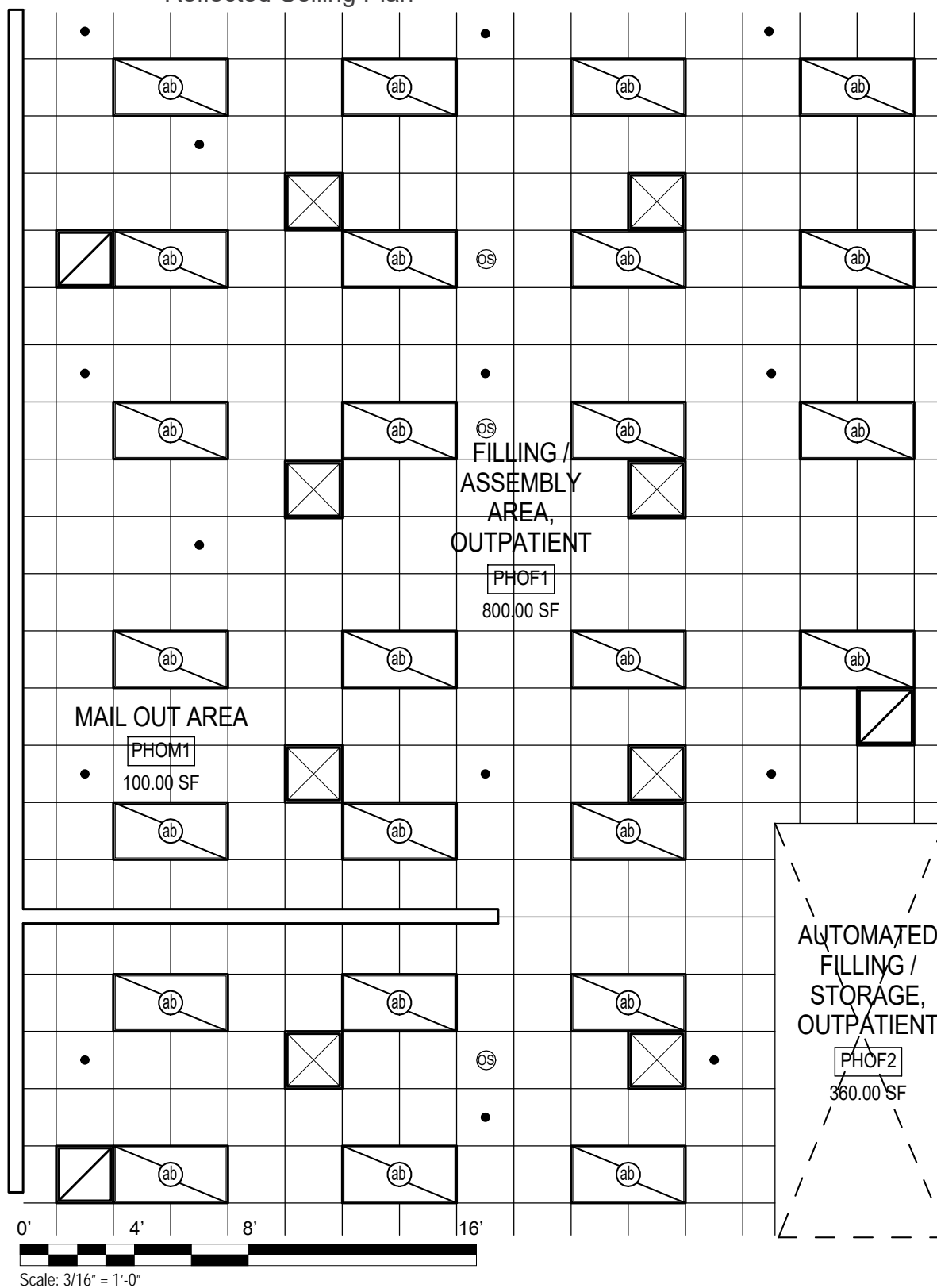


4.3.2 Filling/Assembly Area, Outpatient (PHOF1), Automated Filling/Storage, Outpatient (PHOF2), Mail Out Area (PHOM1)



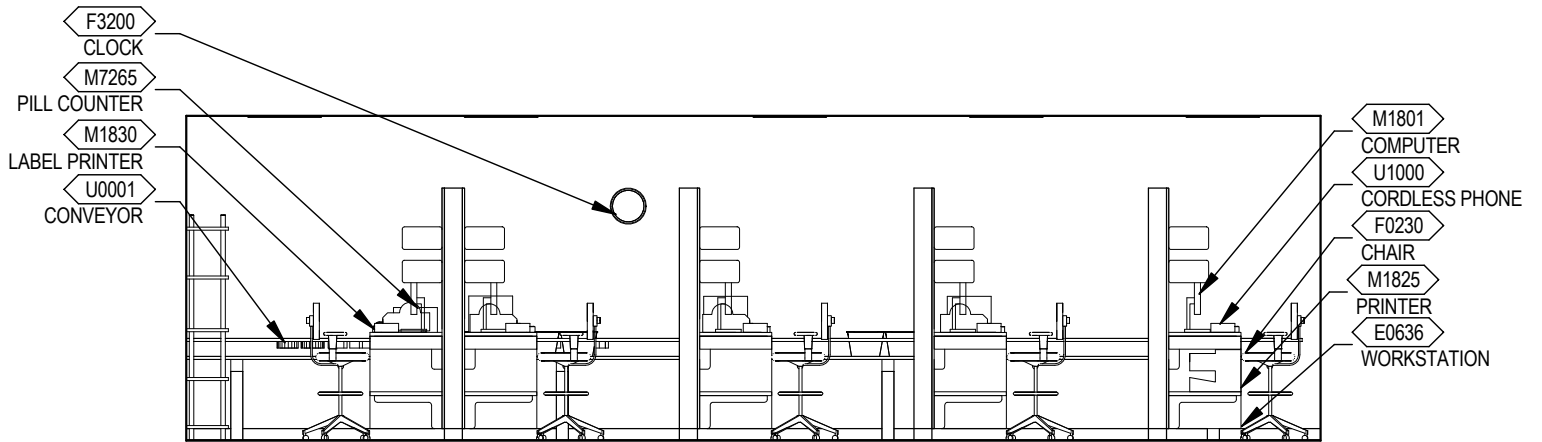
4.3.2 Filling/Assembly Area, Outpatient (PHOF1), Automated Filling/Storage, Outpatient (PHOF2), Mail Out Area (PHOM1)

Reflected Ceiling Plan

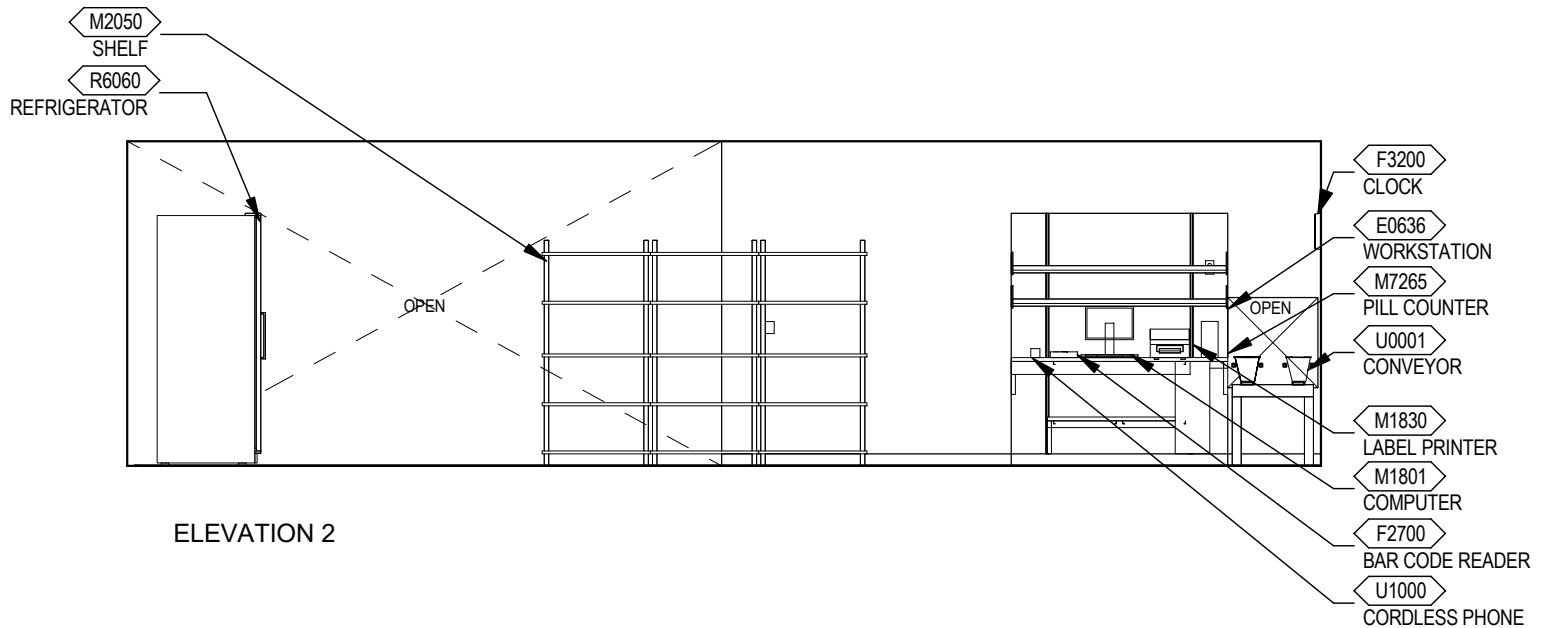


4.3.2 Filling/Assembly Area, Outpatient (PHOF1), Automated Filling/Storage, Outpatient (PHOF2), Mail Out Area (PHOM1)

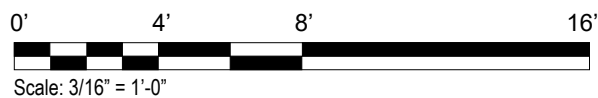
Elevations



ELEVATION 1

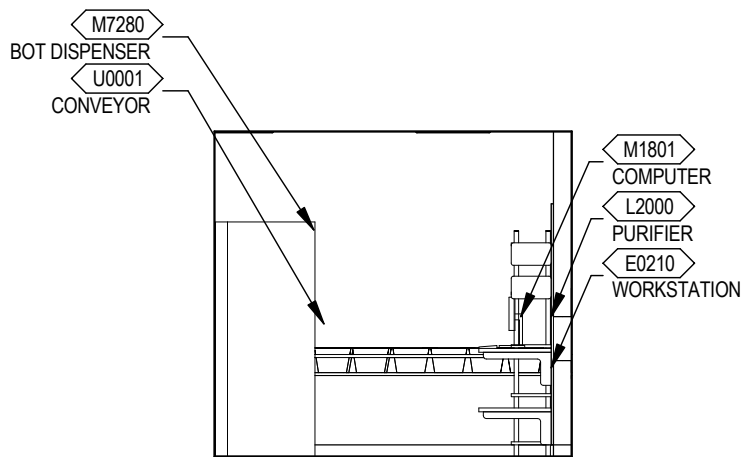


ELEVATION 2

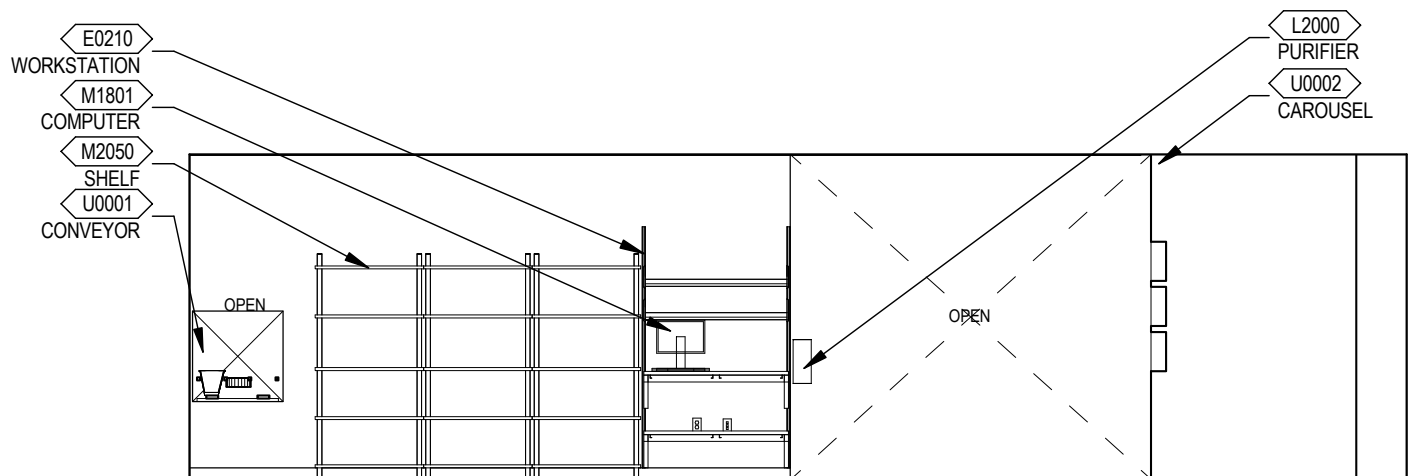


4.3.2 Filling/Assembly Area, Outpatient (PHOF1), Automated Filling/Storage, Outpatient (PHOF2), Mail Out Area (PHOM1)

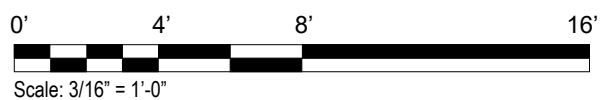
Elevations



ELEVATION 3

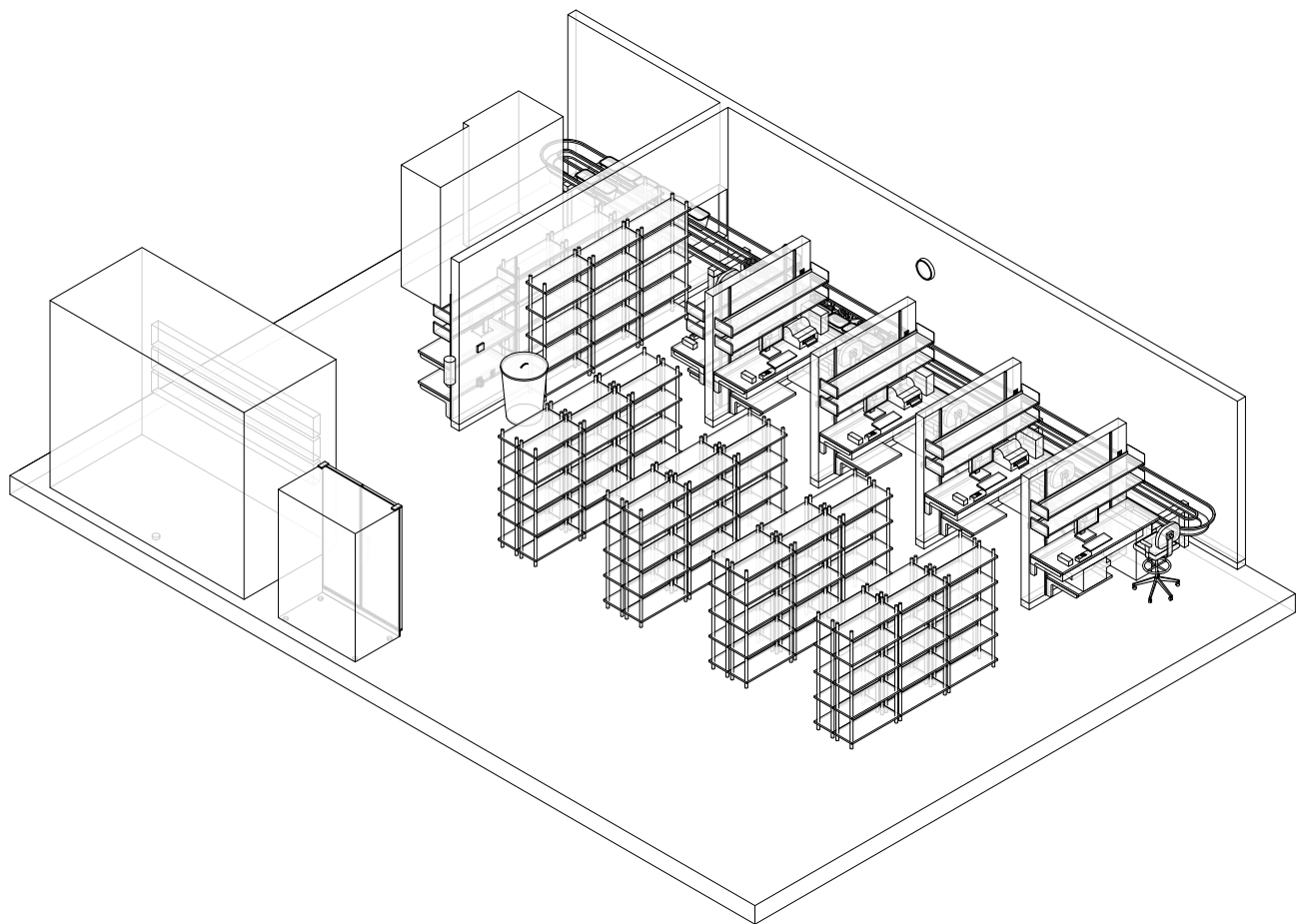


ELEVATION 4



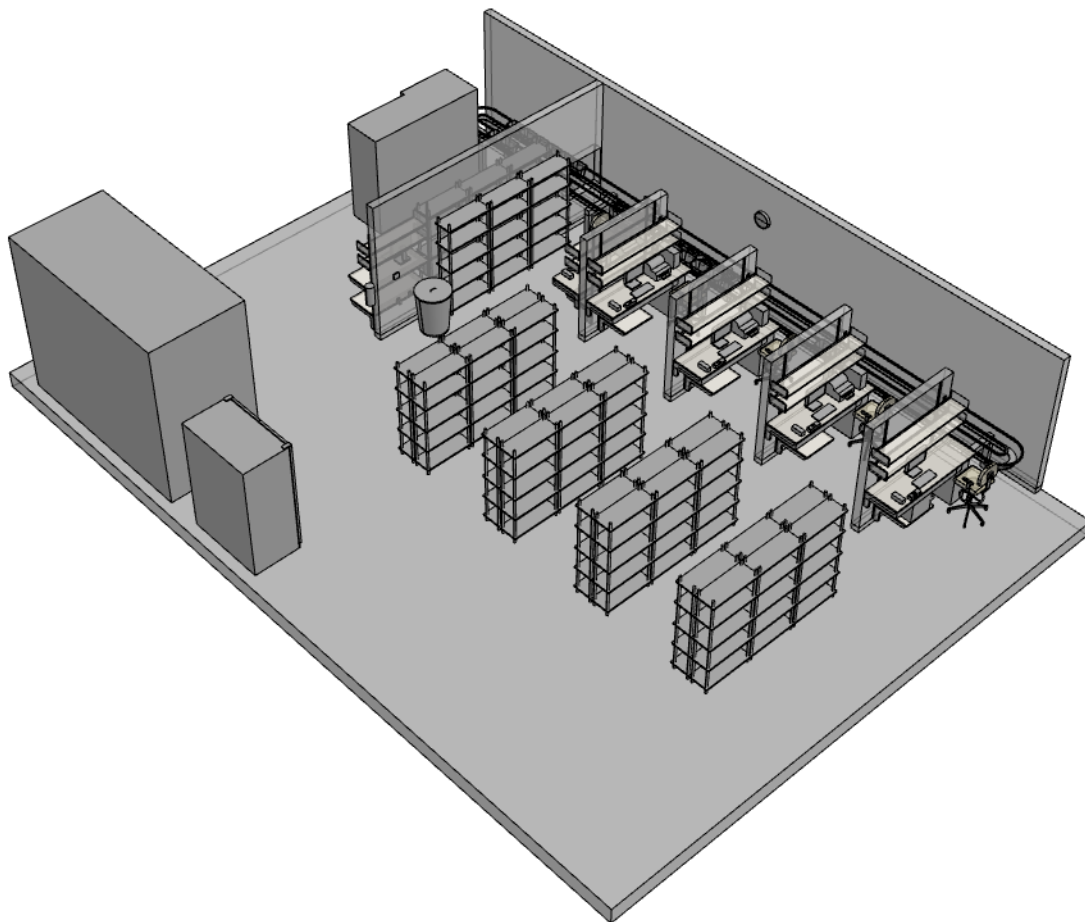
4.3.2 Filling/Assembly Area, Outpatient (PHOF1), Automated Filling/ Storage, Outpatient (PHOF2), Mail Out Area (PHOM1)

Axonometric



4.3.2 Filling/Assembly Area, Outpatient (PHOF1), Automated Filling/ Storage, Outpatient (PHOF2), Mail Out Area (PHOM1)

Interactive 3D PDF



4.3.2 Filling/Assembly Area, Outpatient (PHOF1), Automated Filling/Storage, Outpatient (PHOF2), Mail Out Area (PHOM1)

Room Data

ARCHITECTURE & INTERIOR DESIGN		COMMUNICATIONS	
Ceiling Type	AT (Acoustical Ceiling Tile)	Data	Yes
Ceiling Height	9'-0"	Telephone	Yes
Wall Finish	GWB (Gypsum Wallboard); P (Paint)	Cable Television	No
Base	RF (Integral Base -4")	Duress Alarm	No
Floor Finish	RF (Rubber Flooring)	Electronic Access	No
Slab Depression	See Notes	Intercom	No
Sound Protection	No	Motion Intrusion Detection (MID)	Yes
Doors	No	Public Access	No
Hardware	No	Security Surveillance Television (SSTV)	Yes
Notes		Motion Sensor	Ceiling
1. For carousels, coordinate placement and lbs. per square foot with structural engineer.		Clock	Yes
		Other	No
LIGHTING		HVAC	
General Requirement: Refer to VA Lighting Design Manual Chapter 4 Patient Areas Lighting Guidelines 4.2.18 Pharmacy for design approach and recommended luminaires.		General Requirement: Refer to Outpatient Filling data sheet in the current version of the VA HVAC Design Manual for room temperatures, humidity range, room air change requirements, and pressurization.	
POWER			
Normal	Yes		
Emergency	Yes,		



**4.3.2 Filling/Assembly Area, Outpatient (PHOF1), Automated Filling/
Storage, Outpatient (PHOF2), Mail Out Area (PHOM1)**

Room Data (continued)

PLUMBING

Cold Water	No
Hot Water	No
Waste	No

FIRE PROTECTIONS AND LIFE SAFETY

Alarm Detection	Smoke
Alarm Annunciator	Audio/Visual
Sprinkler	Yes
Hazard Type	Light



4.3.2 Filling/Assembly Area, Outpatient (PHOF1), Automated Filling/Storage, Outpatient (PHOF2), Mail Out Area (PHOM1)

Equipment List

JSN	NAME	AI	QTY	DESCRIPTION
E0636	Counter, Work, w/ Storage, Cab, Pharm, Wall Mtd, 72"	V / V	4	THIS TYPICAL INCLUDES: 3 Vertical Hanging Strips 2 3 Shelf, Units 2 Cantilevered Work Surfaces 2 Storage Cabinets 4 Pull-out Bottle Drawers 2 Shelves, Storage/Display 2 Storage Cabinet Drawers 2 Lights
F0230	Chair, Drafting, Rotary	V / V	4	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	V / V	4	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	V / V	1	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, Micropro- cessing, w/Flat Panel Monitor	V / V	4	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-ROM/DVD 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	V / V	1	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.
M1830	Printer, Label, Phar- macy	V / V	3	Label printer for use in pharmacy applications. The printer shall be bench top standing. It shall be flexible enough to accommodate label sizes up to 4 inches, with a minimum print speed of 6 inches per second and a minimum resolution of 203 dpi.



4.3.2 Filling/Assembly Area, Outpatient (PHOF1), Automated Filling/Storage, Outpatient (PHOF2), Mail Out Area (PHOM1)

Equipment List (continued)

M2050	Shelving, Storage, 75"H X 36"W X 14"D	V / V	24	Storage shelving unit. Unit is corrosion resistant stainless steel, galvanized steel or baked enamel on steel. It contains 5 adjustable shelves with 400 pound load capacity. Available in open or closed (end panels) designs. Unit is designed for storage and light industrial applications.
M7265	Counter, Pill/Tablet, Automated, Counter Mounted	V / V	3	Table mounted prescription counter device that counts tablets and capsules directly into the final container. The unit shall automatically count and dispense tablets and capsules into a container with speed and accuracy.
R6060	Refrigerator, Biolog- ical, SS, 2 Door, 40 Cu Ft	V / V	1	Biological refrigerator. This unit shall have a minimum volume of 40 cubic feet, double doors, stainless steel cooler storage with stainless steel drawers, three adjustable shelves and one stationary stainless steel shelf. This refrigerator is used in research laboratories and hospital pharmacies for storage and dispensing of drugs.
U0001	Pharmacy Robot Conveyor	C / C	1	Pharmacy conveyor system from robot to Pharmacist
AUTOMATED FILLING/ASSEMBLY STORAGE, OUTPATIENT (PHOF2)				
E0210	Worksurface, w/ Overhead Cab, Wall Mtd, 48" W	V / V	1	THIS TYPICAL INCLUDES: 2 Vertical Hanging Strips 1 Lockable Flipper Unit 1 Shelf, Storage/Display 1 Light 1 Cantilevered Work Surface
L2000	Purification System, Water	V / V	1	Water Purification System (also referred to as a water-polishing unit) that is capable of producing not less than 24 liters of water per hour, free of ionic contamination and with reduced Total Organic Compounds (TOC) not to exceed 6 parts per billion and water resistivity up to 18.3 megohm-cm from a clean (tap) water source. Purified water to be used for HPLC or GC/MS applications and TOC analysis. System must utilize operator replaceable cartridges and UV light source to obtain the specified purity. System must be fully automatic and switch to a standby mode during periods of reduced use. Design must incorporate a resistivity indicator and a final bacterial 0.22 micrometer filter.



4.3.2 Filling/Assembly Area, Outpatient (PHOF1), Automated Filling/Storage, Outpatient (PHOF2), Mail Out Area (PHOM1)

Equipment List (continued)

M1801	Computer, Microprocessing, w/Flat Panel Monitor	V / V	1	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.
M2050	Shelving, Storage, 75"H X 36"W X14"D	V / V	3	Storage shelving unit. Unit is corrosion resistant stainless steel, galvanized steel or baked enamel on steel. It contains 5 adjustable shelves with 400 pound load capacity. Available in open or closed (end panels) designs. Unit is designed for storage and light industrial applications.
M7280	Dispensing System, Prescription, Robotic	V / V	1	Robotic prescription dispensing system. System handles 200 tablets and capsules and delivers filled and labeled vials at a rate of up to 100 prescriptions per hour. System uses a computer controlled robotic arm to fill vials directly from medication dispensing cells.
U0002	Storage, Medication, Carousel	C / C	1	Medication dispensing carousel for automated pharmacy retrieval with inventory management software.
MAILOUT AREA (PHOM1)				
E0636	Counter, Work, w/Storage, Cab, Pharm, Wall Mtd, 72"	V / V	1	THIS TYPICAL INCLUDES: 3 Vertical Hanging Strips 2 3 Shelf, Units 2 Cantilevered Work Surfaces 2 Storage Cabinets 4 Pull-out Bottle Drawers 2 Shelves, Storage/Display 2 Storage Cabinet Drawers 2 Lights
F0230	Chair, Drafting, Rotary	V / V	1	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.
F2020	Can, Trash, 44 Gallon	V / V	1	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).



4.3.2 Filling/Assembly Area, Outpatient (PHOF1), Automated Filling/Storage, Outpatient (PHOF2), Mail Out Area (PHOM1)

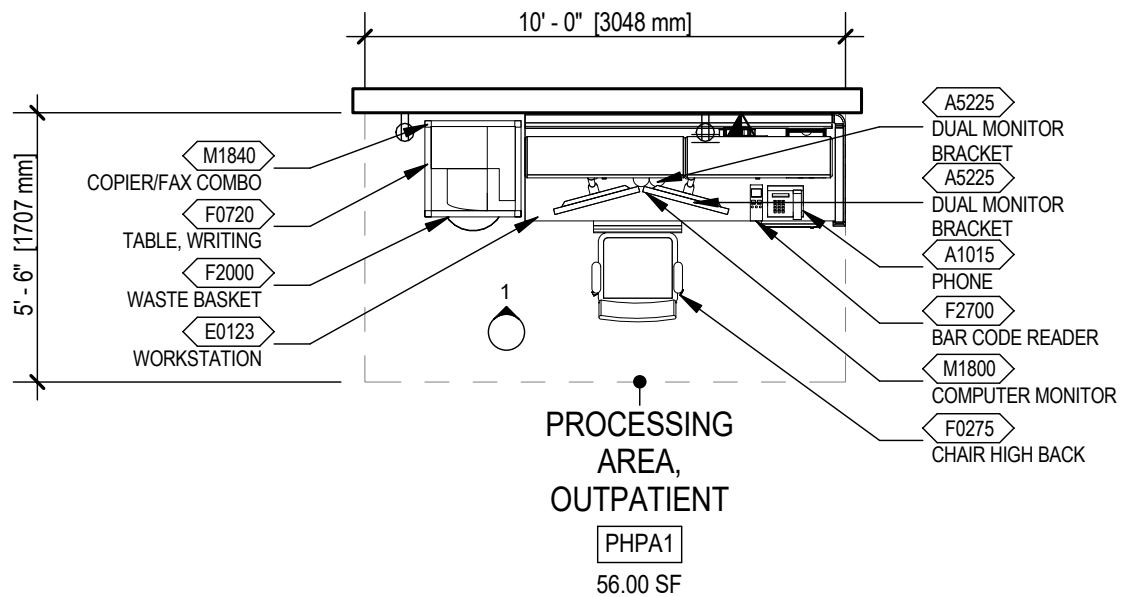
Equipment List (continued)

F2700	Reader, Bar Code, Hand Held, With Interface	V / V	1	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	V / V	1	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.
M1830	Printer, Label, Pharmacy	V / V	1	Label printer for use in pharmacy applications. The printer shall be bench top standing. It shall be flexible enough to accommodate label sizes up to 4 inches, with a minimum print speed of 6 inches per second and a minimum resolution of 203 dpi.
M2050	Shelving, Storage, 75"H X 36"W X 14"D	V / V	3	Storage shelving unit. Unit is corrosion resistant stainless steel, galvanized steel or baked enamel on steel. It contains 5 adjustable shelves with 400 pound load capacity. Available in open or closed (end panels) designs. Unit is designed for storage and light industrial applications.
M7265	Counter, Pill/Tablet, Automated, Counter Mounted	V / V	1	Table mounted prescription counter device that counts tablets and capsules directly into the final container. The unit shall automatically count and dispense tablets and capsules into a container with speed and accuracy.



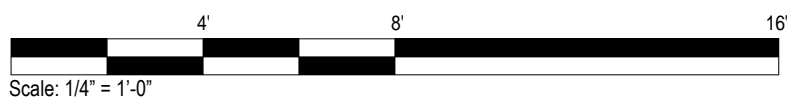
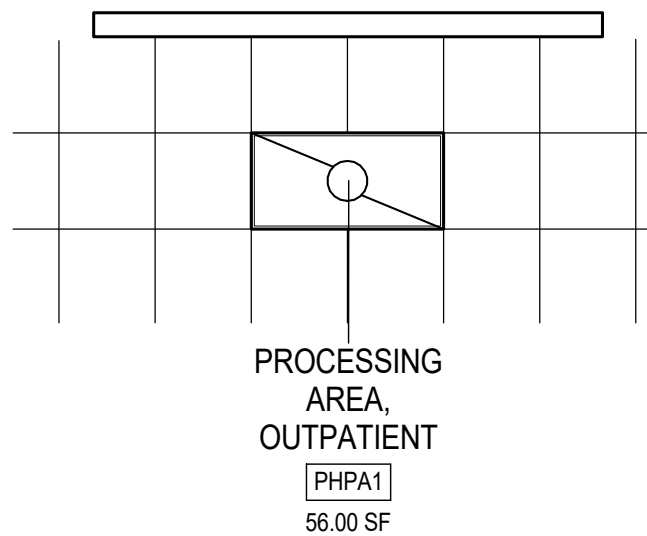
4.3.3 Processing Area, Outpatient - (PHPA1)

Floor Plan



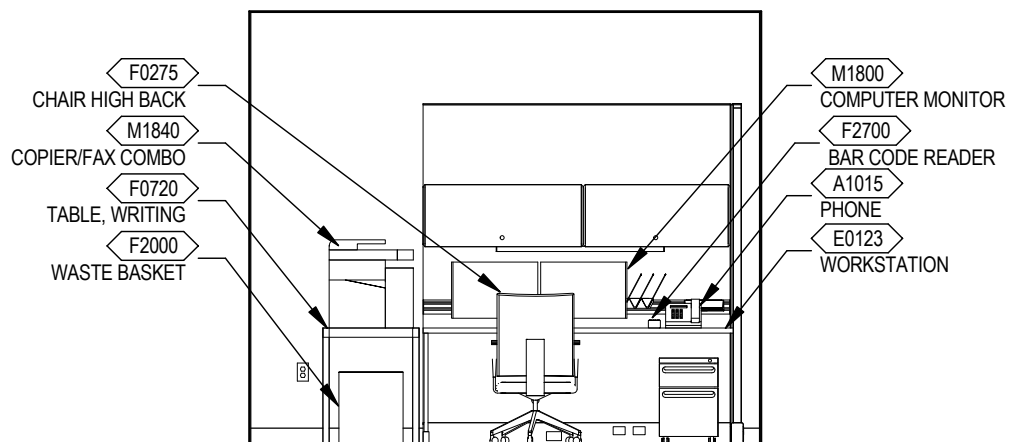
4.3.3 Processing Area, Outpatient - (PHPA1)

Reflected Ceiling Plan

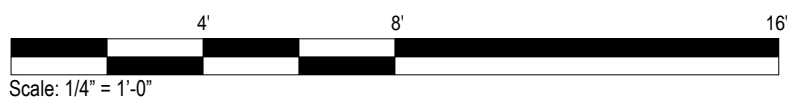


4.3.3 Processing Area, Outpatient - (PHPA1)

Elevations

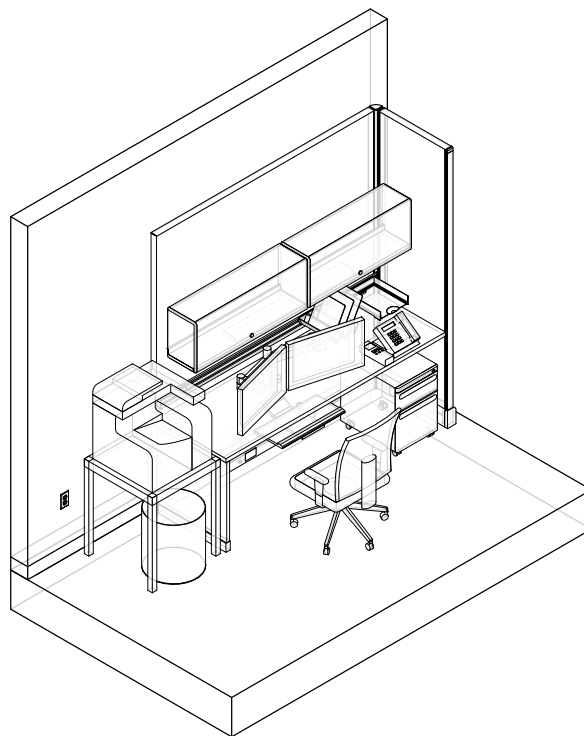


ELEVATION 1



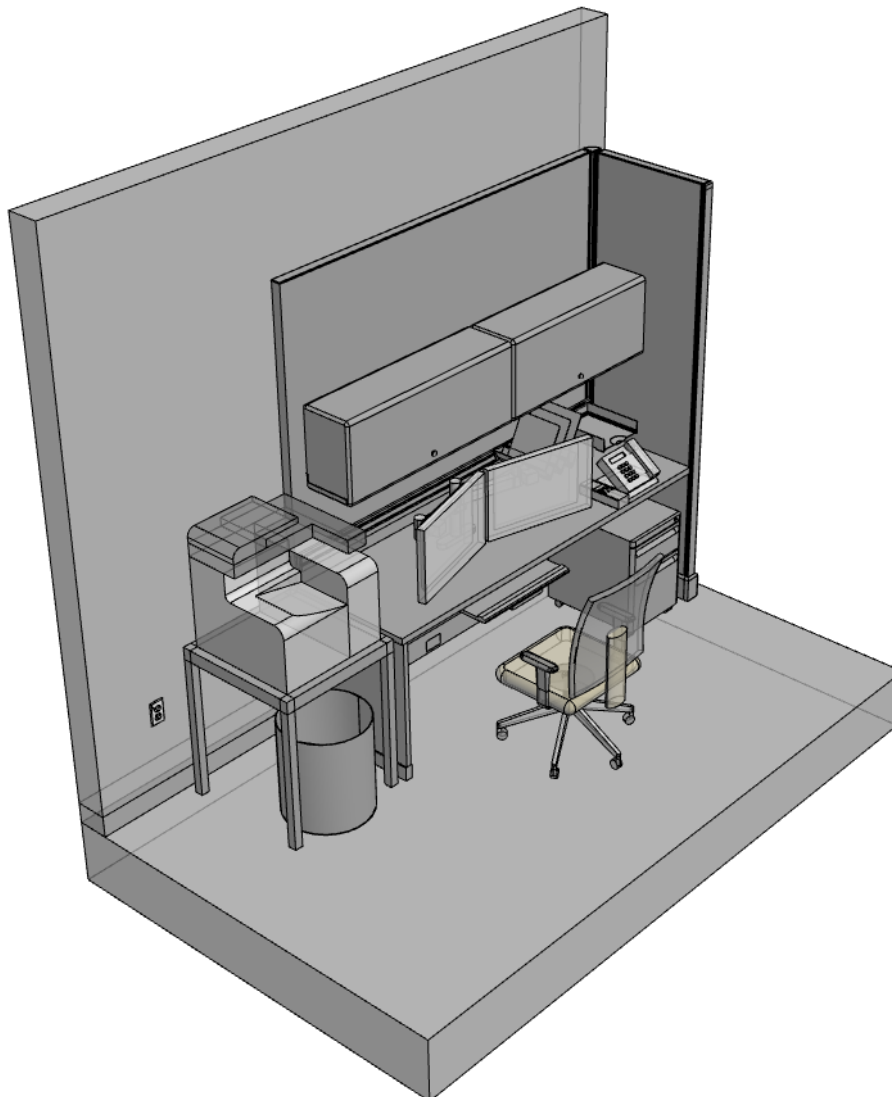
4.3.3 Processing Area, Outpatient - (PHPA1)

Axonometric



4.3.3 Processing Area, Outpatient - (PHPA1)

Interactive 3D PDF



4.3.3 Processing Area, Outpatient - (PHPA1)

Room Data

ARCHITECTURE & INTERIOR DESIGN

Ceiling Type	AT (Acoustical Ceiling Tile)
Ceiling Height	9'-0"
Wall Finish	GWB (Gypsum Wallboard); P (Paint)
Base	RF (Integral Base-4")
Floor Finish	RF (Rubber Flooring)
Slab Depression	No
Sound Protection	No
Doors	No
Hardware	No

LIGHTING

General Requirement: Refer to VA Lighting Design Manual Chapter 4 Patient Areas Lighting Guidelines 4.2.18 Pharmacy for design approach and recommended luminaires.

POWER

Normal	Yes
Emergency	No

COMMUNICATIONS

Data	Yes
Telephone	Yes
Cable Television	No
Duress Alarm	No
Electronic Access	No
Intercom	No

COMMUNICATIONS

Motion Intrusion Detection (MID)	No
Public Access	No
Security Surveillance Television (SSTV)	No
Motion Sensor	No
Clock	No
Other	No

HVAC

General Requirement: Refer to Outpatient Processing data sheet in the current version of the VA HVAC Design Manual for room temperatures, humidity range, room air change requirements, and pressurization.

PLUMBING

Cold Water	No
Hot Water	No
Waste	No

FIRE PROTECTIONS AND LIFE SAFETY

Alarm Detection	Smoke
Alarm Annunciator	Audio/Visual
Sprinkler	Yes
Hazard Type	Light



4.3.3 Processing Area, Outpatient - (PHPA1)

Equipment List

JSN	NAME	AI	QTY	DESCRIPTION
A1015	Telephone, Desk, Multiple Line	V / V	1	Telephone, desk, multiple line.
A5225	Bracket, Dual Computer Monitor, Desk-Mounted	V / V	1	Desk-mounted bracket that supports two LCD computer monitors, or laptop and monitor configuration. Extends LCD's or laptop up to 25" with an adjustment range of 18". Desk clamp attaches to edge up to 2.6" thick. Maximum combined weight supported not to exceed 50 lbs.
E0123	Workstation, Straight, Free Standing, 72" W	V / V	1	This JSN will provide a whole work station typical to quickly plan work in areas in clinical or administrative spaces. There will be a price decrease if typical work stations are used with vertical hanging strips instead of panels. THIS TYPICAL INCLUDES: 4 Standard Solid Panels 2 Panel Connectors, 2-Way Corner 1 Panel-to-Panel Connector 2 Finished End Hardware 1 Cantilevered, Work Surface 2 Lockable Flipper Units 2 Shelf, Storage/Displays 2 Lights 1 Tack board 1 Tool Rail 1 Paper Tray 1 Diagonal Tray 1 Adjustable Keyboard Tray 1 Mobile Pedestal, Box/File
F0275	Chair, Swivel, High Back	V / V	1	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.
F0720	Table, Writing	V / V	1	Table writing approximately 29" H X 30" W X 18" D for use in day rooms, sleep rooms or as appropriate.
F2000	Basket, Wastepaper, Fire Resistant	V / V	1	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.



4.3.3 Processing Area, Outpatient - (PHPA1)

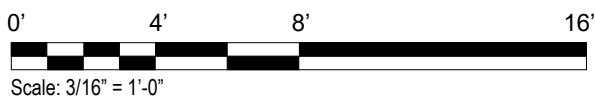
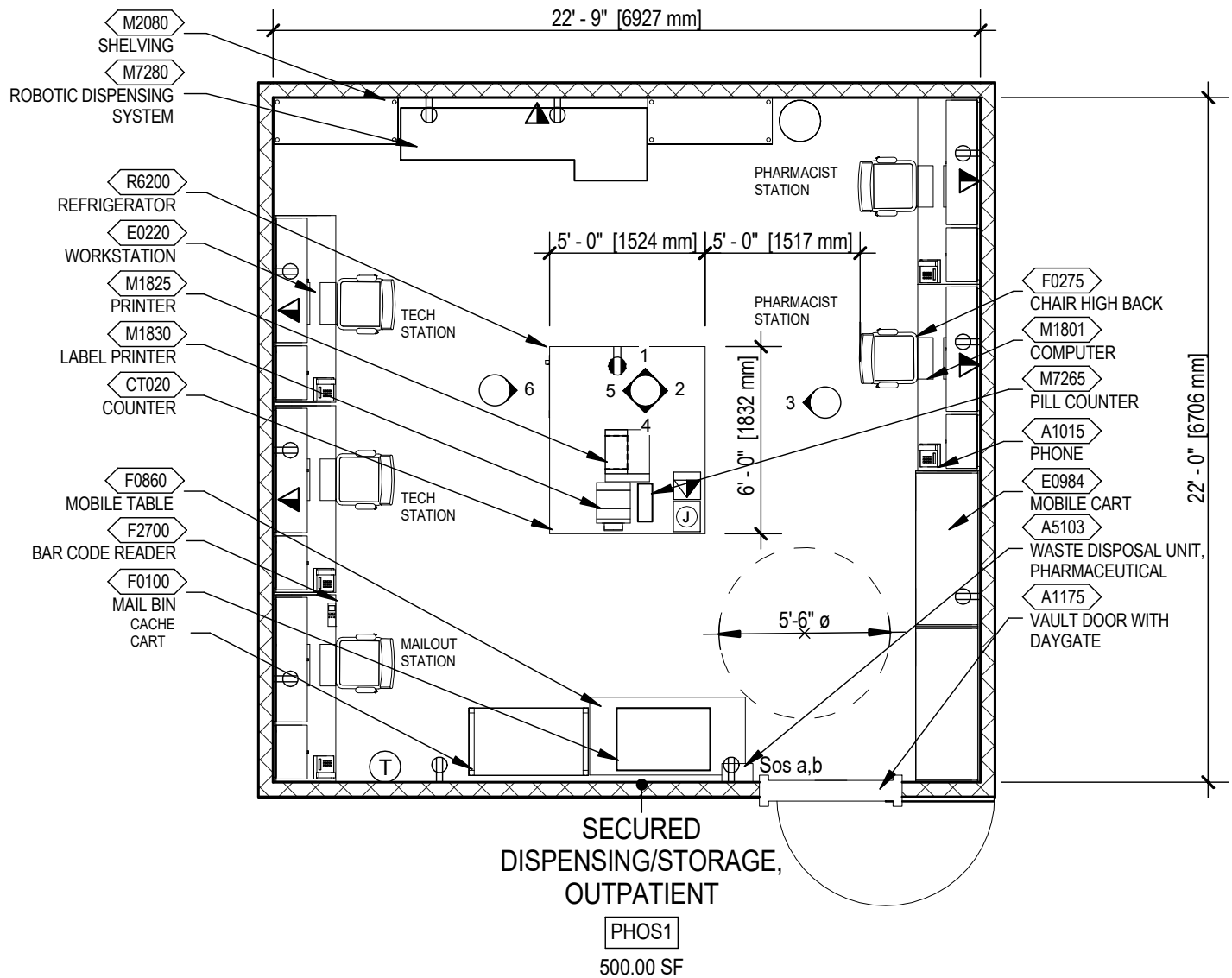
Equipment List (continued)

<i>F2700</i>	<i>Reader, Bar Code, Hand Held, With Interface</i>	<i>V / V</i>	<i>1</i>	<i>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.</i>
<i>M1800</i>	<i>Monitor, Computer</i>	<i>V / V</i>	<i>1</i>	<i>A high definition LED computer monitor with minimum 1920 x 1080 resolution, 4ms response time, 25 inch class display size, compatible with desk or arm mounted. Monitor is VESA compatible and Energy Star compliant.</i>
<i>M1801</i>	<i>Computer, Microprocessing, w/Flat Panel Monitor</i>	<i>V / V</i>	<i>1</i>	<i>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.</i>
<i>M1840</i>	<i>Printer/Copier/Fax Combination</i>	<i>V / V</i>	<i>1</i>	<i>Multifunctional printer, fax, scanner and copier (PFC) all-in-one machine.</i>



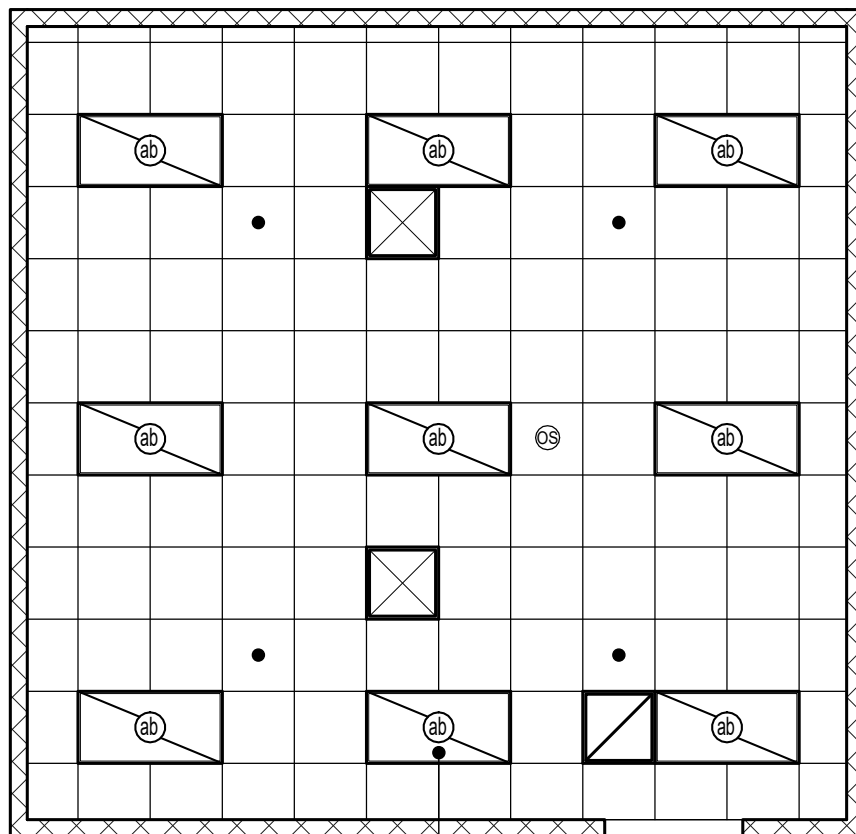
4.3.4 Secured Dispensing / Storage, Outpatient (PHOS1)

Floor Plan



4.3.4 Secured Dispensing / Storage, Outpatient (PHOS1)

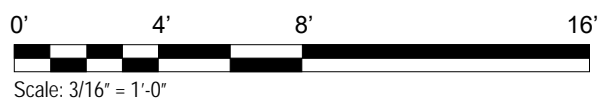
Reflected Ceiling Plan

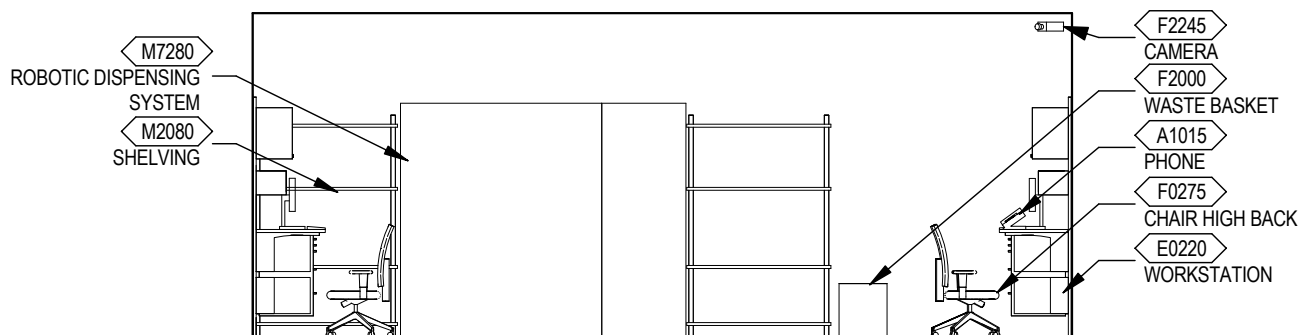
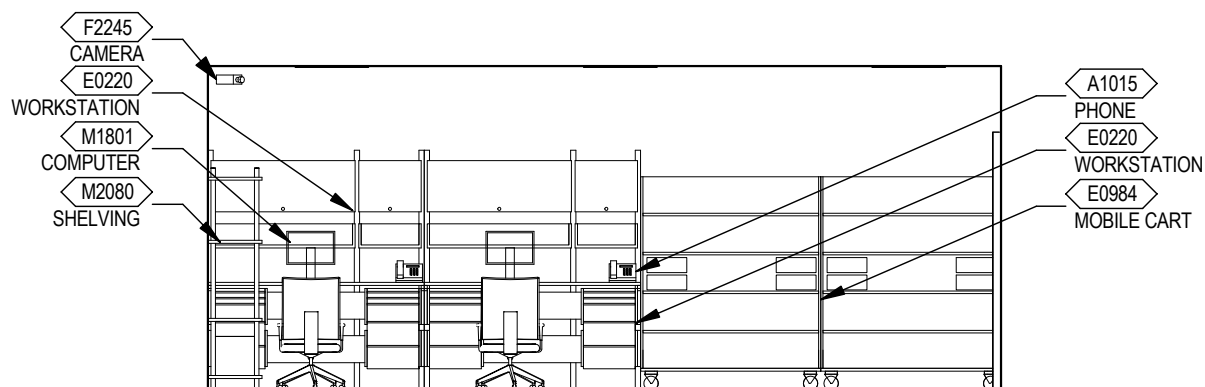
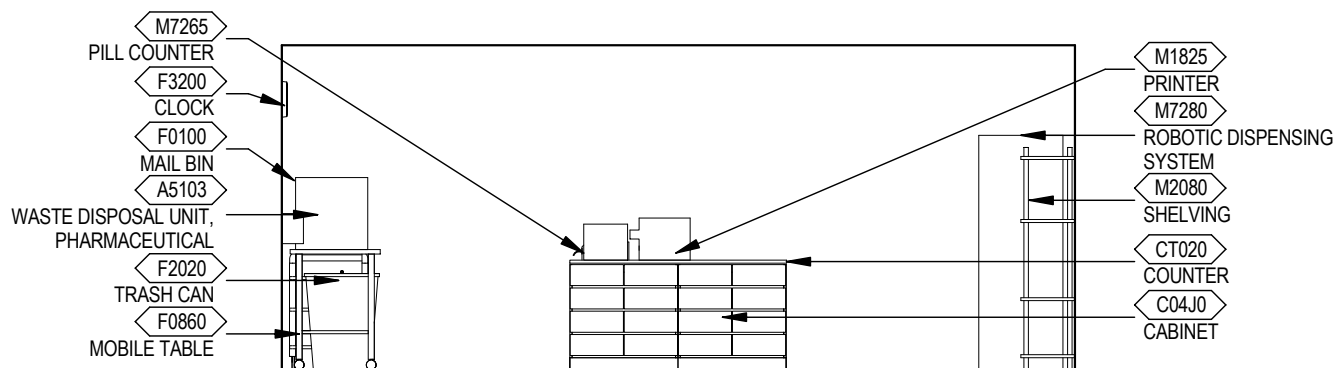
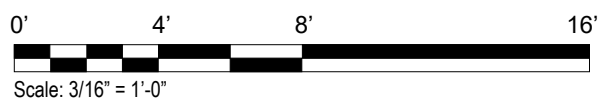


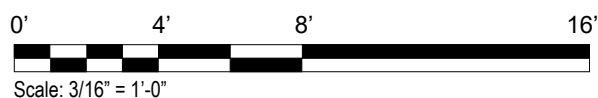
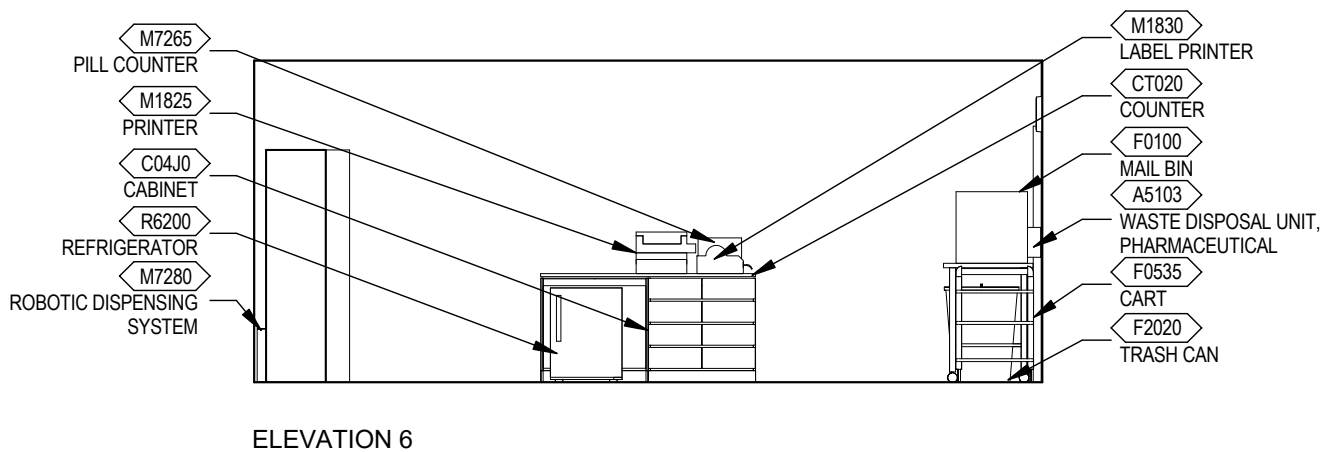
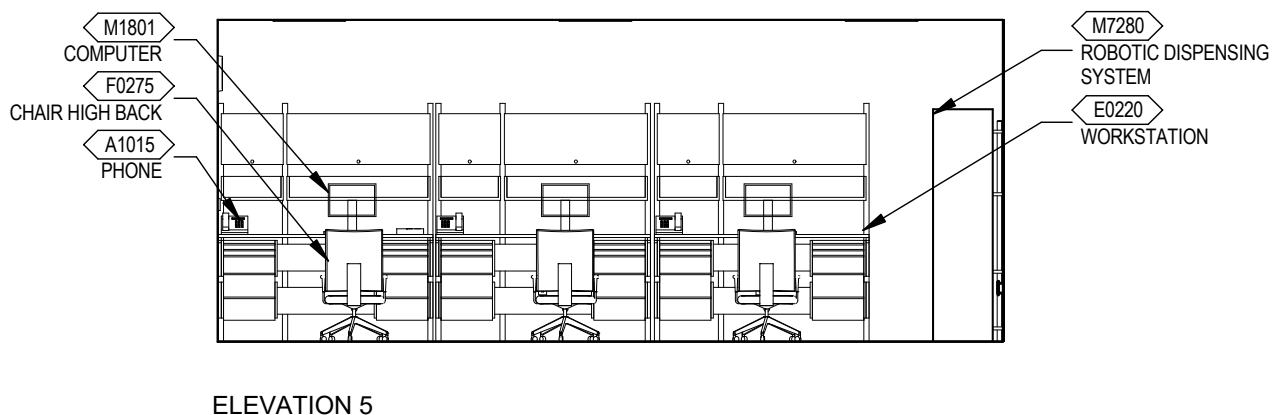
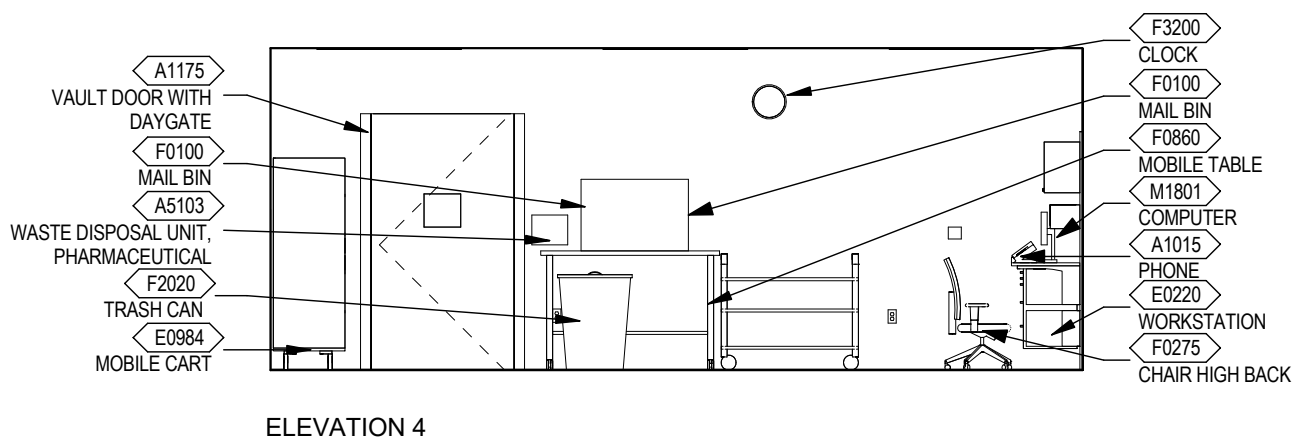
SECURED
DISPENSING/STORAGE,
OUTPATIENT

PHOS1

500.00 SF

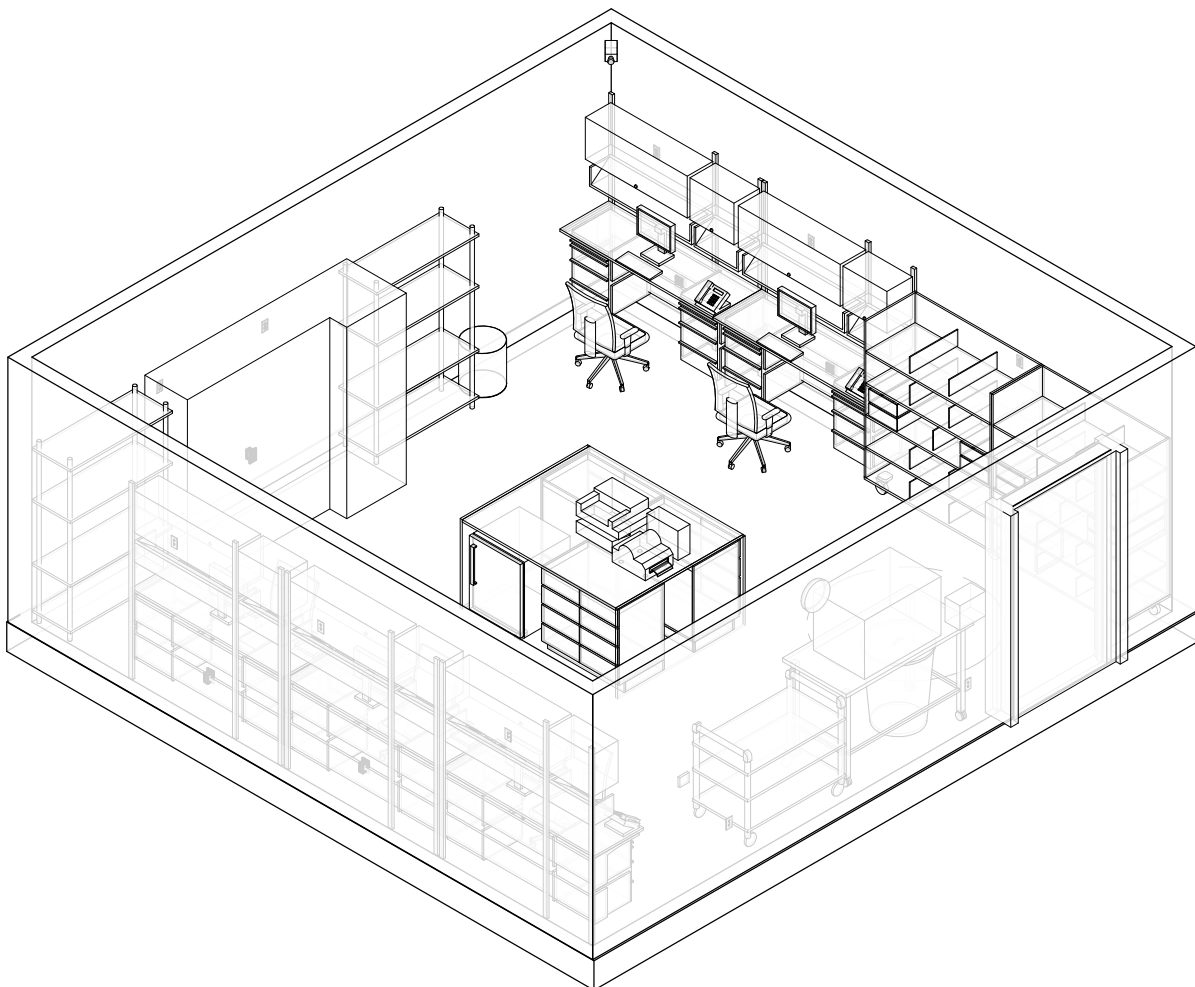


4.3.4 Secured Dispensing / Storage, Outpatient (PHOS1)**Elevations****ELEVATION 1****ELEVATION 2****ELEVATION 3**

4.3.4 Secured Dispensing / Storage, Outpatient (PHOS1)**Elevations**

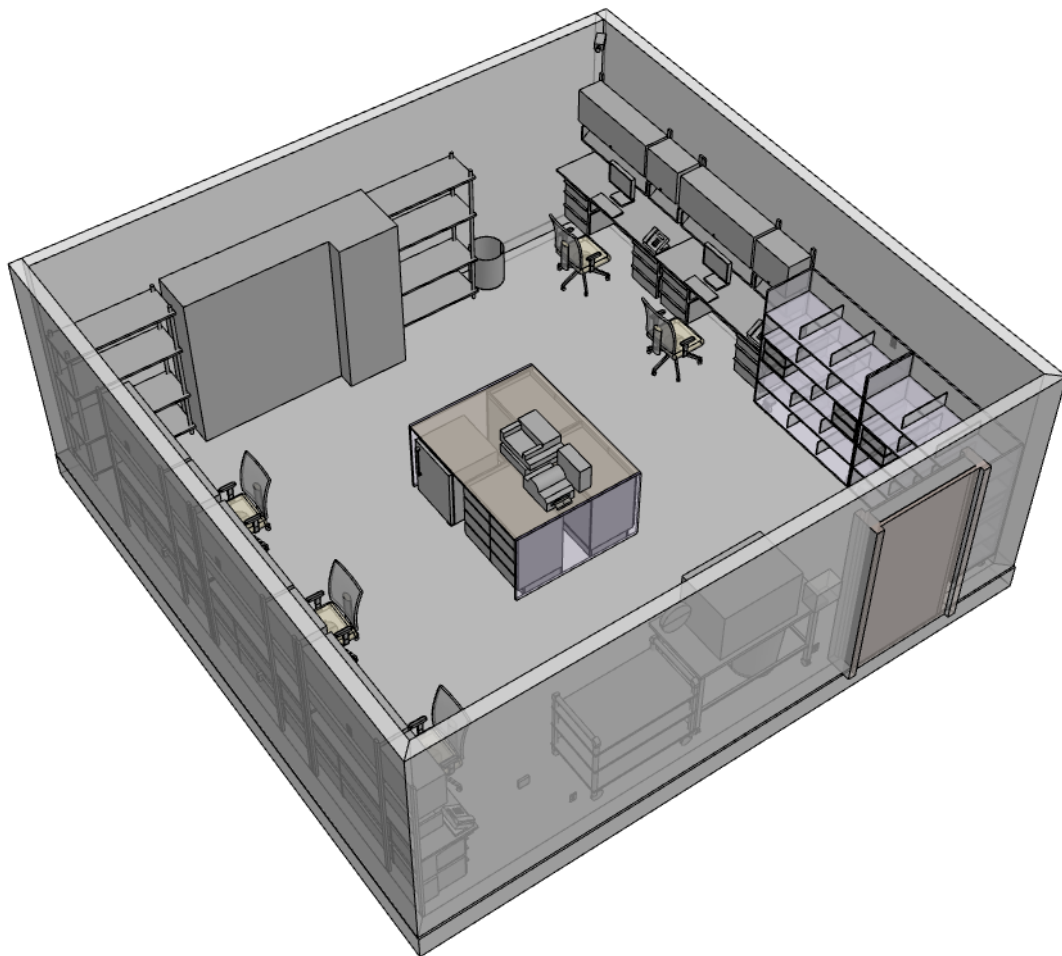
4.3.4 Secured Dispensing / Storage, Outpatient (PHOS1)

Axonometric



4.3.4 Secured Dispensing / Storage, Outpatient (PHOS1)

Interactive 3D PDF



4.3.4 Secured Dispensing / Storage, Outpatient (PHOS1)

Room Data

ARCHITECTURE & INTERIOR DESIGN		COMMUNICATIONS	
Ceiling Type	AT (Acoustical Ceiling Tile)	Data	Yes
Ceiling Height	9'-0"	Telephone	Yes
Wall Finish	GWB (Gypsum Wallboard); P (Paint)	Cable Television	No
Base	RF (Integral Base-4")	Duress Alarm	Yes
Floor Finish	RF (Rubber Flooring)	Electronic Access	Yes
Slab Depression	No	Intercom	No
Sound Protection	See VA Interior Design Guide	Motion Intrusion Detection (MID)	Yes
Doors	Single Size Door, 3'-6" x 7'-0" (1066.8 mm x 2133mm), Steel w/ Day Gate	Public Access	No
Hardware	Electronic Entry	Security Surveillance Television (SSTV)	Yes
Notes		Motion Sensor	Ceiling
1. CMU wall to deck.		Clock	Yes
		Other	No
LIGHTING		HVAC	
General Requirement: Refer to VA Lighting Design Manual Chapter 4 Patient Areas Lighting Guidelines 4.2.18 Pharmacy for design approach and recommended luminaires.		General Requirement: Refer to Outpatient Secured Storage data sheet in the current version of the VA HVAC Design Manual for room temperatures, humidity range, room air change requirements, and pressurization.	
POWER			
Normal	Yes		
Emergency	Yes		



4.3.4 Secured Dispensing / Storage, Outpatient (PHOS1)

Room Data (continued)

PLUMBING

Cold Water	No
Hot Water	No
Waste	No

FIRE PROTECTIONS AND LIFE SAFETY

Alarm Detection	Smoke
Alarm Annunciator	Audio/Visual
Sprinkler	Yes
Hazard Type	Light



4.3.4 Secured Dispensing / Storage, Outpatient (PHOS1)

Equipment List

JSN	NAME	AI	QTY	DESCRIPTION
A1015	Telephone, Desk, Multiple Line	V / V	3	Telephone, desk, multiple line.
CT020	Countertop, Solid Surface	C / C	32	A solid, nonporous countertop with a smooth seamless appearance. Easy to clean and maintain and with proper cleaning does not support the growth of mold. An acrylic-based solid surface product. Standard thickness of 1", and a 4" butt backsplash/curb. Also referred to as a work surface or work top. Available in a choice of colors and depths. Used in lab and other hospital areas requiring optimum physical and chemical resisting properties.
F0115	Bookcase, Open, 5 Shelf	V / V	3	Freestanding open shelf bookcase, approximately 82" high X 37" wide X 18" deep with 5 (five) adjustable shelves. Unit can be separate or part of a system with available add-on shelving.
F0280	Chair, Swivel, Low Back	V / V	1	Low back contemporary swivel chair, 37" high X 25" wide X 31" deep with a five (5) caster swivel base, arms and foam padded seat and back upholstered with either woven textile fabric or vinyl.
F0420	Cabinet, Filing, Lateral, Half Height	V / V	2	Half height two (2) or three (3) drawer lateral filing cabinet, 28" high X 42" wide X 18" deep with recessed handles, locking device and drawer label holders. Drawers are adaptable to either letter or legal size materials.
F2000	Basket, Wastepaper, Fire Resistant	V / V	3	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.
F2245	Camera, Video Surveillance, HD, IP Powered	V / V	1	A high definition, full functional 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-base
F2700	Reader, Bar Code, Hand Held, With Interface	V / V	3	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.



4.3.4 Secured Dispensing / Storage, Outpatient (PHOS1)

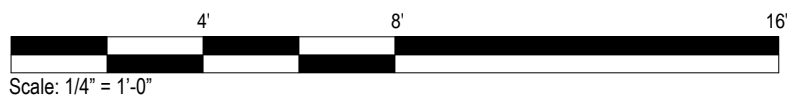
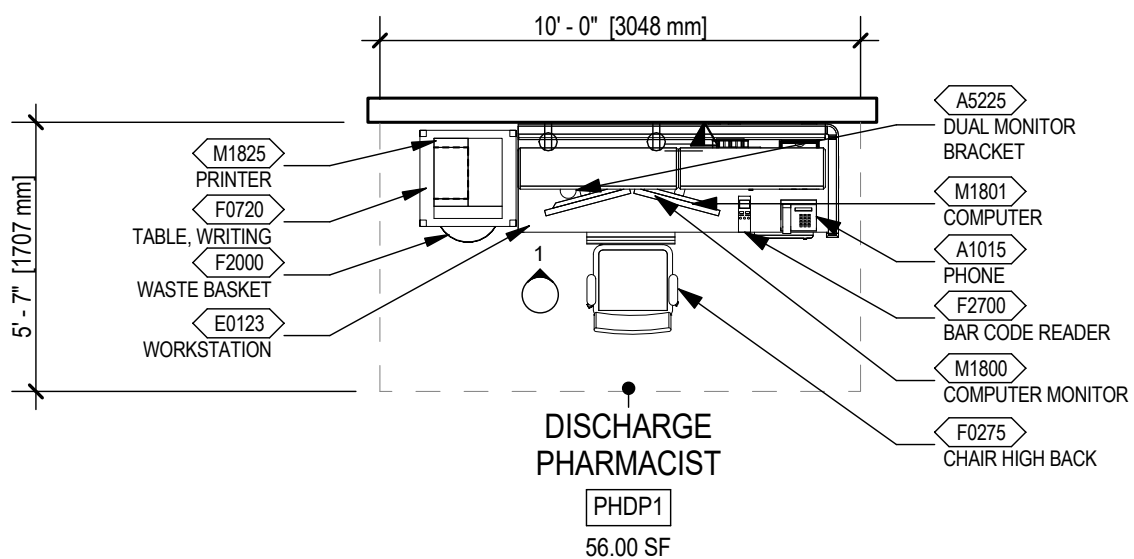
Equipment List (continued)

F3025	Board, Bulletin, Wood Framed	V / V	2	Bulletin board approximately 36"W x 24"H. Wood framed 1/2" cork posting panel with moisture proof backing. Units are factory assembled and have keyhole hangers for easy installation.
F3200	Clock, Battery, 12" Diameter	V / V	1	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, Micropro- cessing, w/Flat Panel Monitor	V / V	3	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	V / V	1	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.
R7050	Refrigerator, 25 Cubic Feet	V / V	1	General purpose refrigerator approximately 84x27x37. This unit is corrosion resistant stainless steel. It has a single self closing door with safety stops. This refrigerator is generally used in commercial kitchens, hospitals and schools.



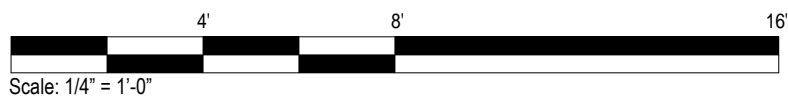
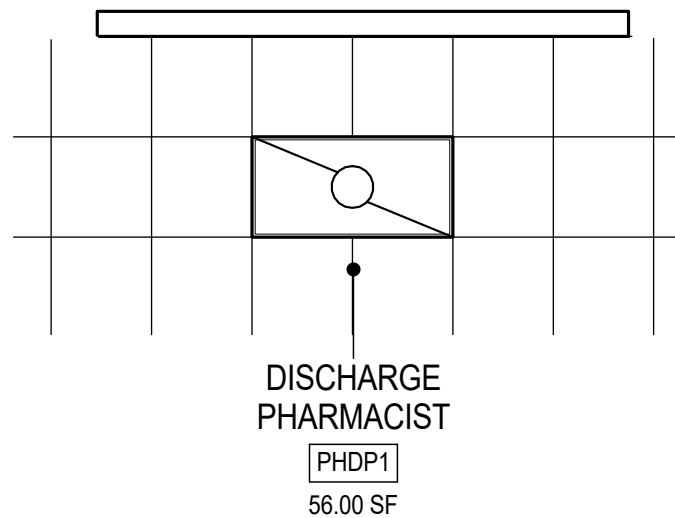
4.3.5 Discharge Pharmacist (PHDP1)

Floor Plan



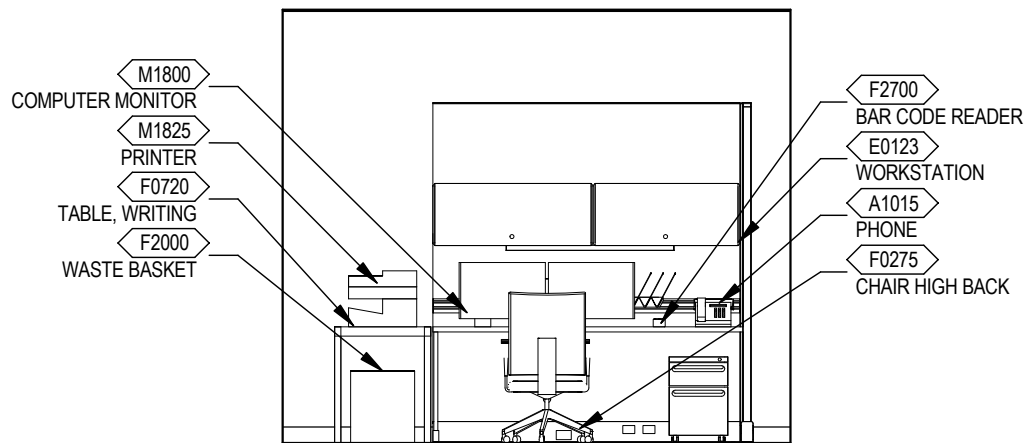
4.3.5 Discharge Pharmacist (PHDP1)

Reflected Ceiling Plan

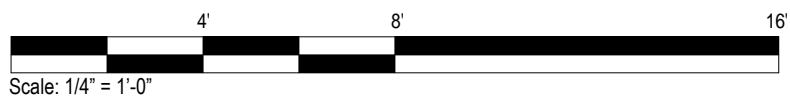


4.3.5 Discharge Pharmacist (PHDP1)

Elevation

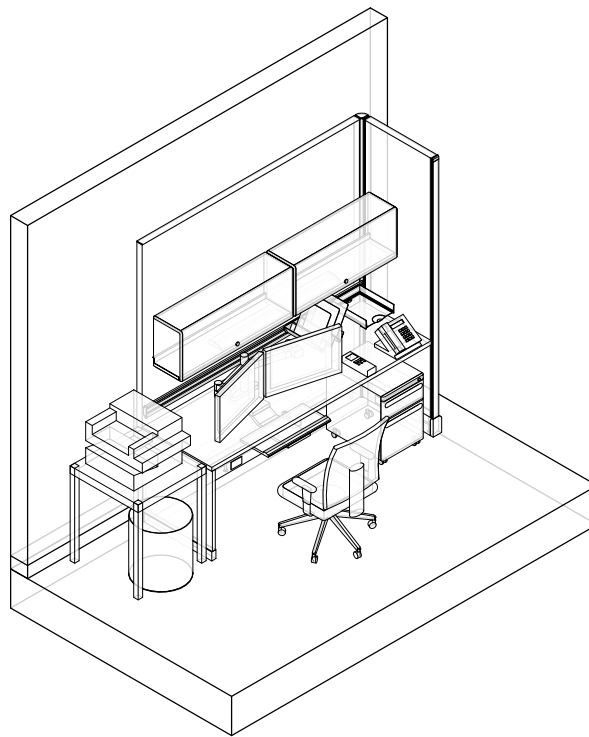


ELEVATION 1



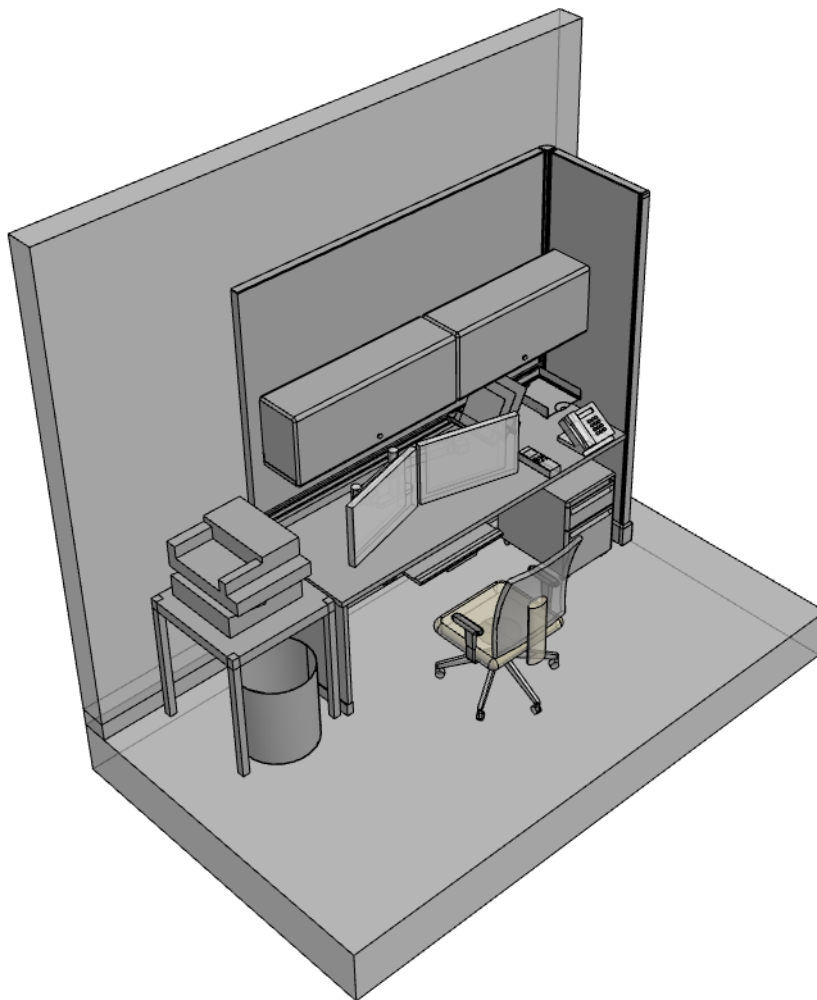
4.3.5 Discharge Pharmacist (PHDP1)

Axonometric



4.3.5 Discharge Pharmacist (PHDP1)

Interactive 3D PDF



4.3.5 Discharge Pharmacist (PHDP1)

Room Data

ARCHITECTURE & INTERIOR DESIGN

Ceiling Type	AT (Acoustical Ceiling Tile)
Ceiling Height	9'-0"
Wall Finish	GWB (Gypsum Wallboard); P (Paint)
Base	RF (Integral Base-4")
Floor Finish	RF (Rubber Flooring)
Slab Depression	No
Sound Protection	See VA Interior Design Guide
Doors	No
Hardware	No

LIGHTING

General Requirement: Refer to VA Lighting Design Manual Chapter 4 Patient Areas Lighting Guidelines 4.2.18 Pharmacy for design approach and recommended luminaires.

POWER

Normal	Yes
Emergency	No

COMMUNICATIONS

Data	Yes
Telephone	Yes
Cable Television	No
Duress Alarm	No
Electronic Access	No

COMMUNICATIONS

Intercom	No
Motion Intrusion Detection (MID)	No
Public Access	No
Security Surveillance Television (SSTV)	No
Motion Sensor	No
Clock	No
Other	No

HVAC

General Requirement: Refer to Discharge Pharmacy data sheet in the current version of the VA HVAC Design Manual for room temperatures, humidity range, room air change requirements, and pressurization.

PLUMBING

Cold Water	No
Hot Water	No
Waste	No

FIRE PROTECTIONS AND LIFE SAFETY

Alarm Detection	Smoke
Alarm Annunciator	Audio/Visual
Sprinkler	Yes
Hazard Type	Light



4.3.5 Discharge Pharmacist (PHDP1)

Equipment List

JSN	NAME	AI	QTY	DESCRIPTION
A1015	Telephone, Desk, Multiple Line	V / V	1	Telephone, desk, multiple line.
A5225	Bracket, Dual Computer Monitor, Desk-Mounted	V / V	1	Desk-mounted bracket that supports two LCD computer monitors, or laptop and monitor configuration. Extends LCD's or laptop up to 25" with an adjustment range of 18". Desk clamp attaches to edge up to 2.6" thick. Maximum combined weight supported not to exceed 50 lbs.
E0123	Workstation, Straight, Free Standing, 72" W	V / V	1	This JSN will provide a whole work station typical to quickly plan work in areas in clinical or administrative spaces. There will be a price decrease if typical work stations are used with vertical hanging strips instead of panels. THIS TYPICAL INCLUDES: 4 Standard Solid Panels 2 Panel Connectors, 2-Way Corner 1 Panel-to-Panel Connector 2 Finished End Hardware 1 Cantilevered, Work Surface 2 Lockable Flipper Units 2 Shelf, Storage/Displays 2 Lights 1 Tack board 1 Tool Rail 1 Paper Tray 1 Diagonal Tray 1 Adjustable Keyboard Tray 1 Mobile Pedestal, Box/File
F0275	Chair, Swivel, High Back	V / V	1	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.
F0720	Table, Writing	V / V	1	Table writing approximately 29" H X 30" W X 18" D for use in day rooms, sleep rooms or as appropriate.
F2000	Basket, Wastepaper, Fire Resistant	V / V	1	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.



4.3.5 Discharge Pharmacist (PHDP1)

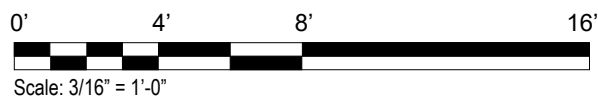
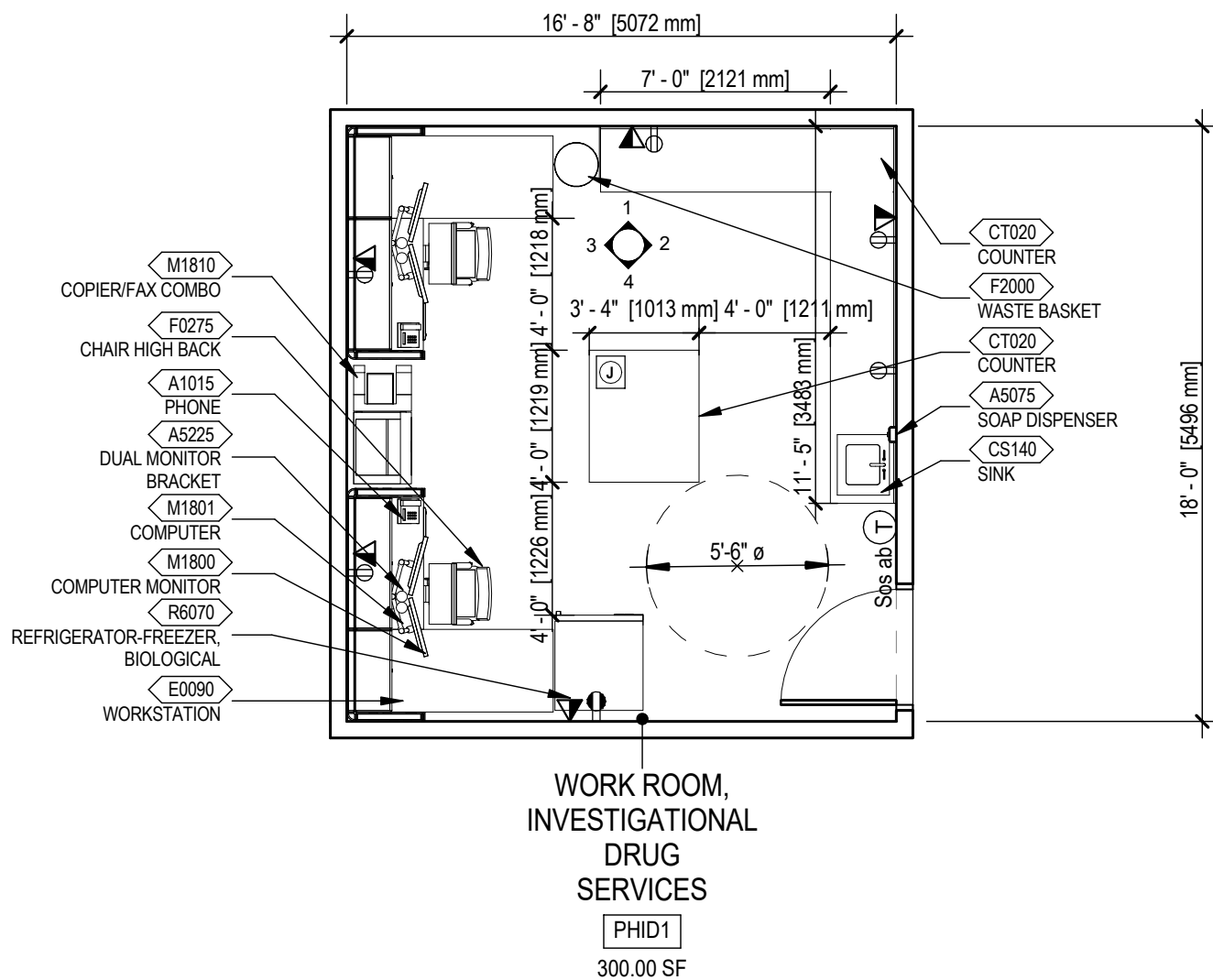
Equipment List (continued)

F2700	Reader, Bar Code, Hand Held, With Interface	V / V	1	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.
M1800	Monitor, Computer	V / V	1	A high definition LED computer monitor with minimum 1920 x 1080 resolution, 4ms response time, 25 inch class display size, compatible with desk or arm mounted. Monitor is VESA compatible and Energy Star compliant.
M1801	Computer, Microprocessing, w/Flat Panel Monitor	V / V	1	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	V / V	1	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.



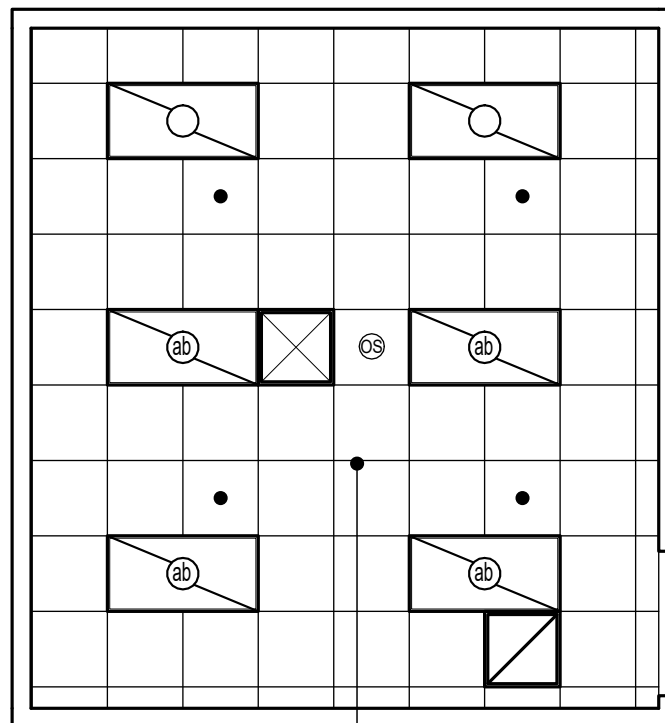
4.3.6 Work Room, IDS (PHID1)

Floor Plan



4.3.6 Work Room, IDS (PHID1)

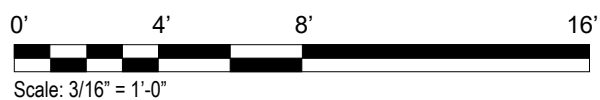
Reflected Ceiling Plan



WORK ROOM,
INVESTIGATIONAL
DRUG
SERVICES

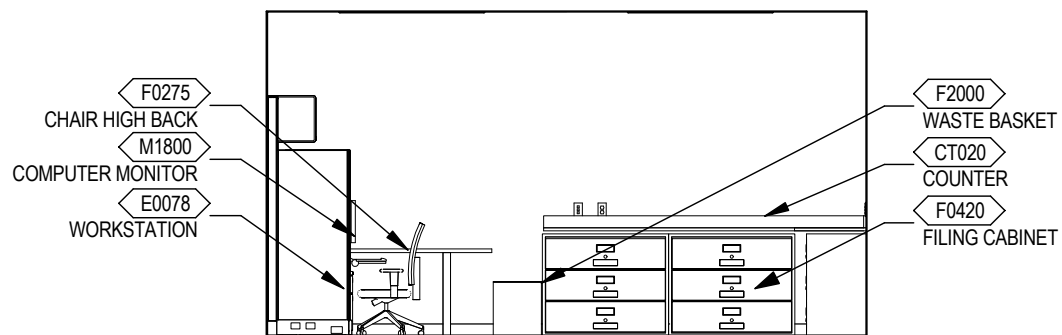
PHID1

300.00 SF

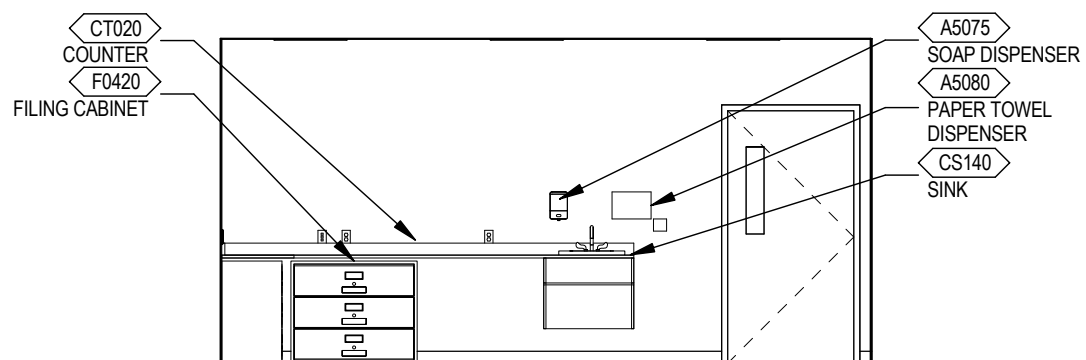


4.3.6 Work Room, IDS (PHID1)

Elevations



ELEVATION 1

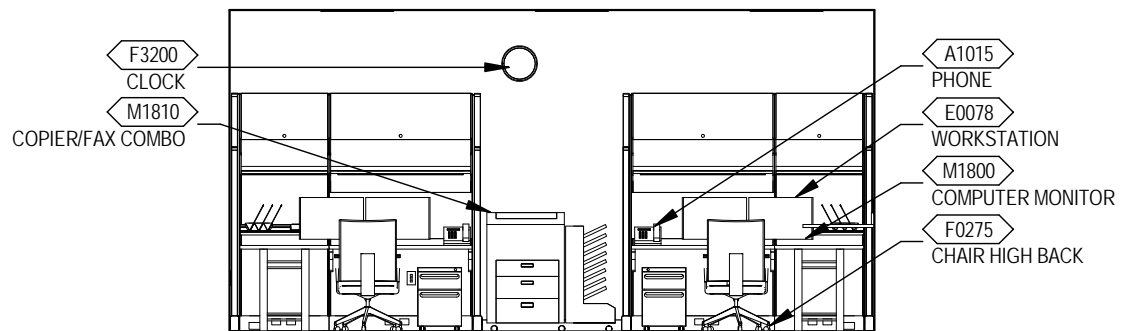


ELEVATION 2

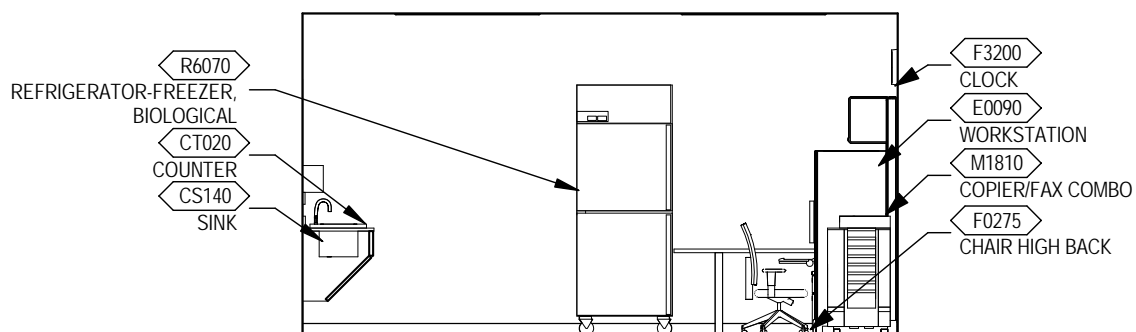


4.3.6 Work Room, IDS (PHID1)

Elevations



ELEVATION 3

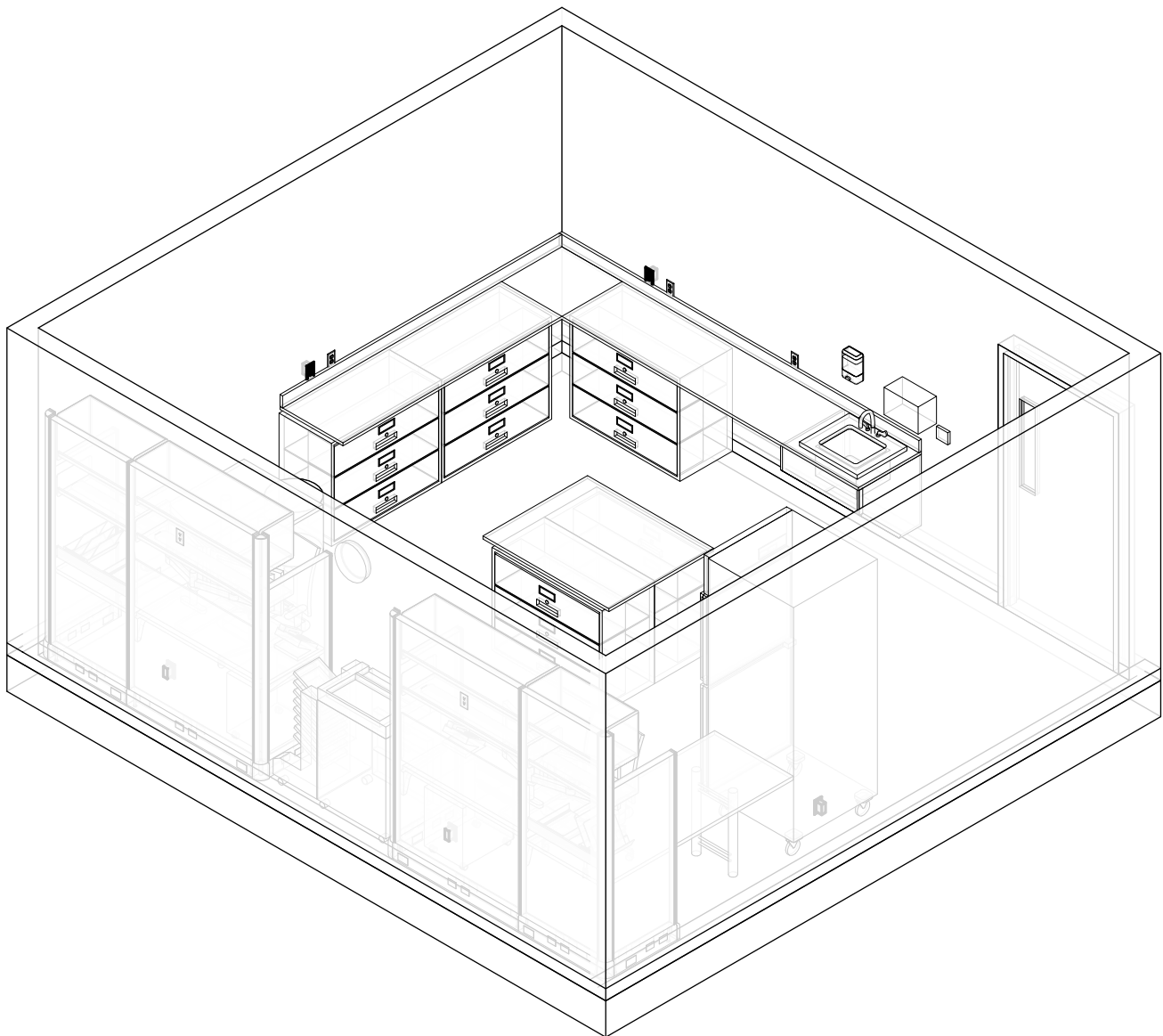


ELEVATION 4



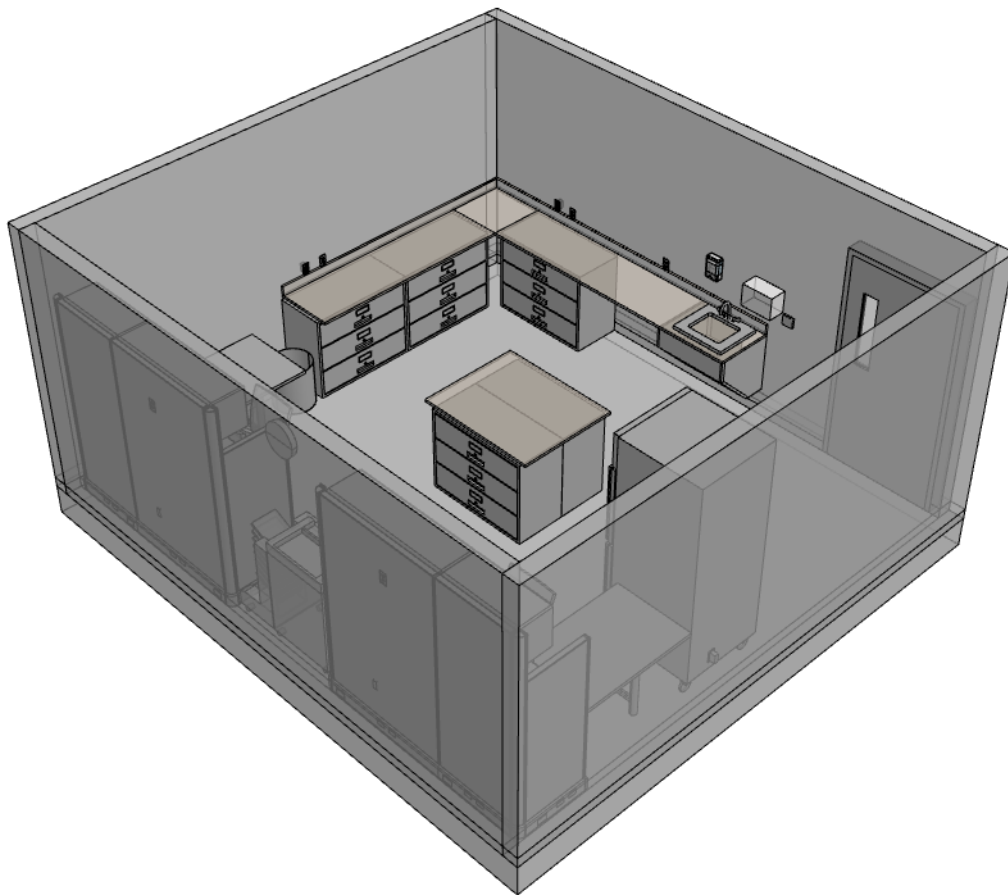
4.3.6 Work Room, IDS (PHID1)

Axonometric



4.3.6 Work Room, IDS (PHID1)

Interactive 3D PDF



4.3.6 Work Room, IDS (PHID1)

Room Data

ARCHITECTURE & INTERIOR DESIGN		COMMUNICATIONS	
Ceiling Type	AT (Acoustical Ceiling Tile)	Telephone	Yes
Ceiling Height	9'-0"	Cable Television	No
Wall Finish	GWB (Gypsum Wallboard); P (Paint)	Duress Alarm	No
Base	RF (Integral Base-4")	Electronic Access	Yes
Floor Finish	RF (Rubber Flooring)	Intercom	No
Slab Depression	No	Motion Intrusion Detection (MID)	Yes
Sound Protection	See VA Interior Design Guide	Public Access	No
Doors	Single Size Door, 3'-6" x 7'-0" (1066.8 mm x 2133mm), Solid Wood Core	Security Surveillance Television (SSTV)	Yes
Hardware	Electronic Entry	Motion Sensor	Wall
LIGHTING		Clock	Yes
		Other	No
		HVAC	
General Requirement: Refer to VA Lighting Design Manual Chapter 4 Patient Areas Lighting Guidelines 4.2.18 Pharmacy for design approach and recommended luminaires.		General Requirement: Refer to Investigational Drug Service data sheet in the current version of the VA HVAC Design Manual for room temperatures, humidity range, room air change requirements, and pressurization.	
POWER			
Normal	Yes		
Emergency	Yes		
COMMUNICATIONS			
Data	Yes		



4.3.6 Work Room, IDS (PHID1)

Room Data (continued)

PLUMBING

Cold Water	Yes
Hot Water	Yes
Waste	Yes

FIRE PROTECTIONS AND LIFE SAFETY

Alarm Detection	Smoke
Alarm Annunciator	Audio/Visual
Sprinkler	Yes
Hazard Type	Light



4.3.6 Work Room, IDS (PHID1)

Equipment List

<i>JSN</i>	<i>NAME</i>	<i>AI</i>	<i>QTY</i>	<i>DESCRIPTION</i>
A1015	Telephone, Desk, Multiple Line	V / V	2	Telephone, desk, multiple line.
A5075	Dispenser, Soap, Disposable	V / V	1	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	C / C	1	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.
A5225	Bracket, Dual Computer Monitor, Desk-Mounted	V / V	2	Desk-mounted bracket that supports two LCD computer monitors, or laptop and monitor configuration. Extends LCD's or laptop up to 25" with an adjustment range of 18". Desk clamp attaches to edge up to 2.6" thick. Maximum combined weight supported not to exceed 50 lbs.
CS140	Sink, SS, Single Compartment, 10x14x16 ID	C / C	1	Single compartment stainless steel sink, drop-in, self-rimming, ledge-type, connected with a drain and provided with a mixing faucet. It shall also be provided with punched fixture holes on 4" center, integral back ledge to accommodate deck-mounted fixtures, brushed/polished interior and top surfaces, and sound deadened. Recommended for use in suspended or U/C/B sink cabinets having a high plastic laminate or Chemsurf laminate countertop/work surface. Coordinate actual outside sink dimensions with the actual clear dimension of cabinet specified to ensure that they are compatible. For general purpose use throughout the facility.
CT020	Countertop, Solid Surface	C / C	30	A solid, nonporous countertop with a smooth seamless appearance. Easy to clean and maintain and with proper cleaning does not support the growth of mold. An acrylic-based solid surface product. Standard thickness of 1", and a 4" butt backsplash/curb. Also referred to as a work surface or work top. Available in a choice of colors and depths. Used in lab and other hospital areas requiring optimum physical and chemical resisting properties.



4.3.6 Work Room, IDS (PHID1)

Equipment List (continued)

E0090	Workstation, L-Shaped, Free Standing, 72x72	V / V	2	THIS TYPICAL INCLUDES: 4 Standard Solid Panels 2 Panel-to-Panel Connectors 1 Panel Connector, 2-Way Corner 2 Finished End Hardware 2 Lockable Flipper Units 2 Shelves, Storage/Display 3 Lights 3 Tackboards 2 Cantilevered Work Surfaces 1 Adjustable Keyboard Tray 1 Mobile Pedestal, Box/File 1 Pencil Drawer 2 Support Panels
F0275	Chair, Swivel, High Back	V / V	2	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.
F0420	Cabinet, Filing, Later- al, Half Height	V / V	6	Half height two (2) or three (3) drawer lateral filing cabinet, 28" high X 42" wide X 18" deep with recessed handles, locking device and drawer label holders. Drawers are adaptable to either letter or legal size materials.
F2000	Basket, Wastepaper, Fire Resistant	V / V	1	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.
F3200	Clock, Battery, 12" Diameter	V / V	1	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).
M1800	Monitor, Computer	V / V	2	A high definition LED computer monitor with minimum 1920 x 1080 resolution, 4ms response time, 25 inch class display size, compatible with desk or arm mounted. Monitor is VESA compatible and Energy Star compliant.



4.3.6 Work Room, IDS (PHID1)

Equipment List (continued)

M1801	Computer, Microprocessing, w/Flat Panel Monitor	V / V	2	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.
M1810	Copier, Floor Standing, Digital	V / V	1	Floor standing copier. Unit features automatic paper size selection, automatic document feeder and sorter. The system also has zoom capabilities and automatic two-sided copying. For use where medium volume reproduction is required in the range of 30 to 40 copies per minute.
R6070	Refrigerator/Freezer, Biological, Upright, 18 Cu Ft	V / V	1	Biological refrigerator with freezer. This unit includes a freezer compartment for general laboratory use. Its independent direct-set temperature controllers allow temperature selection for +2° to 14°C for the refrigerator, and from -20° to -30°C for the freezer.

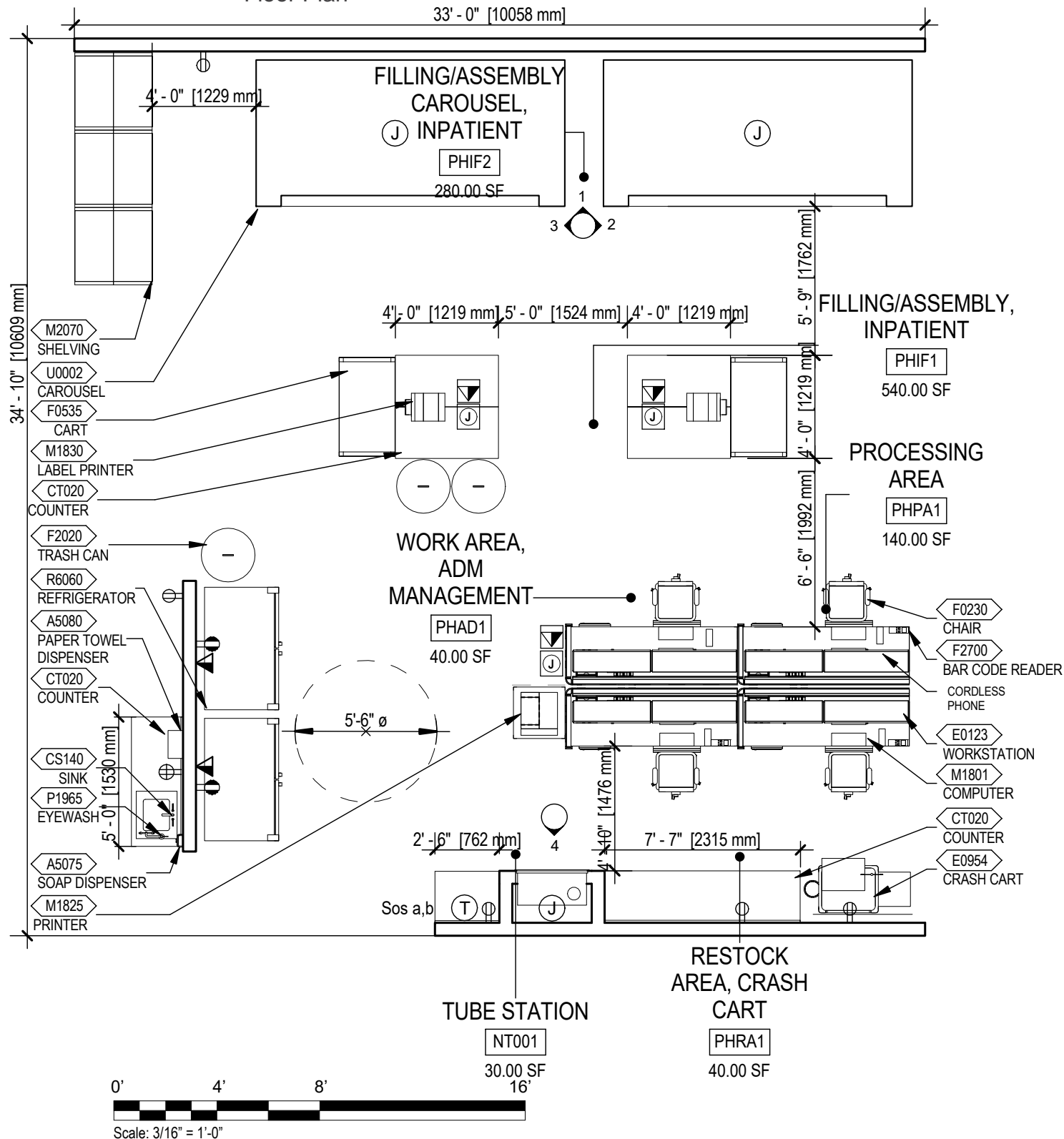


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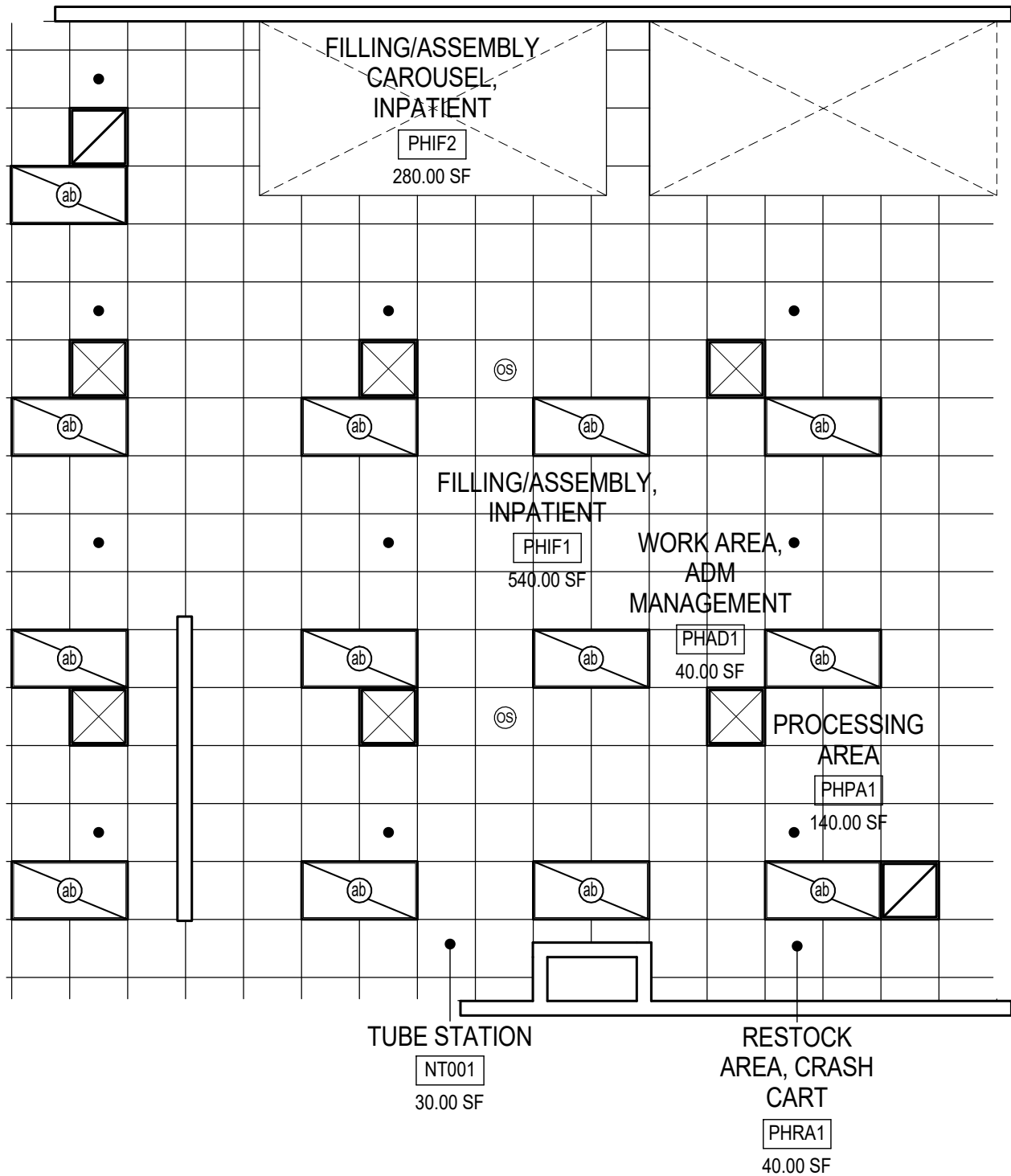
4.3.7 Filling/Assembly Area, Inpatient (PHIF1), Filling/Assembly Carousel, Inpatient (PHIF2), Processing Area, Inpatient (PHPA1), Tube Station (NT001), Restock Area, Crash Cart (PHRA1)

Floor Plan



4.3.7 Filling/Assembly Area, Inpatient (PHIF1), Filling/Assembly Carousel, Inpatient (PHIF2), Processing Area, Inpatient (PHPA1), Tube Station (NT001), Restock Area, Crash Cart (PHRA1)

Reflected Ceiling Plan



0' 4' 8' 16'

Scale: 3/16" = 1'-0"

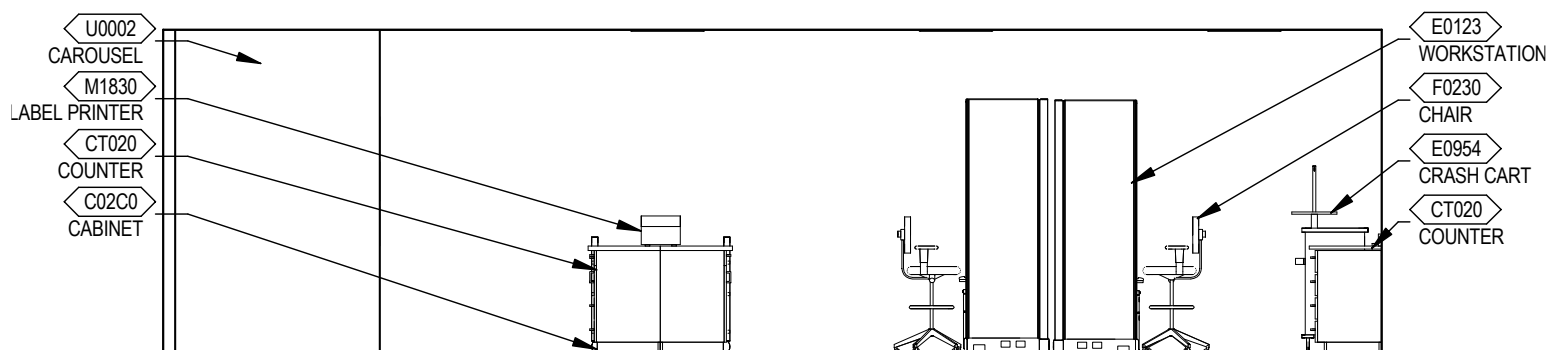


4.3.7 Filling/Assembly Area, Inpatient (PHIF1), Filling/Assembly Carousel, Inpatient (PHIF2), Processing Area, Inpatient (PHPA1), Tube Station (NT001), Restock Area, Crash Cart (PHRA1)

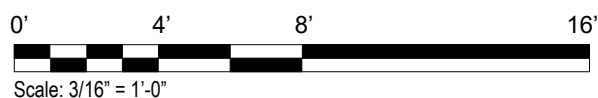
Elevations



ELEVATION 1

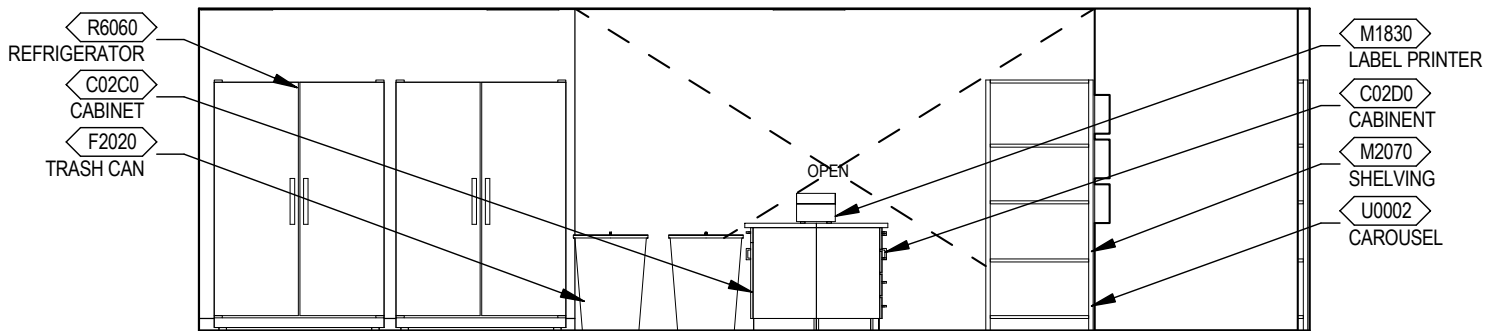


ELEVATION 2

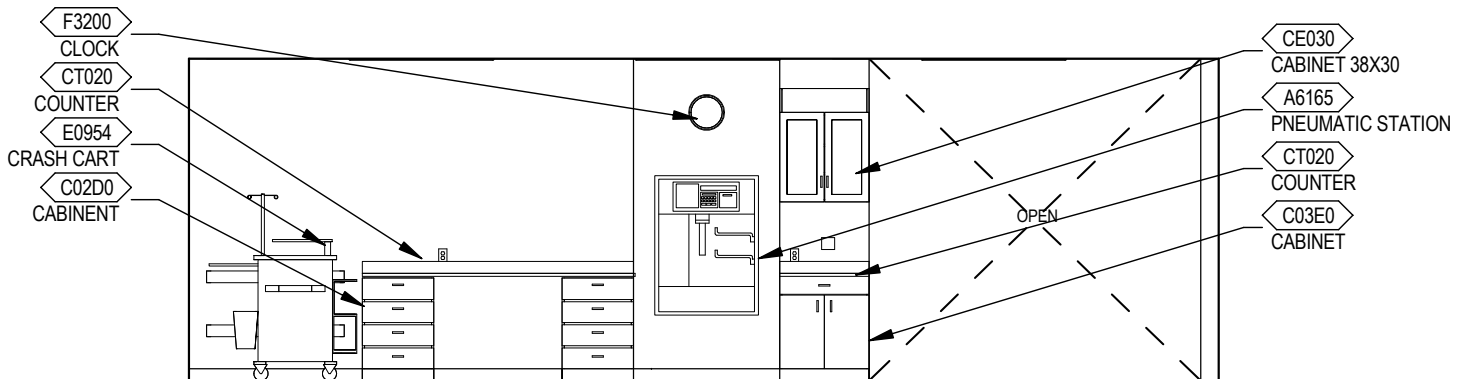


4.3.7 Filling/Assembly Area, Inpatient (PHIF1), Filling/Assembly Carousel, Inpatient (PHIF2), Processing Area, Inpatient (PHPA1), Tube Station (NT001), Restock Area, Crash Cart (PHRA1)

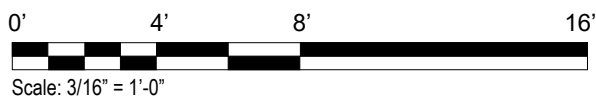
Elevations



ELEVATION 3

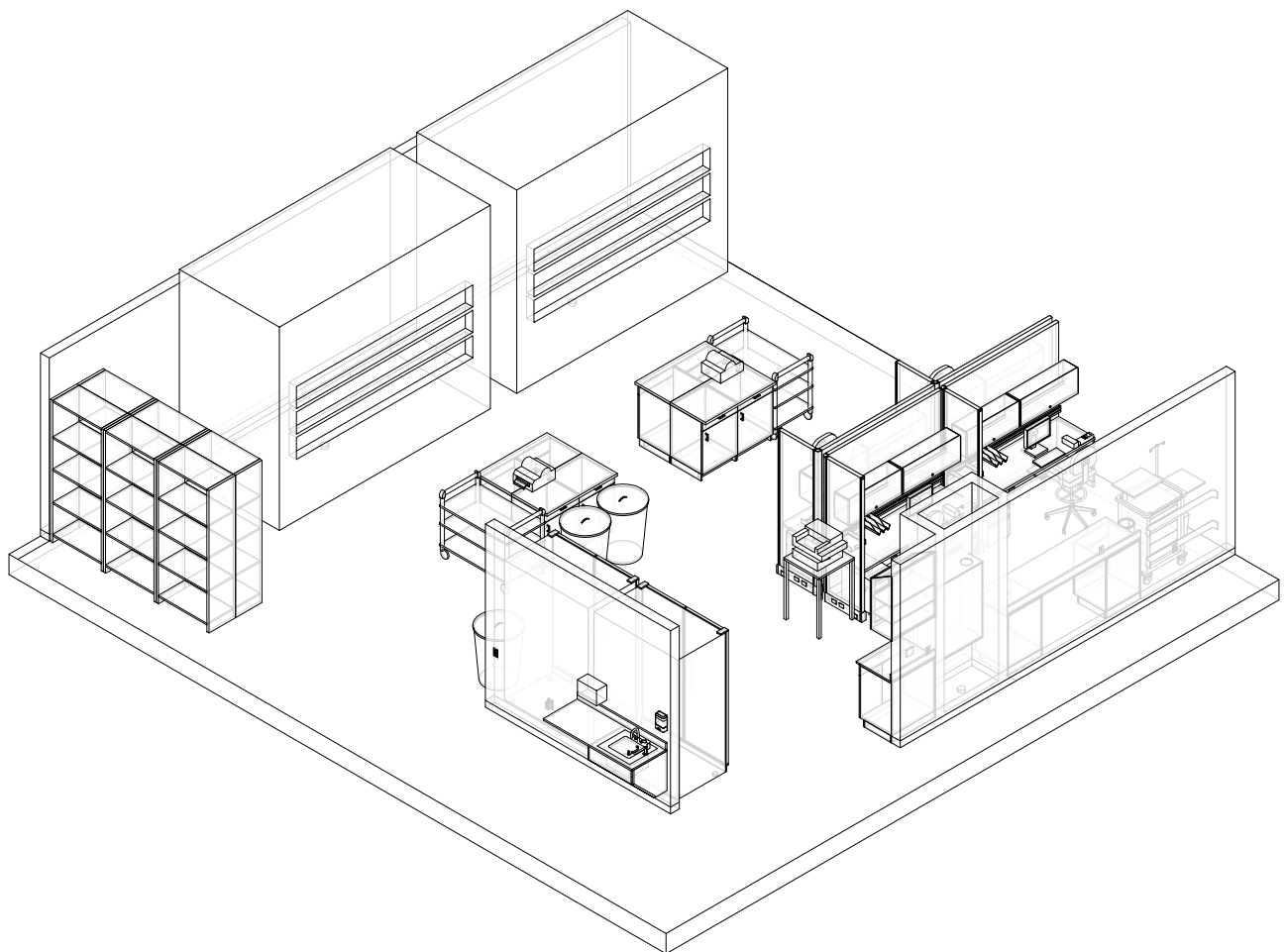


ELEVATION 4



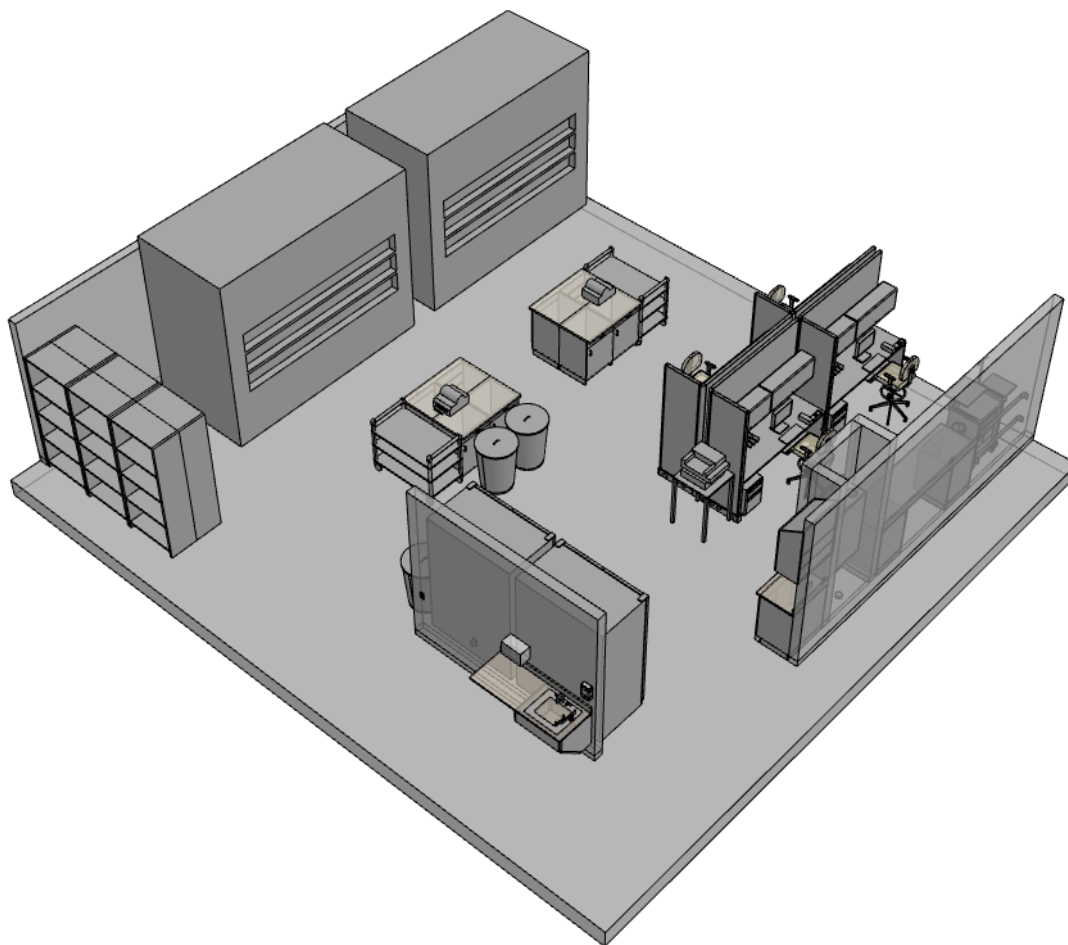
4.3.7 Filling/Assembly Area, Inpatient (PHIF1), Filling/Assembly Carousel, Inpatient (PHIF2), Processing Area, Inpatient (PHPA1), Tube Station (NT001), Restock Area, Crash Cart (PHRA1)

Axonometric



4.3.7 Filling/Assembly Area, Inpatient (PHIF1), Filling/Assembly Carousel, Inpatient (PHIF2), Processing Area, Inpatient (PHPA1), Tube Station (NT001), Restock Area, Crash Cart (PHRA1)

Interactive 3D PDF



4.3.7 Filling/Assembly Area, Inpatient (PHIF1), Filling/Assembly Carousel, Inpatient (PHIF2), Processing Area, Inpatient (PHPA1), Tube Station (NT001), Restock Area, Crash Cart (PHRA1)

Room Data

ARCHITECTURE & INTERIOR DESIGN		COMMUNICATIONS	
Ceiling Type	AT (Acoustical Ceiling Tile)	Data	Yes
Ceiling Height	9'-0"	Telephone	Yes
Wall Finish	GWB (Gypsum Wallboard); P (Paint)	Cable Television	No
Base	RF (Integral Base-4")	Duress Alarm	No
Floor Finish	RF (Rubber Flooring)	Electronic Access	Yes
Slab Depression	See Notes 2	Intercom	No
Sound Protection	See VA Interior Design Guide	Motion Intrusion Detection (MID)	Yes
Doors	Single Size Door, 3'-6" x 7'-0" (1066.8 mm x 2133mm), Steel	Public Access	No
Hardware	Electronic Entry	Security Surveillance Television (SSTV)	Yes
Notes		Motion Sensor	Ceiling
1. For carousels, coordinate placement with structural engineer.		Clock	Yes
2. If high-density storage is used and a raised track is not selected, coordinate slab depression with structural engineer.		Other	No
LIGHTING		HVAC	
General Requirement: Refer to VA Lighting Design Manual Chapter 4 Patient Areas Lighting Guidelines 4.2.18 Pharmacy for design approach and recommended luminaires.		General Requirement: Refer to Inpatient Filling data sheet in the current version of the VA HVAC Design Manual for room temperatures, humidity range, room air change requirements, and pressurization.	
POWER			
Normal	Yes		
Emergency	Yes		



4.3.7 Filling/Assembly Area, Inpatient (PHIF1), Filling/Assembly Carousel, Inpatient (PHIF2), Processing Area, Inpatient (PHPA1), Tube Station (NT001), Restock Area, Crash Cart (PHRA1)

Room Data (continued)

PLUMBING

Cold Water	Yes
Hot Water	Yes
Waste	Yes

FIRE PROTECTIONS AND LIFE SAFETY

Alarm Detection	Smoke
Alarm Annunciator	Audio/Visual
Sprinkler	Yes
Hazard Type	Light



4.3.7 Filling/Assembly Area, Inpatient (PHIF1), Filling/Assembly Carousel, Inpatient (PHIF2), Processing Area, Inpatient (PHPA1), Tube Station (NT001), Restock Area, Crash Cart (PHRA1)

Equipment List

JSN	NAME	AI	QTY	DESCRIPTION
A5075	Dispenser, Soap, Disposable	V / V	1	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5082	Dispenser, Paper Towel, Sensor, Hands Free	C / C	1	A surface mounted, sensor activated, automatic, roll paper towel dispenser. The unit dispenses a paper towel automatically only when hands are placed in position below the dispenser for maximum sanitation and hygiene. May include adjustable settings for sheet length, time delay, and sensor range. Unit is battery operated or with optional AC power adapter.
C02C0	Cabinet, U/C/B, 1 Shelf, 1 Drawer, 1 DO, 36x24x22	C / C	8	Standing height under counter base cabinet with an adjustable shelf and a full width drawer above a solid right or left-hinged door (appropriate door hinge configuration to be indicated on equipment elevation drawings). Also referred to as a combination cabinet or a drawer and cupboard cabinet. For general purpose use throughout the facility.
CS140	Sink, SS, Single Compartment, 10x14x16 ID	C / C	1	Single compartment stainless steel sink, drop-in, self-rimming, ledge-type, connected with a drain and provided with a mixing faucet. It shall also be provided with punched fixture holes on 4" center, integral back ledge to accommodate deck-mounted fixtures, brushed/polished interior and top surfaces, and sound deadened. Recommended for use in suspended or U/C/B sink cabinets having a high plastic laminate or Chemsurf laminate countertop/work surface. Coordinate actual outside sink dimensions with the actual clear dimension of cabinet specified to ensure that they are compatible. For general purpose use throughout the facility.
CT020	Countertop, Solid Surface	C / C	14	A solid, nonporous countertop with a smooth seamless appearance. Easy to clean and maintain and with proper cleaning does not support the growth of mold. An acrylic-based solid surface product. Standard thickness of 1", and a 4" butt backsplash/curb. Also referred to as a work surface or work top. Available in a choice of colors and depths. Used in lab and other hospital areas requiring optimum physical and chemical resisting properties.
F0535	Cart, Utility	V / V	2	Utility cart, 32-39" high X 36" wide X 24" deep, with 4 (four) heavy duty caster wheels.



4.3.7 Filling/Assembly Area, Inpatient (PHIF1), Filling/Assembly Carousel, Inpatient (PHIF2), Processing Area, Inpatient (PHPA1), Tube Station (NT001), Restock Area, Crash Cart (PHRA1)

Equipment List (continued)

F2020	Can, Trash, 44 Gallon	V / V	3	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).
F3200	Clock, Battery, 12" Diameter	V / V	1	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).
M1830	Printer, Label, Pharmacy	V / V	2	Label printer for use in pharmacy applications. The printer shall be bench top standing. It shall be flexible enough to accommodate label sizes up to 4 inches, with a minimum print speed of 6 inches per second and a minimum resolution of 203 dpi.
P1965	Eyewash, Eye/Face, Sink Mounted, Hands-free	C / C	1	A sink mounted eyewash station. The unit is designed for emergency eye and face rinsing from soft flow dual spray-heads. The Flow must be activated by the single momentary action and remain on until terminated.
P2451	Valve, Mixing, Thermostatic, Eyewash	C / C	1	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)
R6060	Refrigerator, Biological, SS, 2 Door, 40 Cu Ft	V / V	2	Biological refrigerator. This unit shall have a minimum volume of 40 cubic feet, double doors, stainless steel cooler storage with stainless steel drawers, three adjustable shelves and one stationary stainless steel shelf. This refrigerator is used in research laboratories and hospital pharmacies for storage and dispensing of drugs.
FILLING/ASSEMBLY CAROUSEL, INPATIENT (PHIF2)				
M2070	Shelving, Storage, 77hx36wx18d	V / V	6	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.
U0002	Storage, Medication, Carousel	C / C	2	Medication dispensing carousel for automated pharmacy retrieval with inventory management software.
PROCESING AREA, INPATIENT (PHPA1)				
A1015	Telephone, Desk, Multiple Line	V / V	1	Telephone, desk, multiple line.



4.3.7 Filling/Assembly Area, Inpatient (PHIF1), Filling/Assembly Carousel, Inpatient (PHIF2), Processing Area, Inpatient (PHPA1), Tube Station (NT001), Restock Area, Crash Cart (PHRA1)

Equipment List (continued)

A5225	Bracket, Dual Computer Monitor, Desk-Mounted	V / V	1	Desk-mounted bracket that supports two LCD computer monitors, or laptop and monitor configuration. Extends LCD's or laptop up to 25" with an adjustment range of 18". Desk clamp attaches to edge up to 2.6" thick. Maximum combined weight supported not to exceed 50 lbs.
E0123	Workstation, Straight, Free Standing, 72" W	V / V	1	This JSN will provide a whole work station typical to quickly plan work in areas in clinical or administrative spaces. There will be a price decrease if typical work stations are used with vertical hanging strips instead of panels. THIS TYPICAL INCLUDES: 4 Standard Solid Panels 2 Panel Connectors, 2-Way Corner 1 Panel-to-Panel Connector 2 Finished End Hardware 1 Cantilevered, Work Surface 2 Lockable Flipper Units 2 Shelf, Storage/Displays 2 Lights 1 Tack board 1 Tool Rail 1 Paper Tray 1 Diagonal Tray 1 Adjustable Keyboard Tray 1 Mobile Pedestal, Box/File
F0275	Chair, Swivel, High Back	V / V	1	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.
F0720	Table, Writing	V / V	1	Table writing approximately 29" H X 30" W X 18" D for use in day rooms, sleep rooms or as appropriate.
F2000	Basket, Wastepaper, Fire Resistant	V / V	1	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.
M1800	Monitor, Computer	V / V	1	A high definition LED computer monitor with minimum 1920 x 1080 resolution, 4ms response time, 25 inch class display size, compatible with desk or arm mounted. Monitor is VESA compatible and Energy Star compliant.



4.3.7 Filling/Assembly Area, Inpatient (PHIF1), Filling/Assembly Carousel, Inpatient (PHIF2), Processing Area, Inpatient (PHPA1), Tube Station (NT001), Restock Area, Crash Cart (PHRA1)

Equipment List (continued)

M1801	Computer, Microprocessing, w/Flat Panel Monitor	V / V	1	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-ROM/DVD 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	V / V	1	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.
M1830	Printer, Label, Pharmacy	V / V	1	Label printer for use in pharmacy applications. The printer shall be bench top standing. It shall be flexible enough to accommodate label sizes up to 4 inches, with a minimum print speed of 6 inches per second and a minimum resolution of 203 dpi.
RESTOCK AREA, CRASH CART (PHRA1)				
C02D0	Cabinet, U/C/B, 4 Drawer, 36x24x22	C / C	2	Standing height under counter base cabinet with four full width drawers of equal height. Also referred to as a drawer cabinet. For general purpose use throughout the facility.
CT020	Countertop, Solid Surface	C / C	7	A solid, nonporous countertop with a smooth seamless appearance. Easy to clean and maintain and with proper cleaning does not support the growth of mold. An acrylic-based solid surface product. Standard thickness of 1", and a 4" butt backsplash/curb. Also referred to as a work surface or work top. Available in a choice of colors and depths. Used in lab and other hospital areas requiring optimum physical and chemical resisting properties.



4.3.7 Filling/Assembly Area, Inpatient (PHIF1), Filling/Assembly Carousel, Inpatient (PHIF2), Processing Area, Inpatient (PHPA1), Tube Station (NT001), Restock Area, Crash Cart (PHRA1)

Equipment List (continued)

E0954	Cart, Emergency, Mobile, 66"H x 32"W x 22"D	V / V	1	<p><i>THIS TYPICAL INCLUDES:</i></p> <ul style="list-style-type: none"> 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.
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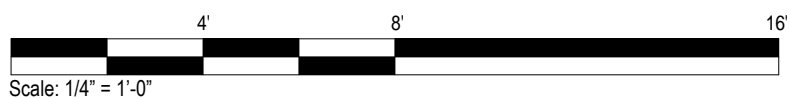
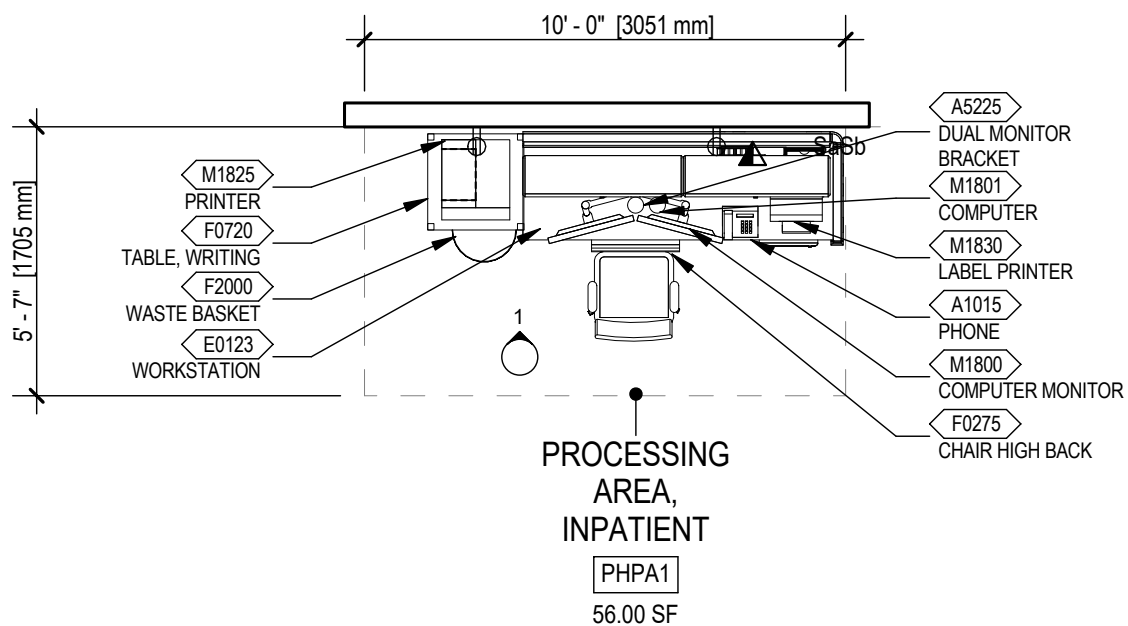


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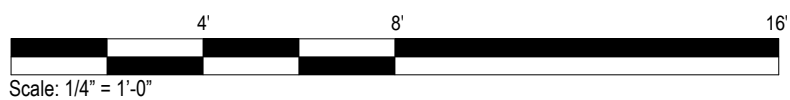
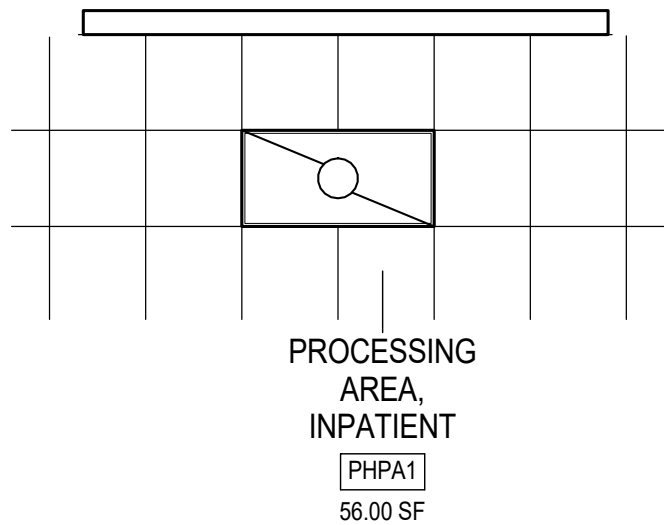
4.3.8 Processing Area, Inpatient (PHPA1)

Floor Plan



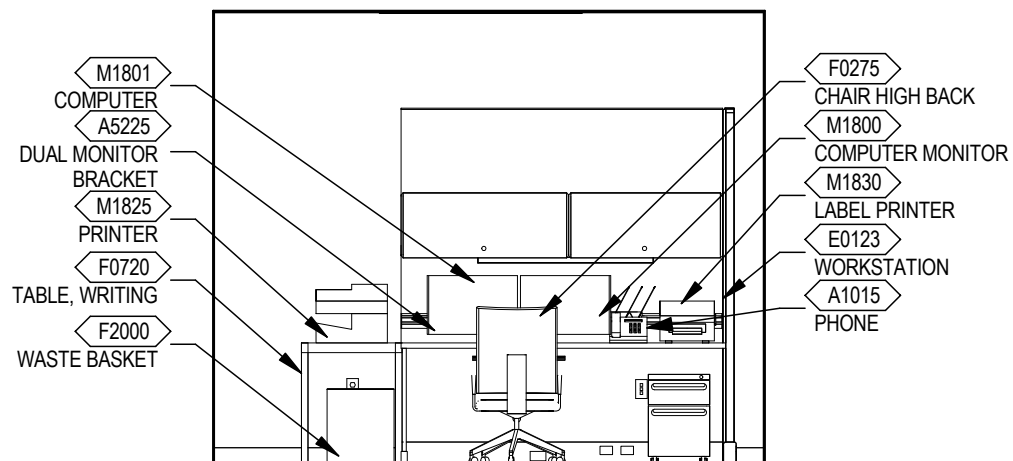
4.3.8 Processing Area, Inpatient (PHPA1)

Reflected Ceiling Plan

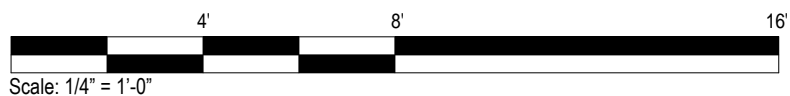


4.3.8 Processing Area, Inpatient (PHPA1)

Elevation

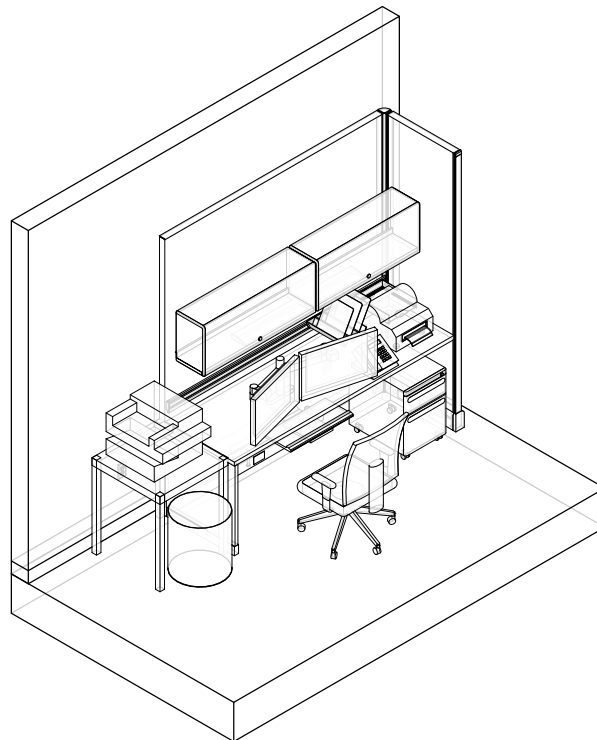


ELEVATION 1



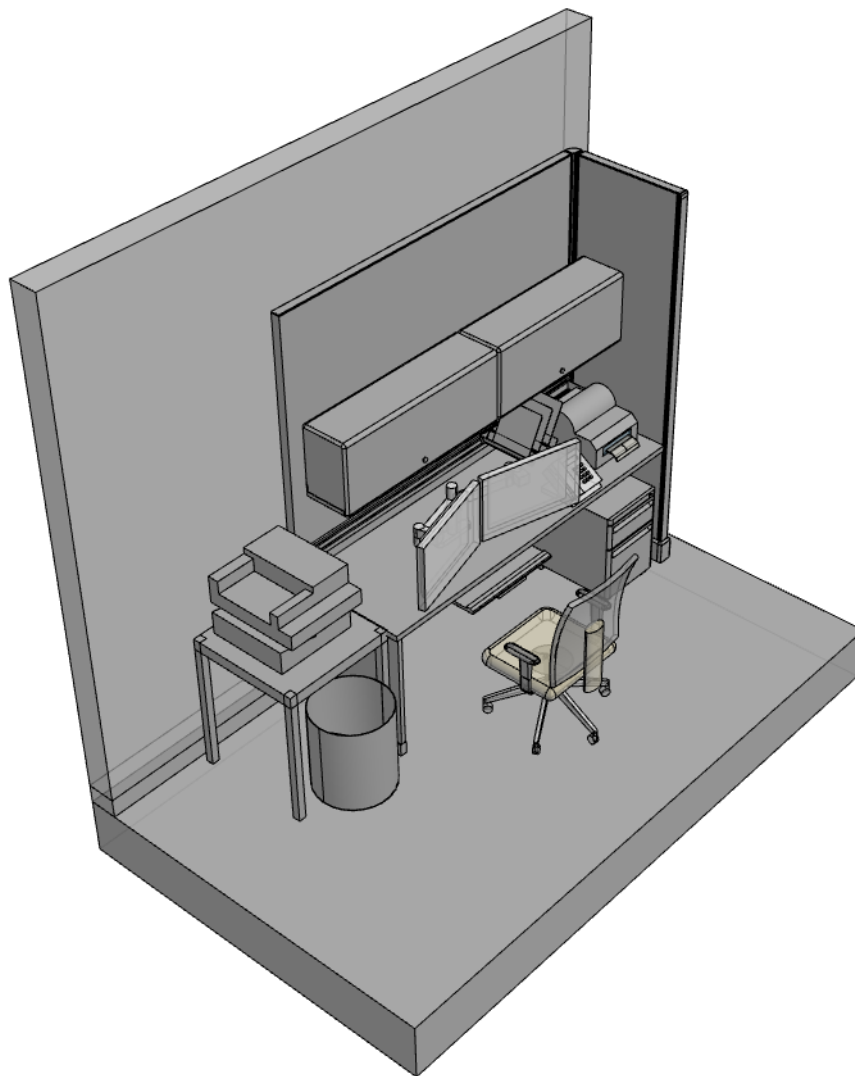
4.3.8 Processing Area, Inpatient (PHPA1)

Axonometric



4.3.8 Processing Area, Inpatient (PHPA1)

Interactive 3D PDF



4.3.8 Processing Area, Inpatient (PHPA1)**Room Data****ARCHITECTURE & INTERIOR DESIGN**

Ceiling Type	AT (Acoustical Ceiling Tile)
Ceiling Height	9'-0"
Wall Finish	GWB (Gypsum Wallboard); P (Paint)
Base	RF (Integral Base-4")
Floor Finish	RF (Rubber Flooring)
Slab Depression	No
Sound Protection	See VA Interior Design Guide
Doors	No
Hardware	No

LIGHTING

General Requirement: Refer to VA Lighting Design Manual Chapter 4 Patient Areas Lighting Guidelines 4.2.18 Pharmacy for design approach and recommended luminaires.

POWER

Normal	Yes
Emergency	No

COMMUNICATIONS

Data	Yes
Telephone	Yes
Cable Television	No
Duress Alarm	No
Electronic Access	No
Intercom	No

COMMUNICATIONS

Motion Intrusion Detection (MID)	No
Public Access	No
Security Surveillance Television (SSTV)	No
Motion Sensor	No
Clock	No
Other	No

HVAC

General Requirement: Refer to Inpatient Processing data sheet in the current version of the VA HVAC Design Manual for room temperatures, humidity range, room air change requirements, and pressurization.

PLUMBING

Cold Water	No
Hot Water	No
Waste	No

FIRE PROTECTIONS AND LIFE SAFETY

Alarm Detection	Smoke
Alarm Annunciator	Audio/Visual
Sprinkler	Yes
Hazard Type	Light



4.3.8 Processing Area, Inpatient (PHPA1)

Equipment List

JSN	NAME	AI	QTY	DESCRIPTION
A1015	Telephone, Desk, Multiple Line	V / V	1	Telephone, desk, multiple line.
A5225	Bracket, Dual Computer Monitor, Desk-Mounted	V / V	1	Desk-mounted bracket that supports two LCD computer monitors, or laptop and monitor configuration. Extends LCD's or laptop up to 25" with an adjustment range of 18". Desk clamp attaches to edge up to 2.6" thick. Maximum combined weight supported not to exceed 50 lbs.
E0123	Workstation, Straight, Free Standing, 72" W	V / V	1	This JSN will provide a whole work station typical to quickly plan work in areas in clinical or administrative spaces. There will be a price decrease if typical work stations are used with vertical hanging strips instead of panels. THIS TYPICAL INCLUDES: 4 Standard Solid Panels 2 Panel Connectors, 2-Way Corner 1 Panel-to-Panel Connector 2 Finished End Hardware 1 Cantilevered, Work Surface 2 Lockable Flipper Units 2 Shelf, Storage/Displays 2 Lights 1 Tack board 1 Tool Rail 1 Paper Tray 1 Diagonal Tray 1 Adjustable Keyboard Tray 1 Mobile Pedestal, Box/File
F0275	Chair, Swivel, High Back	V / V	1	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.
F0720	Table, Writing	V / V	1	Table writing approximately 29" H X 30" W X 18" D for use in day rooms, sleep rooms or as appropriate.
F2000	Basket, Wastepaper, Fire Resistant	V / V	1	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.



4.3.8 Processing Area, Inpatient (PHPA1)

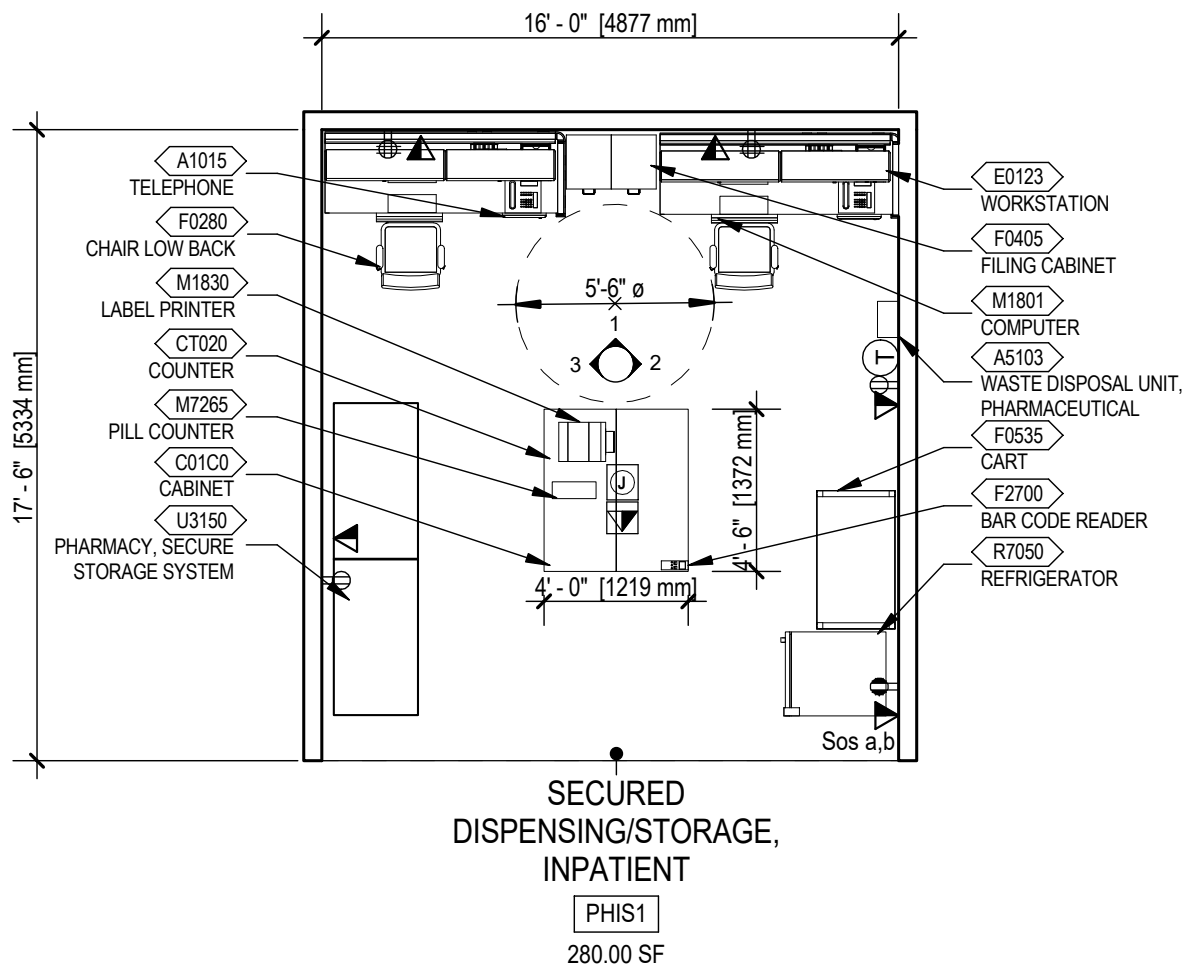
Equipment List (Continued)

M1800	Monitor, Computer	V / V	1	<i>A high definition LED computer monitor with minimum 1920 x 1080 resolution, 4ms response time, 25 inch class display size, compatible with desk or arm mounted. Monitor is VESA compatible and Energy Star compliant.</i>
M1801	Computer, Microprocessing, w/Flat Panel Monitor	V / V	1	<i>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.</i>
M1825	Printer, Computer	V / V	1	<i>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.</i>
M1830	Printer, Label, Pharmacy	V / V	1	<i>Label printer for use in pharmacy applications. The printer shall be bench top standing. It shall be flexible enough to accommodate label sizes up to 4 inches, with a minimum print speed of 6 inches per second and a minimum resolution of 203 dpi.</i>



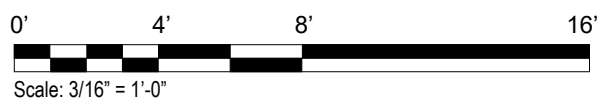
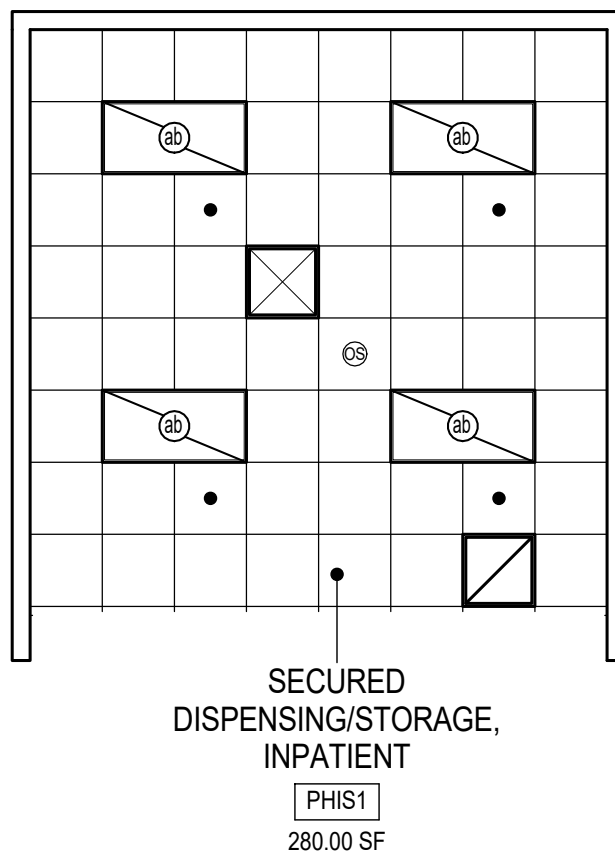
4.3.9 Secured Dispensing / Storage, Inpatient (PHIS1)

Floor Plan



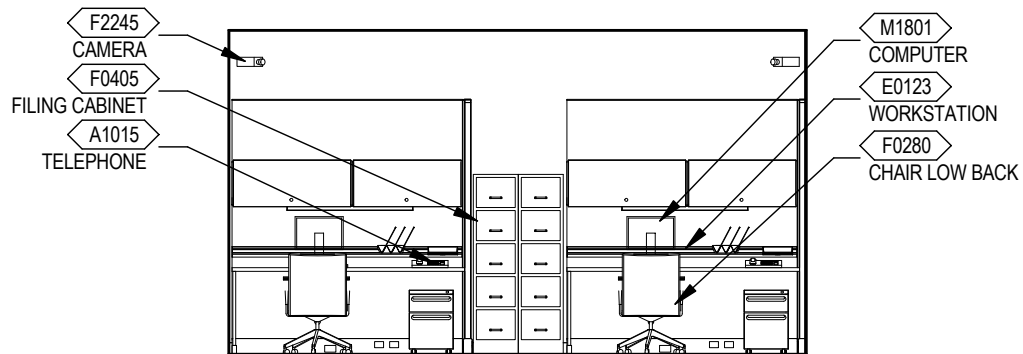
4.3.9 Secured Dispensing / Storage, Inpatient (PHIS1)

Reflected Ceiling Plan

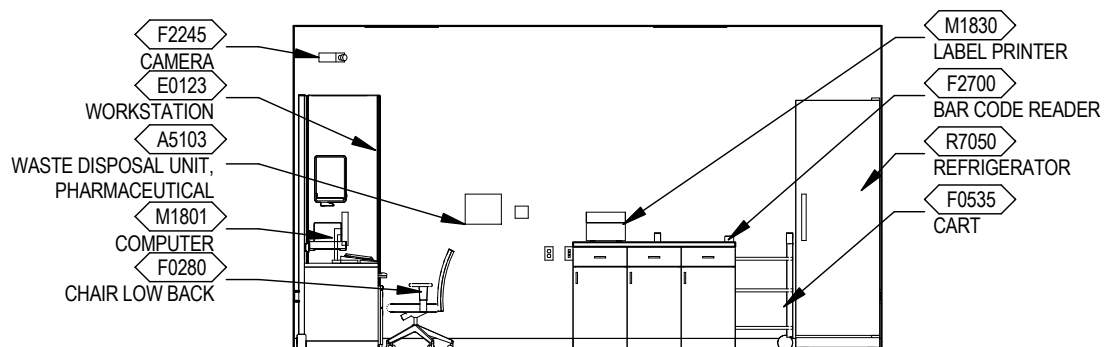


4.3.9 Secured Dispensing / Storage, Inpatient (PHIS1)

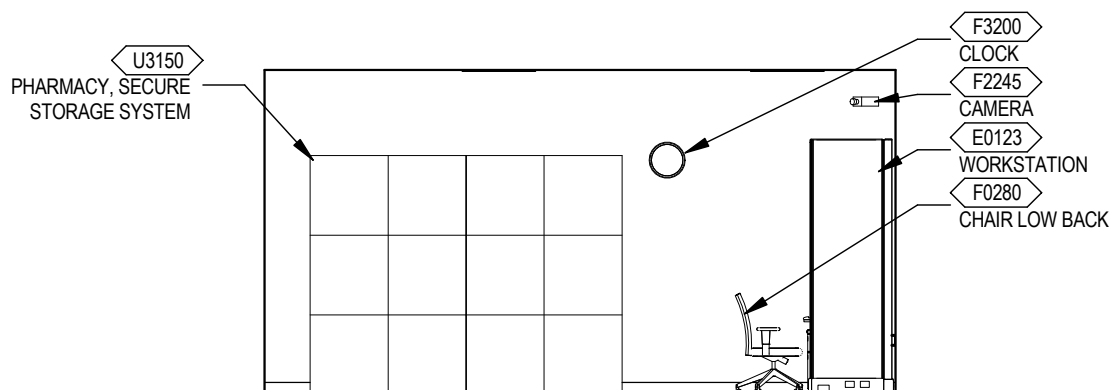
Elevations



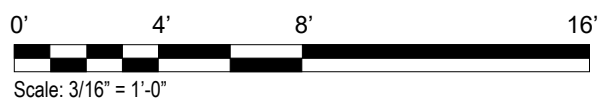
ELEVATION 1



ELEVATION 2

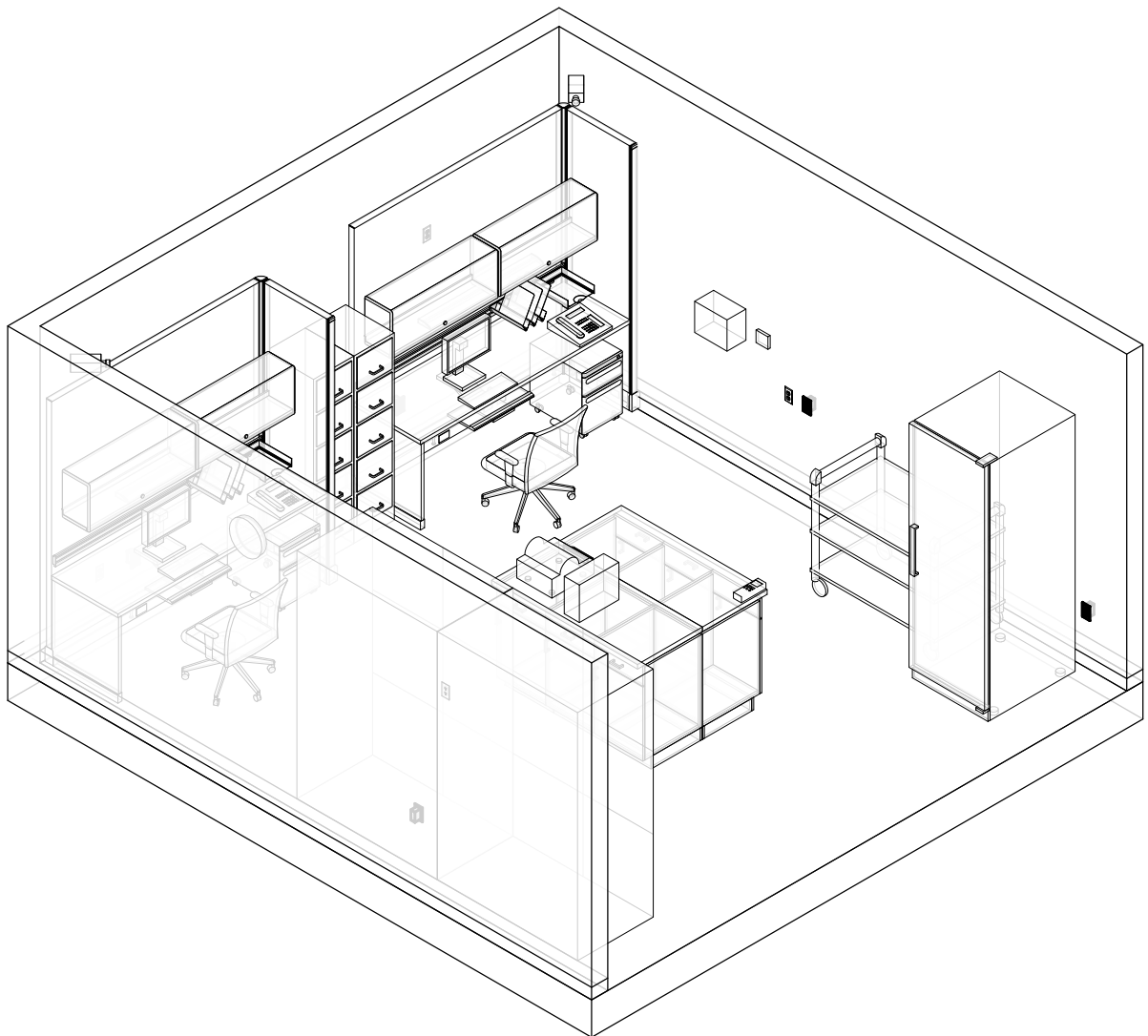


ELEVATION 3



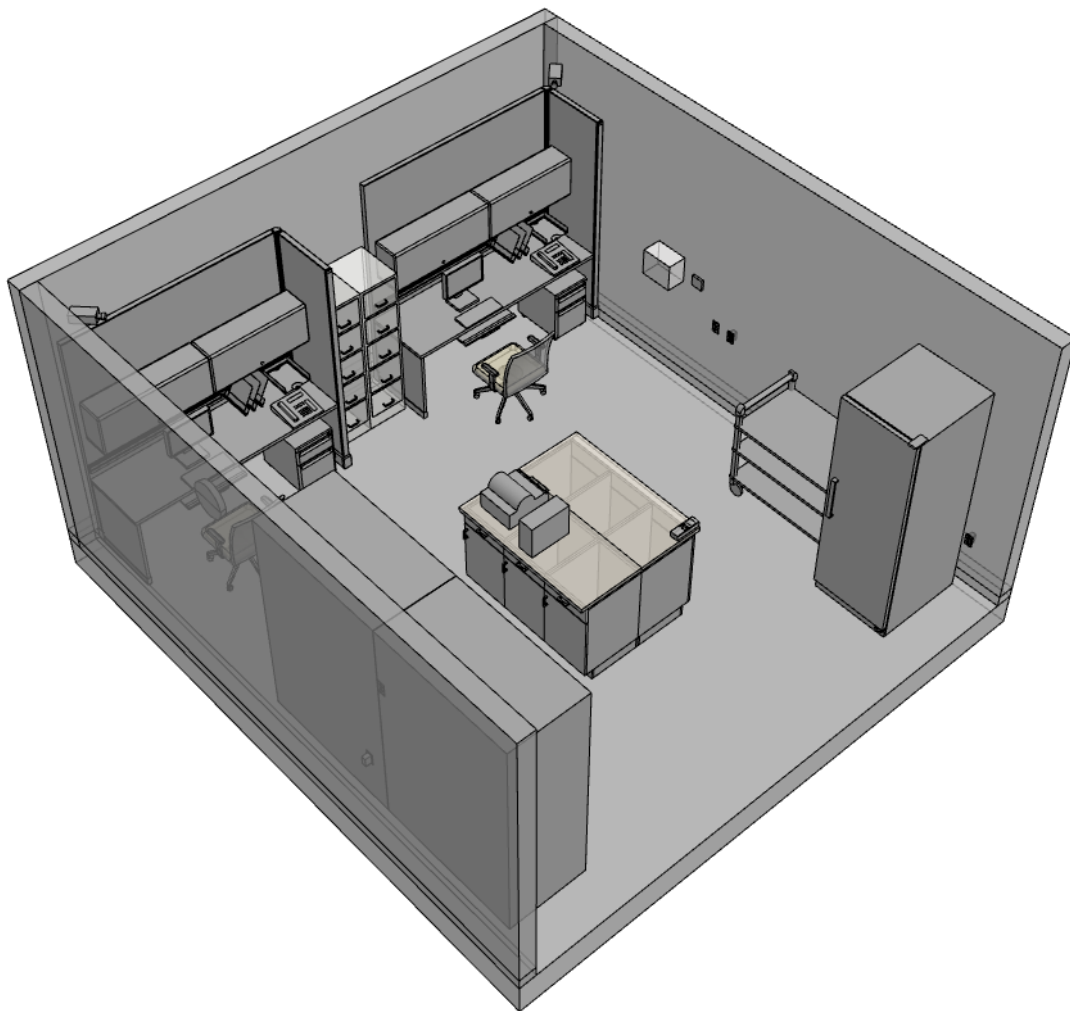
4.3.9 Secured Dispensing / Storage, Inpatient (PHIS1)

Axonometric



4.3.9 Secured Dispensing / Storage, Inpatient (PHIS1)

Interactive 3D PDF



4.3.9 Secured Dispensing / Storage, Inpatient (PHIS1)

Room Data

ARCHITECTURE & INTERIOR DESIGN		COMMUNICATIONS	
Ceiling Type	AT (Acoustical Ceiling Tile)	Data	Yes
Ceiling Height	9'-0"	Telephone	Yes
Wall Finish	GWB Gypsum Wallboard; Paint	Cable Television	No
Base	RF Integral Base (4")	Duress Alarm	No
Floor Finish	RF Rubber Flooring	Electronic Access	No
Slab Depression	See Notes 1	Intercom	No
Sound Protection	See VA Interior Design Guide	Motion Intrusion Detection (MID)	No
Doors	No	Public Access	No
Hardware	No	Security Surveillance Television (SSTV)	Yes
Notes		Motion Sensor	Ceiling
1. If high-density storage is used, coordinate slab depression with structural engineer.		Clock	Yes
2. For carousels, coordinate placement with structural engineer.		Other	No
LIGHTING		HVAC	
General Requirement: Refer to VA Lighting Design Manual Chapter 4 Patient Areas Lighting Guidelines 4.2.18 Pharmacy for design approach and recommended luminaires.		General Requirement: Refer to Inpatient Secured Dispensing/Storage data sheet in the current version of the VA HVAC Design Manual for room temperatures, humidity range, room air change requirements, and pressurization.	
POWER			
Normal	Yes		
Emergency	Yes		



4.3.9 Secured Dispensing / Storage, Inpatient (PHIS1)

Room Data (continued)

PLUMBING

Cold Water	No
Hot Water	No
Waste	No

FIRE PROTECTIONS AND LIFE SAFETY

Alarm Detection	Smoke
Alarm Annunciator	Audio/Visual
Sprinkler	Yes
Hazard Type	Light



4.3.9 Secured Dispensing / Storage, Inpatient (PHIS1)

Equipment List

JSN	NAME	AI	QTY	DESCRIPTION
A1015	Telephone, Desk, Multiple Line	V / V	2	Telephone, desk, multiple line.
A5103	Waste Disposal Unit, Pharmaceutical	V / V	1	Disposal unit with gasket lid and absorbent pad for non-hazardous pharmaceutical waste. Available in 2, 8 and 11 gallon container sizes. Not intended for P-, U- and D-listed drugs, sharps, infectious/biohazard waste, controlled substances or free liquids.
C01C0	Cabinet, U/C/B, 1 Shelf, 1 Drawer, 1 DO, 36x18x22	C / C	6	Standing height under counter base cabinet with an adjustable shelf and a full width drawer above a solid right or left-hinged door (appropriate door hinge configuration to be indicated on equipment elevation drawings). Also referred to as a combination cabinet or a drawer and cupboard cabinet. For general purpose use throughout the facility.
CT020	Countertop, Solid Surface	C / C	10	A solid, nonporous countertop with a smooth seamless appearance. Easy to clean and maintain and with proper cleaning does not support the growth of mold. An acrylic-based solid surface product. Standard thickness of 1", and a 4" butt backsplash/curb. Also referred to as a work surface or work top. Available in a choice of colors and depths. Used in lab and other hospital areas requiring optimum physical and chemical resisting properties.
E0123	Workstation, Straight, Free Standing, 72" W	V / V	2	This JSN will provide a whole work station typical to quickly plan work in areas in clinical or administrative spaces. There will be a price decrease if typical work stations are used with vertical hanging strips instead of panels. THIS TYPICAL INCLUDES: 4 Standard Solid Panels 2 Panel Connectors, 2-Way Corner 1 Panel-to-Panel Connector 2 Finished End Hardware 1 Cantilevered, Work Surface 2 Lockable Flipper Units 2 Shelf, Storage/Displays 2 Lights 1 Tack board 1 Tool Rail 1 Paper Tray 1 Diagonal Tray 1 Adjustable Keyboard Tray 1 Mobile Pedestal, Box/File



4.3.9 Secured Dispensing / Storage, Inpatient (PHIS1)

Equipment List (continued)

F0280	Chair, Swivel, Low Back	V / V	2	Low back contemporary swivel chair, 37" high X 25" wide X 31" deep with a five (5) caster swivel base, arms and foam padded seat and back upholstered with either woven textile fabric or vinyl.
F0405	Cabinet, Filing, Full Height, 4-5 Drawer	V / V	2	Four (4) or five (5) drawer letter size, vertical filing cabinet, 53" high X 15" wide X 29" deep with locking device. Each drawer has label holder, handle and roller cradle.
F0535	Cart, Utility	V / V	1	Utility cart, 32-39" high X 36" wide X 24" deep, with 4 (four) heavy duty caster wheels.
F2245	Camera, Video Surveillance, HD, IP Powered	V / V	2	A high definition, full functional 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.
F2700	Reader, Bar Code, Hand Held, With Interface	V / V	1	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	V / V	1	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	V / V	2	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.
M1830	Printer, Label, Pharmacy	V / V	1	Label printer for use in pharmacy applications. The printer shall be bench top standing. It shall be flexible enough to accommodate label sizes up to 4 inches, with a minimum print speed of 6 inches per second and a minimum resolution of 203 dpi.



4.3.9 Secured Dispensing / Storage, Inpatient (PHIS1)

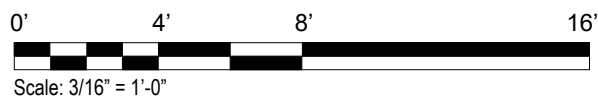
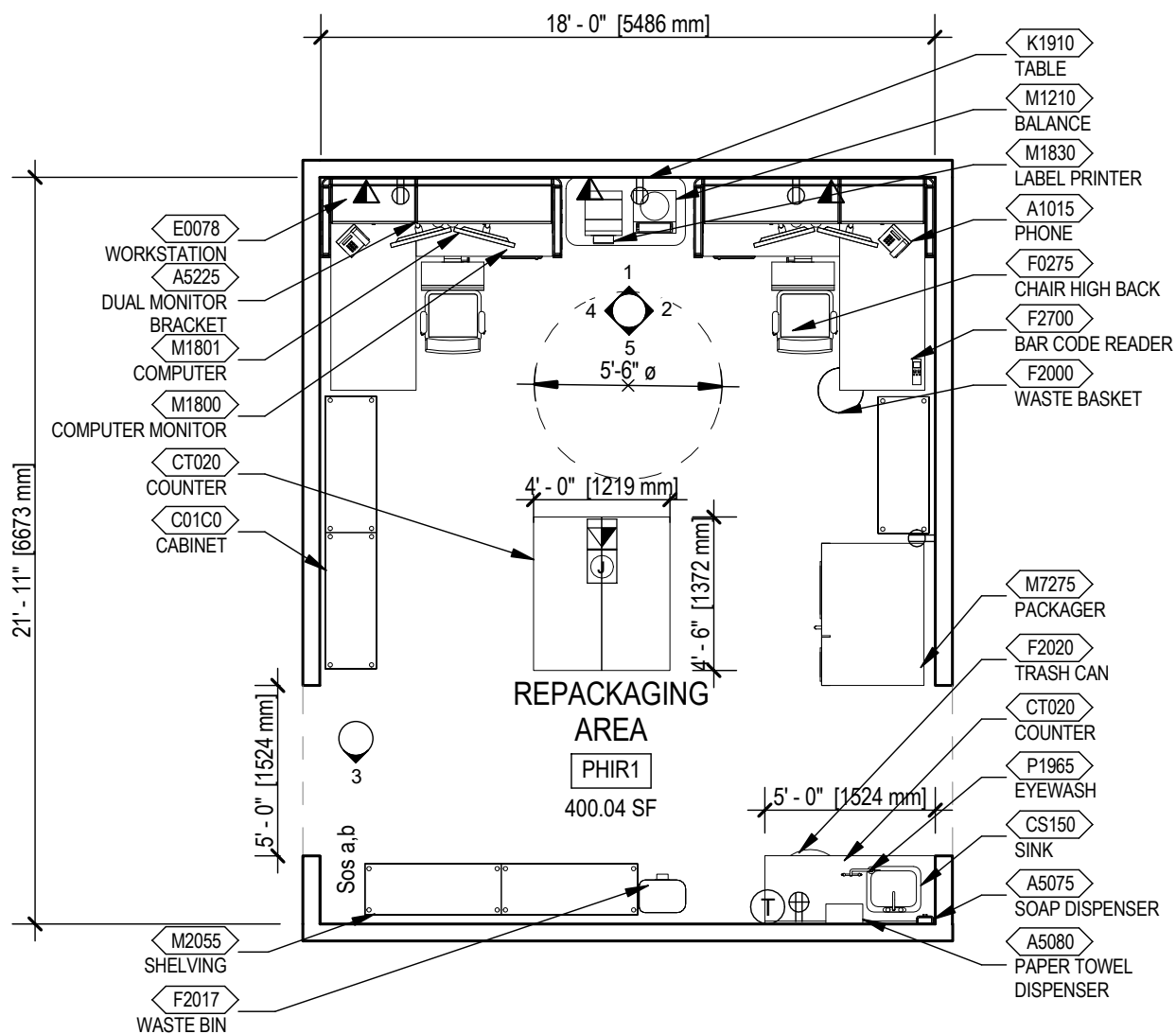
Equipment List (continued)

M7265	Counter, Pill/Tablet, Automated, Counter Mounted	V / V	1	Table mounted prescription counter device that counts tablets and capsules directly into the final container. The unit shall automatically count and dispense tablets and capsules into a container with speed and accuracy.
R7050	Refrigerator, 25 Cubic Feet	V / V	1	General purpose refrigerator approximately 84x27x37. This unit is corrosion resistant stainless steel. It has a single self closing door with safety stops. This refrigerator is generally used in commercial kitchens, hospitals and schools.
U3150	CII Safe Prescription Storage	V / V	2	Narcotic dispenser for securing, tracking and replenishing supplies of controlled substances. Double integrated Main Tower with 7 doors, 1 rapid access drawer, BioID, XP. With double column, auxiliary narcotics vault. 8 doors, 0 drawers. Controlled by Integrated Mains, Control Stations or PC Desktop Solution.



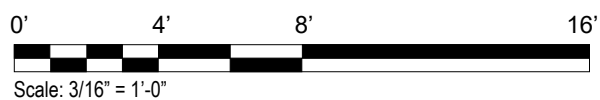
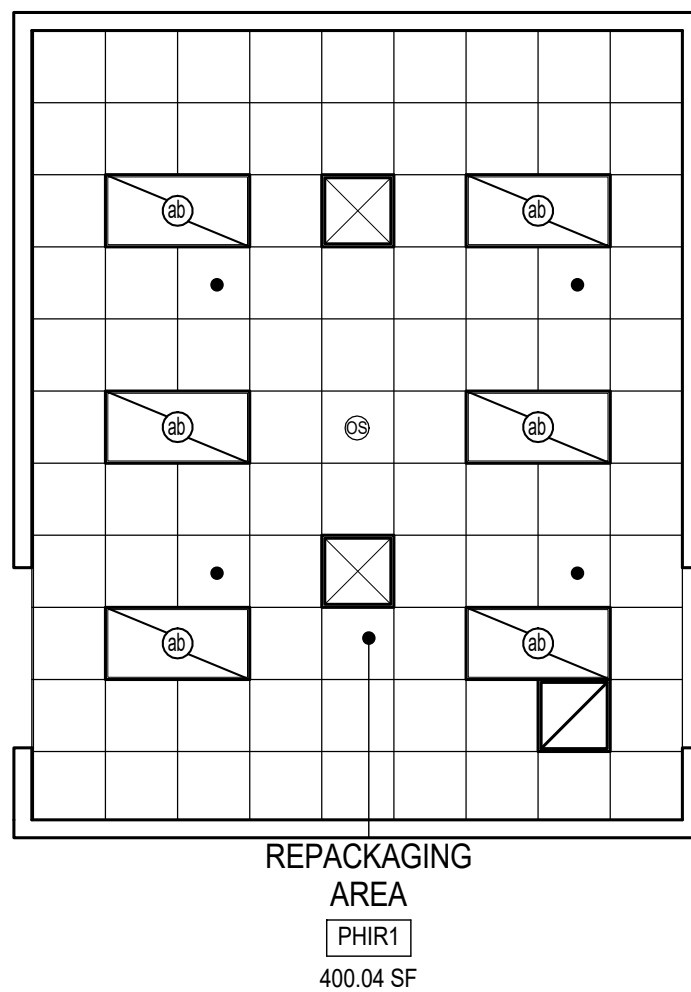
4.3.10 Repackaging Area (PHIR1)

Floor Plan



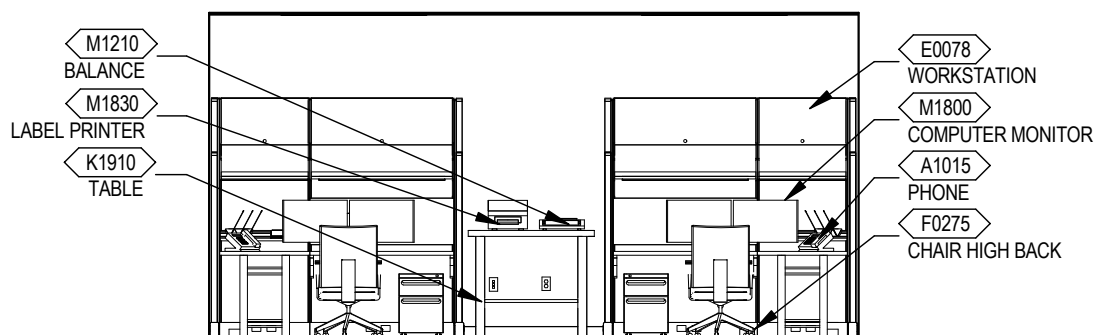
4.3.10 Repackaging Area (PHIR1)

Reflected Ceiling Plan

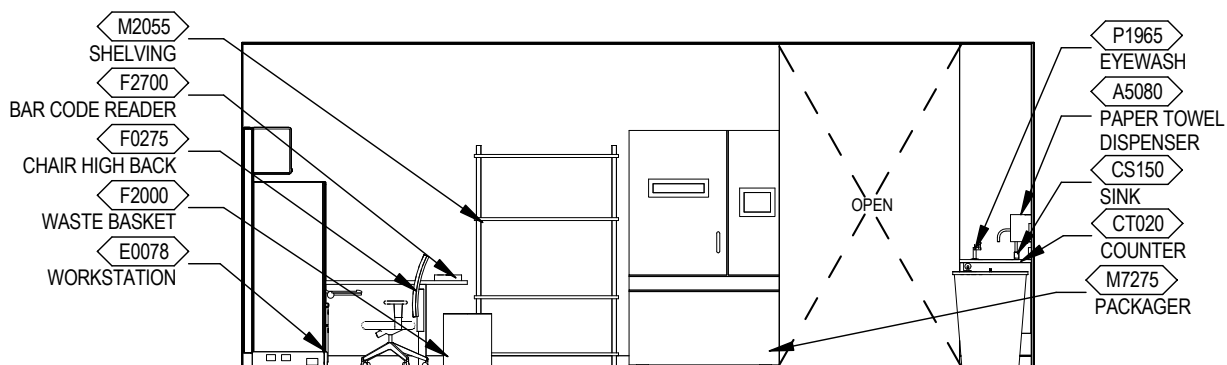


4.3.10 Repackaging Area (PHIR1)

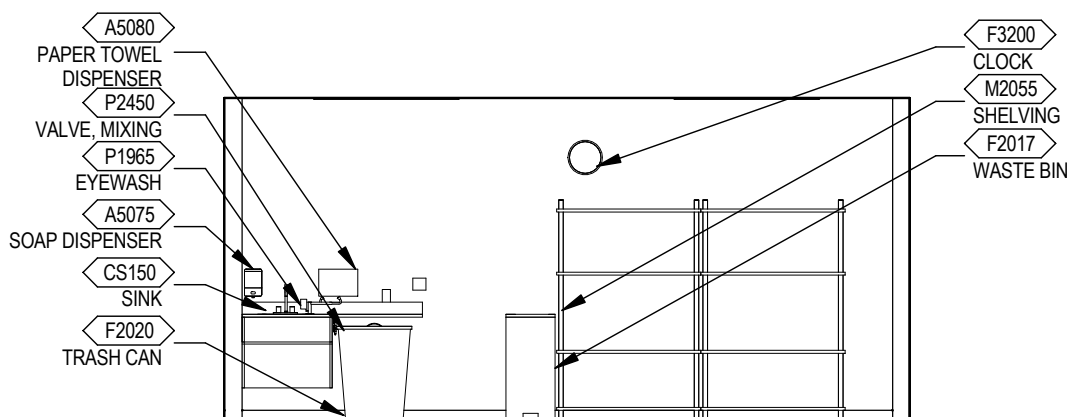
Elevations



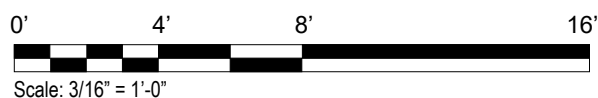
ELEVATION 1



ELEVATION 2

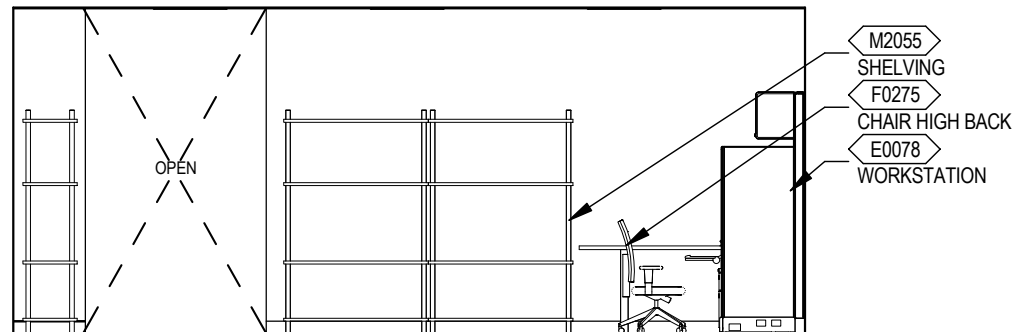


ELEVATION 3

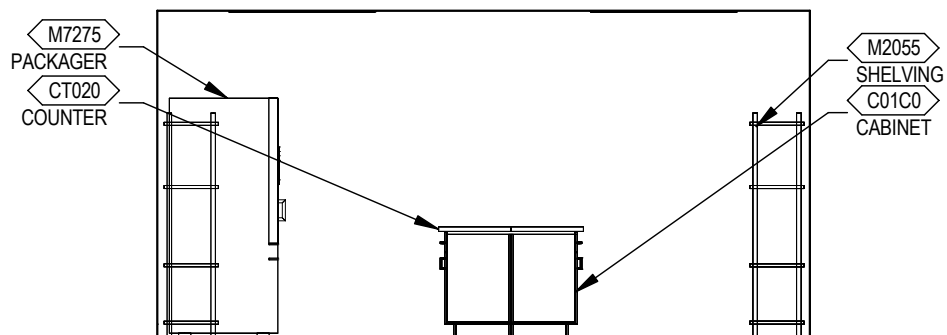


4.3.10 Repackaging Area (PHIR1)

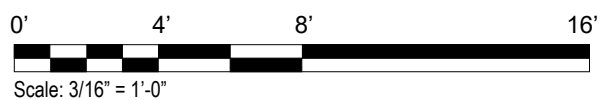
Elevations



ELEVATION 4

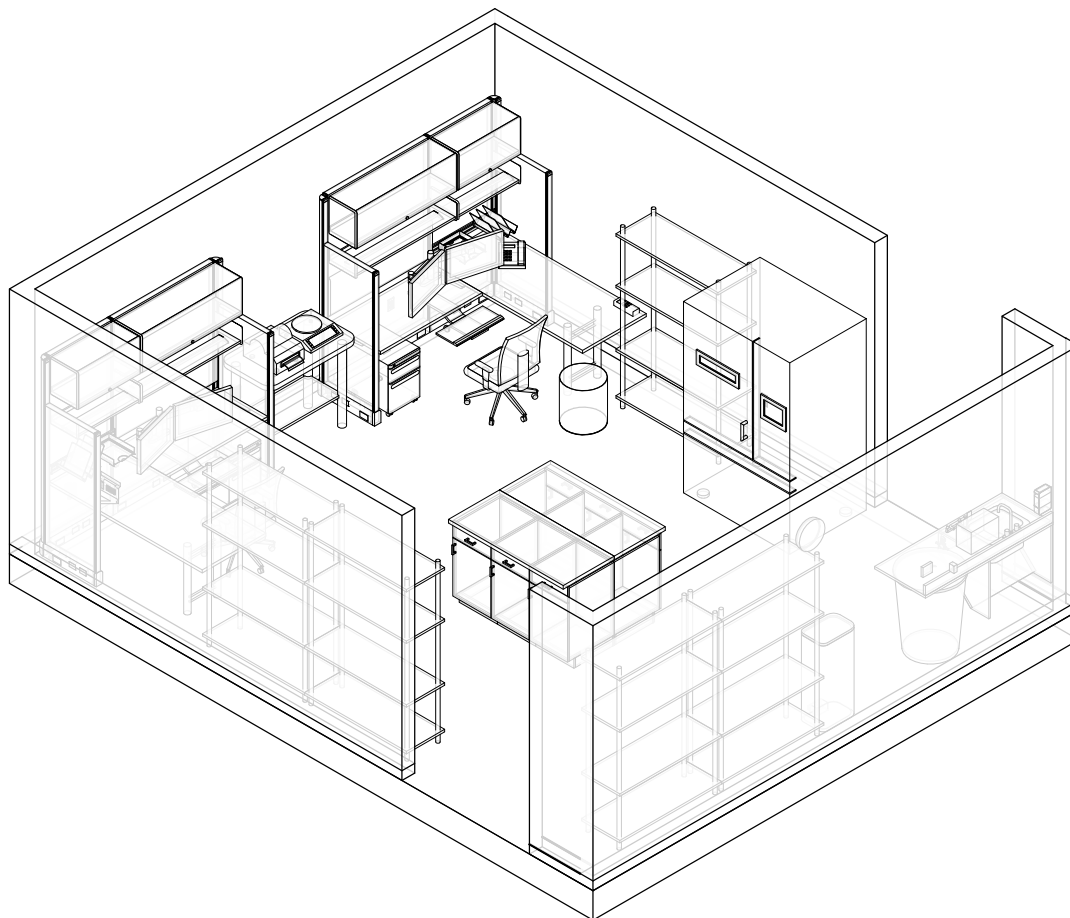


ELEVATION 5



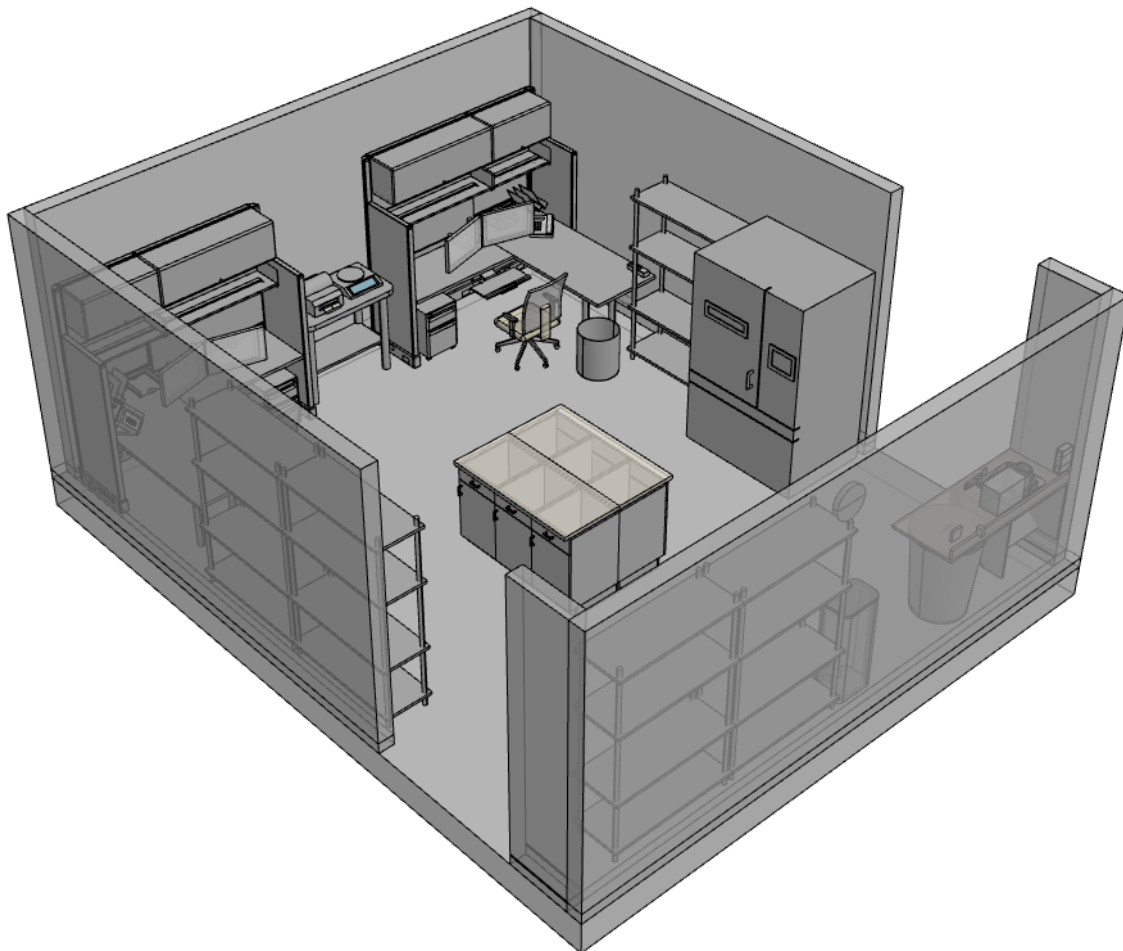
4.3.10 Repackaging Area (PHIR1)

Axonometric



4.3.10 Repackaging Area (PHIR1)

Interactive 3D PDF



4.3.10 Repackaging Area (PHIR1)

Room Data

ARCHITECTURE & INTERIOR DESIGN		COMMUNICATIONS	
Ceiling Type	AT (Acoustical Ceiling Tile)	Data	Yes
Ceiling Height	9'-0"	Telephone	Yes
Wall Finish	GWB (Gypsum Wallboard); P (Paint)	Cable Television	No
Base	RF (Integral Base-4")	Duress Alarm	Yes
Floor Finish	RF (Rubber Flooring)	Electronic Access	No
Slab Depression	See Notes 1	Intercom	No
Sound Protection	See VA Interior Design Guide	Motion Intrusion Detection (MID)	No
Doors	No	Public Access	No
Hardware	No	Security Surveillance Television (SSTV)	Yes
Notes:		Motion Sensor	Ceiling
1. If high-density storage is used and a raised track is not selected, coordinate slab depression with structural engineer.		Clock	Yes
		Other	No
LIGHTING		HVAC	
General Requirement: Refer to VA Lighting Design Manual Chapter 4 Patient Areas Lighting Guidelines 4.2.18 Pharmacy for design approach and recommended luminaires.		General Requirement: Refer to Inpatient Repackaging data sheet in the current version of the VA HVAC Design Manual for room temperatures, humidity range, room air change requirements, and pressurization.	
Notes:			
1. If high-density storage is used and a raised track is not selected, coordinate slab depression with structural engineer.			
POWER			
Normal	Yes		
Emergency	No		



4.3.10 Repackaging Area (PHIR1)

Room Data (continued)

PLUMBING

Cold Water	Yes
Hot Water	Yes
Waste	Yes

FIRE PROTECTIONS AND LIFE SAFETY

Alarm Detection	Smoke
Alarm Annunciator	Audio/Visual
Sprinkler	Yes
Hazard Type	Light



4.3.10 Repackaging Area (PHIR1)

Equipment List

JSN	NAME	AI	QTY	DESCRIPTION
A1015	Telephone, Desk, Multiple Line	V / V	2	Telephone, desk, multiple line.
A5075	Dispenser, Soap, Disposable	V / V	1	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	C / C	1	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.
A5225	Bracket, Dual Computer Monitor, Desk-Mounted	V / V	2	Desk-mounted bracket that supports two LCD computer monitors, or laptop and monitor configuration. Extends LCD's or laptop up to 25" with an adjustment range of 18". Desk clamp attaches to edge up to 2.6" thick. Maximum combined weight supported not to exceed 50 lbs.
C01C0	Cabinet, U/C/B, 1 Shelf, 1 Drawer, 1 DO, 36x18x22	C / C	6	Standing height under counter base cabinet with an adjustable shelf and a full width drawer above a solid right or left-hinged door (appropriate door hinge configuration to be indicated on equipment elevation drawings). Also referred to as a combination cabinet or a drawer and cupboard cabinet. For general purpose use throughout the facility.
CS150	Sink, SS, Single Compartment, 10x19x16 ID	C / C	1	Single compartment stainless steel sink, drop-in, self-rimming, ledge-type, connected with a drain and provided with a mixing faucet. It shall also be provided with pre-punched fixture holes on 4" center, integral back ledge to accommodate deck-mounted fixtures, brushed/polished interior and top surfaces, and sound deadened. Recommended for use in suspended or U/C/B sink cabinets having a high plastic laminate or Chemsurf laminate countertop/work surface. Coordinate actual outside sink dimensions with the actual clear dimension of cabinet specified to ensure that they are compatible. For general purpose use throughout the facility.



4.3.10 Repackaging Area (PHIR1)

Equipment List (continued)

CT020	Countertop, Solid Surface	C / C	16	<i>A solid, nonporous countertop with a smooth seamless appearance. Easy to clean and maintain and with proper cleaning does not support the growth of mold. An acrylic-based solid surface product. Standard thickness of 1", and a 4" butt backsplash/curb. Also referred to as a work surface or work top. Available in a choice of colors and depths. Used in lab and other hospital areas requiring optimum physical and chemical resisting properties.</i>
E0078	Workstation, L-Shaped w/Peninsula, Free Std, 78x72	V / V	2	<i>This section will provide a whole work station typical to quickly plan work areas in clinical or administrative spaces. There will be a price decrease if typical work stations are used with vertical hanging strips instead of panels. THIS TYPICAL INCLUDES: 4 standard solid panels; 2 panel connectors, 2-way corner; 1 panel-to-panel connector; 2 finished end hardware; 1 cantilevered work surface; 1 peninsula work surface; 2 lockable flipper units; 2 shelf, storage/display; 2 lights; 1 tack board, 48"W; 1 tool rail, 30"W; 1 paper tray; 1 diagonal tray; 1 adjustable keyboard tray; 1 mobile pedestal, box/file.</i>
F0275	Chair, Swivel, High Back	V / V	2	<i>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.</i>
F2000	Basket, Wastepaper, Fire Resistant	V / V	1	<i>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.</i>
F2017	Waste Receptacle, 24 GAL	V / V	1	<i>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.</i>



4.3.10 Repackaging Area (PHIR1)

Equipment List (continued)

F2020	Can, Trash, 44 Gallon	V / V	1	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	V / V	1	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	V / V	1	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).
K1910	Table, Work, Stain- less Steel	V / V	1	Work table approximately 36x120x30. The table is made of heavy duty stainless steel with all edges rolled down at 90 degrees. The edges are 2" high and have rounded corners. The table has stainless steel legs and a stainless steel under-shelf. The unit is used as a work station in large kitchens, hotels, restaurants and hospitals.
M1210	Balance, Electronic, Laboratory/Pharmacy	V / V	1	Electronic balance with high fluorescent display, built-in auto tracking and tape. Unit has a programmable selection for weight range and automatic calibration. Intended for use in the laboratory or pharmacy. Unit's weight limitation will be no less than 4000 grams.
M1800	Monitor, Computer	V / V	2	A high definition LED computer monitor with minimum 1920 x 1080 resolution, 4ms response time, 25 inch class display size, compatible with desk or arm mounted. Monitor is VESA compatible and Energy Star compliant.
M1801	Computer, Micropro- cessing, w/Flat Panel Monitor	V / V	2	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-ROM/DVD 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.



4.3.10 Repackaging Area (PHIR1)

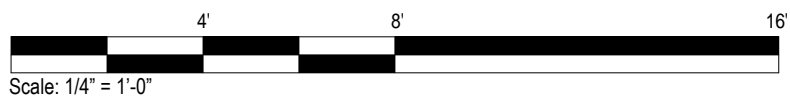
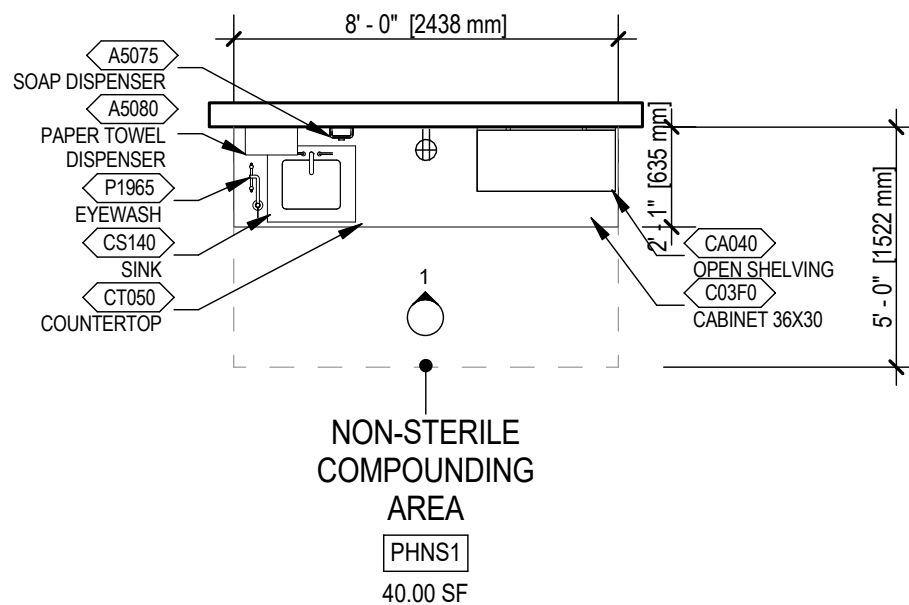
Equipment List (continued)

M1830	Printer, Label, Pharmacy	V / V	1	Label printer for use in pharmacy applications. The printer shall be bench top standing. It shall be flexible enough to accommodate label sizes up to 4 inches, with a minimum print speed of 6 inches per second and a minimum resolution of 203 dpi.
M2055	Shelving, Storage, Wire, CRS, w/Adjustable Shelves	V / V	5	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.
M7275	Packager, Unit Dose, Solids	V / V	1	Automated packager for inpatient unit dose pharmacy applications. The unit consists of an array of cells which hold pills and tablets. The system computer takes user instructions and directs the system to select the proper pill cell and dispense a tablet onto a plastic bottom sheet. At the same time, the system prints a plastic cover sheet for the pill which includes the type of pill and any facility specific coding necessary. The system then marries the two sheets (with the pill between them) and heat seals the sheets enclosing the pill. The system is designed to limit cross contamination by containing tablet dust and to alert the operator in case of malfunction. Several configurations are available depending on the size of the pharmacy and workload.
P1965	Eyewash, Eye/Face, Sink Mounted, Hands-free	C / C	1	A sink mounted eyewash station. The unit is designed for emergency eye and face rinsing from soft flow dual spray-heads. The Flow must be activated by the single momentary action and remain on until terminated.
P2451	Valve, Mixing, Thermostatic, Eyewash	C / C	1	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)



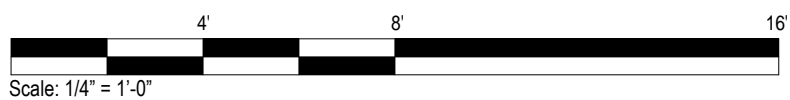
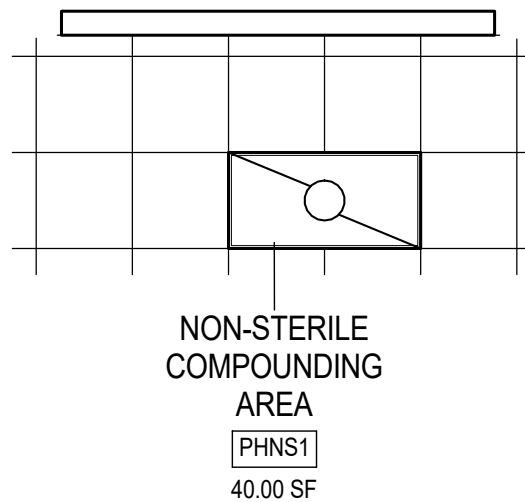
4.3.11 Non-Sterile Compounding Area (PHNS1)

Floor Plan



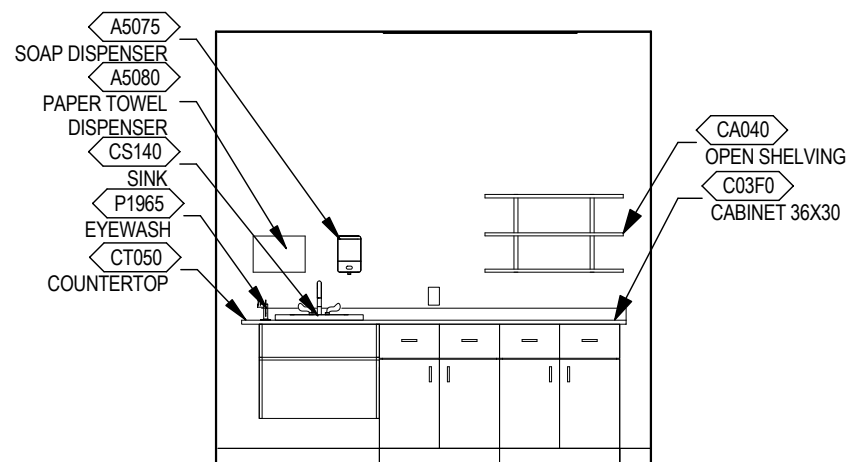
4.3.11 Non-Sterile Compounding Area (PHNS1)

Reflected Ceiling Plan

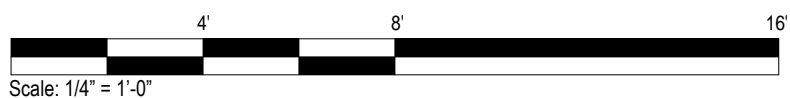


4.3.11 Non-Sterile Compounding Area (PHNS1)

Elevation

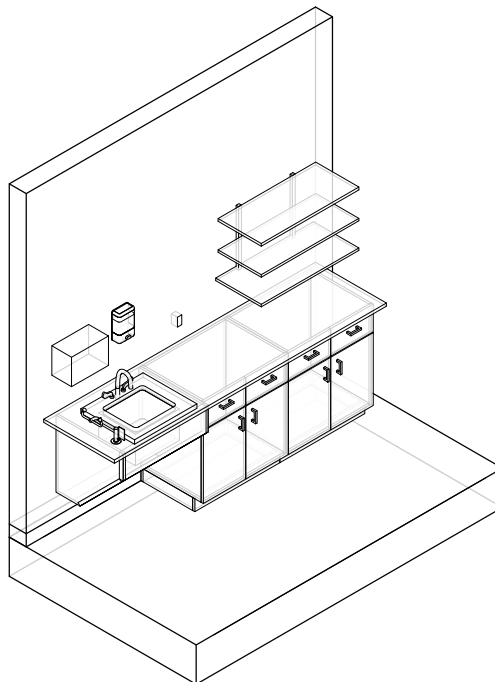


ELEVATION 1



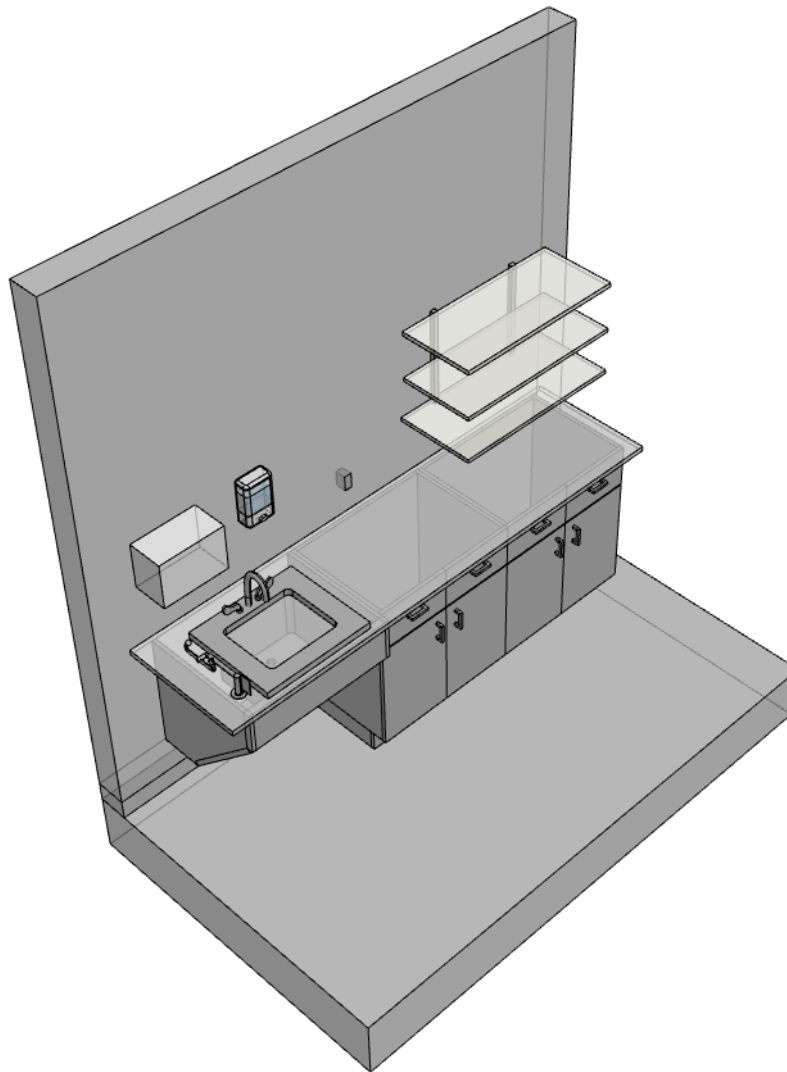
4.3.11 Non-Sterile Compounding Area (PHNS1)

Axonometric



4.3.11 Non-Sterile Compounding Area (PHNS1)

Interactive 3D PDF



4.3.11 Non-Sterile Compounding Area (PHNS1)

Room Data

ARCHITECTURE & INTERIOR DESIGN

Ceiling Type	AT (Acoustical Ceiling Tile)
Ceiling Height	9'-0"
Wall Finish	GWB (Gypsum Wallboard); P (Paint)
Base	RF (Integral Base-4")
Floor Finish	RF (Rubber Flooring)
Slab Depression	No
Sound Protection	See VA Interior Design Guide
Doors	No
Hardware	No

LIGHTING

General Requirement: Refer to VA Lighting Design Manual Chapter 4 Patient Areas Lighting Guidelines 4.2.18 Pharmacy for design approach and recommended luminaires.

POWER

Normal	Yes
Emergency	No

COMMUNICATIONS

Data	No
Telephone	No
Cable Television	No
Duress Alarm	No
Electronic Access	No

COMMUNICATIONS

Intercom	No
Motion Intrusion Detection (MID)	No
Public Access	No
Security Surveillance Television (SSTV)	No
Motion Sensor	No
Clock	No
Other	No

HVAC

General Requirement: Refer to Inpatient Compounding data sheet in the current version of the VA HVAC Design Manual for room temperatures, humidity range, room air change requirements, and pressurization.

PLUMBING

Cold Water	Yes
Hot Water	Yes
Waste	Yes

FIRE PROTECTIONS AND LIFE SAFETY

Alarm Detection	Smoke
Alarm Annunciator	Audio/Visual
Sprinkler	Yes
Hazard Type	Light



4.3.11 Non-Sterile Compounding Area (PHNS1)

Equipment List

JSN	NAME	AI	QTY	DESCRIPTION
A5075	Dispenser, Soap, Disposable	V / V	1	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	C / C	1	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.
C03F0	Cabinet, U/C/B, 1 Shelf, 2 Half DR, 2 DO, 36x30x22	C / C	2	Standing height under counter base cabinet with an adjustable shelf and two half width drawers above solid hinged doors. Also referred to as a combination cabinet or a drawer and cupboard cabinet. For general purpose use throughout the facility.
CA040	Cabinet, Open, W/H, 2 Shelf, Sloping Top, 38x36x13	C / C	1	Wall hung open front cabinet with two adjustable shelves and sloping top. Also referred to as an open case. For general purpose use throughout the facility.
CS140	Sink, SS, Single Compartment, 10x14x16 ID	C / C	1	Single compartment stainless steel sink, drop-in, self-rimming, ledge-type, connected with a drain and provided with a mixing faucet. It shall also be provided with punched fixture holes on 4" center, integral back ledge to accommodate deck-mounted fixtures, brushed/polished interior and top surfaces, and sound deadened. Recommended for use in suspended or U/C/B sink cabinets having a high plastic laminate or Chemsurf laminate countertop/work surface. Coordinate actual outside sink dimensions with the actual clear dimension of cabinet specified to ensure that they are compatible. For general purpose use throughout the facility.
CT050	Countertop, Stainless Steel	C / C	8	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.
P1965	Eyewash, Eye/Face, Sink Mounted, Hands-free	C / C	1	A sink mounted eyewash station. The unit is designed for emergency eye and face rinsing from soft flow dual spray-heads. The Flow must be activated by the single momentary action and remain on until terminated.



4.3.11 Non-Sterile Compounding Area (PHNS1)

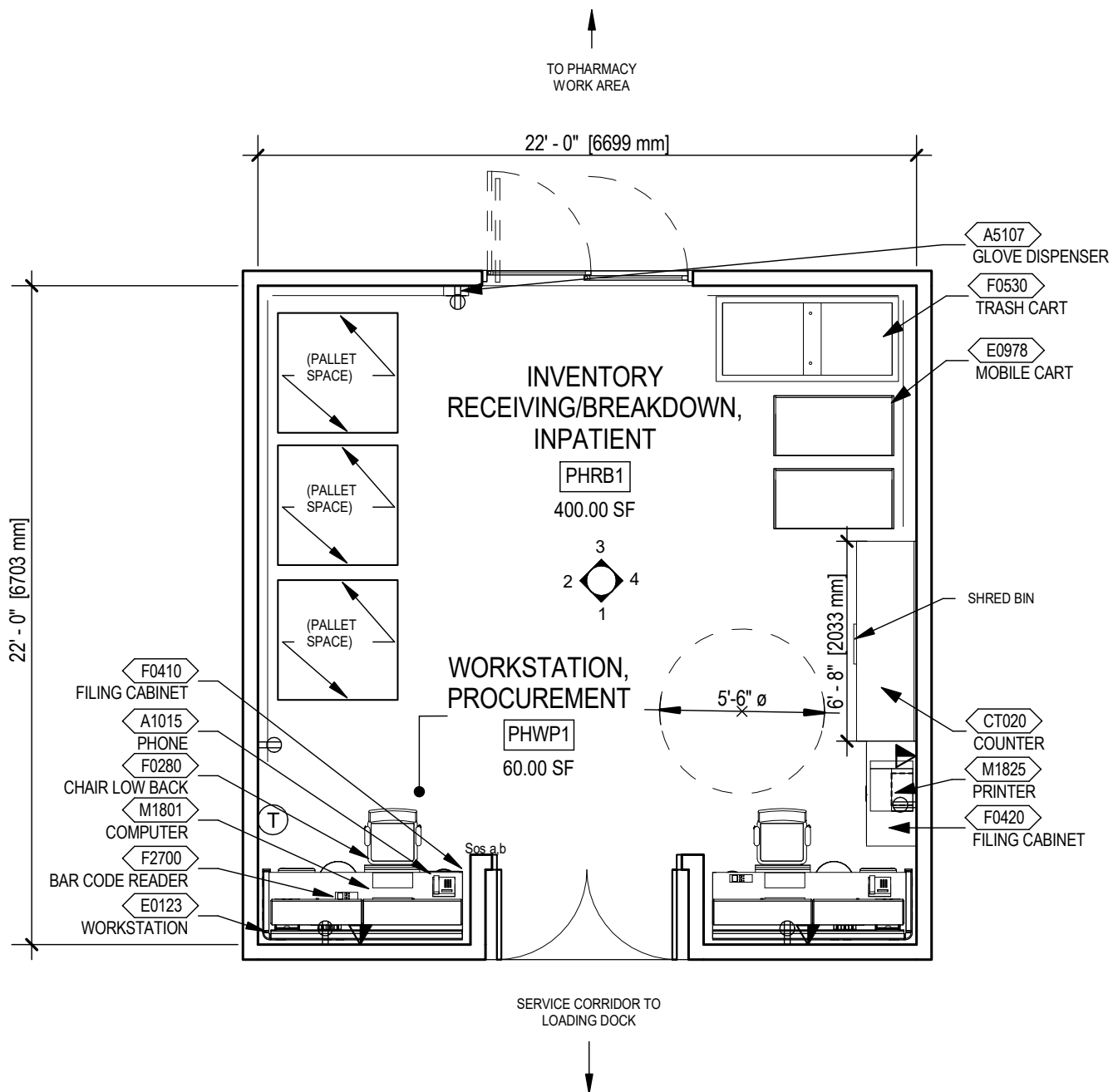
Equipment List (continued)

P2451	Valve, Mixing, Thermostatic, Eyewash	C / C	1	<i>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)</i>
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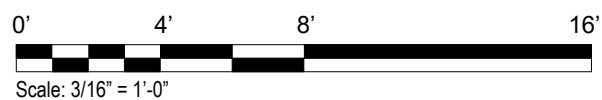
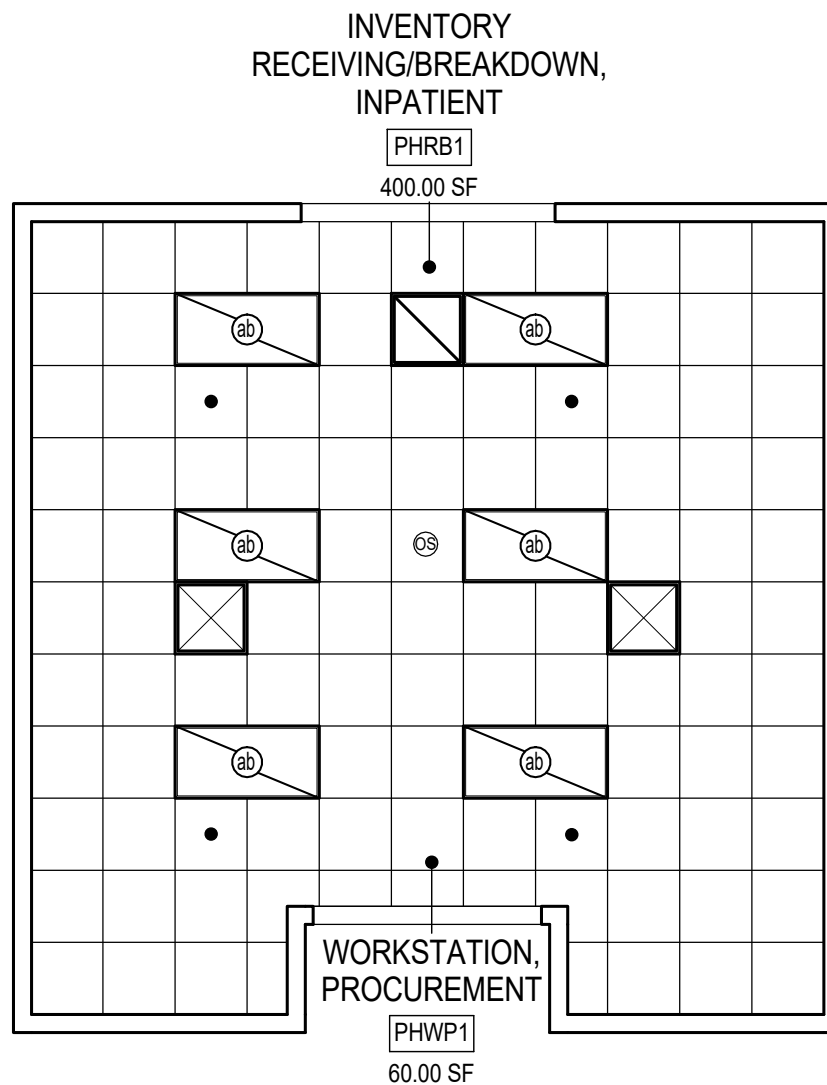
4.3.12 Receiving/Breakdown, Inpatient (PHRB1), Workstation, Procurement (PHWP1)

Floor Plan



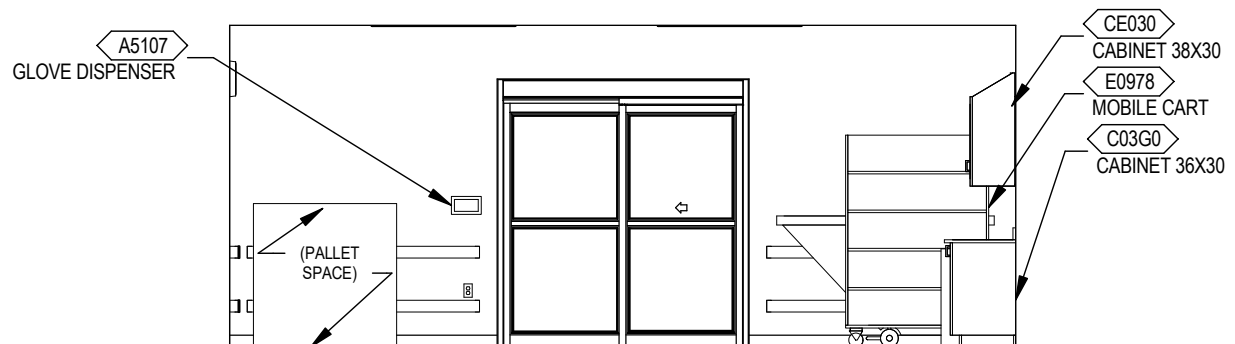
4.3.12 Receiving/Breakdown, Inpatient (PHRB1), Workstation, Procurement (PHWP1)

Reflected Ceiling Plan

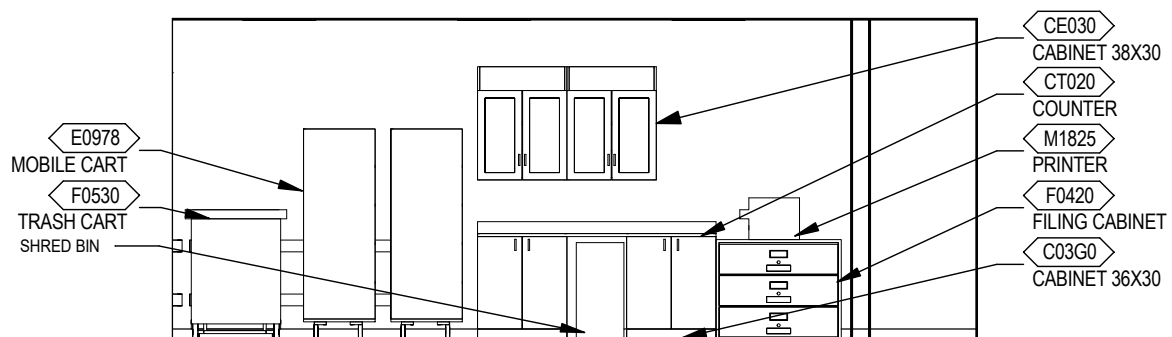


4.3.12 Receiving/Breakdown, Inpatient (PHRB1), Workstation, Procurement (PHWP1)

Elevations



ELEVATION 1

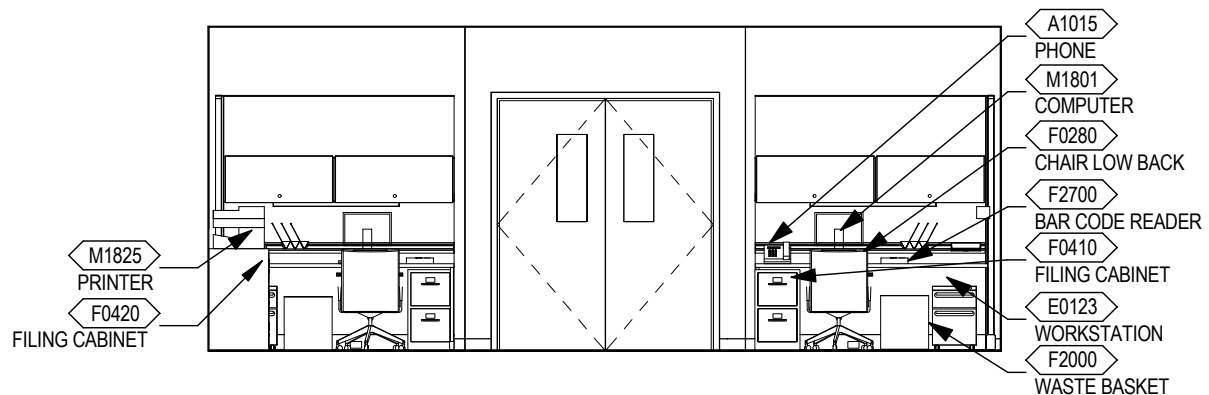


ELEVATION 2

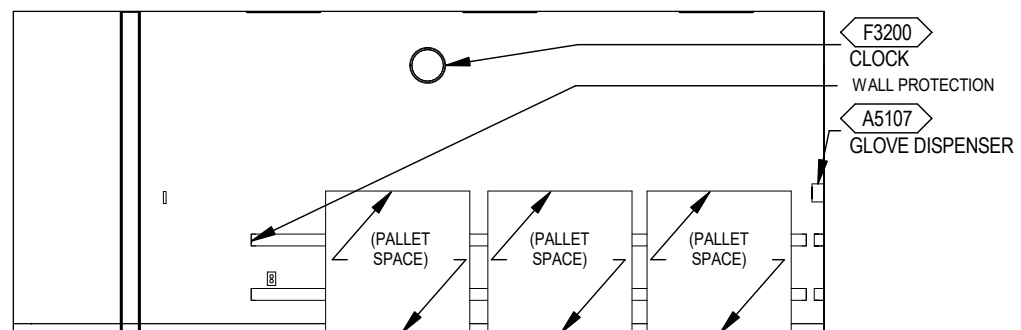


4.3.12 Receiving/Breakdown, Inpatient (PHRB1), Workstation, Procurement (PHWP1)

Elevations



ELEVATION 3

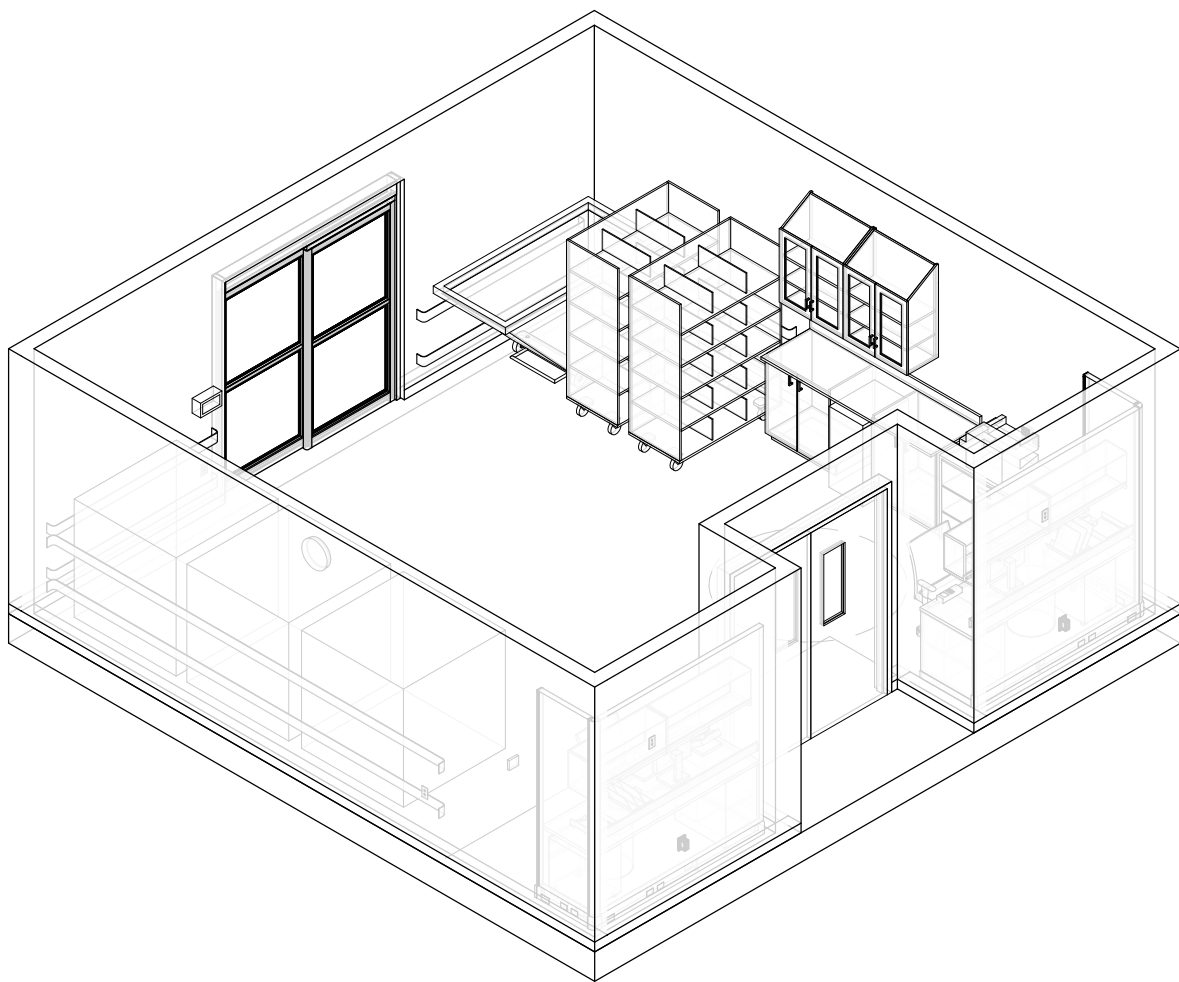


ELEVATION 4



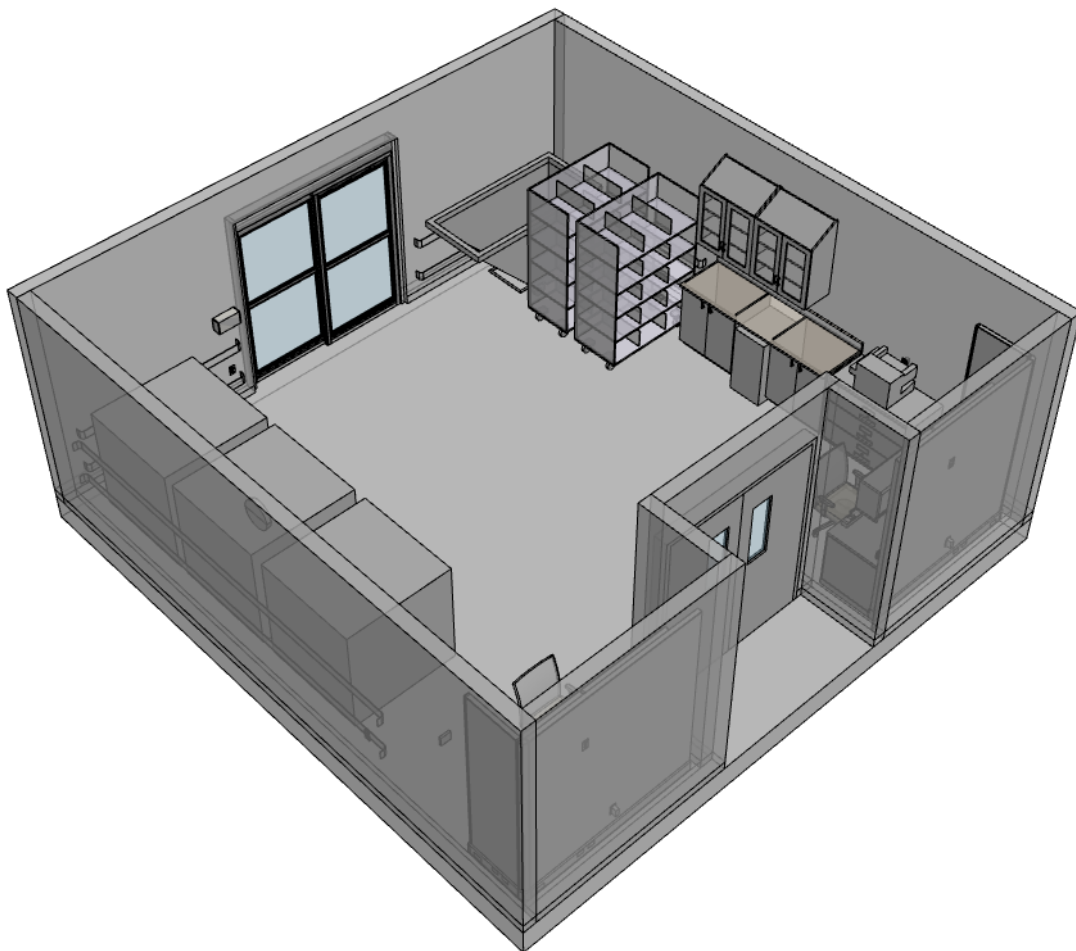
4.3.12 Receiving/Breakdown, Inpatient (PHRB1), Workstation, Procurement (PHWP1)

Axonometric



4.3.12 Receiving/Breakdown, Inpatient (PHRB1), Workstation, Procurement (PHWP1)

Interactive 3D PDF



4.3.12 Receiving/Breakdown, Inpatient (PHRB1), Workstation, Procurement (PHWP1)

Room Data

ARCHITECTURE & INTERIOR DESIGN		COMMUNICATIONS	
Ceiling Type	AT (Acoustical Ceiling Tile)	Data	Yes
Ceiling Height	9'-0"	Telephone	Yes
Wall Finish	GWB (Gypsum Wallboard); P (Paint)	Cable Television	No
Base	RF (Integral Base-4")	Duress Alarm	No
Floor Finish	RF (Rubber Flooring)	Electronic Access	Yes
Slab Depression	No	Intercom	Yes
Sound Protection	See VA Interior Design Guide	Motion Intrusion Detection (MID)	Yes
Doors	Double Sized Sliding Door, 6'-0" x 7'-0" (1828.8 mm x 2133mm), Aluminum Frame w/ View Window, Double Sized Door, 6'-0" x 7'-0" (1828.8 mm x 2133mm), Steel	Public Access	No
Hardware	Electronic Entry	Security Surveillance Television (SSTV)	Yes
LIGHTING		Motion Sensor	Ceiling
		Clock	Yes
General Requirement: Refer to VA Lighting Design Manual Chapter 4 Patient Areas Lighting Guidelines 4.2.18 Pharmacy for design approach and recommended luminaires.		Other	Door intercom
		HVAC	
POWER		General Requirement: Refer to Inpatient Breakdown/Receiving data sheet in the current version of the VA HVAC Design Manual for room temperatures, humidity range, room air change requirements, and pressurization.	
Normal	Yes		
Emergency	No		



4.3.12 Receiving/Breakdown, Inpatient (PHRB1), Workstation, Procurement (PHWP1)

Room Data (continued)

PLUMBING

Cold Water	No
Hot Water	No
Waste	No

FIRE PROTECTIONS AND LIFE SAFETY

Alarm Detection	Smoke
Alarm Annunciator	Audio/Visual
Sprinkler	Yes
Hazard Type	Ordinary, Group 1



4.3.12 Receiving/Breakdown, Inpatient (PHRB1), Workstation, Procurement (PHWP1)

Equipment List

JSN	NAME	AI	QTY	DESCRIPTION
A1015	Telephone, Desk, Multiple Line	V / V	1	Telephone, desk, multiple line.
A5107	Dispenser, Glove, Surgical/Examination, Wall Mntd	V / V	1	Examination glove dispenser box for wall mounting. Fabricated of either cold rolled steel with a white baked enamel finish, plastic or acrylic. Provided with wall bracket to facilitate mounting and demounting.
C03G0	Cabinet, U/C/B, 2 Shelf, 2 Door, 36x30x22	C / C	2	Standing height under counter base cabinet with two adjustable shelves and two solid hinged doors. Also referred to as a cupboard cabinet. For general purpose use throughout the facility.
CE030	Cabinet, W/H, 2 SH, 2 GDO, Sloping Top, 38x30x13	C / C	2	Wall hung cabinet with two adjustable shelves, framed-glass hinged doors, and sloping top. Also referred to as a framed-glass hinged double door wall case. For general purpose use throughout the facility.
CT020	Countertop, Solid Surface	C / C	7	A solid, nonporous countertop with a smooth seamless appearance. Easy to clean and maintain and with proper cleaning does not support the growth of mold. An acrylic-based solid surface product. Standard thickness of 1", and a 4" butt backsplash/curb. Also referred to as a work surface or work top. Available in a choice of colors and depths. Used in lab and other hospital areas requiring optimum physical and chemical resisting properties.
E0123	Workstation, Straight, Free Standing, 72" W	V / V	1	This JSN will provide a whole work station typical to quickly plan work in areas in clinical or administrative spaces. There will be a price decrease if typical work stations are used with vertical hanging strips instead of panels. THIS TYPICAL INCLUDES: 4 Standard Solid Panels 2 Panel Connectors, 2-Way Corner 1 Panel-to-Panel Connector 2 Finished End Hardware 1 Cantilevered, Work Surface 2 Lockable Flipper Units 2 Shelf, Storage/Displays 2 Lights 1 Tack board 1 Tool Rail 1 Paper Tray 1 Diagonal Tray 1 Adjustable Keyboard Tray 1 Mobile Pedestal, Box/File



4.3.12 Receiving/Breakdown, Inpatient (PHRB1), Workstation, Procurement (PHWP1)

Equipment List (continued)

E0978	Cart, Wire, Mobile, 72"H x 48"W x 24"D	V / V	2	THIS TYPICAL INCLUDES: 1 Wire Cart, w/Casters 5 Wire Shelves w/Fences and Dividers 4 Vertical Back/Side Panels 1 Cart Cover Label Clips
F0280	Chair, Swivel, Low Back	V / V	1	Low back contemporary swivel chair, 37" high X 25" wide X 31" deep with a five (5) caster swivel base, arms and foam padded seat and back upholstered with either woven textile fabric or vinyl.
F0410	Cabinet, Filing, Half Height, 2 Drawer	V / V	1	Two (2) drawer letter size vertical filing cabinet approximately 29" high X 15" wide X 26" deep with locking device. Each drawer has label holder, handle and roller cradle.
F0420	Cabinet, Filing, Full Height, 4-5 Drawer	V / V	1	Half height two (2) or three (3) drawer lateral filing cabinet, 28" high X 42" wide X 18" deep with recessed handles, locking device and drawer label holders. Drawers are adaptable to either letter or legal size materials.
F0530	Cart, Trash	V / V	1	Heavy duty trash cart, approximately 42" high X 74" wide X 34" deep with two (2) solid non-marking rubber roller bearing wheels, one (1) or two (2) swivel casters, 2000 pound capacity and tilt mechanism.
F2700	Reader, Bar Code, Hand Held, With Interface	V / V	1	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	V / V	1	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	V / V	1	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.



4.3.12 Receiving/Breakdown, Inpatient (PHRB1), Workstation, Procurement (PHWP1)

Equipment List (continued)

M1825	Printer, Computer	V / V	1	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.
WORKSTATION, PROCUREMENT (PHWP1)				
A1015	Telephone, Desk, Multiple Line	V / V	1	Telephone, desk, multiple line.
E0123	Workstation, Straight, Free Standing, 72" W	V / V	1	This JSN will provide a whole work station typical to quickly plan work in areas in clinical or administrative spaces. There will be a price decrease if typical work stations are used with vertical hanging strips instead of panels. THIS TYPICAL INCLUDES: 4 Standard Solid Panels 2 Panel Connectors, 2-Way Corner 1 Panel-to-Panel Connector 2 Finished End Hardware 1 Cantilevered, Work Surface 2 Lockable Flipper Units 2 Shelf, Storage/Displays 2 Lights 1 Tack board 1 Tool Rail 1 Paper Tray 1 Diagonal Tray 1 Adjustable Keyboard Tray 1 Mobile Pedestal, Box/File
F0280	Chair, Swivel, Low Back	V / V	1	Low back contemporary swivel chair, 37" high X 25" wide X 31" deep with a five (5) caster swivel base, arms and foam padded seat and back upholstered with either woven textile fabric or vinyl.
F0410	Cabinet, Filing, Half Height, 2 Drawer	V / V	1	Two (2) drawer letter size vertical filing cabinet approximately 29" high X 15" wide X 26" deep with locking device. Each drawer has label holder, handle and roller cradle.
F2000	Basket, Wastepaper, Fire Resistant	V / V	1	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.



4.3.12 Receiving/Breakdown, Inpatient (PHRB1), Workstation, Procurement (PHWP1)

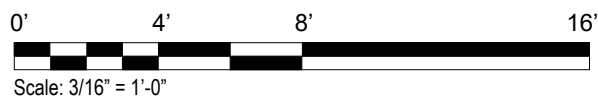
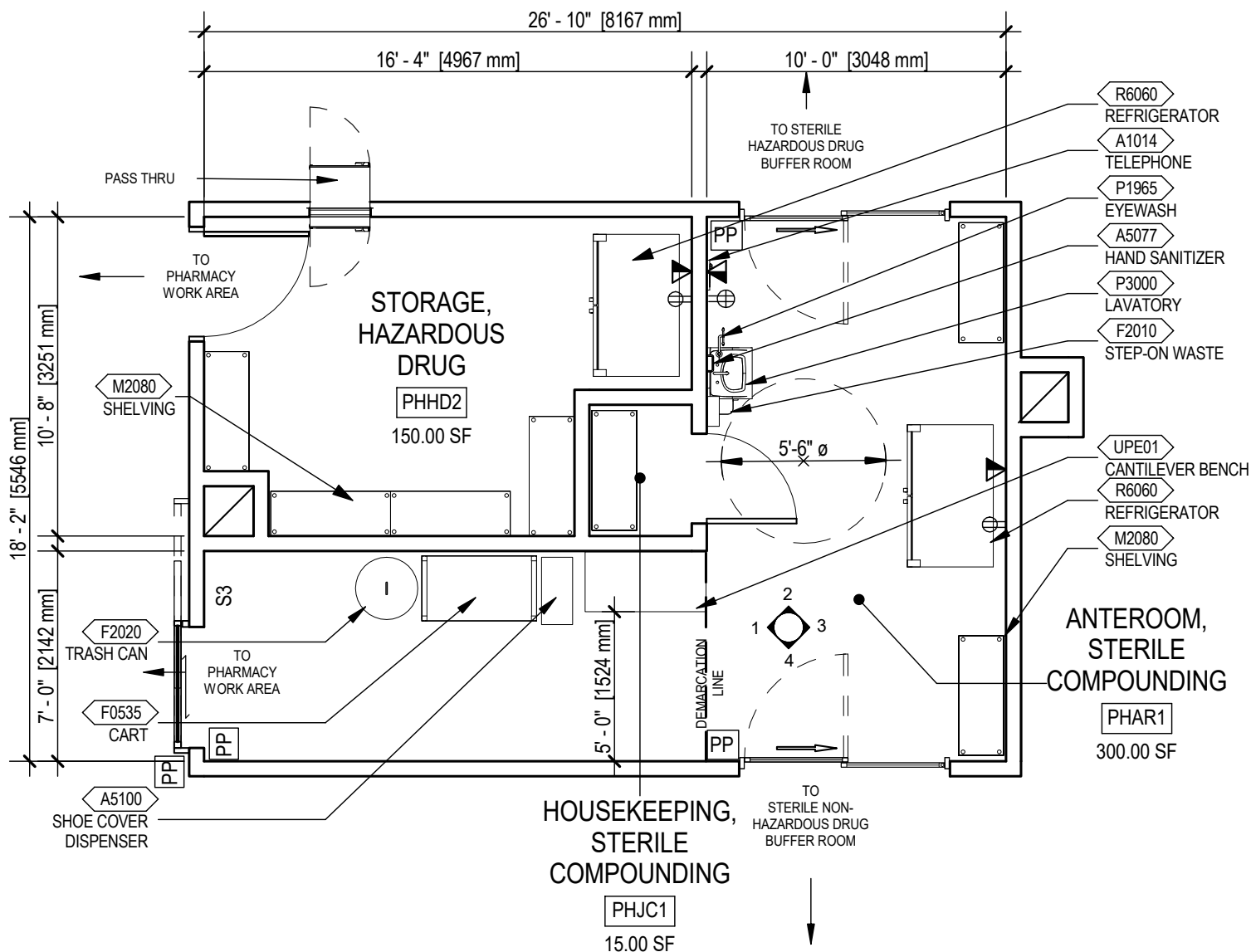
Equipment List (continued)

F2700	Reader, Bar Code, Hand Held, With Interface	V / V	1	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	V / V	1	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.



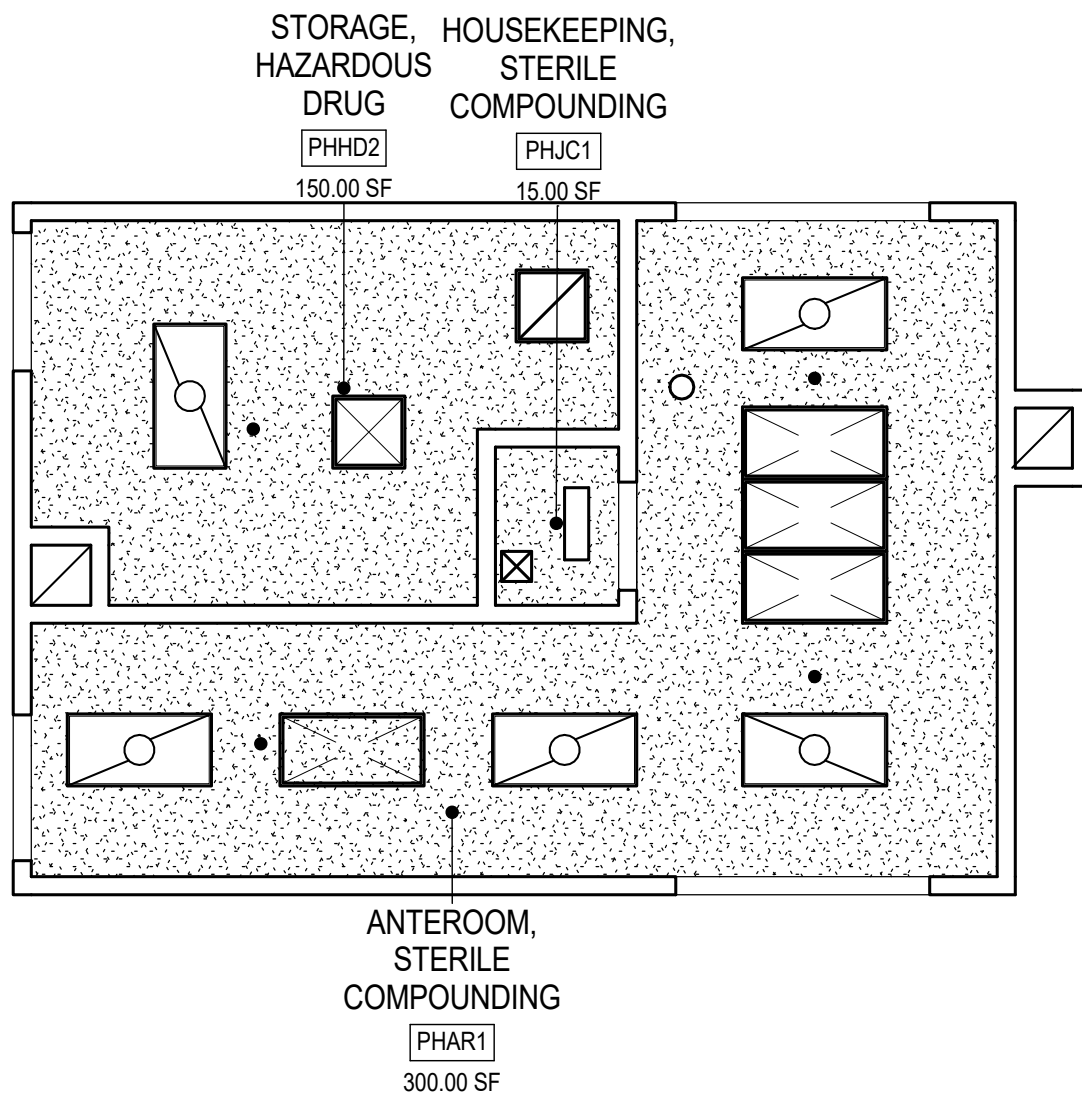
4.3.13 Anteroom, Sterile Compounding (PHAR1), Storage, Hazardous Drug (PHHD2), Housekeeping, Sterile Compounding (PHJC1)

Floor Plan



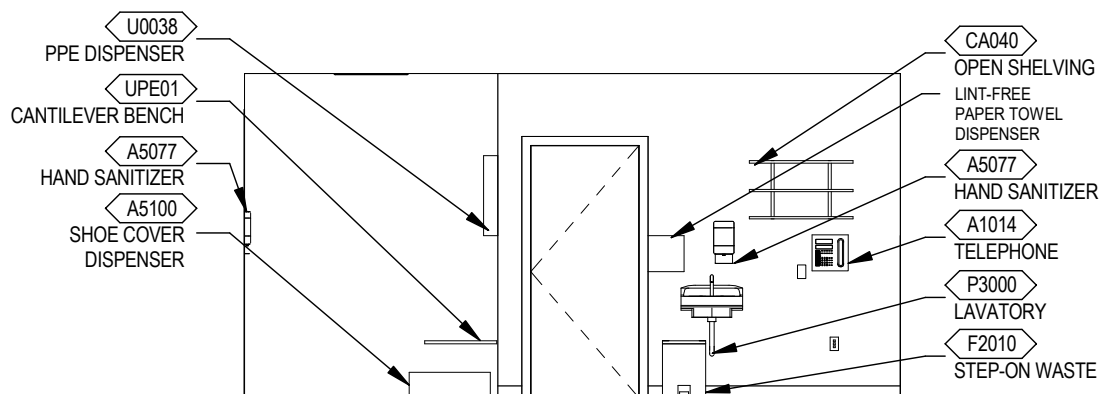
4.3.13 Anteroom, Sterile Compounding (PHAR1), Storage, Hazardous Drug (PHHD2), Housekeeping, Sterile Compounding (PHJC1)

Reflected Ceiling Plan

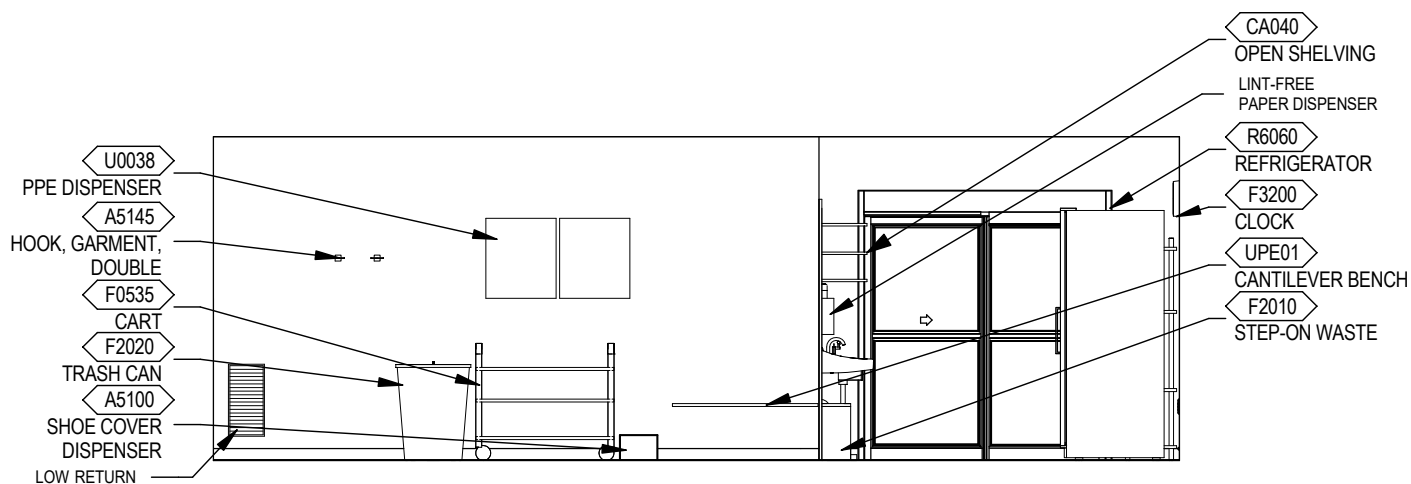


4.3.13 Anteroom, Sterile Compounding (PHAR1), Storage, Hazardous Drug (PHHD2), Housekeeping, Sterile Compounding (PHJC1)

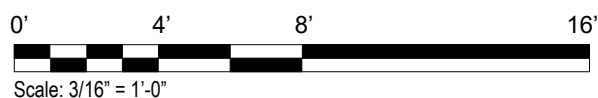
Elevations



ELEVATION 1

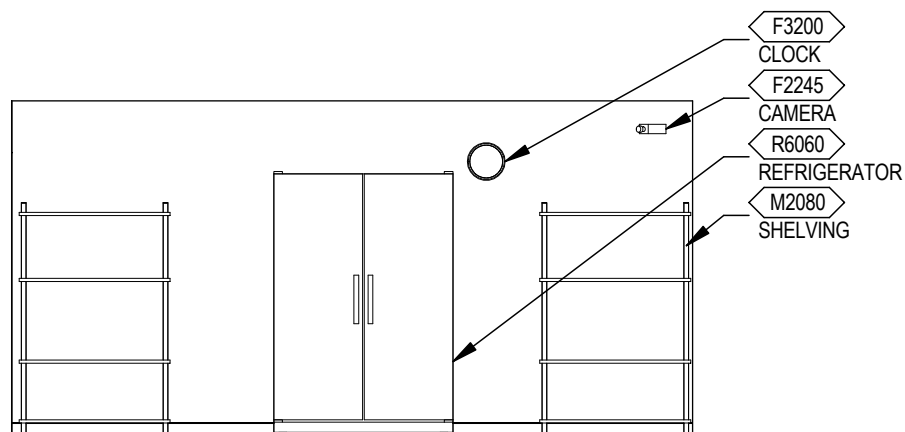


ELEVATION 2

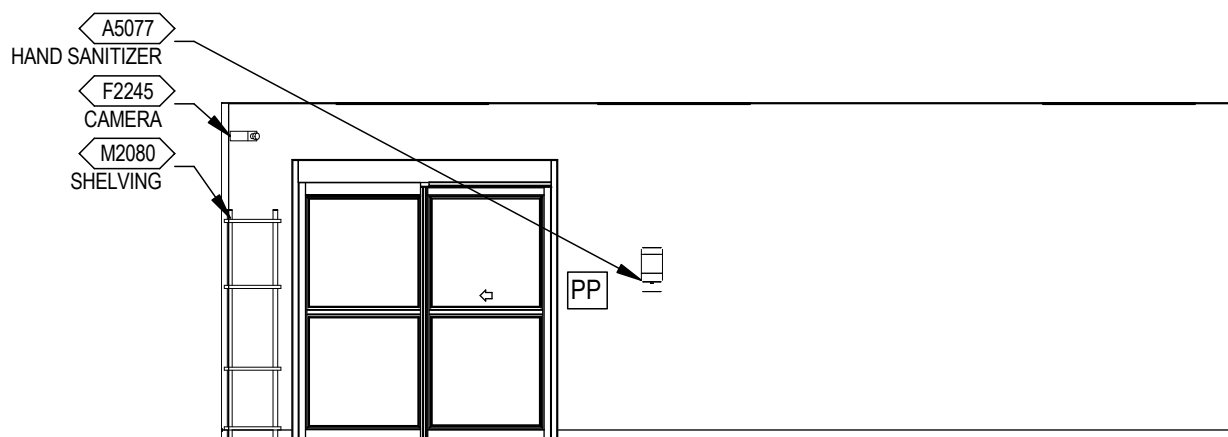


4.3.13 Anteroom, Sterile Compounding (PHAR1), Storage, Hazardous Drug (PHHD2), Housekeeping, Sterile Compounding (PHJC1)

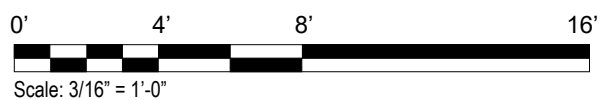
Elevations



ELEVATION 3

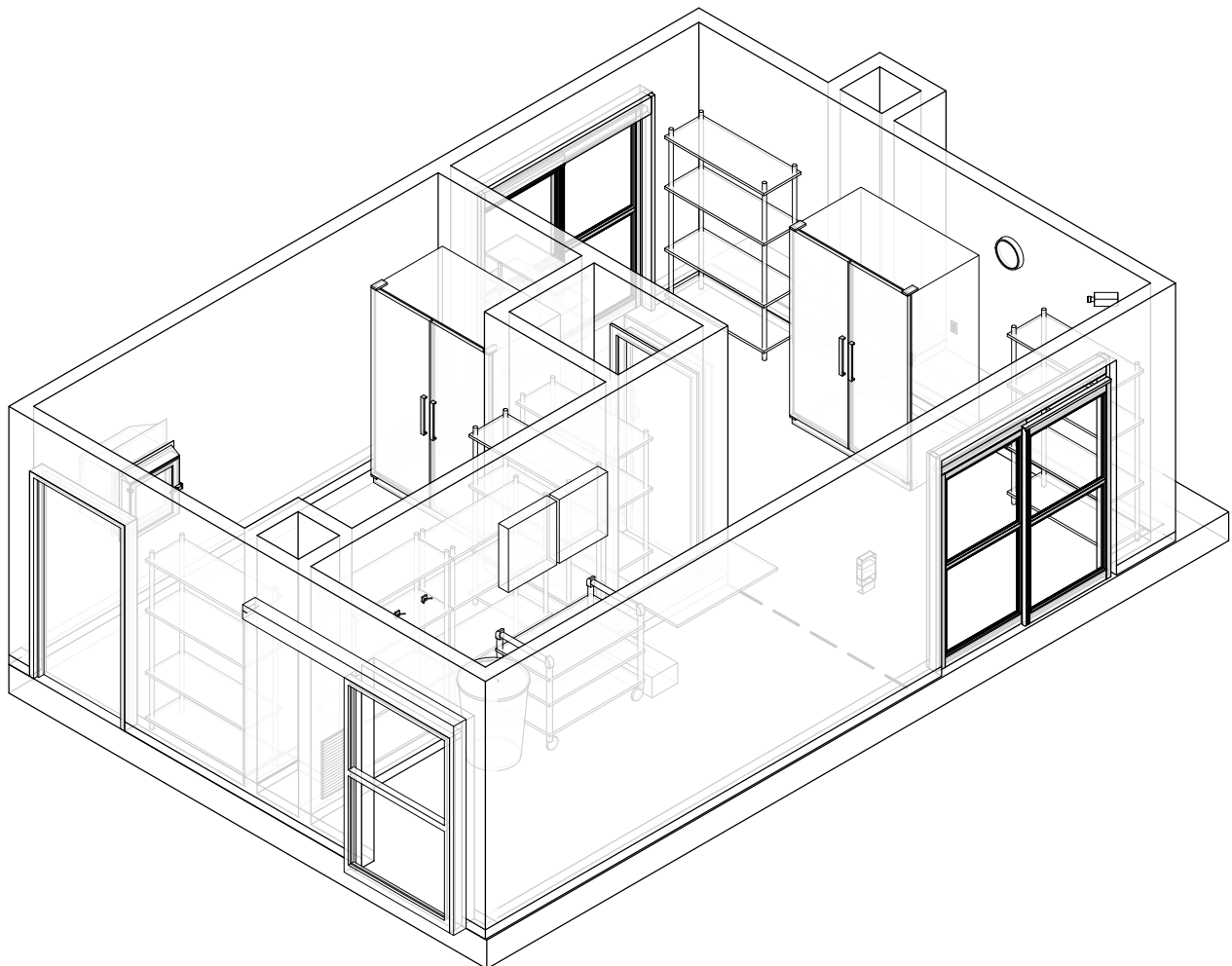


ELEVATION 4



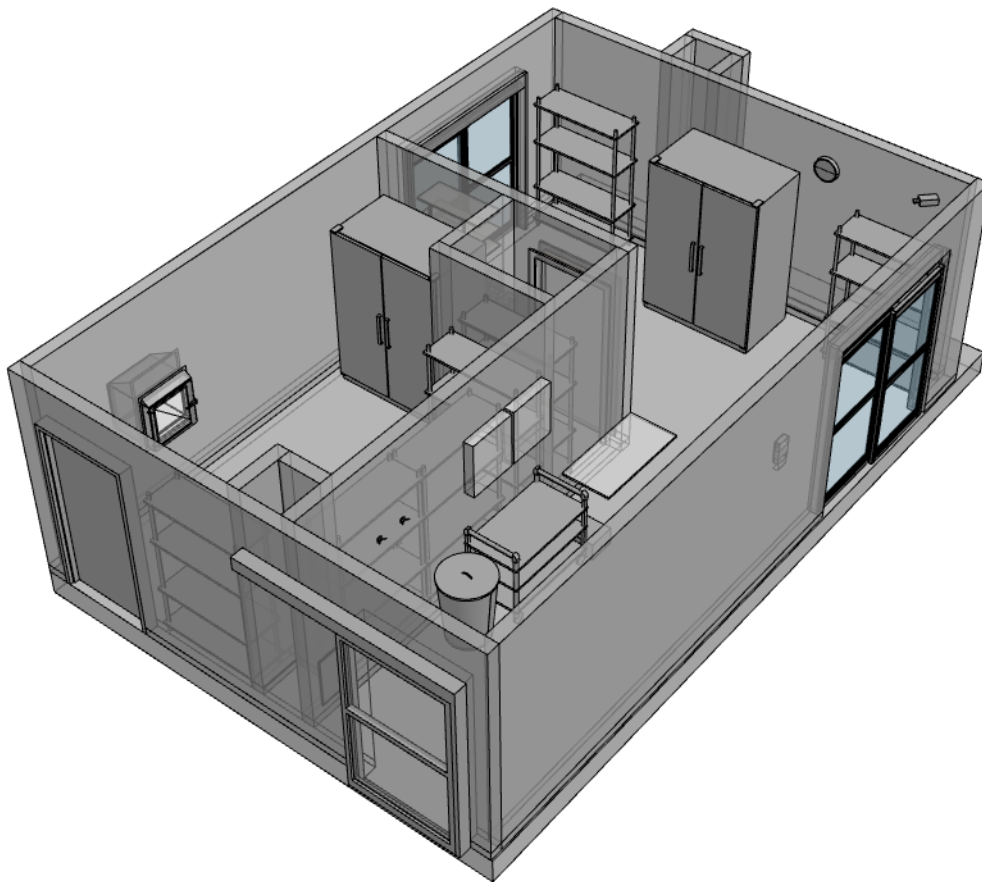
4.3.13 Anteroom, Sterile Compounding (PHAR1), Storage, Hazardous Drug (PHHD2), Housekeeping, Sterile Compounding (PHJC1)

Axonometric



4.3.13 Anteroom, Sterile Compounding (PHAR1), Storage, Hazardous Drug (PHHD2), Housekeeping, Sterile Compounding (PHJC1)

Interactive 3D PDF



4.3.13 Anteroom, Sterile Compounding (PHAR1), Storage, Hazardous Drug (PHHD2), Housekeeping, Sterile Compounding (PHJC1)

Room Data

ARCHITECTURE & INTERIOR DESIGN		COMMUNICATIONS	
Ceiling Type	GWB (Gypsum Wallboard); SC High Build Glazed Coating (Special Coating)	Data	No
Ceiling Height	9'-0"	Telephone	No
Wall Finish	GWB (Gypsum Wallboard); SC High Build Glazed Coating (Special Coating)	Cable Television	No
Base	RF (Integral Base-4") RES	Duress Alarm	No
Floor Finish	RF (Rubber Flooring) RES (Resinous Flooring)	Electronic Access	Yes
Slab Depression	No	Intercom	No
Sound Protection	See VA Interior Design Guide	Motion Intrusion Detection (MID)	Yes
Doors	Single Size Sliding Door, 4'-0" x 7'-0" (1219.2 mm x 2133mm), Aluminum Frame w/ View Window	Public Access	No
Hardware	Push Button Plate	Security Surveillance Television (SSTV)	Yes
LIGHTING		Motion Sensor	Ceiling
		Clock	Yes
		Other	No
		HVAC	
General Requirement: Refer to VA Lighting Design Manual Chapter 4 Patient Areas Lighting Guidelines 4.2.18 Pharmacy for design approach and recommended luminaires.		General Requirement: Refer to Anteroom data sheet in the current version of the VA HVAC Design Manual for room temperatures, humidity range, room air change requirements, and pressurization.	
Notes		Notes:	
1. Refer to HVAC Design Manual for information on ceiling diffusers and low return grilles for this room.		1. Refer to HVAC Design Manual for information on ceiling diffusers and low return grilles for this room.	
POWER			
Normal	Yes		
Emergency	Yes		



4.3.13 Anteroom, Sterile Compounding (PHAR1), Storage, Hazardous Drug (PHHD2), Housekeeping, Sterile Compounding (PHJC1)

Room Data (continued)

PLUMBING

Cold Water	Yes
Hot Water	Yes
Waste	Yes

FIRE PROTECTIONS AND LIFE SAFETY

Alarm Detection	Smoke
Alarm Annunciator	Audio/Visual
Sprinkler	Yes
Hazard Type	Light



4.3.13 Anteroom, Sterile Compounding (PHAR1), Storage, Hazardous Drug (PHHD2), Housekeeping, Sterile Compounding (PHJC1)

Equipment List

JSN	NAME	AI	QTY	DESCRIPTION
A1014	Telephone, Wall Mounted, 1 Line, With Speaker	V / V	1	Telephone, wall mounted, 1 line, with speaker.
A5075	Dispenser, Soap, Disposable	V / V	1	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5077	Dispenser, Hand Sanitizer, Hands-Free	V / V	1	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.
A5100	Shoe Cover Dispenser, Small	V / V	1	A shoe cover dispenser for use in areas requiring use of shoe covers. Unit is designed for low to moderate usage and holds 55 pairs of shoe covers. Dispenser allows workers to put-on shoe covers quickly, easily and safely. Shoe cover refills are available to meet requirements of various applications (clean rooms, waterproof, anti-static, non-skid).
A5145	Hook, Garment, Double, SS, Surface Mounted	C / C	2	A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate. For general purpose use throughout the facility to hang various items of apparel.
CA040	Cabinet, Open, W/H, 2 Shelf, Sloping Top, 38x36x13	C / C	1	Wall hung open front cabinet with two adjustable shelves and sloping top. Also referred to as an open case. For general purpose use throughout the facility.
F0535	Cart, Utility	V / V	1	Utility cart, 32-39" high X 36" wide X 24" deep, with 4 (four) heavy duty caster wheels.
F2010	Basket, Wastepaper, Step-On	V / V	1	"Step-on" wastepaper basket with inner liner and foot pedal activated flip top.
F2245	Camera, Video Surveillance, HD, IP Powered	V / V	1	A high definition, full functional 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.
M2080	Shelving, Storage, Solid, CRS, w/Adjustable Shelves	V / V	2	Stationary, solid, shelving unit. Unit has fully adjustable shelves constructed of solid stainless steel. For use in general purpose storage areas. Shelving is provided in various sizes and configurations. Price provided is for a unit approximately 76



4.3.13 Anteroom, Sterile Compounding (PHAR1), Storage, Hazardous Drug (PHHD2), Housekeeping, Sterile Compounding (PHJC1)

Equipment List (continued)

P1965	<i>Eyewash, Eye/ Face, Sink Mounted, Hands-free</i>	<i>C / C</i>	<i>1</i>	<i>A sink mounted eyewash station. The unit is designed for emergency eye and face rinsing from soft flow dual spray-heads. The Flow must be activated by the single momentary action and remain on until terminated.</i>
P2451	<i>Valve, Mixing, Ther- mostatic, Eyewash</i>	<i>C / C</i>	<i>1</i>	<i>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)</i>
P3000	<i>Lavatory, Vitreous China, Straight Back</i>	<i>C / C</i>	<i>1</i>	<i>Wall mounted, vitreous china lavatory (approximate bowl size 7"x15"x10") with: straight-front apron, straight or contoured back; 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 areas.</i>
R6060	<i>Refrigerator, Biolog- ical, SS, 2 Door, 40 Cu Ft</i>	<i>V / V</i>	<i>1</i>	<i>Biological refrigerator. This unit shall have a minimum volume of 40 cubic feet, double doors, stainless steel cooler storage with stainless steel drawers, three adjustable shelves and one stationary stainless steel shelf. This refrigerator is used in r</i>
U0038	<i>Personal Protective Equipment Dispenser</i>	<i>V / V</i>	<i>2</i>	<i>Personal Protection Organizer offers on-sight storage for multiple types of isolation apparel including gowns, face masks, and exam gloves. There's also a built in storage area that can be used for storing additional medical supplies. The Surgical Protection Systems keeps protective apparel organized in one convenient location for staff members and others.</i>
UPE01	<i>Stainless Steel Wall Mounted Bench</i>	<i>C / C</i>	<i>1</i>	<i>Stainless Steel seat is 16 gauge x 1.5" high #304 grade polished brushed finish and is equipped with stainless steel weld nut to accept bolts for fastening to the brackets. Corners are TIG welded and cleaned. Brackets are rated at 1,140 lbs. load limit.</i>
F2020	<i>Can, Trash, 44 Gallon</i>	<i>V / V</i>	<i>1</i>	<i>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).</i>
STORAGE, HAZARDOUS DRUG (PHHD2)				
M2080	<i>Shelving, Storage, Solid, CRS, w/Adjust- able Shelves</i>	<i>V / V</i>	<i>4</i>	<i>Stationary, solid, shelving unit. Unit has fully adjustable shelves constructed of solid stainless steel. For use in general purpose storage areas. Shelving is provided in various sizes and configurations. Price provided is for a unit approximately 76</i>



4.3.13 Anteroom, Sterile Compounding (PHAR1), Storage, Hazardous Drug (PHHD2), Housekeeping, Sterile Compounding (PHJC1)

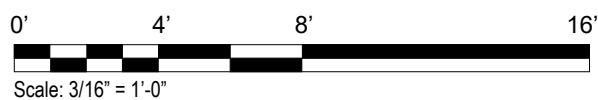
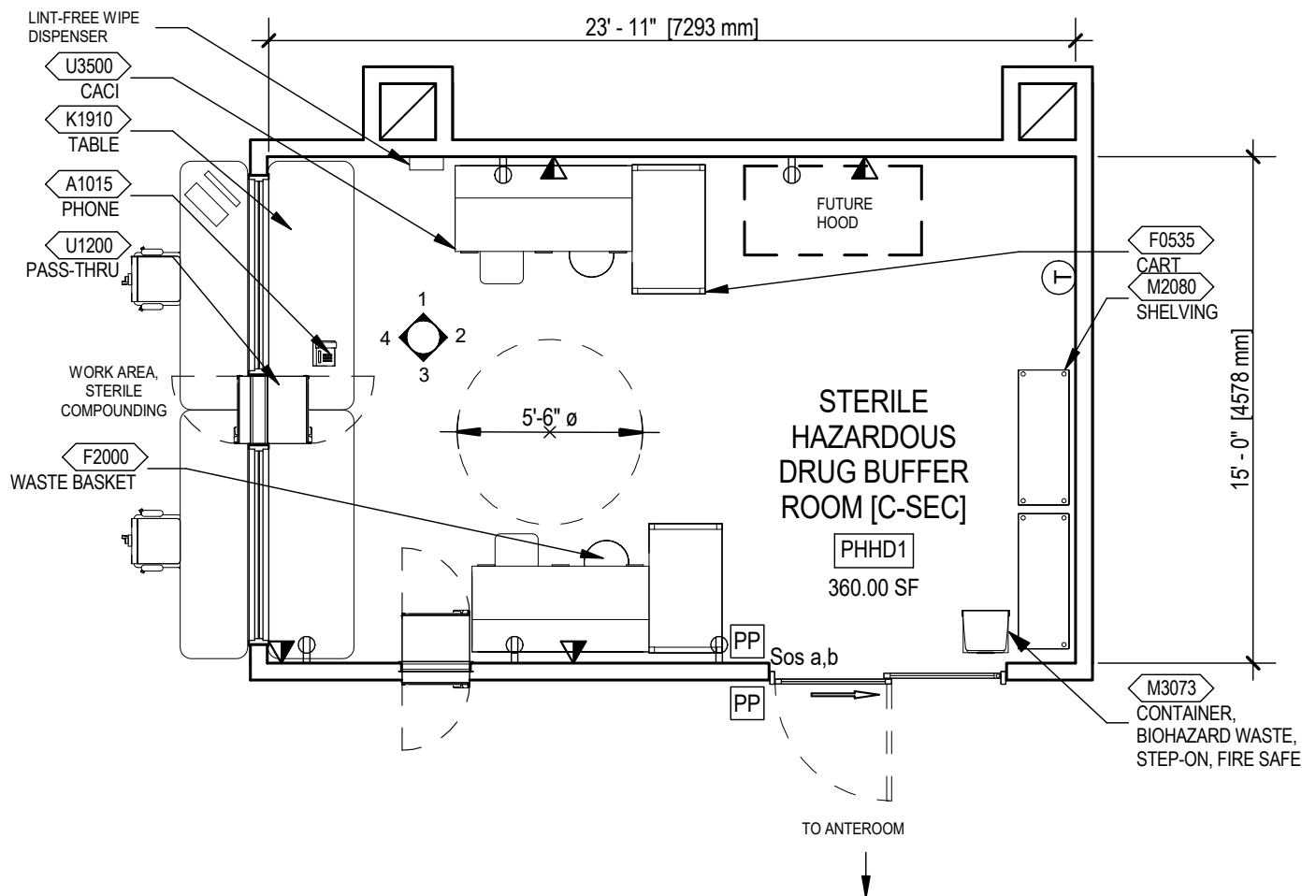
Equipment List (continued)

R6060	Refrigerator, Biological, SS, 2 Door, 40 Cu Ft	V / V	1	Biological refrigerator. This unit shall have a minimum volume of 40 cubic feet, double doors, stainless steel cooler storage with stainless steel drawers, three adjustable shelves and one stationary stainless steel shelf. This refrigerator is used in research laboratories and hospital pharmacies for storage and dispensing of drugs.
F2017	Waste Receptacle, 24 GAL	V/V	1	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.
F3200	Clock, Battery, 12" Diameter	V / V	1	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).
HOUSEKEEPING, STERILE COMPOUNDING (PHJC1)				
M2080	Shelving, Storage, Solid, CRS, w/Adjustable Shelves	V / V	1	Stationary, solid, shelving unit. Unit has fully adjustable shelves constructed of solid stainless steel. For use in general purpose storage areas. Shelving is provided in various sizes and configurations. Price provided is for a unit approximately 76



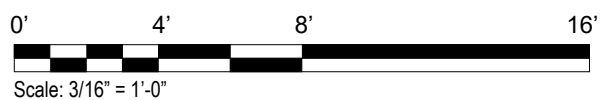
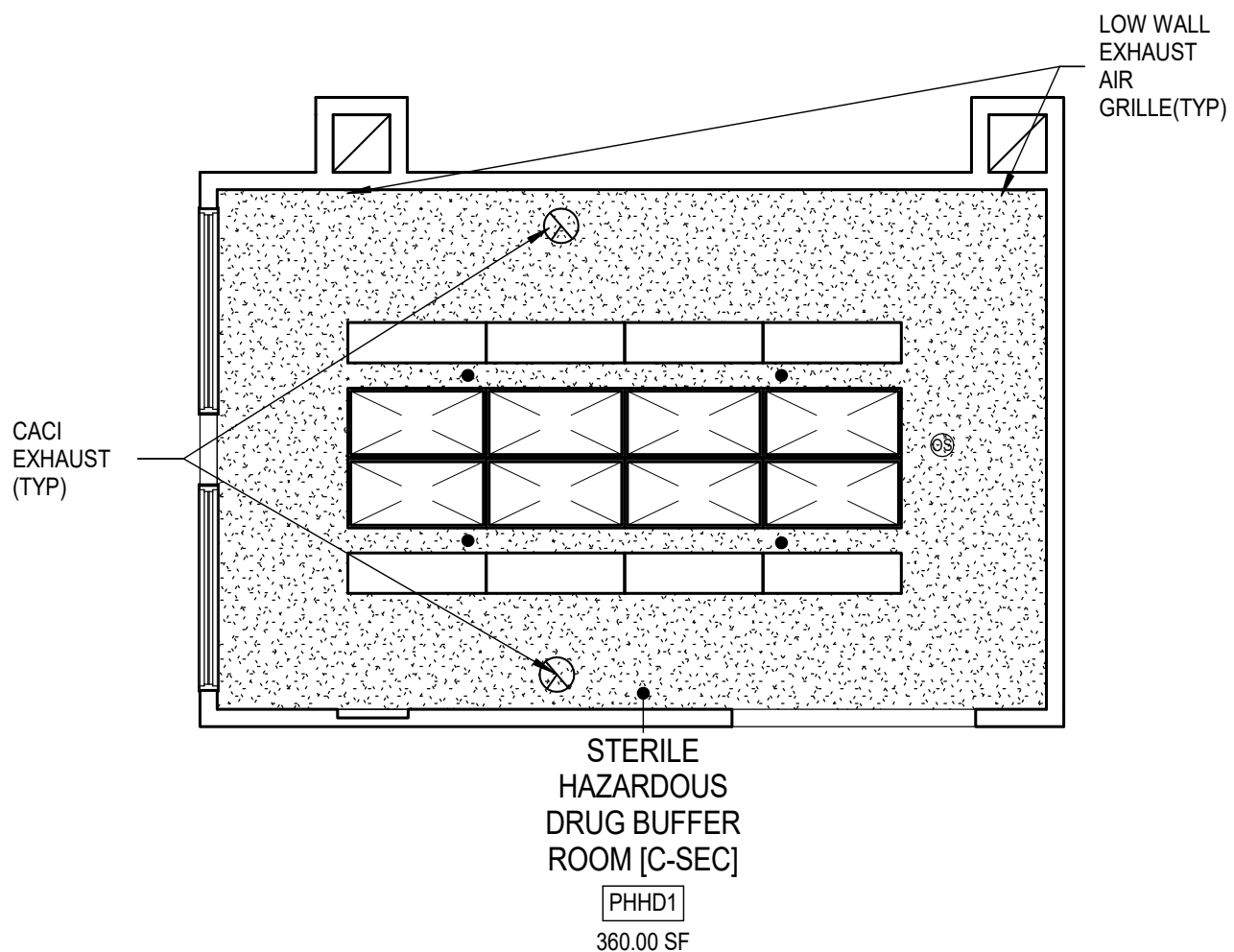
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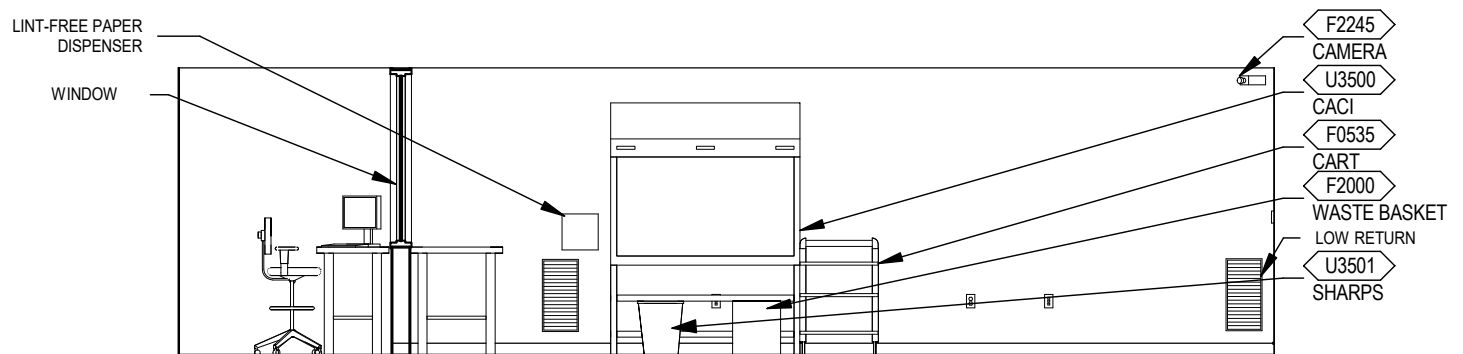
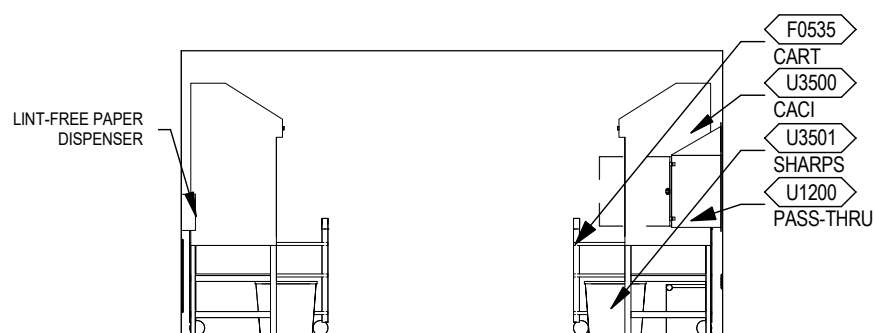


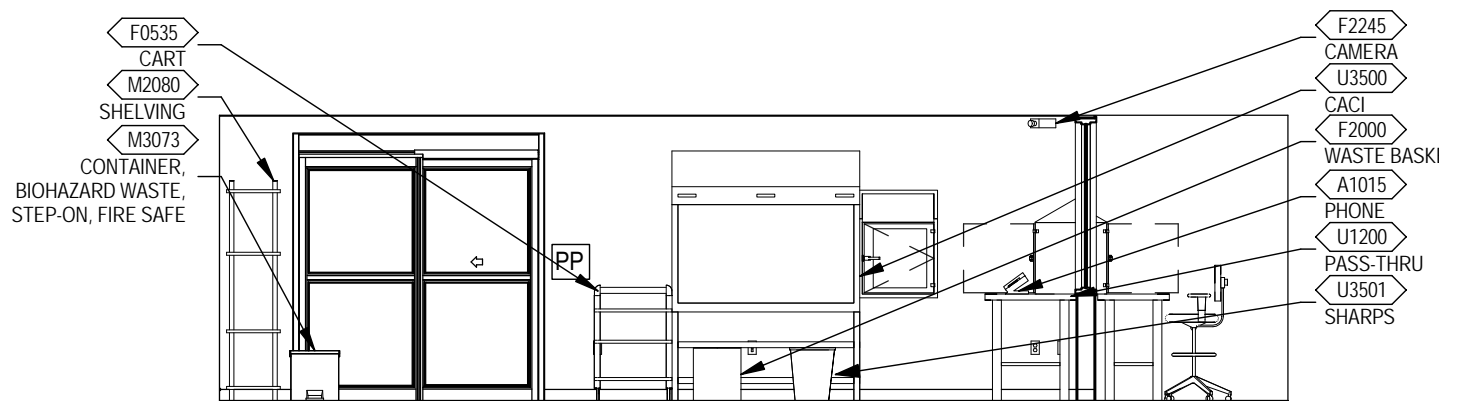
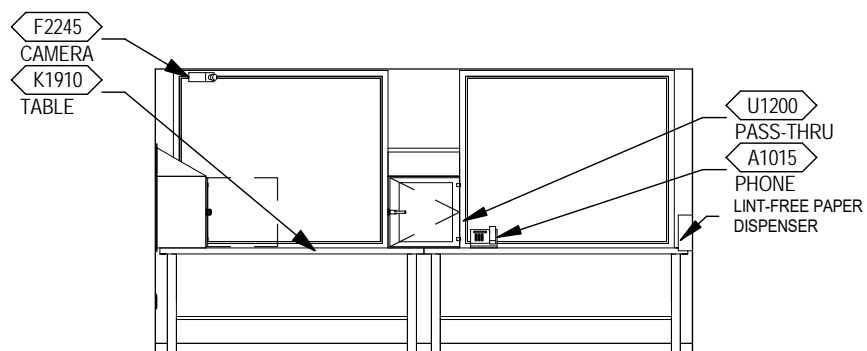
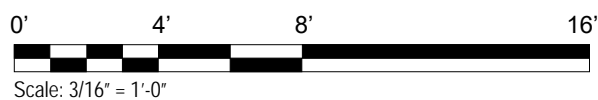
4.3.14 Sterile Hazardous Drug Buffer Room (C-SEC) (PHHD1)**Floor Plan**

4.3.14 Sterile Hazardous Drug Buffer Room (C-SEC) (PHHD1)

Reflected Ceiling Plan

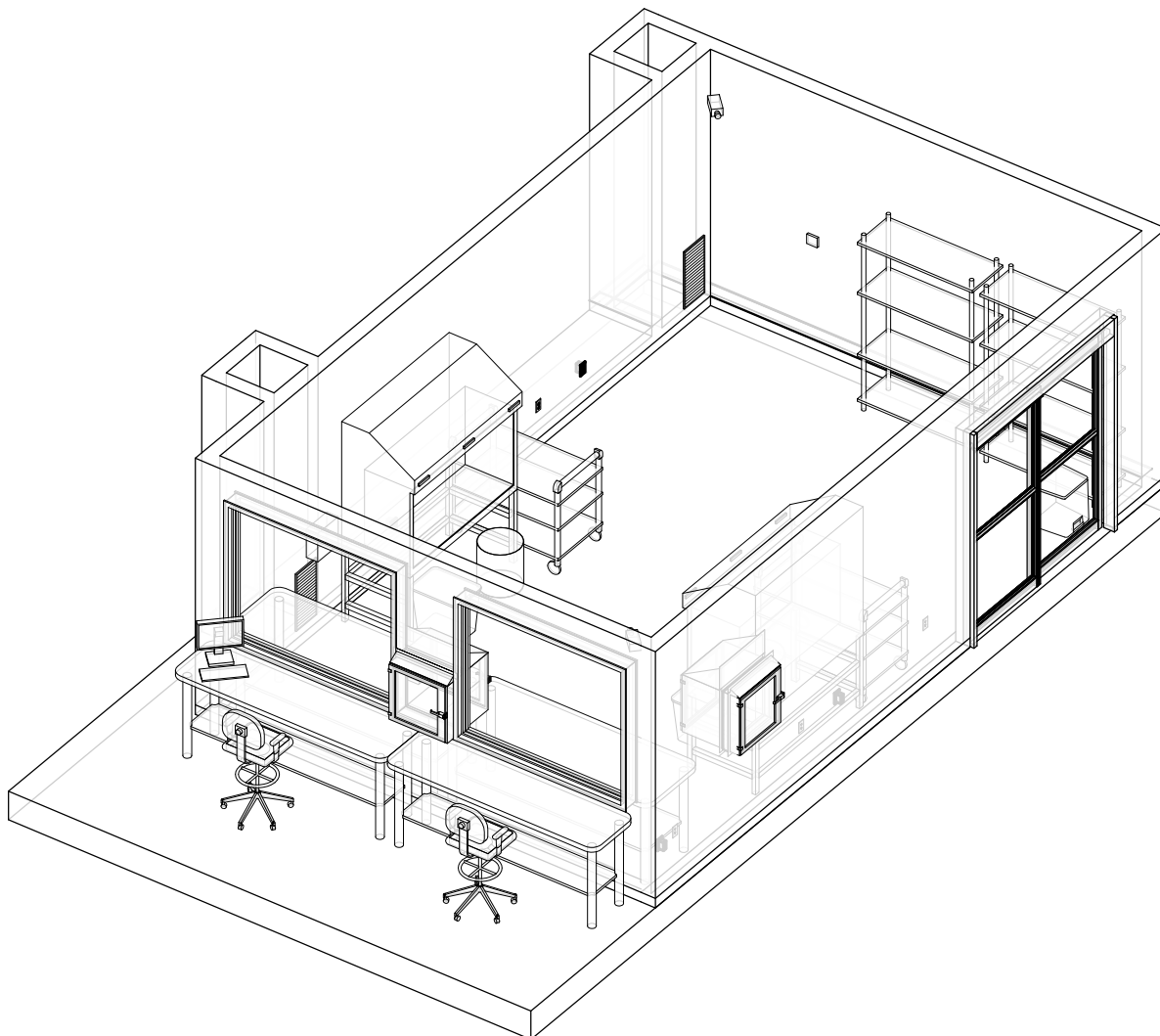


4.3.14 Sterile Hazardous Drug Buffer Room (C-SEC) (PHHD1)**Elevations****ELEVATION 1****ELEVATION 2**

4.3.14 Sterile Hazardous Drug Buffer Room (C-SEC) (PHHD1)**Elevations****ELEVATION 3****ELEVATION 4**

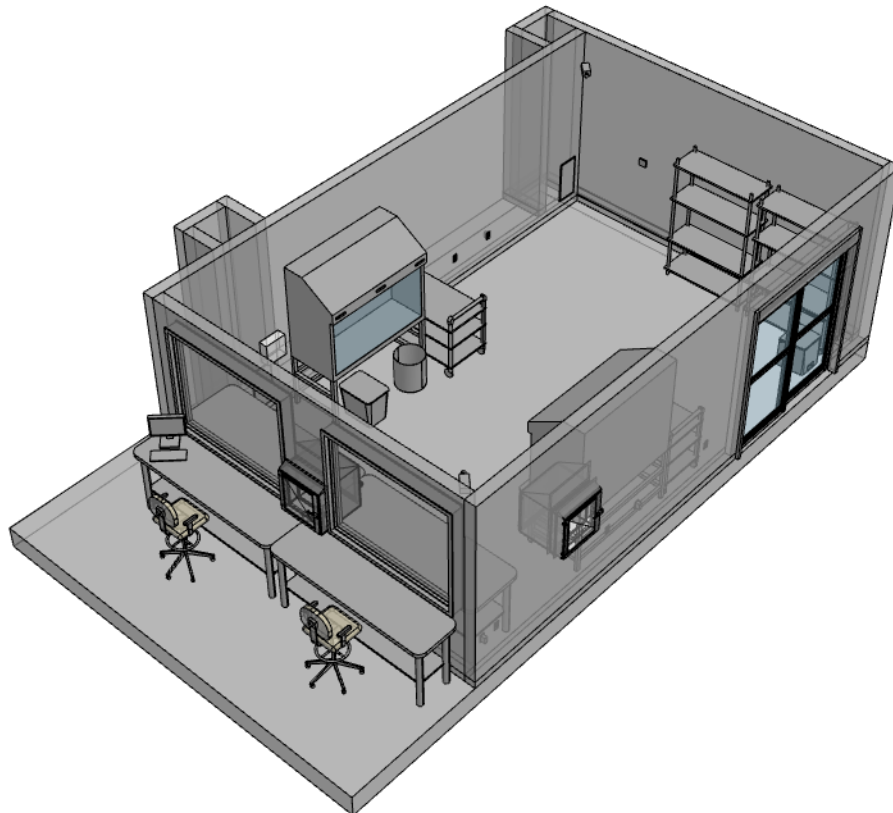
4.3.14 Sterile Hazardous Drug Buffer Room (C-SEC) (PHHD1)

Axonometric



4.3.14 Sterile Hazardous Drug Buffer Room (C-SEC) (PHHD1)

Interactive 3D PDF



4.3.14 Sterile Hazardous Drug Buffer Room (C-SEC) (PHHD1)**Room Data**

ARCHITECTURE & INTERIOR DESIGN		COMMUNICATIONS	
Ceiling Type	GWB (Gypsum Wallboard); SC High Build Glazed Coating (Special Coating)	Data	Yes
Ceiling Height	9'-0"	Telephone	Yes
Wall Finish	GWB (Gypsum Wallboard); SC High Build Glazed Coating (Special Coating)	Cable Television	No
Base	RF (Integral Base-4") RES	Duress Alarm	No
Floor Finish	RF (Rubber Flooring) RES (Resinous Flooring)	Electronic Access	No
Slab Depression	No	Intercom	No
Sound Protection	See VA Interior Design Guide	Motion Intrusion Detection (MID)	Yes
Doors	Single Size Sliding Door, 4'-0" x 7'-0" (1219.2 mm x 2133mm), Aluminum Frame w/View Window	Public Access	No
Hardware	Push Button Plate	Security Surveillance Television (SSTV)	Yes
		Motion Sensor	Ceiling
		Clock	No
		Other	No
LIGHTING		HVAC	
General Requirement: Refer to VA Lighting Design Manual Chapter 4 Patient Areas Lighting Guidelines 4.2.18 Pharmacy for design approach and recommended luminaires.		General Requirement: Refer to Sterile Hazardous Drug Compounding data sheet in the current version of the VA HVAC Design Manual for room temperatures, humidity range, room air change requirements, and pressurization.	
Notes		Notes	
1. Use lighting fixture rated for clean room.		1. Refer to HVAC Design Manual for information on ceiling diffusers and low return grilles for this room.	
POWER			
Normal	Yes		
Emergency	Yes		



4.3.14 Sterile Hazardous Drug Buffer Room (C-SEC) (PHHD1)

Room Data (continued)

PLUMBING

Cold Water	No
Hot Water	No
Waste	No

FIRE PROTECTIONS AND LIFE SAFETY

Alarm Detection	Smoke
Alarm Annunciator	Audio/Visual
Sprinkler	Yes
Hazard Type	Light



4.3.14 Sterile Hazardous Drug Buffer Room (C-SEC) (PHHD1)

Equipment List

JSN	NAME	AI	QTY	DESCRIPTION
A1015	Telephone, Desk, Multiple Line	V / V	1	Telephone, desk, multiple line.
F0535	Cart, Utility	V / V	2	Utility cart, 32-39" high X 36" wide X 24" deep, with 4 (four) heavy duty caster wheels.
F2000	Basket, Wastepaper, Fire Resistant	V / V	2	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.
F2245	Camera, Video Surveillance, HD, IP Powered	V / V	2	A high definition, full functional 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.
K1910	Table, Work, Stainless Steel	V / V	2	Work table approximately 36x120x30. The table is made of heavy duty stainless steel with all edges rolled down at 90 degrees. The edges are 2" high and have rounded corners. The table has stainless steel legs and a stainless steel under-shelf. The unit is used as a work station in large kitchens, hotels, restaurants and hospitals.
M2080	Shelving, Storage, Solid, CRS, w/Adjustable Shelves	V / V	2	Stationary, solid, shelving unit. Unit has fully adjustable shelves constructed of solid stainless steel. For use in general purpose storage areas. Shelving is provided in various sizes and configurations. Price provided is for a unit approximately 76"H x 18"D x 48"W with four shelves.
U1200	Pass-Thru, Vented	C / C	1	Stainless steel pass-thru with interlocking system to maintain required pressurization and minimize particle migration; smooth interior and exterior surfaces for cleaning/sanitizing; and vented with HEPA filtration.
U3500	Compounding Aseptic Containment Isolator	V / V	2	Negative pressure isolator offering product, personnel & environment protection from hazardous or potent pharmaceutical compounds and chemotherapy agents.



4.3.14 Sterile Hazardous Drug Buffer Room (C-SEC) (PHHD1)

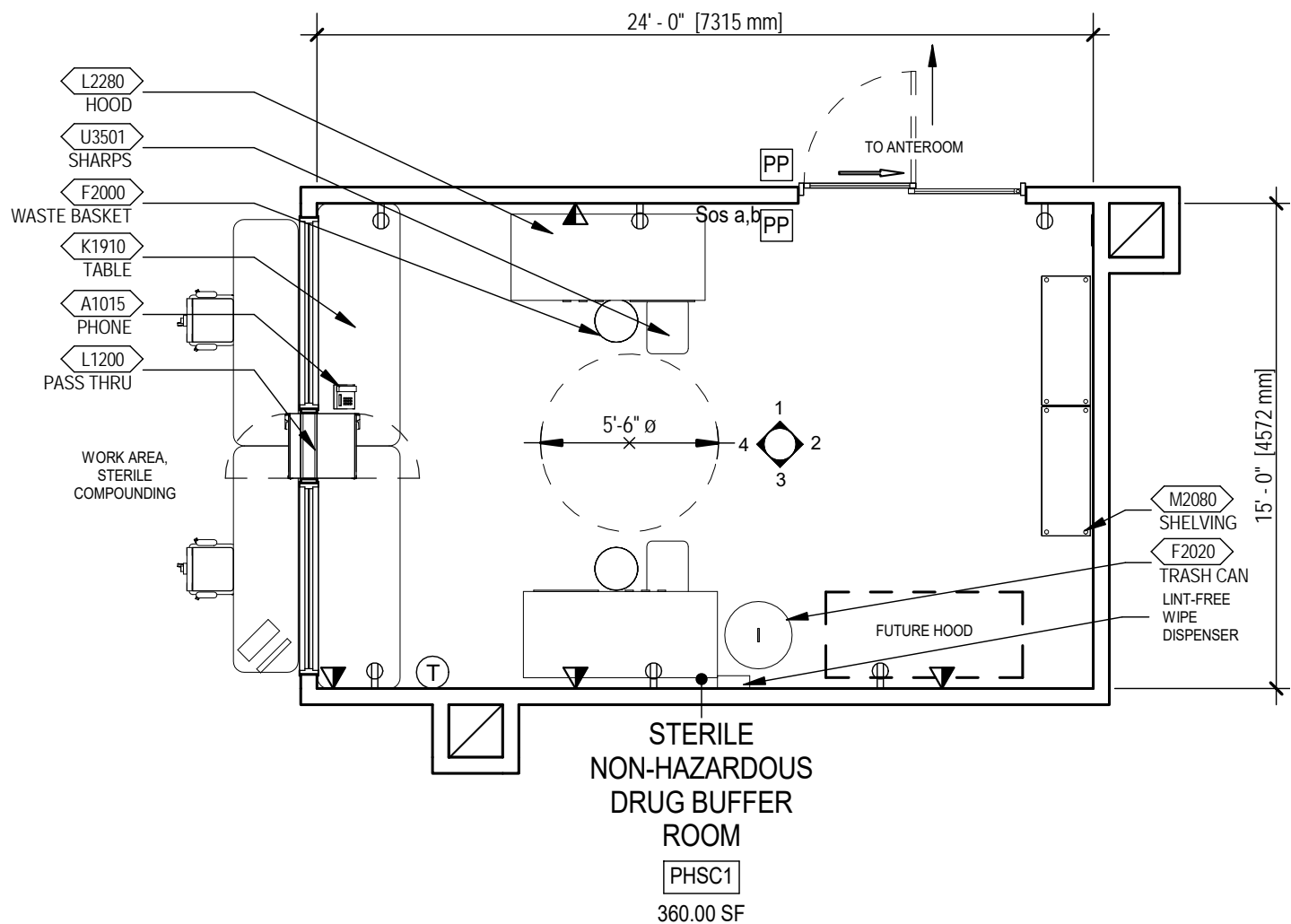
Equipment List (continued)

U3501	Sharps Container 20G	V / V	2	Sharps disposal bin for Chemotherapy waste. Extra large, 19 gallon capacity, slide top with gasket. Comes with a liquid-absorbent material pre-attached to the inside bottom of the collector. Ships 5/case. Color: Yellow base/Natural top.
M3073	Container, Biohazard Waste, Step-on, Fire Safe	V / V	1	A biohazard waste container with a step-on lid. The container will have a capacity of approximately 12 gallons and be made of a fire safe material.



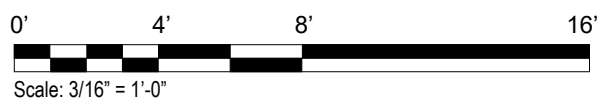
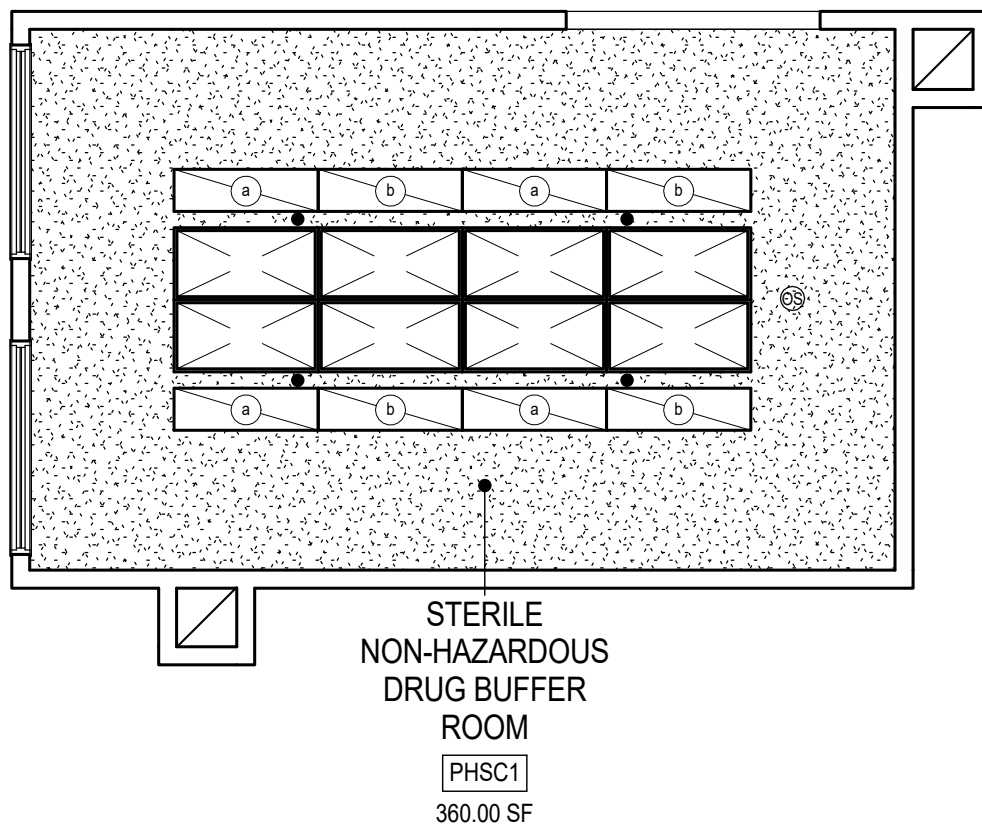
4.3.15 Sterile Non-Hazardous Drug Buffer Room (PHSC1)

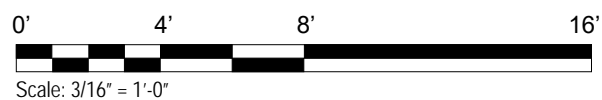
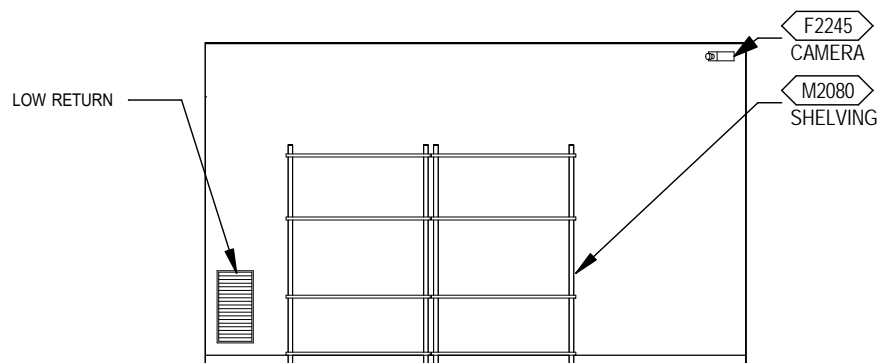
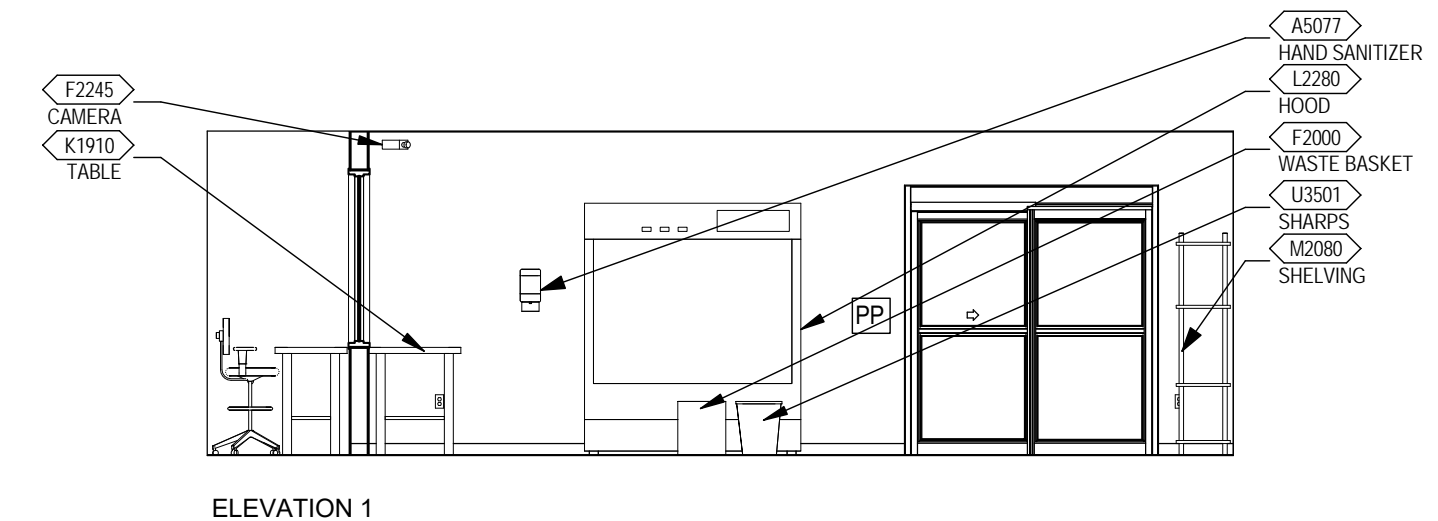
Floor Plan

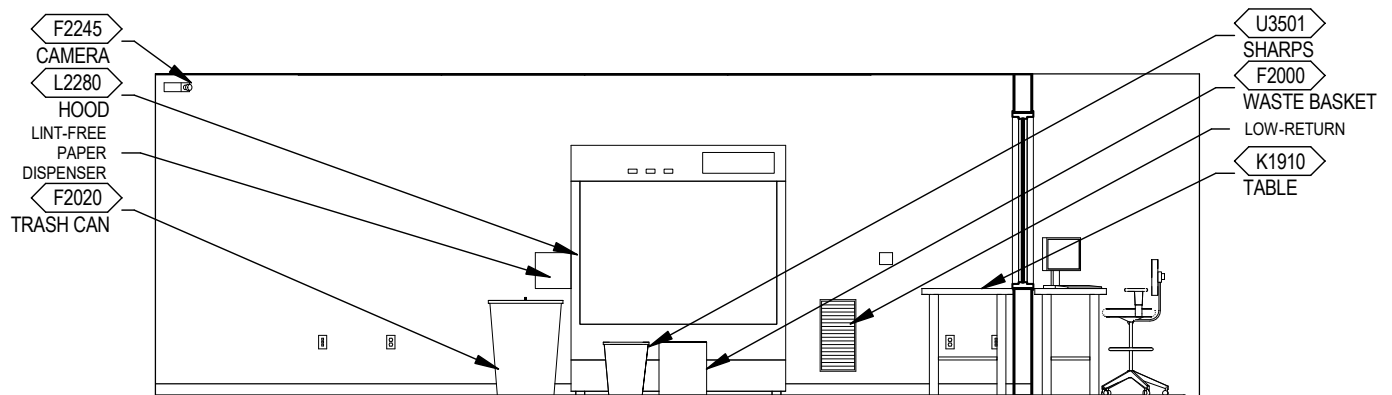
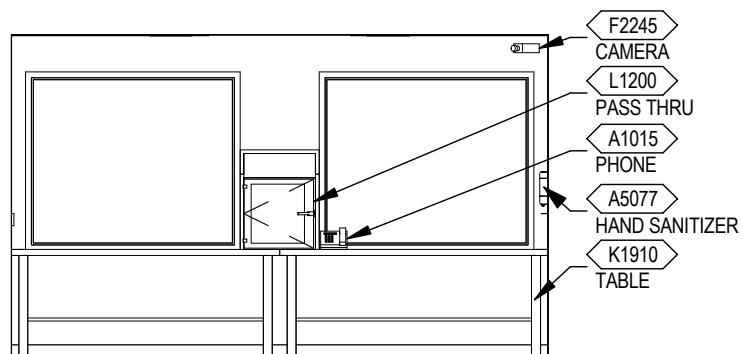
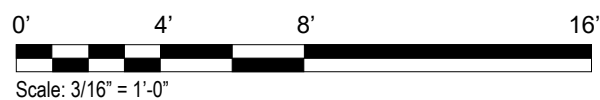


4.3.15 Sterile Non-Hazardous Drug Buffer Room (PHSC1)

Reflected Ceiling Plan

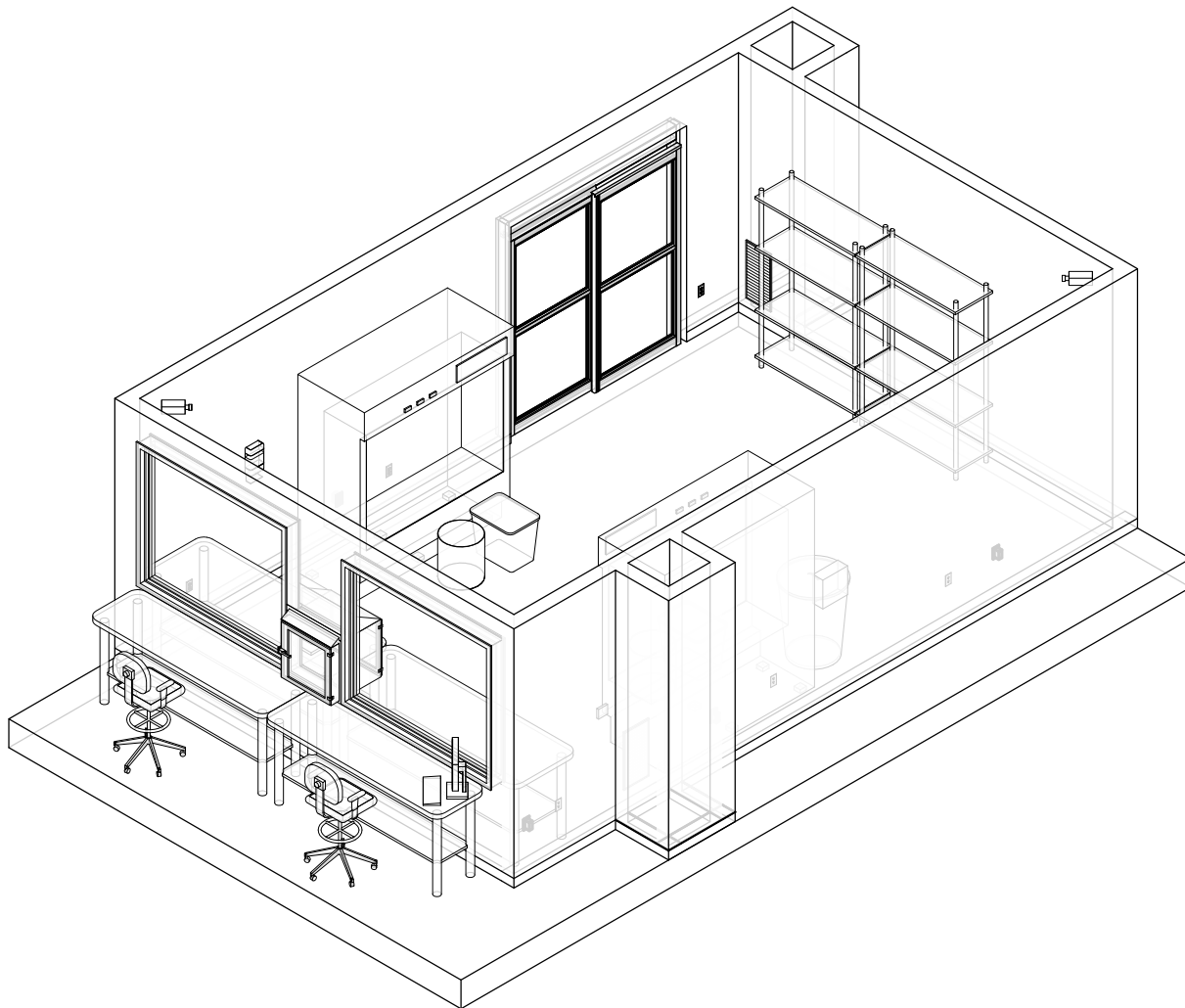


4.3.15 Sterile Non-Hazardous Drug Buffer Room (PHSC1)**Elevations**

4.3.15 Sterile Non-Hazardous Drug Buffer Room (PHSC1)**Elevations****ELEVATION 3****ELEVATION 4**

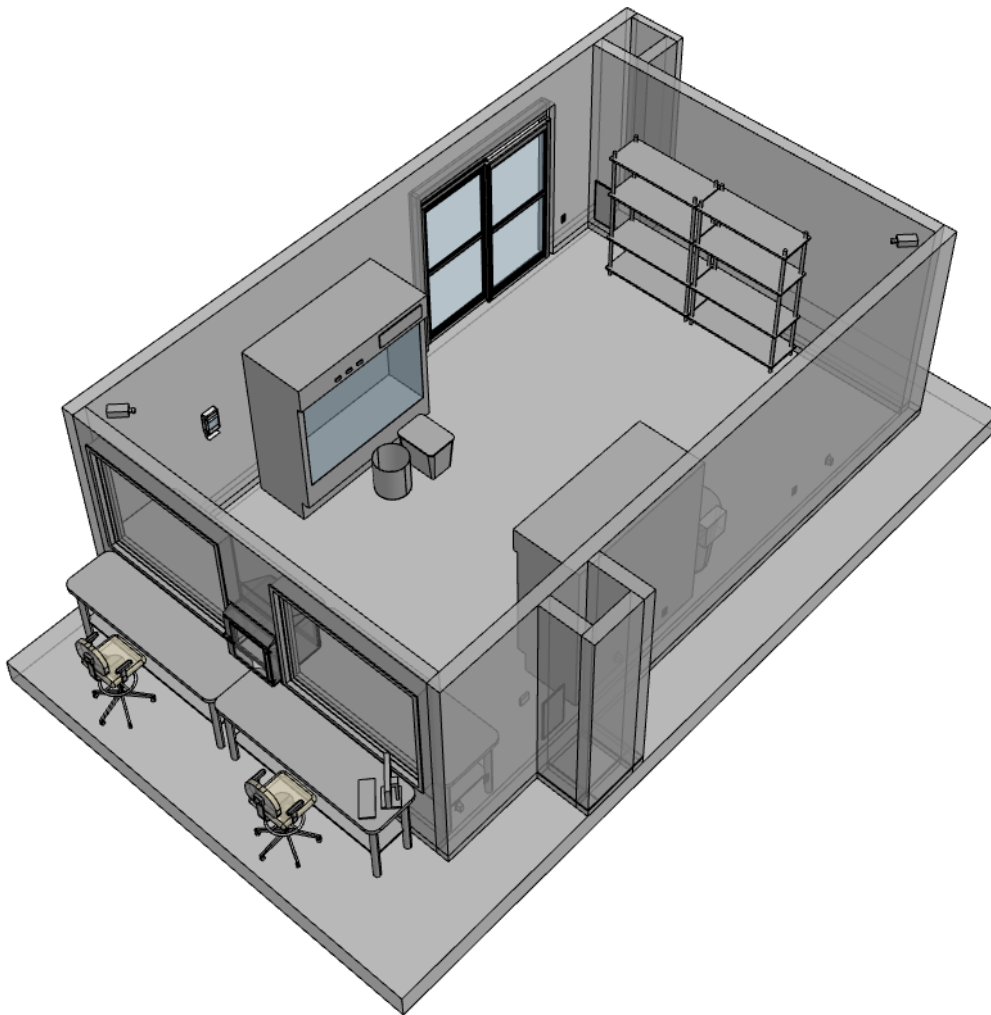
4.3.15 Sterile Non-Hazardous Drug Buffer Room (PHSC1)

Axonometric



4.3.15 Sterile Non-Hazardous Drug Buffer Room (PHSC1)

Interactive 3D PDF



4.3.15 Sterile Non-Hazardous Drug Buffer Room (PHSC1)

Room Data

ARCHITECTURE & INTERIOR DESIGN		COMMUNICATIONS	
Ceiling Type	GWB (Gypsum Wallboard); SC High Build Glazed Coating (Special Coating)	Data	No
Ceiling Height	9'-0"	Telephone	Yes
Wall Finish	GWB (Gypsum Wallboard); SC High Build Glazed Coating (Special Coating)	Cable Television	No
Base	RF (Integral Base-4") RES	Duress Alarm	No
Floor Finish	RF (Rubber Flooring) RES (Resinous Flooring)	Electronic Access	No
Slab Depression	No	Intercom	No
Sound Protection	See VA Interior Design Guide	Motion Intrusion Detection (MID)	No
Doors	Single Size Sliding Door, 4'-0" x 7'-0" (1219.2 mm x 2133mm), Aluminum Frame w/ View Window	Public Access	No
Hardware	Push Button Plate	Security Surveillance Television (SSTV)	Yes
		Motion Sensor	Ceiling
		Clock	No
		Other	No
LIGHTING		HVAC	
General Requirement: Refer to VA Lighting Design Manual Chapter 4 Patient Areas Lighting Guidelines 4.2.18 Pharmacy for design approach and recommended luminaires.		General Requirement: Refer to IV Prep data sheet in the current version of the VA HVAC Design Manual for room temperatures, humidity range, room air change requirements, and pressurization.	
Notes:		Notes:	
1. Use lighting fixture rated for clean room.		1. Refer to HVAC Design Manual for information on ceiling diffusers and return grilles for this room.	
POWER			
Normal	Yes		
Emergency	Yes		



4.3.15 Sterile Non-Hazardous Drug Buffer Room (PHSC1)

Room Data (continued)

PLUMBING

Cold Water	No
Hot Water	No
Waste	No

FIRE PROTECTIONS AND LIFE SAFETY

Alarm Detection	Smoke
Alarm Annunciator	Audio/Visual
Sprinkler	Yes
Hazard Type	Light



4.3.15 Sterile Non-Hazardous Drug Buffer Room (PHSC1)

Equipment List

JSN	NAME	AI	QTY	DESCRIPTION
A1015	Telephone, Desk, Multiple Line	V / V	1	Telephone, desk, multiple line.
F2000	Basket, Wastepaper, Fire Resistant	V / V	2	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.
F2020	Can, Trash, 44 Gallon	V / V	1	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).
F2245	Camera, Video Surveillance, HD, IP Powered	V / V	2	A high definition, full functional 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.
K1910	Table, Work, Stainless Steel	V / V	2	Work table approximately 36x120x30. The table is made of heavy duty stainless steel with all edges rolled down at 90 degrees. The edges are 2" high and have rounded corners. The table has stainless steel legs and a stainless steel under-shelf. The unit is used as a work station in large kitchens, hotels, restaurants and hospitals.
L1200	Cabinet, Specimen, Pass Thru, CRS	C / C	1	Pass-through specimen cabinet. The unit has a sight-proof interlocking door that permits only one door to open at a time. It also includes a removable spill tray, corrosion resistant stainless steel welded construction with seamless corners and burr-free edges and is able to adjust to wall thickness between 3-6 inches. Used for passage of specimens from patient area to laboratory.



4.3.15 Sterile Non-Hazardous Drug Buffer Room (PHSC1)

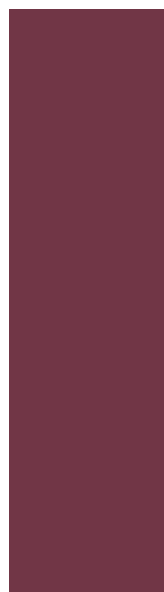
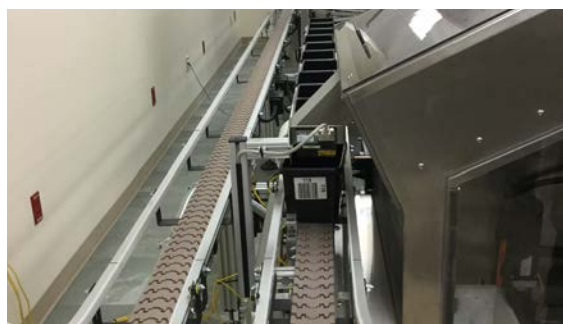
Equipment List (continued)

L2280	Hood, Laminar Flow, Horizontal, Free Standing, 6ft	C / C	2	Horizontal laminar flow hood. This is a freestanding unit that meets or exceeds Class 100 requirements set for Federal Standard 209B. The unit will have HEPA filters, a washable and reusable pre-filter, a work surface and side walls of type 304 stainless steel construction, duplex electrical receptacles, high velocity return air slots that provide an air curtain at the work area, work surface and side walls and blowers with an average velocity of 100 fpm. Used for work with non-hazardous materials where clean particle free air is required. 6 foot model, other sizes available.
M2080	Shelving, Storage, Solid, CRS, w/Adjust- able Shelves	V / V	2	Stationary, solid, shelving unit. Unit has fully adjustable shelves constructed of solid stainless steel. For use in general purpose storage areas. Shelving is provided in various sizes and configurations. Price provided is for a unit approximately 76"H x 18"D x 48"W with four shelves.
U3501	Sharps Container 20G	V / V	2	Sharps disposal bin for Chemotherapy waste. Extra large, 19 gallon capacity, slide top with gasket. Comes with a liquid-absorbent material pre-attached to the inside bottom of the collector. Ships 5/case. Color: Yellow base/Natural top.



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5.0 APPENDIX

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5.0 APPENDIX

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5.1 Site Visits

5.1.1 Introduction

As a beginning step to updating the Space Criteria and Design Guide for the Pharmacy chapter, the team embarked on two site visits to conduct post occupancy evaluations of existing pharmacies. In order to gain an understanding of the way the VA currently operates, the team toured multiple VA-operated pharmacies in addition to several State-operated Veteran Homes across the country. In addition, the team toured a number of private pharmacies to see a variety of solutions and work flows. The group also focused on adjacencies of spaces, finishes, and architectural details. The analysis was intended to be a learning experience for the design team which would translate into modifications, additions, or deletions from the existing chapter criteria and design guide.



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5.1.2 Jesse Brown VAMC, Chicago, Illinois



Figure 5.1 Aerial of Jesse Brown VAMC

JESSE BROWN VAMC		
Location	Chicago, Illinois	
Total Area	240,000 SF	
Floors	8	
Beds	200	
Pharmacy Size	Not Available	
Construction Cost	\$82,000,000	
Opening Date	May 2008	Outpatient Pharmacy renovated 2011
Owner	Veterans Health Administration	
Architect/Engineer	SOM/Ellerbe Becket	





Figure 5.2 Main Concourse in Jesse Brown VAMC

Medical Center Overview

The Jesse Brown VA Medical Center consists of a 200-bed acute care facility and four community based outpatient clinics (CBOCs). Jesse Brown VAMC provides care to approximately 62,000 enrolled veterans who reside in the City of Chicago and Cook County, Illinois, and in four counties in northwestern Indiana. In FY10, the medical center had over 8100 inpatient admissions and 560,000 outpatient visits. A budget of over \$355 million supports approximately 2,000 full-time equivalent staff, including 200+ physicians and 450 nurses, with 500+ volunteers providing service and care at Jesse Brown VAMC and CBOCs.

In May 2008, the medical center opened its new inpatient bed tower pavilion, which includes seven surgical suites, cystology, intensive care, inpatient dialysis, an outpatient surgical center and a chapel. The medical center's strategic priority is the "heart of the Veterans Community" and as Provider of Choice for veterans in the Chicago area. JBVAMC established

a “We Are Here” outreach campaign to inform veterans about the health care benefits they have earned through their service to our country and the specific services available to them at Jesse Brown VA Medical Center.



Figure 5.3 Entrance Lobby in Jesse Brown VAMC

Formerly known as the West Side VA Medical Center, the facility was renamed in 2004 for the Honorable Jesse Brown, who served as Secretary for Veterans Affairs from 1993 to 1997.

Pharmacy Overview

Pharmacy services are spread throughout the medical center to best serve the facility at the necessary points of access. Pharmacy services are divided into 5 separate locations: Outpatient, Inpatient, DDTC, Drug Cache, and OR Satellite.

The outpatient Pharmacy is located on the 1st floor, which provides it easy access to and from the loading dock. The space is large enough that it is able to handle inpatient discharge prescriptions as well, to help alleviate space constraints in the inpatient Pharmacy. The move for discharge from inpatient to the outpatient Pharmacy was critical to provide enough room



to support the use of robotics, which are now used heavily for discharge prescriptions. Locating the outpatient Pharmacy on the first floor also makes it convenient for pick-up by vets. As the medical center is located conveniently to public transit, the system does not need to contract out any pharmaceutical work to external pharmacies. The Just-In-Time delivery service used means that the Pharmacy currently has no need for a medications carousel. Noted space constraints include those in the waiting area where urgent care patients often contribute to crowding, and the space necessary to keep various drugs segregated per regulating while they are awaiting disposal. Space for staff lockers and personal storage is also an issue.

The inpatient Pharmacy is located on the 3rd level within the bed tower, and is much smaller than the outpatient Pharmacy. It typically supports 130 patients (200 maximum) at any given time. It has two clean rooms with an ante room, each with two hoods, which were built according to best practices in 2007. As a result, few to no alterations are anticipated to be necessary once updated standards are adopted. There is a pick-up window for nurses near the clean room which allows the compounding pharmacist to remain in the clean room area at all times. The inpatient Pharmacy also includes a narcotics vault, an oncology research workstation, and a pick-up window that can be used for after-hours outpatient pick-up services. Although space is limited, it is used effectively and the Pharmacy benefits by sharing discharge services with the outpatient Pharmacy. However, the inpatient and outpatient services each have their own receiving processes and area, which does occupy valuable space within the inpatient Pharmacy.

The DDTC (drug dependence treatment center) Pharmacy resides on the second floor and supports the medical center's methadone program. The room has enough space to prepare and administer pick-up and take-home doses of methadone. The workstation near the large pick-up window assures that patients can watch their dosage being prepared before it is administered.

The drug cache occupies two rooms on the second floor of the medical center. The entrance has a two-step security system requiring both a key and a code for entry, although a code may be entered without the key in an emergency (however an alarm will sound). The rooms have ample space for the cache and are therefore also used for overflow storage, including several overflow refrigerators and storage for flu vaccines.

The OR satellite Pharmacy can be used as contingency space, if needed, by the other Pharmacy services. However, the satellite was not observed



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on this site visit, as the program is covered by the VA Surgical Services Design Guide.

Outpatient Pharmacy Plan

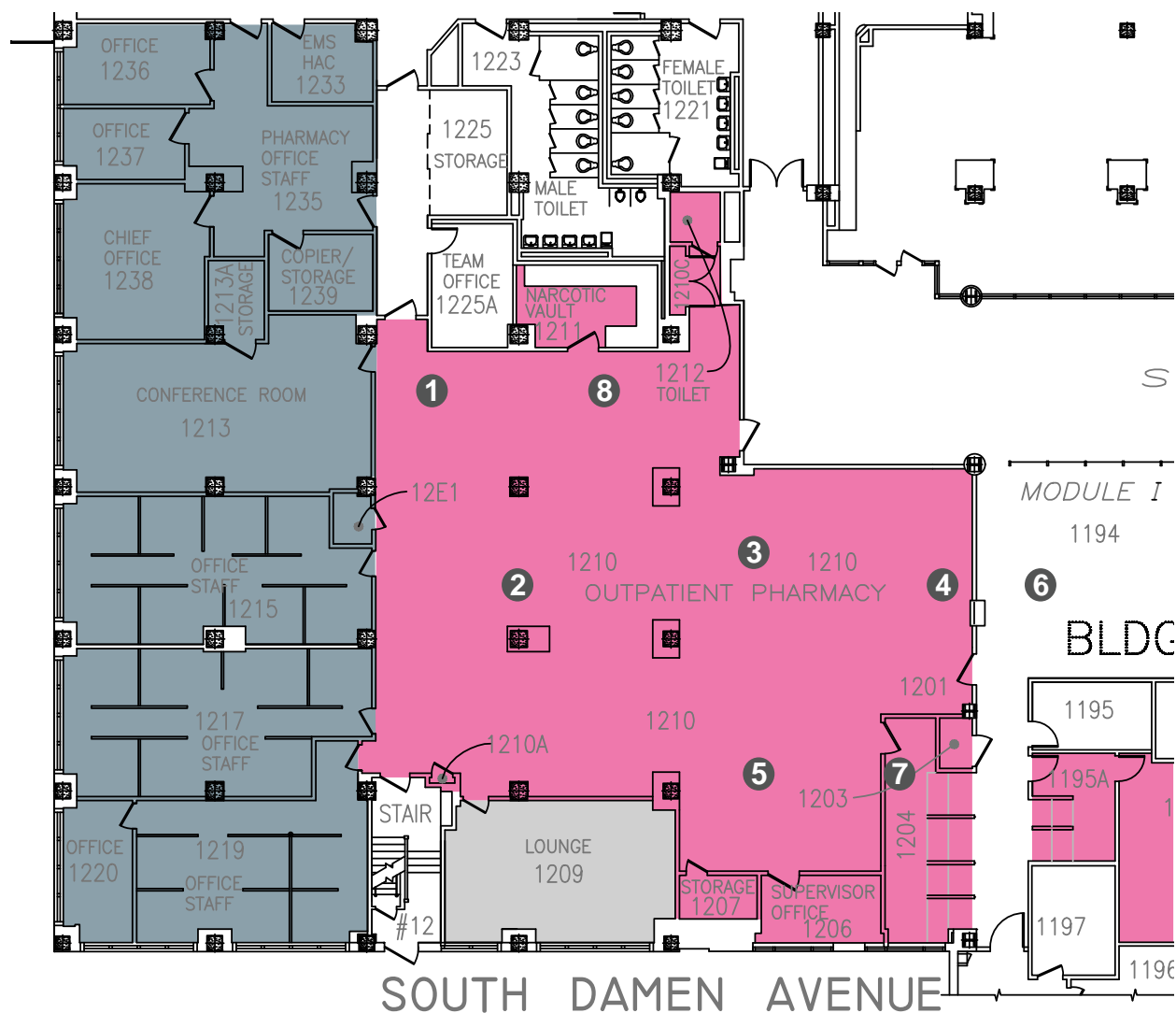


Figure 5.4 Jesse Brown VAMC Outpatient Pharmacy Floor Plan

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation

Key Notes / Photo Locations:

- 1** Receiving/breakdown
- 2** Bulk storage
- 3** Automation
- 4** Pick-up window
- 5** Call center
- 6** Waiting space: can become overcrowded with urgent care patients
- 7** Consulting stations
- 8** Staff coats hung here on wall as they do not fit in lockers





Figure 5.5 Jesse Brown VAMC Outpatient
Photo taken at note position #3



Figure 5.7 Jesse Brown VAMC Outpatient
Photo taken at note position #8



Figure 5.6 Jesse Brown VAMC Outpatient
Photo taken at note position #5



Figure 5.8 Jesse Brown VAMC Outpatient
Photo taken at note position #5

Inpatient Pharmacy Plan



Figure 5.9 Jesse Brown VAMC Inpatient Pharmacy Floor Plan

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation

Key Notes:

- ① Compounding pharmacist and pick-up window
- ② Inpatient pick-up window
- ③ Pyxis restocking
- ④ Research Oncology
- ⑤ Main work area
- ⑥ Receiving





Figure 5.10 Jesse Brown VAMC Inpatient
Photo taken at note position #1



Figure 5.12 Jesse Brown VAMC Inpatient
Photo taken at note position #5

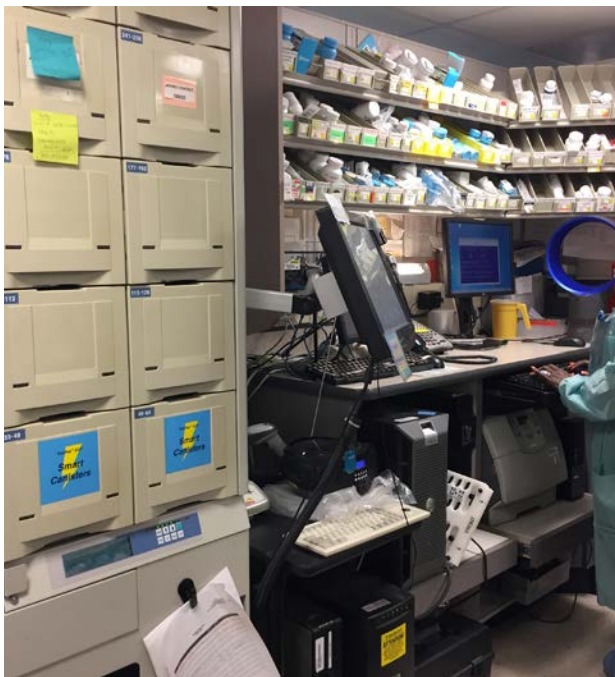


Figure 5.11 Jesse Brown VAMC Inpatient
Photo taken at note position #3



Figure 5.13 Jesse Brown VAMC Inpatient
Photo taken at note position #6



5.1.3 Edward Hines Jr. VAMC CMOP, Hines, Illinois



Figure 5.14 Aerial of Edward Hines Jr. VAMC

HINES CMOP		
Location	Hines, Illinois	
Total Area	~115,000 SF	Currently not all area is in use
Floors	1	
Beds	N/A for CMOP	
Pharmacy Size	~115,000 SF	
Construction Cost	Not Available	
Project Cost	Not Available	
Opening Date	1995	
Owner	Veterans Health Administration	
Architect/Engineer	Not Available	





Figure 5.15 Front facade of Edward Hines VAMC

Overview

Edward Hines, Jr. VA Hospital, located 12 miles west of downtown Chicago on a 147-acre campus, offers primary, extended and specialty care and serves as a tertiary care referral center for VISN 12. Specialized clinical programs include Blind Rehabilitation, Spinal Cord Injury, Neurosurgery, Radiation Therapy and Cardiovascular Surgery. The hospital also serves as the VISN 12 southern tier hub for pathology, radiology, radiation therapy, human resource management and fiscal services.

Hines VAH currently operates 471 beds and six community based outpatient clinics in Elgin, Kankakee, Oak Lawn, Aurora, LaSalle, and Joliet. Over 600,000 patient visits occurred in fiscal year 2010 providing care to over 54,000 veterans, primarily from Cook, DuPage and Will counties. In FY 2010 the budget for Hines was over \$510 million.





Figure 5.16 Robotic picking in Hines CMOP

CMOP Overview

The Central Mail Order Pharmacy located near the Hines campus is one of six such facilities in the country, which in aggregate handle about 85% of all outpatient prescriptions for the VA. Since 2006 the CMOP facilities have comprised their own organization separate from the purview of the VA hospitals. They are funded by payments from the hospitals and operate at a cost of about \$1.63 per prescription. The hospitals typically handle their own discharge prescriptions before the prescription is automatically transferred to the CMOP system. The CMOPs process close to 90 million prescriptions a year. At the Hines CMOP specifically, the facility processes roughly 120,000 prescriptions every day, and has a turn-around rate of 48 hours.

The current workflow for the Hines CMOP, including the administrative area, occupies only about half of the total area of the building. The current system was installed in 1995 and has undergone numerous updates and



upgrades in the intervening years to add more capacity and functionality. There are several components to the system, which includes robotic picking for medications that can be ordered in the correct doses for prescription filling, a dispensing area for filling bottles with individual pills, a line of stations for pharmacist verification of each prescription, and a line of stations for packaging and preparing each package for shipment. Once the material is packed, it is stored on carts until it can be picked up by a contracted consolidator and sorted for shipping. The CMOP does not handle shipping itself. As no compounding or IV prep is done at the facility, there are no clean rooms. However, there are several mechanical hoods for handling of some specific medications.

An entire replacement system is currently planned for the empty space in the CMOP warehouse. As a result, the CMOP expects to be able to handle any future increases in demand easily, and is not space-constrained.



Figure 5.17 Current assembly line at Hines CMOP



5.1.4 University of Chicago Medical Center, Chicago, Illinois



Figure 5.18 Aerial of University of Chicago Medical Center

UNIVERSITY OF CHICAGO MEDICAL CENTER - CENTER FOR CARE AND DISCOVERY

Location	Chicago, Illinois
Total Area	1.2 Million SF
Floors	10
Beds	240
Pharmacy Size	6,600 SF
Project Cost	\$700 Million
Construction Cost	\$470 Million
Opening Date	February 2013
Owner	University of Chicago Medicine
Architect/Owner	Rafael Vinoly/CannonDesign





Figure 5.19 Main Entry of University of Chicago Medical Center

Overview

The University of Chicago Medicine is an academic medical center based on the campus of the University of Chicago. The not-for-profit corporation offers the full range of specialty and primary care services for adults and children that includes the Center for Care and Discovery.

The new hospital is a 10-story “hospital for the future” that serves as the new core of the campus of the University of Chicago Medicine. The Center for Care and Discovery provides a home for complex specialty care with a focus on cancer, gastrointestinal disease, neuroscience, advanced surgery and high-technology medical imaging.

It has the internal capacity to rapidly and economically adjust to changes in technology and medicine, and to the facility needs, for decades to come.

At 1.2 million square feet, the hospital is one of the largest buildings on the University of Chicago campus, changing the skyline of the South Side of Chicago. It occupies the north end of two city blocks, along the south side of 57th Street between Cottage Grove and Drexel Avenues. Each floor



provides 100,000 square feet of space.

The architects created flexibility and adaptability by designing the entire hospital structure on a grid system. The grid is organized into 85 modular cubes that repeat on each floor. At 31 feet wide by 18 feet high, these large cubes, or “bays,” can be re-purposed over time to accommodate technological advancements and changing needs. For example, one bay can enclose two patient rooms, one operating room or one interventional procedure room—without changing the basic framework of the building.

The hospital’s innovative design also extends to its public spaces. The main lobby is located on the 7th level and is referred to as the “Sky Lobby.” The space has floor-to-ceiling glass walls, filling the space with natural light and providing panoramic views of the campus and downtown Chicago. The Sky Lobby houses central reception, family waiting areas, a chapel, the gift shop, dining areas and other public spaces. The ground level of the new hospital, open to the public, enhances the street-scape and includes cafés and other retail businesses.

The new hospital contains 240 single-occupancy inpatient rooms including 52 intensive care beds; space for 28 operating rooms with leading-edge technology; and an integrated diagnostic and interventional platform including cardiac, gastrointestinal, neurological and vascular services. The building also has two floors of expansion space that could be used for additional patient care units as well as future leading-edge, technology-based interventional or surgical suites.



**Figure 5.20 Lobby at UCMC
Center for Care and Discovery**



Pharmacy Overview

The project team visited three separate Pharmacy spaces at University of Chicago: the inpatient Pharmacy in the Center for Care and Discovery, the inpatient Pharmacy within the Comer Children's Pediatric Hospital, and the outpatient Pharmacy near the main lobby.

The Comer Children's Pediatric Pharmacy currently serves as the main inpatient Pharmacy to support all of the beds on the medical center campus. However, as there are additional beds planned, it is anticipated that the Center for Care and Discovery Pharmacy will play a larger role in supporting the inpatient population in the future. The Comer Pharmacy includes several clean rooms as well as a compounding robot, though staff find that the robot provides the maximum benefit if it can be employed to do a single task. The clean rooms and compounding robot together provide sufficient capacity for most of the medical center's current needs.

The Center for Care and Discovery Pharmacy has three additional medication carousels, staff and administrative space, an investigational drug service space, and a built-in narcotics vault. There are three additional clean rooms in this Pharmacy which all share an Ante room, however these rooms are currently only used as contingency and overflow space for the Comer Pharmacy clean rooms, and their capacity is anticipated to be needed once the hospital grows to accommodate an additional several hundred inpatient beds. This Pharmacy was originally planned to include picking robotics, however the hospital ultimately opted to utilize the medication carousels instead.



Inpatient Pharmacy Plan



Figure 5.21 Floor Plan of UCMC Center for Care and Discovery Pharmacy

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation

Key Notes:

- 1** These clean rooms are used as contingency or overflow spaces primarily
- 2** Three meds carousels in main workroom
- 3** Admin spaces arranged in ring around work area
- 4** Work area tight and doubles as receiving and storage
- 5** Narcotic vault with automated medication dispensing as additional secured storage





Figure 5.22 UCMC Inpatient
Note position #1



Figure 5.24 UCMC Inpatient
Note position #5



Figure 5.23 UCMC Inpatient
Note position #2



Outpatient Pharmacy Plan

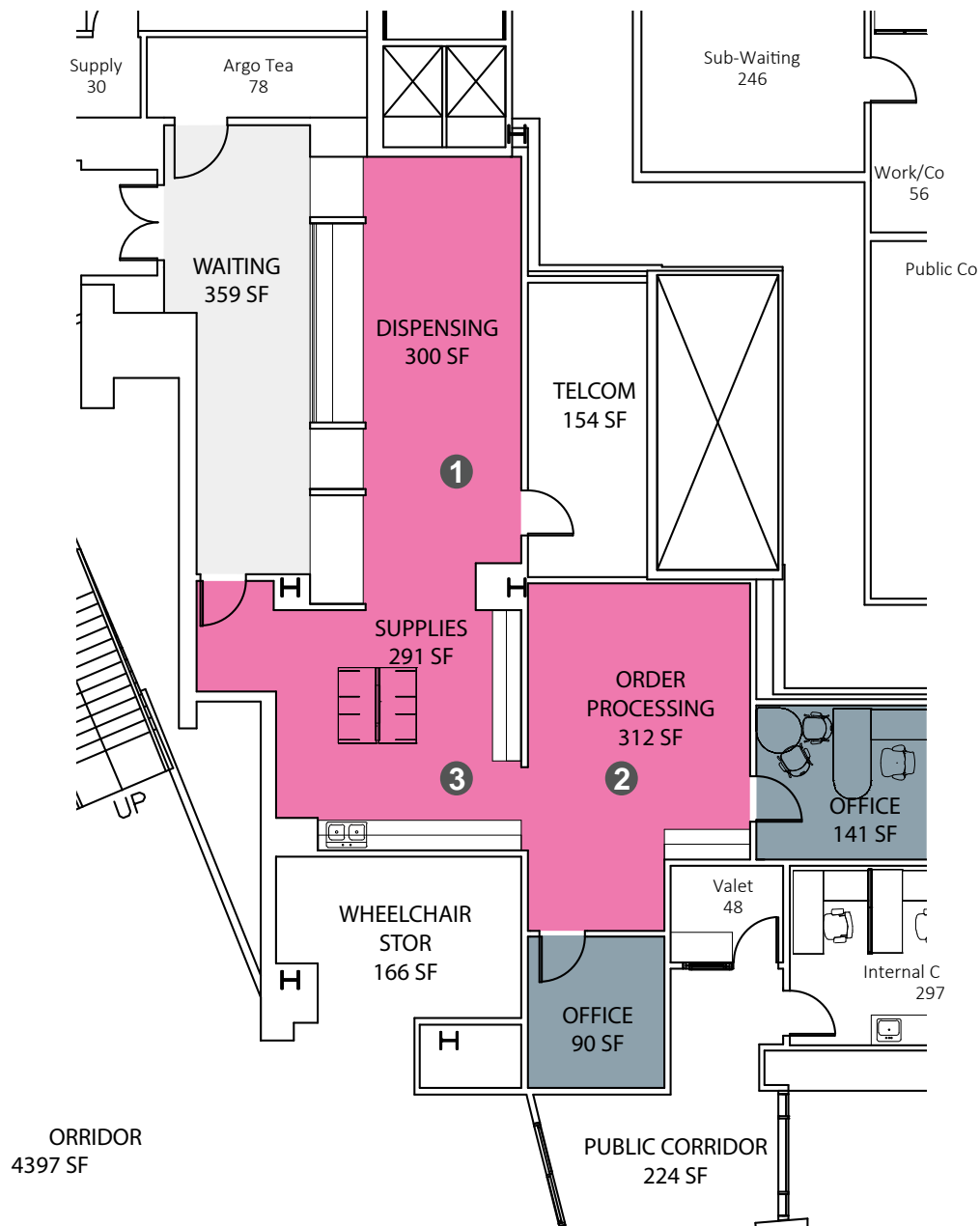


Figure 5.25 Floor Plan of UCMC Outpatient Pharmacy

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation

Key Notes:

- 1** ScriptPro automation is primary tool for outpatient Pharmacy services
- 2** High density storage
- 3** Outpatient filling





Figure 5.26 UCMC Outpatient
Note position #1 west



Figure 5.27 UCMC Outpatient
Note position #1 east



Figure 5.28 UCMC Outpatient
Note position #3



5.1.5 Elmhurst Memorial Hospital, Elmhurst, Illinois



Figure 5.29 Aerial of Elmhurst Memorial Hospital

ELMHURST MEMORIAL HOSPITAL

Location	Elmhurst, Illinois
Total Area	866,000 SF
Floors	6
Beds	259
Pharmacy Size	4,000 SF
Project Cost	\$450 Million
Construction Cost	\$320 Million
Opening Date	June 2011
Owner	Elmhurst Memorial Care
Architect/Engineer	Albert Kahn Associates/Pratt Design Studio





Figure 5.30 Main Entry of Elmhurst Memorial Hospital

Overview

Elmhurst Memorial Healthcare recently took the opportunity not only to replace an outdated, landlocked hospital building, but also to redefine the way they treat patients.

When the system set out to build a replacement facility, it established five main goals for the new building: clinical quality, safety, market growth, financial performance and patient satisfaction. Central to these is the patient experience; throughout the planning process, the health system asked, “How do you put the patient at the center, and make that stick?”

To answer this question, the system worked extensively with health care consulting firm Hammes Company, Brookfield, Wis., to research, map and optimize the patient experience. It also joined the Planetree network, an organization based in Derby, Conn., that promotes patient-centered care, including the idea that physical environments can enhance healing, health and well-being. Planetree’s principles for safe, effective, high-quality care that nurture the body, mind and spirit clearly are evident in the newly opened Elmhurst Memorial Hospital facility, which was designed by Albert Kahn Associates Inc., Detroit, and Pratt Design Studio, Chicago.



The red brick Prairie-style building is adorned with bands of precast concrete molded in the design of a Planetree leaf, a motif used throughout the hospital in tribute to the patient-centered model of care.

Gardens and outdoor seating areas span the front of the building. A water feature is installed just inside the main entrance to provide a serene entry sequence for patients and visitors. Oversized windows fill the first-floor, public concourse with natural light. A number of amenities are located along the concourse, including a flower shop, wellness boutique, Starbucks, Pharmacy and the hospital's café.

A health education center is available to the public in keeping with the Planetree belief that access to health information can empower people to participate in their own care. The back of this library opens to the physician lounge, giving doctors easy access to research materials.

A nondenominational chapel with a second-story balcony is adjacent to both the emergency department (ED) on the first floor and the intensive care unit on the second floor. Family members and friends of patients in these critical care areas can access the chapel without having to travel far from the patient bedside.

Each room has a computer work station with an articulating arm that allows caregivers to position the monitor where it can be seen easily by the patient. A stool is provided in every room so caregivers can sit down while speaking with patients.

To save hospital staff the time spent fetching extra seats for visitors, a folding chair is stored in a cabinet in the family zone of each patient room. A small table with leaves that fold down for easy storage can be rolled out from beneath a counter on the footwall to give family and visitors a place to work, share a meal or play games with a patient. The idea that families, friends and loved ones are vital to the healing process is important to the Planetree approach. At the far corner of each room, the walls meet in a smooth curve rather than a sharp point, a gesture that has surprising impact on making the room more comfortable.

Integrated, ceiling-mounted patient lifts are installed in each room for staff and patient safety. Large bathrooms include roll-in showers sized to enable staff members to assist patients with bathing. The toilet is positioned away from the corner of each bathroom, providing room for two caregivers, one on each side, to help a patient sit or stand. Fold-down grab bars are installed on either side of the toilet to allow patients to



help themselves. A recessed cabinet in the wall of each bathroom stores bedpans and other commonly used items.

The project team followed the 90/5 rule in designing the hospital. This rule, which originated in the aerospace industry, states that 90 percent of supplies should be stored within five seconds of where they are needed. Nurse servers in each patient room keep supplies close at hand.

Like the patient rooms, the ED exam rooms are private, each with a private bathroom. Two doors lead into each exam room; the staff work area is on one side of the exam rooms and the waiting area is on the other, to reduce noise and chaos.

A six-bed pediatric inpatient unit is located next to the ED on the hospital's first floor. The rooms here look into a children's garden filled with fanciful blown-glass globes.



Figure 5.31 Lobby of Elmhurst Memorial Hospital

Model of Care

The Planetree Model of Care has been highlighted as a holistic philosophy of care that resonates with every department in the facility, including the Pharmacy.

The hospital is considered a destination care center for community providers. Facility management related that local physicians and surgeons have a choice in their admitting and privileges and surgical case blocks with competition from other area hospitals and surgical centers. Many of the physicians are choosing to operate at Elmhurst and the facility has seen an uptick in procedures related to this. The hospital also has an established partnership with Northwestern University's Interventional Radiology program.

Because of the Planetree related design, there seems to be a large amount of underutilized public space. Facility staff mentioned that this space was a circulation factor and much of it was not in the program when designed but is part of the Planetree philosophy to provide open, non-restrictive spaces without pinch-points and generous lobby areas for visitors.

Pharmacy Overview

The Pharmacy at Elmhurst handles inpatient medications, chemotherapy for their adjacent cancer clinic, some home health care, and employee outpatient prescriptions. Inpatient discharge prescriptions are not a service provided. All Pharmacy services are located in one area in the basement of the main hospital building. During an initial planning phase, the Pharmacy was located near the ICU and OR suite on Level 2. Eventually, planning adjustments were made to co-locate all critical care units, and Pharmacy was left with limited space on Level 2. By moving the program to the basement, they were able to maximize the space that could be made available to the Pharmacy. This also located the Pharmacy to be convenient to the loading dock for daily deliveries.

The Pharmacy group consists of 65 staff members for a total of 45 FTEs. They collectively handle 285 beds which are typically at 70-75% occupancy. Staff are cross-trained to be able to work in both the inpatient and employee outpatient services. Some pharmacists are "roving" on the bed floors with a laptop which takes the place of having any satellite Pharmacy spaces beyond what is located in the basement. There are also two Pyxis stations located in each 25-bed unit. The stations are refilled manually across all three shifts, with a focus on refilling the OR-located



Pyxis machines on the overnight shift to minimize disruption during peak hours.

Although the Pharmacy group considered robotics, they ultimately decided to utilize two medication carousels to automate their process for the inpatient Pharmacy. There are also three pneumatic tube stations within the Pharmacy, with one station for a dedicated tube system which is used exclusively for chemotherapy being sent to the cancer clinic. By isolating the chemotherapy drugs on their own system, the team minimizes risk associated with a container bursting while in transit.

The carousels put out a report for restocking and a delivery is received daily. As a result, the inpatient Pharmacy space is uncluttered and organized, which a large portion of all drug storage occurring within the carousels. Oncology drugs, however, are not handled through the carousel and are therefore restocked manually. There is also a separate room for receiving, breakdown, and additional storage. Due to the packaging and storage needs of some specific medications, the staff would prefer this space to be larger. Although the space has a high ceiling, the tops of shelves are too high to be practically usable on a regular basis. If overflow space is needed, the staff use the Home Health Care space, which also is used for storing the emergency drug cache.

The clean rooms are built for best practices and therefore the group anticipates that few changes will be necessary for USP 800. However, the group expressed dissatisfaction with the current clean-room layout, which employs a shared ante room for both clean rooms. The preference was to have two separate ante rooms to keep the IV clean room workflow completely separate from the chemo compounding workflow. The clean rooms both have pass-through cabinets and refrigerators.

The project team noted the generally de-cluttered feel of the Pharmacy, the quality of which was made more pleasant by the indirect lighting installed in the main workspaces of both the inpatient and employee outpatient services.



Pharmacy Plan



Figure 5.32 Floor Plan of Elmhurst Memorial Hospital Pharmacy

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation

Key Notes:

- 1** Medical carousels store bulk of supply
- 2** Trial drugs stored and monitored in IRB room
- 3** Outpatient pharmacy for employees only - no discharge
- 4** Ante room is small, would prefer a separate ante room for each clean room
- 5** Drug cache stored in Home Health
- 6** Storage also used for Receiving/Breakdown





Figure 5.33 Floor Plan of Elmhurst Memorial Hospital Pharmacy

- 7** Main Pharmacy work space is uncluttered with indirect lighting
- 8** Two pneumatic tube stations - one is on a designated chemo system





Figure 5.34 Elmhurst Pharmacy
Photo taken at note position #1



Figure 5.36 Elmhurst Pharmacy
Photo taken at note position #7



Figure 5.35 Elmhurst Pharmacy
Photo taken at note position #3



Figure 5.37 Elmhurst Pharmacy
Photo taken at note position #8



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5.1.6 Rush University Medical Center



Figure 5.38 Aerial of Rush University Medical Center

RUSH UNIVERSITY MEDICAL CENTER		
Location	Chicago, Illinois	
Total Area	830,000 sf	
Floors	14	
Beds	664 total	376 in new tower
Opening Date	new tower opened in 2012	
Pharmacy Size	Not Available	
Project Cost	\$654 million	
Construction Cost	\$398 million	
Owner	Rush University Medical Center	
Architect/Owner	Perkins+Will	





Figure 5.39 Exterior view of Rush University Medical Center

Overview

Rush University Medical Center is a not-for-profit, 664-bed academic medical center which is consistently ranked among the nation's top hospitals in the *U.S. News & World Report*. The Medical Center is on the same campus as the university, which has an exclusive focus on the health sciences. This allows for a unique integration of education and patient care.

The medical center offers care for patients of all ages through Rush University Children's Hospital, the Johnston R. Bowman Health Center, and the Ada F. Addington Inpatient Hospice Unit, as well as the new Tower inpatient unit.

The Tower houses both acute and critical care and contains surgical, diagnostic, and therapeutic services. The state-of-the-art design includes



patient-friendly features such as rooftop gardens, universal accessibility, and sustainable design. The Tower also includes an entry pavilion to serve as the new front door for the entire medical center. The space is a 3-story, sun-filled design meant to unify existing buildings with the new hospital.

Pharmacy Overview

The Pharmacy at Rush was not updated when the new bed tower was constructed. Instead, it resides in the basement of the older building. As a result, the Pharmacy missed an opportunity to implement some key upgrades to improve their workflow and position them for USP 800.

The Pharmacy has three clean rooms, as well as a room for a compounding robot. All clean rooms have shortcomings which make them more or less useful for certain tasks.

The compounding robot, nicknamed “Riva,” sits in its own room which is equipped with a pass-thru to a storage space that is used primarily to support the robot. The primary issue with this workflow is that the robot needs to be cleaned and reconfigured for each new task that it performs, so it is the most efficient only when performing the same task many times over. There is also a walk-in cooler that opens up to the robotic storage area, however the cooler is not necessary for this usage. The cooler would be best accessed from the other side (a storage room), however there is an unused narcotics vault currently blocking access between the storage and the cooler (refer to plan for clarification).

The clean room that opens into the main Pharmacy work area has a large window into the Pharmacy as well as a pass-thru cabinet, so that staff within the clean room can effectively communicate with and pass materials to someone in the Pharmacy. However, the entrance to the clean room is not buffered by an ante room. Therefore, the room can only be used for certain types of mixtures.

The other two clean rooms are accessed via an ante room from the main Pharmacy corridor. These rooms have several issues. Although one room has a window into the main Pharmacy area, neither have visibility to the corridor, with limited visibility to the ante room, and there are no pass-thrus at all. The lack of pass-thru cabinet or refrigerator means that any time a pharmacist transfers materials into or out of the clean room, they must go through the entire gowning process within the ante room. Additionally, the rooms are not outfitted with equipment hoods. Instead, the entire room acts as the filter and exhaust system. The Pharmacy group feels that this substantially increases the amount of time that they are down due to



maintenance issues, which must be addressed above the ceiling. If a fan goes down and requires maintenance, the entire room cannot be utilized until the repair is made. The group plans to upgrade the rooms with hoods in the near future to build more redundancy into the process.

In addition to the main Pharmacy workroom, which hosts the pharmacist workstation, two medication carousels, and narcotics storage in a Pyxis vault, there is a large storage room which has two additional carousels. Because the ceiling height in the storage room is so much higher than in the work room, these carousels are able to handle considerably more medication. This room is also used to store contrasting materials for radiology and neurology, as well as syringes for IV prep. The room is manned by a staff member during peak hours, but lacks sufficient security or a way to communicate effectively with the corridor or rest of the Pharmacy.

The Pharmacy group also expressed a desire for more storage near the Pharmacy. Although the medication is primarily stored in the carousel equipment, the group noted that the automation that they utilize has its own need for parts storage, which is currently not well-accommodated. It was noted that the Pharmacy administrative spaces that are located near the Pharmacy do not necessarily need to be co-located, whereas it would be useful to have additional storage space at that location.



Pharmacy Plan



Figure 5.40 Rush University Medical Center Pharmacy Plan

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation

Key Notes:

- 1** Vault is not used
- 2** Narcotics stored here in free-standing vault
- 3** Anteroom with poor visibility and no pass-thrus
- 4** This clean room is negative pressure, used to be used for oncology
- 5** Pharmacists workstation lacks visibility of clean rooms
- 6** Clean room is lacking ante room
- 7** Storage is separated from pharmacy by public corridor





Figure 5.41 Rush MC Inpatient
Note position 3



Figure 5.43 Rush MC Inpatient
Note position 5 (looking north)



Figure 5.42 Rush MC Inpatient
Note Position 5 (looking south)



Figure 5.44 Rush MC Inpatient
Note Position 6

5.1.7 Orlando VAMC, Orlando, Florida



Figure 5.45 Aerial of Orlando VAMC

ORLANDO VAMC AT LAKE NONA		
Location	Orlando, Florida	
Total Area	1.2 million SF	
Floors	5	
Beds	134	also includes a 120-bed community living center
Pharmacy Size	Not Available	
Project Cost	Not Available	
Construction Cost	\$600 million	
Opening Date	February 2015	
Owner	Veterans Health Administration	
Architect/Owner	Ellerbe Becket/RLF Architects	



Figure 5.46 Main Entry of Orlando VAMC

Overview

The Orlando VA Medical Center, serving more than 100,000 Veterans in Central Florida, is one of seven medical centers that make up the VA Sunshine Healthcare Network (VISN 8). Established as a medical center in October 2006, the Orlando VA Medical Center is recognized as one of the Top 100 Companies in Central Florida for working families. The Orlando VA Medical Center includes a 120-bed Community Living Center in Lake Nona, a 60-bed Residential Rehabilitation Program (Domiciliary) in Lake Nona and a 56-bed Residential Rehabilitation Program (Domiciliary) located at Lake Baldwin, Outpatient Clinics in Lake Baldwin, Viera and Daytona Beach and four Community Based Outpatient Clinics located in Clermont, Kissimmee, Tavares, and Orange City. The new Orlando VA Medical Center is part of a 650-acre health and life sciences park known as the Lake Nona Medical City. The 65-acre medical campus has 134-inpatient beds and provides acute care, complex specialty care,



advanced diagnostic services, a large multi-specialty outpatient clinic, and administrative and support services.

The medical center's facilities ensure efficient care through emphasizing clinical adjacencies. Single-patient rooms are designed to foster family interaction, and integrated technologies support quality care and education. The site planning allows for views of natural waterways while high-traffic areas of the facility are located close to the main roadway for easy access and parking. The hospital and clinic buildings are connected by an indoor atrium which aids in wayfinding.

Pharmacy Overview

The new medical center in Orlando includes a two-story Pharmacy department mainly separated into outpatient services (dispensing and patient interaction) on the lower level, with inpatient and outpatient work areas and administration on the upper level. The outpatient Pharmacy's location on the lower level means it is well situated to serve the Emergency Department, while in the inpatient Pharmacy on the upper level locates it closer to the inpatient beds. Having the two pharmacies situated directly on top of each other has several advantages: it permits pharmacists working upstairs to serve the outpatient Pharmacy on an as-needed basis after business hours, and it also provides an opportunity for the use of dumbwaiters to assist with transferring supplies between the two locations. The dumbwaiters are a more expedient transportation method than a pneumatic tube system, however they occasionally go out of service and are difficult to repair.

Although the lower level of the Pharmacy serves as the point of service for outpatients, most Pharmacy operations for both services take place upstairs. This includes picking and packaging, as well as all workflows associated with controlled substances, as both the outpatient and inpatient vaults are in the upstairs Pharmacy. The upstairs portion of the Pharmacy also has the only dedicated toilet room for all staff working on both levels. In addition to not being enough toilets to support the entire Pharmacy staff, this poses a particular issue for the lower outpatient Pharmacy. If the pharmacist working in the lower area must go upstairs for any reason, including the toilet, the lower Pharmacy must be completely closed. This can lead to issues especially for emergency department patients after hours who sometimes arrive at the outpatient Pharmacy to find it shut down without explanation.

The main (upstairs) Pharmacy work area utilizes a three-carousel system. There is one carousel which stores general inpatient medications



only. Additionally, one carousel is used to store bulk and pre-packaged medications, as well as to support the inpatient robot. The third carousel stores outpatient medications and supports the Optifill automation system. The staff find that the carousel works well as support for Optifill automation, however the carousel's ability to do only one thing at a time makes it a less desirable solution for manual picking, where open shelf storage allows multiple people to access multiple medications simultaneously.

The inpatient work side of the Pharmacy includes both an IV and a Chemo prep room with a shared ante room. The rooms all include no-touch faucets and doors, as well as hands-free communication technology to allow staff to work efficiently and safely in the space and when transferring materials between the clean rooms and the rest of the work area.

The inpatient Pharmacy follows a “cabinet-centric” workflow. This means that Pyxis machines reside in every inpatient unit and are kept stocked with first doses. The Pyxis cabinets are also supported by a robot which resides within the main Pharmacy. The robot processes and fills first doses which can be transferred to the inpatient units via the pneumatic tube system. Within the Pharmacy, the robot is supported by one of the three carousels as well as a dedicated workspace for an automation tech.

The outpatient side of the Pharmacy work area uses several forms of automation as well. In addition to the Optifill system with the support carousel and two automation tech workstations, there is a conveyor belt for prescription processing which has 4 tech and 4 pharmacist stations. The conveyor belt transfers medications filled by Optifill to be verified by the pharmacists before being processed and packaged by the techs for dispensing. Once packaged, the medications are sent to the outpatient dispensing area on the lower level. The outpatient side of the Pharmacy also includes an area for prosthetics storage and a tech workstation, as well as a dedicated workstation for processing mail-out prescriptions. The staff felt that an additional workspace for making follow-up phone calls to patients would also be helpful.

Other spaces in the main Pharmacy include two secured storage vaults: one each for inpatient and outpatient medications. The outpatient dispensing area on the lower level also has a vault, however it is used for short-term holding of controlled substances only, not for order processing. The vaults used for long-term storage and order processing are each divided into two spaces: the controlled-access ante room used for processing and packaging, and the main vault storage area. Due to size and layout of these spaces, the outpatient vault functions slightly

better with this space configuration than the inpatient vault does. The inpatient vault is smaller and receives less traffic generally than the outpatient vault, and the staff felt that it could more easily function as one open space used for both functions. The outpatient vault is also used to process prescriptions that are returned by mail for any reason. All returned medication packages are opened within the vault to determine whether their contents include any controlled substances before any other processing of the returned medications is completed. One pharmacist as well as two techs work in this vault daily.

The Pharmacy also includes a research area which is positioned well to have easy access to the clean rooms and IV hoods as needed. The general mail receiving area for staff is within the work area as well, although staff felt this would be more appropriately located within the administration suite. The Pharmacy administration area is located directly adjacent to the Pharmacy work area. Although the staff did not feel that the general administration needed to be adjacent to the work area, it was noted that the supervisor workstation was best located within the work area itself. The staff lounge is also located within the Pharmacy footprint but is too small and narrow to properly serve all of the Pharmacy staff. This results in staff storage overflowing to other areas of the work area.

The outpatient dispensing area on the lower level of the Pharmacy department has more space than dispensing currently requires. The Pharmacy is currently dispensing between 700 and 800 prescriptions per day, but likely has the capacity to handle around 2000 per day. The space has 4 dispensing windows, which are also used for consults. The separate consult rooms are typically not used. Behind the dispensing windows is a wall which separates the Pharmacy work area from the dispensing and patient area. This configuration helps keep the pharmacists “off-stage” but also makes it difficult to see if a line is forming. The Pharmacy also does not have its own dedicated waiting area, but rather uses a “bingo board” system in other waiting areas as well as the canteen to alert patients when their prescriptions are ready.



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Outpatient Pharmacy Plan

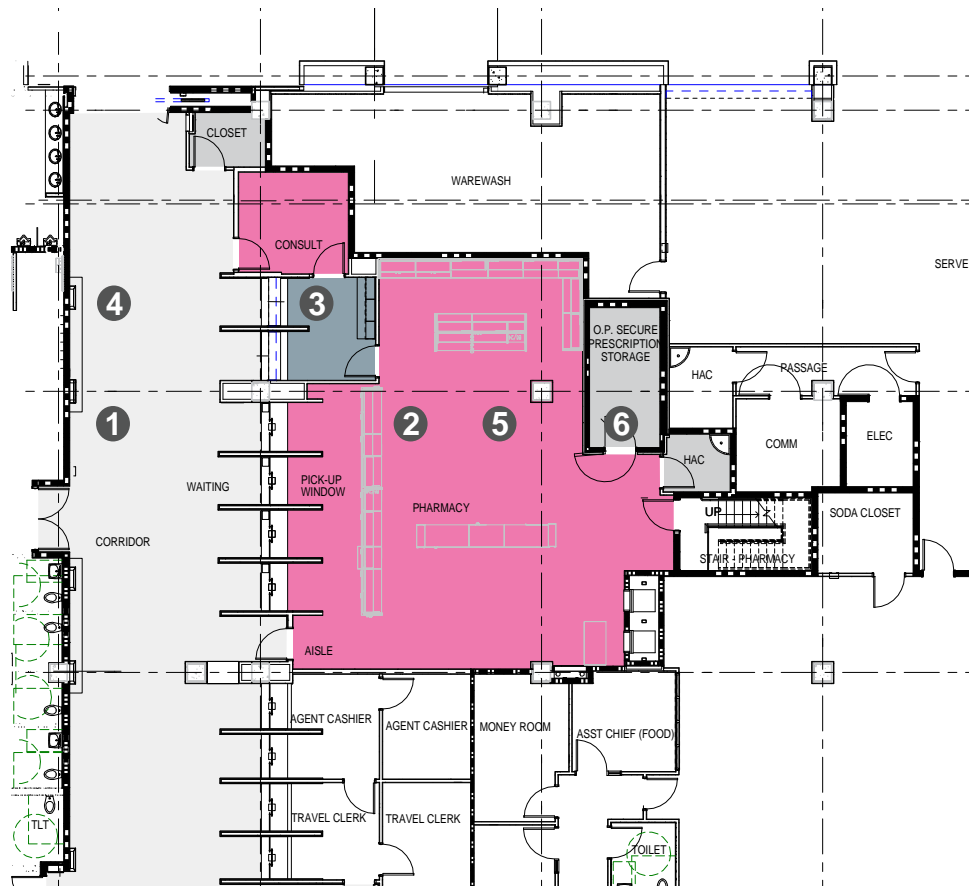


Figure 5.47 Orlando VAMC Outpatient Dispensing Floor Plan

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation

Key Notes:

- 1** No waiting in front of Pharmacy
- 2** On-stage/Off-stage concept aided by layout
- 3** Consult currently not used
- 4** Hard to see line forming
- 5** Large amount of underutilized space
- 6** Secondary vault used only for dispensing narcotics since dispensing is on a different floor from main pharmacy.





Figure 5.48 Orlando VAMC Outpatient
Note Position 2



Figure 5.50 Orlando VAMC Outpatient
Note Position 5



Figure 5.49 Orlando VAMC Outpatient
Note Position 4

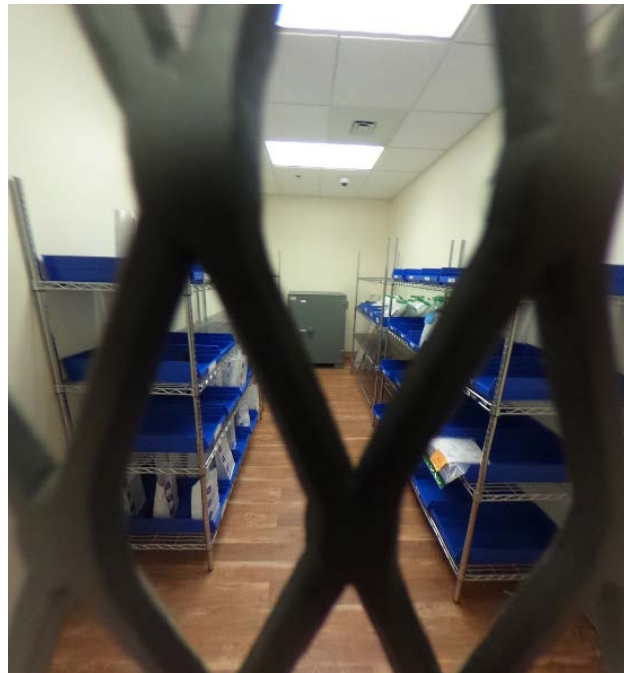


Figure 5.51 Orlando VAMC Outpatient
Note Position 6

Inpatient Pharmacy Plan

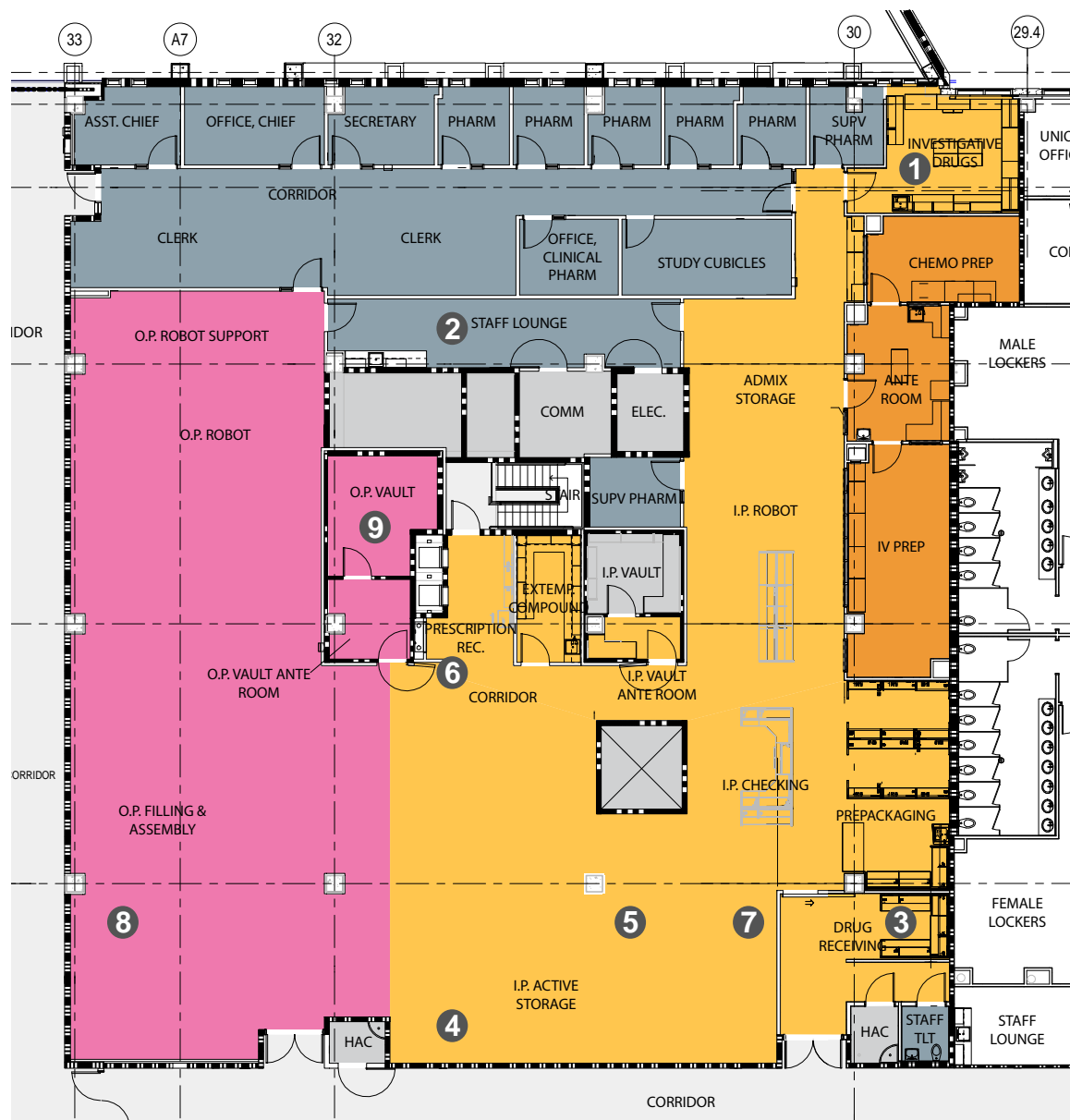


Figure 5.52 Orlando VAMC Main Pharmacy Floor Plan

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation

Key Notes:

- 1** Research Pharmacy has easy access to clean rooms
- 2** Lounge is too narrow
- 3** Receiving techs could use more workspace
- 4** Procurement station too exposed
- 5** Carousel currently not maximizing space due to structural concerns
- 6** Pneumatic tube is far from most of work area
- 7** Single dose robotics
- 8** Outpatient filing robotics and conveyor system
- 9** Outpatient vault with robotics





Figure 5.53 Orlando VAMC Main Pharmacy
Note Position 5



Figure 5.54 Orlando VAMC Main Pharmacy
Note Position 9



Figure 5.55 Orlando VAMC Main Pharmacy
Note Position 4



Figure 5.56 Orlando VAMC Main Pharmacy
Note Position 7



Figure 5.57 Orlando VAMC Main Pharmacy
Note Position 2



Figure 5.59 Orlando VAMC Main Pharmacy
Note Position 8



Figure 5.58 Orlando VAMC Main Pharmacy
Note Position 8



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5.1.8 James Haley VAMC, Tampa, Florida

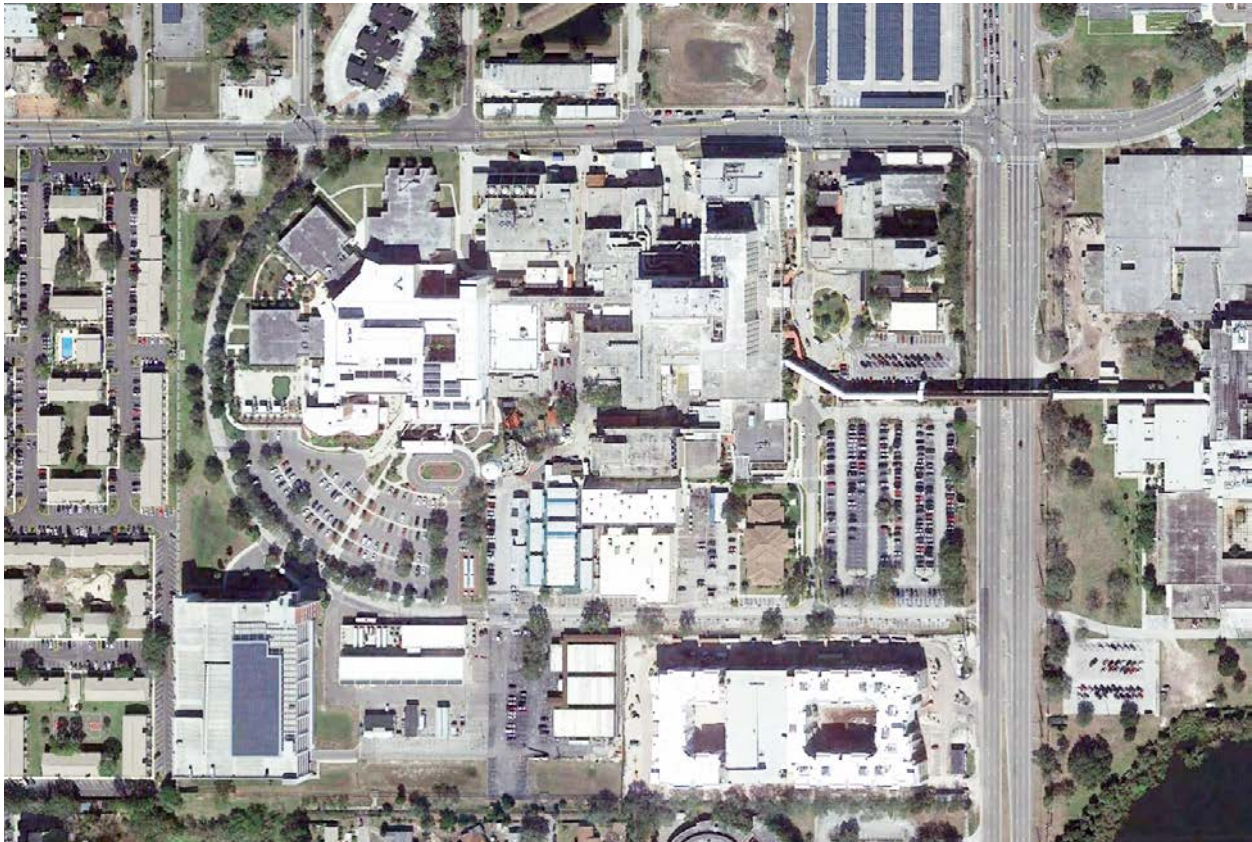


Figure 5.60 Aerial of James A. Haley Veterans' Hospital

JAMES HALEY VAMC		
Location	Tampa, Florida	
Total Area	Not Available	
Floors	Not Available	
Beds	504	also 118 nursing home care unit beds
Pharmacy Size	Inpatient: 3100 SF	Outpatient: 9000 SF
Project Cost	Not Available	
Construction Cost	Not Available	
Opening Date	1970	
Owner	Veterans Health Administration	
Architect/Engineer	HDR Architecture	





Figure 5.61 Main Entry of James A. Haley VH Outpatient Pharmacy

Overview

James A. Haley Veterans' Hospital and Clinics (JAHVH) is a clinical referral, level 1a facility in Tampa serving a four-county area of west central Florida, including Hillsborough, Pasco, Hernando and Polk counties. JAHVH is one of the nation's largest and most complex integrated medical facilities in the Veterans Health Administration.

The facility is comprised of a 504 operating bed medical center, which includes medical and surgical inpatient, acute psychiatry, pain/rehabilitation units and a community living center. JAHVH is one of five Polytrauma Centers within the VA system and is the only VA medical center that has a dedicated ventilation unit for long-term care located in its 100 bed Spinal Cord Injury/Disorder Center. JAHVH also has an off-site domiciliary approximately 10 miles from the campus.

JAHVH has multiple outpatient primary and specialty care services. In addition to the four community-based outpatient clinics there are several outpatient off-site locations within a five-mile driving distance of the main hospital campus including a new primary care annex, mental health clinic and a drive-through Pharmacy.

JAHVH is a teaching hospital with a full complement of services and surgical specialties to include primary care, medicine, surgery, psychiatry, physical medicine research and rehabilitation, spinal cord injury, neurology, oncology, dentistry, geriatrics, and extended care. The hospital also has special programs for women Veterans, returning service members and their families, and much more. As a teaching hospital, residency training is provided in all major medical and surgical specialties and subspecialties. The hospital is also a training site for medical, nursing, and other health care professional students.

Pharmacy Overview

The inpatient Pharmacy within the hospital building is divided up into three spaces: the main Pharmacy work area including the IV clean rooms and secured substances vault is located on the 1st floor, re-packing and unit dose storage is on the ground floor, and additional storage for both inpatient and outpatient prosthetics supplies is located in the basement. The Pharmacy drug cache is also split up, with controlled cache substances in the main vault, IV bags and saline storage in the hospital's warehouse space, and the remainder of the cache in the Pharmacy ground floor storage area. The Pharmacy also relies heavily on Pyxis machines spread throughout the inpatient units, with approximately 90 machines in use throughout the hospital. The Pharmacy's goal is to use the Pyxis storage for around 90% of first doses, and the machines are restocked daily, with typically between 10% and 25% of their supply being restocked. In addition to all of these storage and work locations, the Pharmacy would benefit from a location to store medications that patients bring with them to the hospital. Due to the large SCI population which corresponds to longer stays, many patients come to the hospital with their own medications which cannot be used during their stay and must be stored.

The main Pharmacy work area is 3100 SF, which would typically be enough space to handle the workload for the hospital. However, the space configuration has many nooks and crannies and very little open space, making the space feel tighter and more cramped overall than it would if it were a simple rectangular space. The entrance to the Pharmacy is completely integrated into the high density storage space, such that everyone entering the space must walk through the shelving.



A typical shift has 7 pharmacists on duty, with one working on each patient bed floor along with 2 working in the IV clean rooms along with 4 techs and possible up to 2 trainees. Additionally, a tech stays near the dispensing window and vault area, and monitors both. Although having the dispensing window near the vault is a convenient configuration for the staff, there is relatively little dispensing that occurs. Most orders are either received digitally or through the Pyxis restocking process.

The two clean rooms include an IV Prep room as well as a negative-pressure chemo room, however they would benefit from additional negative-pressure storage to support the Chemo room, as well as additional oncology IV storage. Each room currently has 2 hoods which can handle the capacity necessary for the hospital, although the staff noted that they would easily be able to use 3 hoods in each room. There is no designated compounding space, however very little compounding is done on site. The Pharmacy's policy is to acquire as much as possible commercially before doing any compounding within the Pharmacy. The Pharmacy also has an investigative drug room which is not built as a clean room but has a hood for working. There is also a small staff lounge.

The outpatient Pharmacy is located off-site from the main hospital, although it is very close. It shares a building with a dermatology clinic, and the Pharmacy side of the building includes a Coumadin clinic, a tele-Pharmacy center, the outpatient dispensing and work areas, a shared waiting area, and a drive-thru dispensing window.

The Coumadin clinic has its own dedicated check-in counter but shares the waiting space with the Pharmacy. It includes a specimen collection area off of the waiting room with 2 blood-draw chairs, and has a small lab on site for analysis. Its five consult rooms are well-used, with 3 rooms full at any given time. Three pharmacists work in the clinic during a shift, giving around 60 consults along with 80 labs per day. Patients typically arrive to the clinic about an hour before their appointment time to have their blood drawn and analyzed, which can lead to a busy waiting room. Reduced lab analysis times may help to decrease crowding in the waiting area.

The call center has two dedicated offices for one pharmacist along with 5 techs. All together they handle around 1200 calls per day. The calls are from providers; the call center does not handle patient consults. Most of the calls are easily addressed, such as for regular prescription refills or similar issues that can be handled by a tech without requiring a pharmacist. The call center functions as its own entity which could easily be located elsewhere on the medical campus without issue.



The outpatient Pharmacy operations has another 4 pharmacists and 12 techs working on a typical shift, which includes a Tele-Pharmacy which is separate from the call center. The pharmacists rotate between operations and phone care in 4-hour shifts. Many of the pick-up windows in the waiting area are used for phone care purposes, while two are used for in-person pick-ups. Although there is no dedicated consult room, there is space in the blood draw area and in nearby offices to use for consult if necessary. The high volume of phone consults (up to 1000 per day) compared to the walk-in consults is likely due to the Pharmacy being located off site from the hospital. The drive-thru is well-used by patients and well-liked by everyone. It especially benefits the large spinal cord injury population that uses the medical center.

The main work area in the outpatient Pharmacy uses both ScriptPro and Optifill automation technology, though does not have a conveyor belt system. The Optifill handles the 200 most-used medications. Most of the medications prepared in the Pharmacy are directly distributed, either through the pick-up windows or the drive-thru. Only about 10% of the prescriptions are mail-order, as the CMOP handles most mail orders unless they are out of stock of a specific medication or if the mail order includes narcotics.

The secured storage cage is not built with vault construction, but is a controlled-access space with C2 cabinets that store the controlled substances. The cage includes 4 workstations, but usually houses 1 pharmacist and 1 tech on a typical shift. Space constraints within the cage mean that work is best distributed over multiple shifts. The staff also noted that a window between the secured room and the rest of the work area would allow labeling to take place of a package once it is packaged, which would help to minimize the work which must take place within the cage itself. Controlled substances which are to be mailed out are held in the cage until the driver arrives. The distance and lack of communication technology between the loading area and the secured storage can sometimes cause issues with getting the medication out to the dock in time to be mailed. A storage solution for packaged medications outside of the cage could alleviate space constraints as well as ameliorate the communication issues with the mail trucks.

Other spaces within the Pharmacy include administrative space as well as a “Resolution Room” which helps take tasks necessary to resolve issues out of the main workflow, and is a space that can be used for Community Care / Choice management. There is also a staff break room which is shared with the dermatology clinic in the building, and therefore is not quite large enough.



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Outpatient Pharmacy Plan

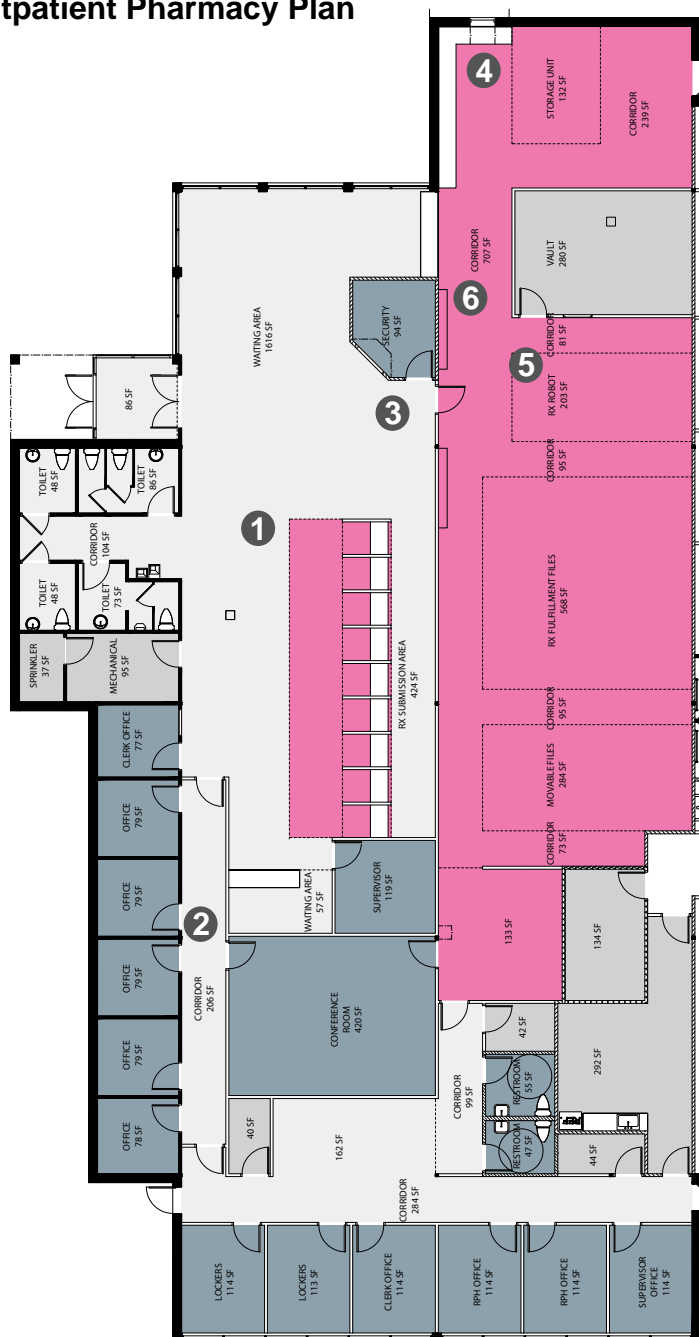


Figure 5.62 James A Haley VH Outpatient Pharmacy Floor Plan

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation

Key Notes:

- 1** Only 2 desks used for in-person check-ins
- 2** Coumadin clinic
- 3** Multiple access points to work areas create security issues
- 4** Drive-thru well-used and liked
- 5** Vault is far from loading and space inside is limited
- 6** Tight work space creates issues, especially with storage





Figure 5.63 James A Haley VH Outpatient
Note Position 1

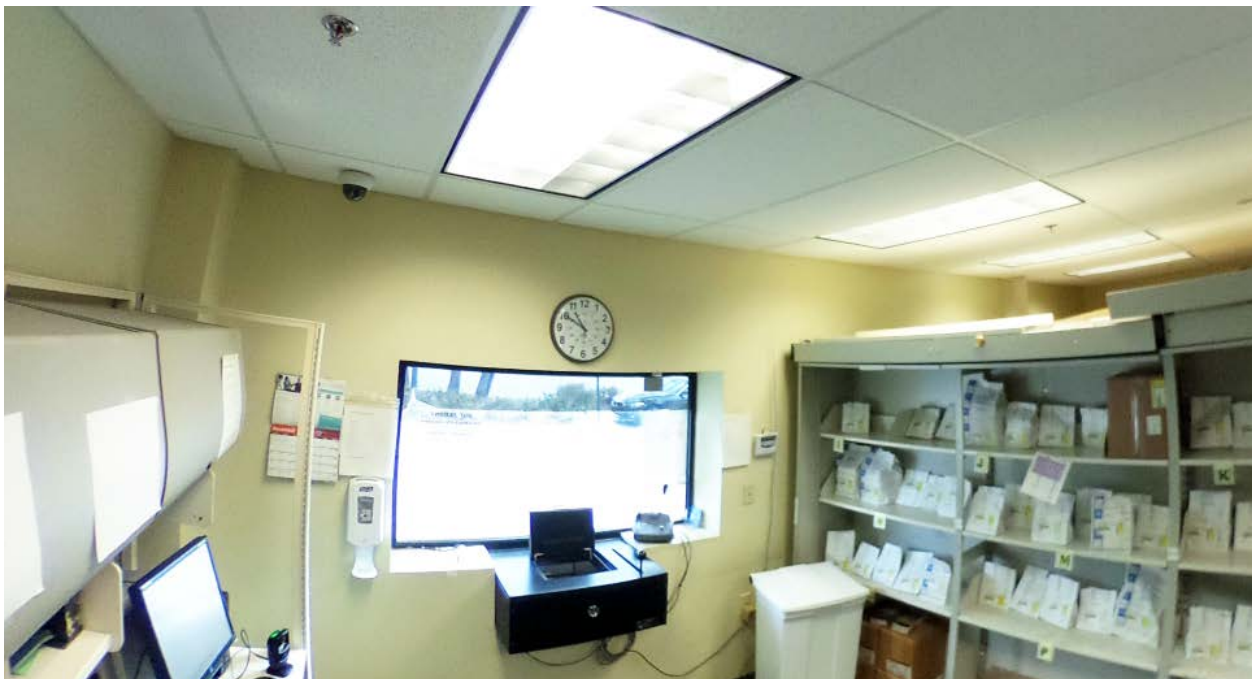


Figure 5.64 James A Haley VH Outpatient
Note Position 4



Figure 5.65 James A Haley VH Outpatient
Note Position 5



Figure 5.66 James A Haley VH Outpatient
Note Position 6



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Inpatient Pharmacy Plan

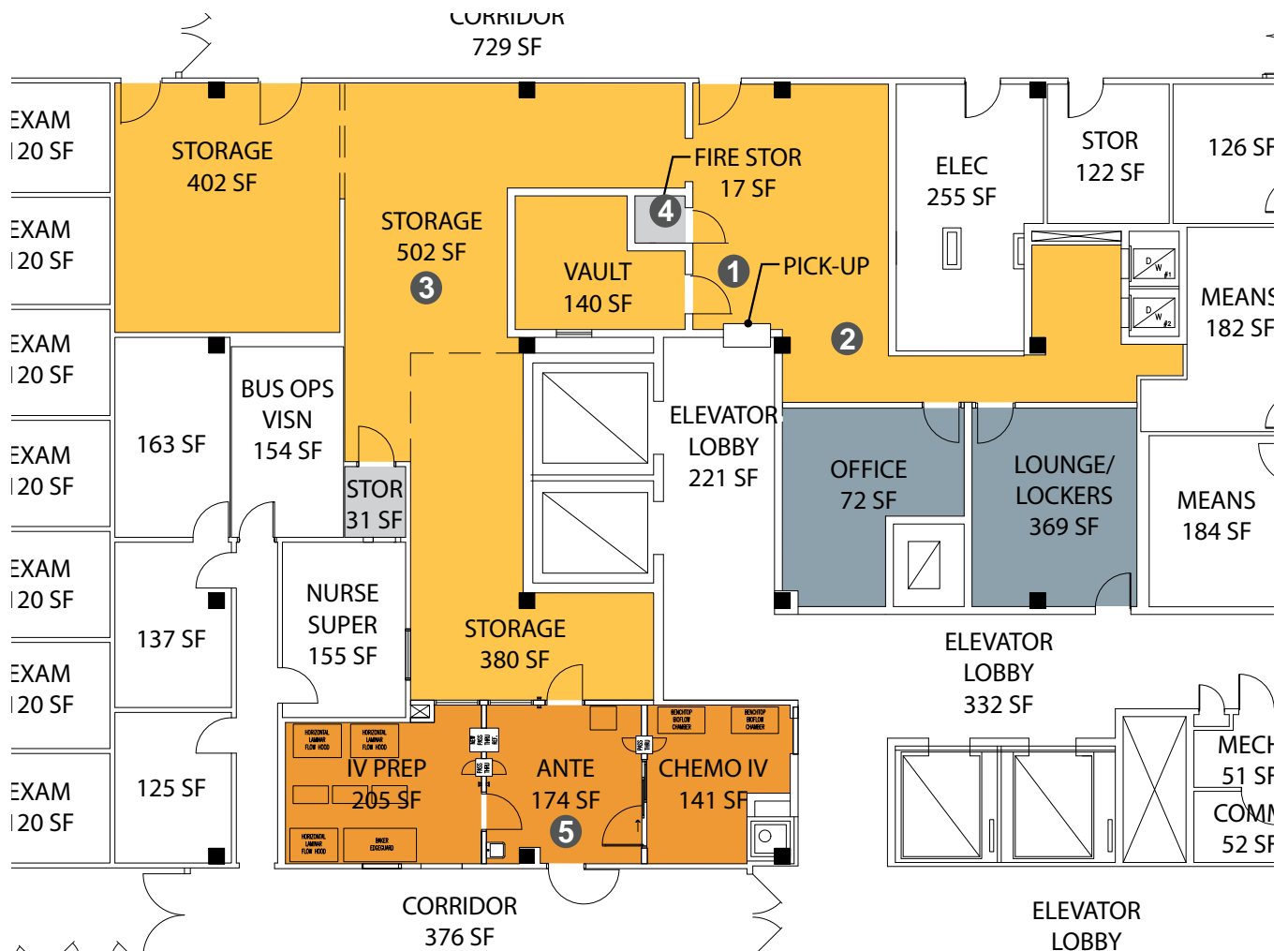


Figure 5.67 James A Haley VH Inpatient Pharmacy Floor Plan

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation

Key Notes:

- ① Vault/Pick-up window configuration is convenient
- ② Irregular space layout created inefficiencies
- ③ Storage blocks path to compounding areas
- ④ Flammable storage does not need to be built-in
- ⑤ Ante room to clean rooms is also egress route





Figure 5.68 James A Haley VH Inpatient
Note Position 1



Figure 5.70 James A Haley VH Inpatient
Note Position 2



Figure 5.69 James A Haley VH Inpatient
Note Position 5

5.1.9 Malcom Randall VAMC, Gainesville, Florida



Figure 5.71 Aerial of Malcom Randall VAMC

MALCOM RANDALL VAMC		
Location	Gainesville, Florida	
Total Area	Not Available	
Floors	5	
Beds	220	
Pharmacy Size	Inpatient: 6300 SF	Outpatient: 7300 SF
Project Cost	Not Available	
Construction Cost	Not Available	
Opening Date	1970	
Owner	Veterans Health Administration	
Architect/Engineer	Flad Architects	





Figure 5.72 Main Entry of Malcom Randall VAMC

Overview

The North Florida/South Georgia Veterans Health System serves veterans across a large geographical area in North Florida (33 counties) and South Georgia (19 counties). In addition to our two medical centers in Gainesville and Lake City, it offers a number of services to our patients in several satellite outpatient clinics and community-based outpatient clinics. The system represents the largest Pharmacy workload of the VA system, with 5 outpatient and 2 inpatient pharmacies.

The Malcom Randall VA Medical Center (VAMC) is one of two VAMCs in the North Florida/South Georgia Veterans Health System. The Malcom Randall VAMC provides a full range of comprehensive health care, including: primary care, specialty care, tertiary care, and long term care. It houses approximately 220 operational inpatient beds, including three ICUs: cardiothoracic surgical, and medical.



Pharmacy Overview

The Pharmacy within the Malcom Randall VAMC has three separate spaces: an outpatient Pharmacy, and inpatient Pharmacy, and a separate oncology Pharmacy consisting of several IV clean rooms.

The oncology Pharmacy operates only Monday through Friday for a regular day shift, and processes approximately 40 IV bags a day, or around 125-150 bags in a typical week. It includes an ante room, a work room, an IV transfer room with a pass-through window into the work room, and one room for chemo processing. The space is not at present USP-800 compliant and will require upgrades in the near future. In addition, it is currently experiencing significant mechanical issues and the chemo room is not able to maintain the negative pressure required. As a result, hooded glove-boxes are used for completing all work in these rooms. The staff noted that the space would benefit from a hands-free intercom system, as there is currently no intercom due to concerns over cleanliness. An additional decontamination shower was also desired on top of the existing one which is currently located in the ante room.

The outpatient Pharmacy processes approximately 1000 prescriptions per day, although many of them (up to 800), are processed for mail-out rather than an in-person pick-up. The medical center does much of its own mail order filling rather than sending the orders to the CMOP due to cost and availability differences in medications between the medical center itself and the CMOP. For in-person pick-ups, the Pharmacy has 2 dispensing windows and a consult room. There is no dedicated window for drop off, as most prescriptions are sent digitally or phoned in. The consult room has two consult spaces inside, however there are concerns with HIPAA privacy regulations when both spaces are in use at the same time. The staff would prefer to have two consult spaces which are acoustically separated from each other.

Within the outpatient Pharmacy workspace, the Optifill automation system works in conjunction with a conveyor belt to process the majority of the prescriptions. The Optifill can hold up to 608 medications. When an order is placed, the robot fills and labels the bottle, which is then dropped into a bin on the conveyor belt. If any additional medications are needed for the order that cannot be filled by the robot, the bin is routed to a technician station for these remaining items. Then, the robot or the tech forwards the bin on to a pharmacist station for verification of the order. All together, the conveyor belt connects the robot, 4 tech stations, and 3 pharmacist stations. The main complaint with this system by the staff is the noise level. Despite this layout, the typical staffing level is only 2 pharmacists



and 2 techs on the conveyor belt at any one time, with another pharmacist and tech working in the narcotics vault.

The outpatient narcotics cage is not actual vault construction, but is a controlled-access space with a work area and controlled substances stored in Pyxis C2 safes. These safes are restocked from the inpatient vault as needed. The Pharmacy work area also includes a staff lounge and conference area which is open to the main work space, and staff restrooms including a shower. The staff would prefer a lounge that is separated from the work area, and also noted that their large residency program would benefit from a conference room large enough for up to 35 or 40 individuals. The medical center has one of the largest residency programs in the country, including 20-30 residents at all times. A presentation space that includes a projector and a conference table would be a key asset to the program.

The inpatient Pharmacy includes the main work area, as well as pharmacist offices in each 30-bed unit. Each bed unit also has 2 meds rooms, each which contain a Pyxis machine, and most units have a third machine in a corridor alcove. The main Pharmacy space includes a high-density storage area as well as a drug disposal collection area which is easily accessed by the main work space. There is one small area of the Pharmacy, approximately 90 square feet, which houses the repacking equipment, the pneumatic tube station, the flammable storage cabinet, the compounding workstation, and a pill splitter. Ideally, the compounding workstation could be moved out of this zone to a location where there was access to a hand sink and an eyewash.

There is an IV prep clean room area in the inpatient Pharmacy which supplements the oncology Pharmacy. The prep area includes two pharmacist workstations. There are problems with this room as well, possibly in part because it is situated on top of a building control joint. The staff finds that the room has almost constant mechanical and plumbing issues.

There is no automation within the inpatient Pharmacy and therefore 2 procurement techs handle inventory manually with a daily count. Currently the procurement workstation is exposed to the main work area, and the staff finds this configuration difficult, as the procurement techs would benefit from a quieter environment. The staff noted that use of a meds carousel would permit the techs to more easily work from a remote location.



Other spaces within the Pharmacy include a dedicated space for crash cart refill, which is useful to have but could function with even slightly less space than it currently has available. The dedicated crash cart tech is also responsible for maintaining the drug cache. There is also an investigational drug program, which typically has between 20 and 25 ongoing studies, with desk space for a pharmacist and a tech, some storage space, and two hooded glove-boxes. The controlled-substance vault houses substances for inpatient, outpatient, surgical and anesthesia services. Saline storage also takes up space within the Pharmacy. It was noted that some space constraints in the department could be alleviated by using an equipment-based solution for storing controlled substances rather than having a built-in vault, and by storing saline within the main hospital logistics space, which is a typical solution for many hospitals. The Pharmacy has already eliminated space for a library of drug information, most of which is available online, choosing only to store paper copies of MSDS sheets as needed. The Pharmacy would also benefit from having a dedicated staff toilet room accessible from within the department.



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Outpatient Pharmacy Plan

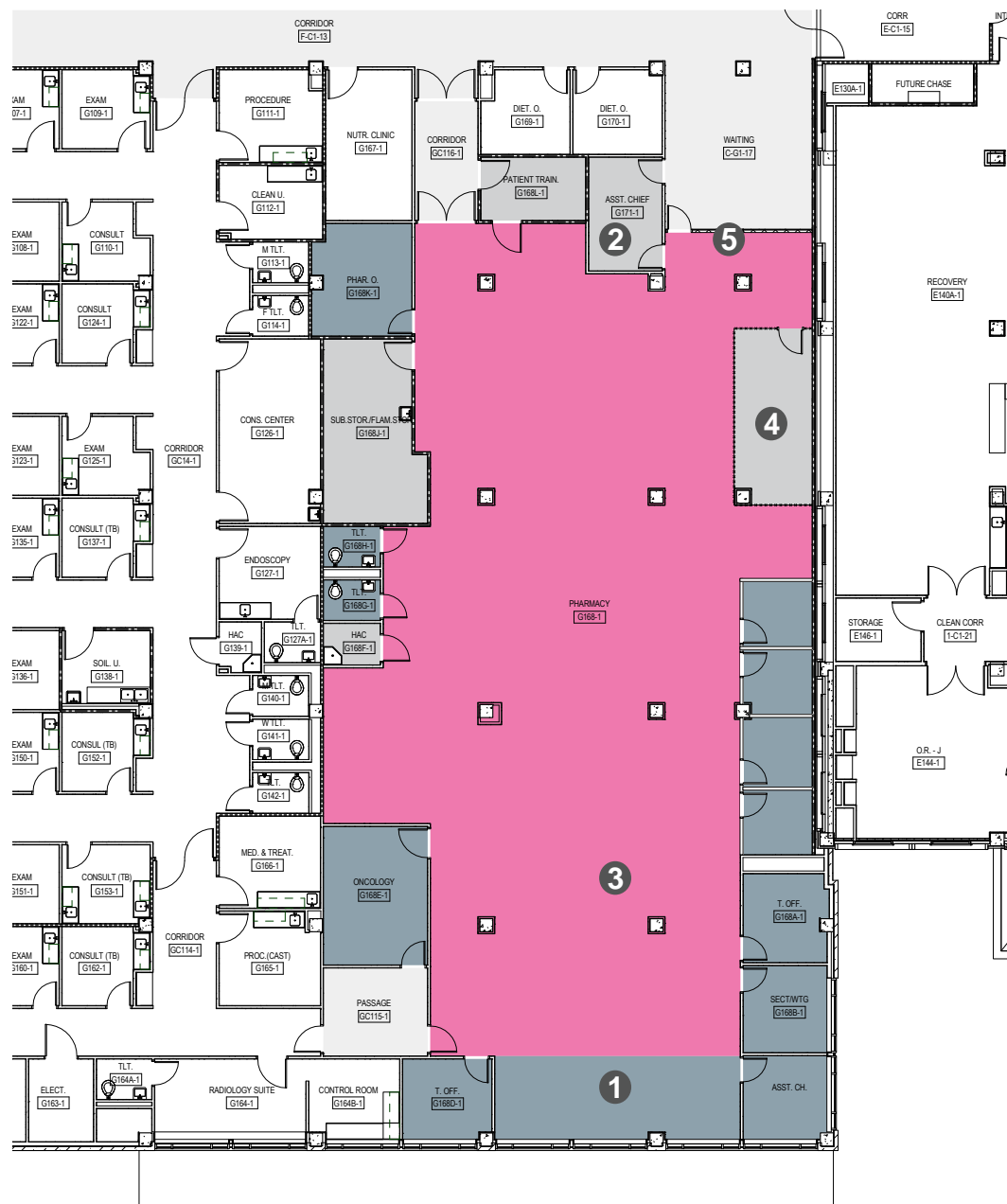


Figure 5.73 Malcom Randall VAMC Outpatient Pharmacy Floor Plan

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation

Key Notes:

- 1** Open staff lounge / conference space not large enough for all residents
- 2** Consult spaces need better acoustical separation
- 3** Work area combines Optifill robot with conveyor belt
- 4** Narcotics cage has room for one safe and one workstation
- 5** Dispensing window



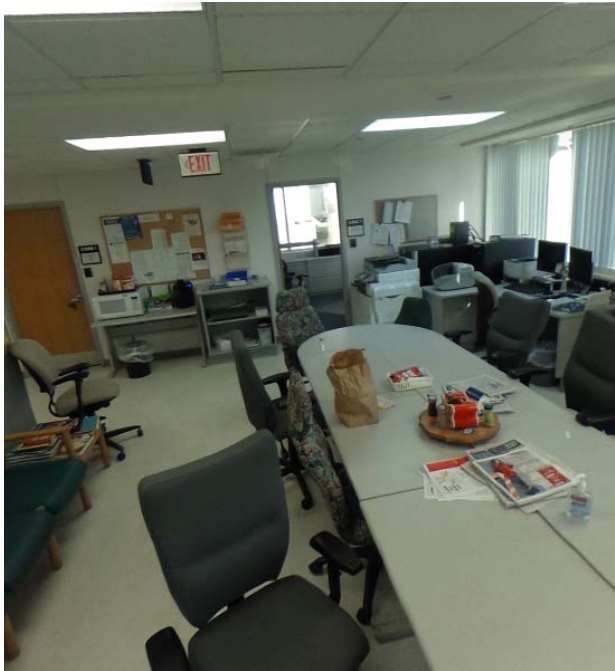


Figure 5.74 Malcom Randall VAMC Outpatient
Note Position 1



Figure 5.76 Malcom Randall VAMC Outpatient
Note Position 5



Figure 5.75 Malcom Randall VAMC Outpatient
Note Position 3



Inpatient Pharmacy Plan



Figure 5.77 Malcom Randall VAMC Inpatient Pharmacy Floor Plan

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation

Key Notes:

- 1** Rolling shelves system used to maximize storage in compact space carousel would help with inventory and storage
- 2** Vault construction means Pyxis not required
- 3** No dedicated med information space beyond MSDS sheets, information is available online
- 4** Supervisor office large enough for two workstations. Space seconds as receiving and storage overflow





Figure 5.78 Malcom Randall VAMC Inpatient
Note Position 1



Figure 5.80 Malcom Randall VAMC Inpatient
Note Position 4



Figure 5.79 Malcom Randall VAMC Inpatient
Note Position 2



5.1.10 Washington DC VAMC, Washington, DC



Figure 5.81 Aerial of Washington DC VAMC

WASHINGTON DC VAMC		
Location	Washington, DC	
Total Area	Not Available	
Floors	Not Available	
Beds	220	
Pharmacy Size	Inpatient: 3500 SF	Outpatient: 7200 SF
Project Cost	Not Available	
Construction Cost	Not Available	
Opening Date	1970	
Owner	Veterans Health Administration	
Architect/Engineer	Not Available	





Figure 5.82 Washington DC VAMC

Overview

VAMC DC was selected for the design team to shadow the pharmacy staff for a few hours and document actual flows within both the outpatient and inpatient pharmacy. Below are observations made that assisted the design team in identifying key flows within the VAMC DC pharmacy.

The Washington DC VA Medical Center is a tertiary hospital which provides a comprehensive primary and secondary care in medicine, surgery, neurology and psychiatry. VAMC DC has 175 acute care beds, 30 Psychosocial Residential Rehabilitation Treatment beds and a 20-suite Fisher house. There is also on campus a 120-bed Small House Model (Community Living Center) with long term, hospice and palliative care.

Specialized services such as: cardiology, primary care, imaging, substance abuse treatment, women's health, among many others are provided in addition to patient centered programs like yoga, nutrition education, massage, acupuncture etc.



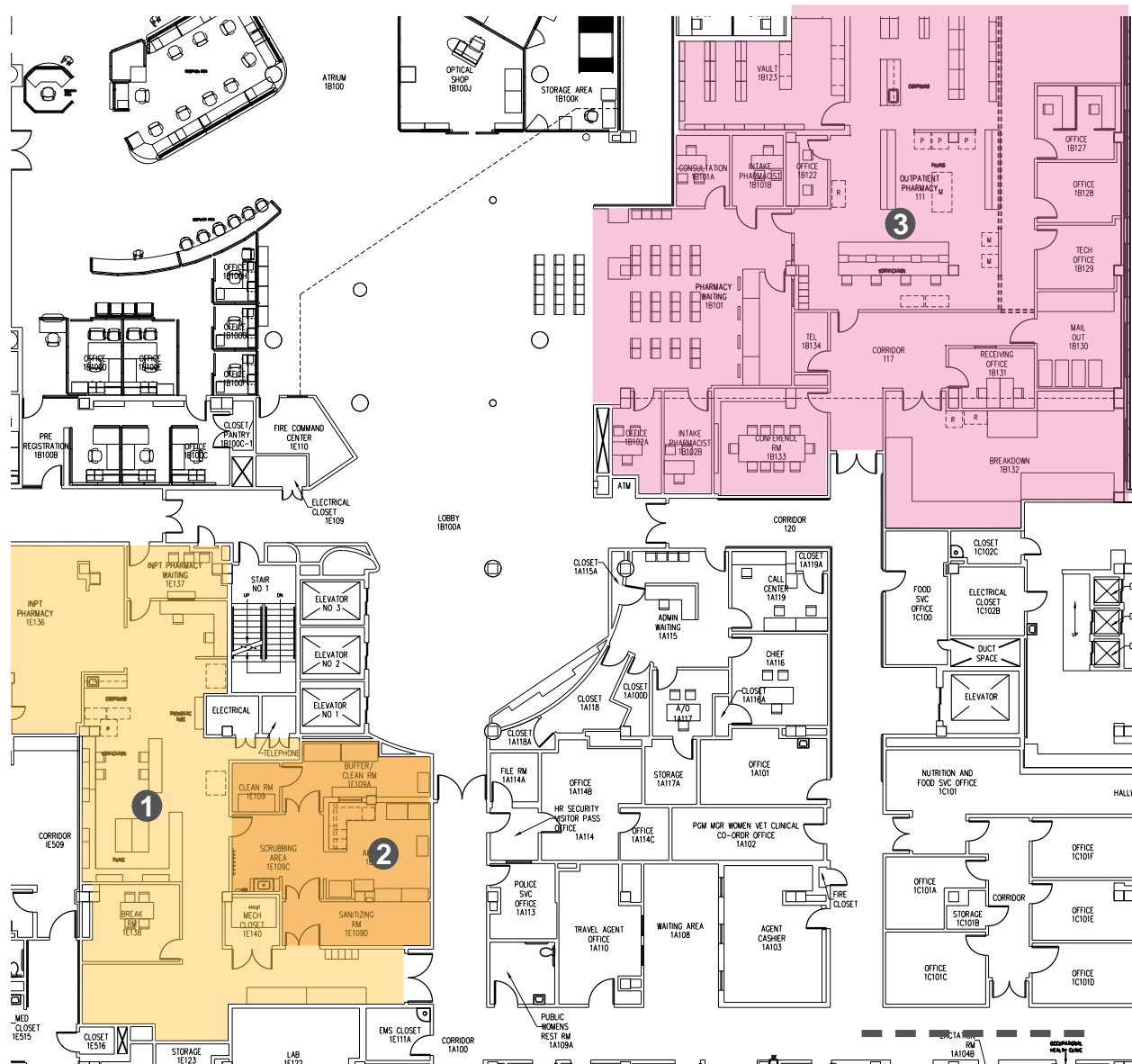


Figure 5.83 Washington DC VAMC Photo Key

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation





Figure 5.84 Washington DC VAMC -Inpatient Main Pharmacy Area, Position 1



Figure 5.85 Washington DC VAMC -Inpatient Anteroom, Position 2



Figure 5.86 Washington DC VAMC -Outpatient Main Pharmacy Area, Position 3

[illegible]

Legend:

- ### Key Notes:

- 1 Patient proceeds to Outpatient Pharmacy waiting area.
- 2 Patient checks in the staff at counter and waits for consult session.
- 3 Patient is called into consult room for session with care provider.
- 4 Patient prescription is available for pick up at dispensing counter.

Pharmacy Receiving Distribution Flow

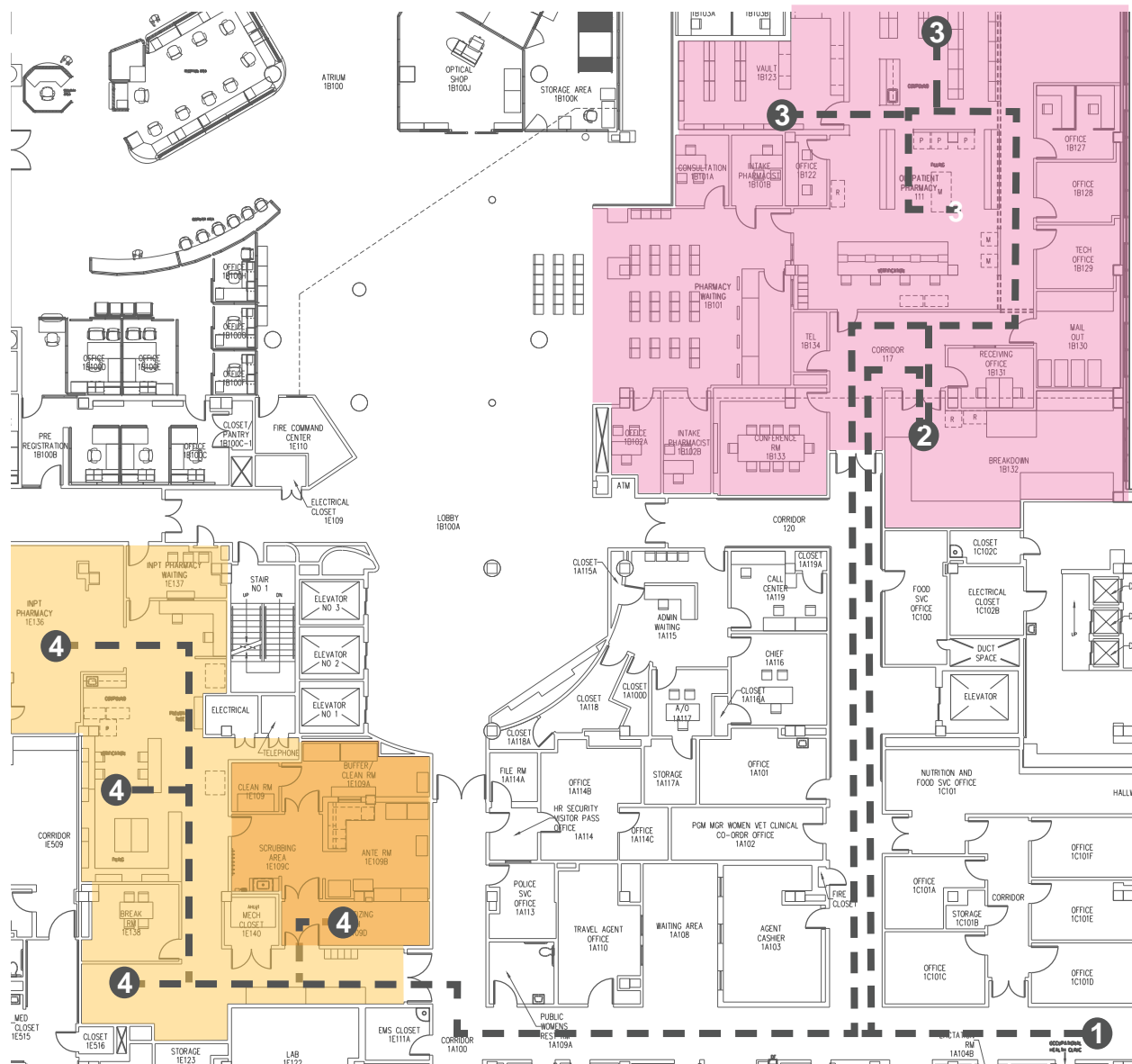


Figure 5.88 Washington DC VAMC Receiving Distribution Flow

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation

Key Notes:

- 1** Bulk delivery is received by inventory manager at loading dock.
- 2** Both IP & OP bulk drug delivery is broken down, sorted, stored.
- 3** Bulk drugs are delivered to outpatient pharmacy, between robotic, hand pick and narcotic storage areas.
- 4** Bulk drugs are delivered to inpatient pharmacy.



Outpatient Pharmacy Sterile Compounding Flow

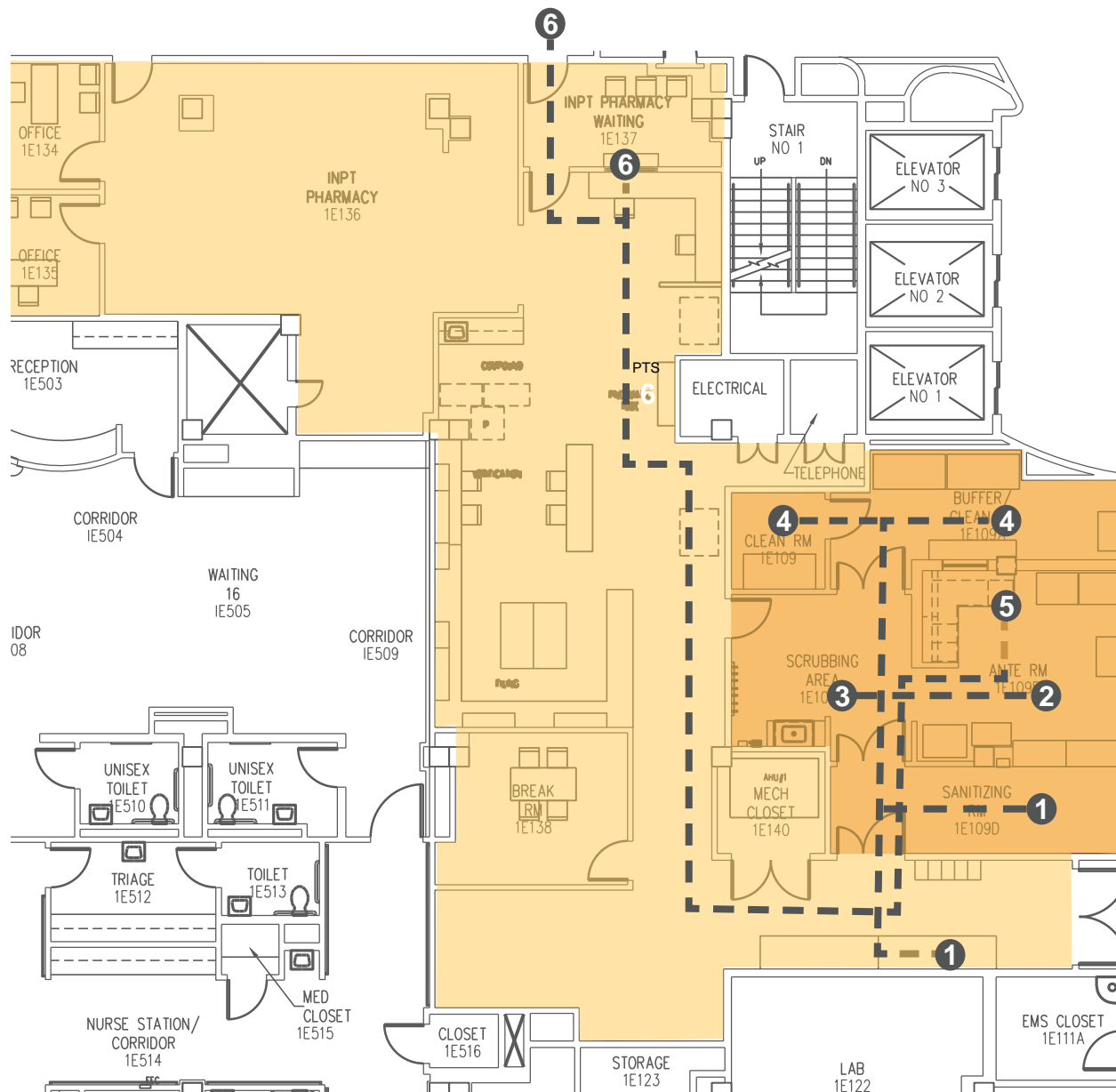


Figure 5.89 Washington DC VAMC Inpatient Pharmacy IV Flow

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation

Key Notes:

- 1** Supplies / IV bags are collected from storage.
- 2** Pharmacist / tech preps additional supplies or labels needed in Anteroom.
- 3** Pharmacist / tech dons before entering buffer/clean room.
- 4** Pharmacist / tech compounds IV bags in buffer room.
- 5** Pass through transfer for pharmacist check.
- 6** If IV bag is an HD, IV is stored for pickup or hand delivered to unit. If not HD, than PTS can be used.



Inpatient Pharmacy Medication Flow

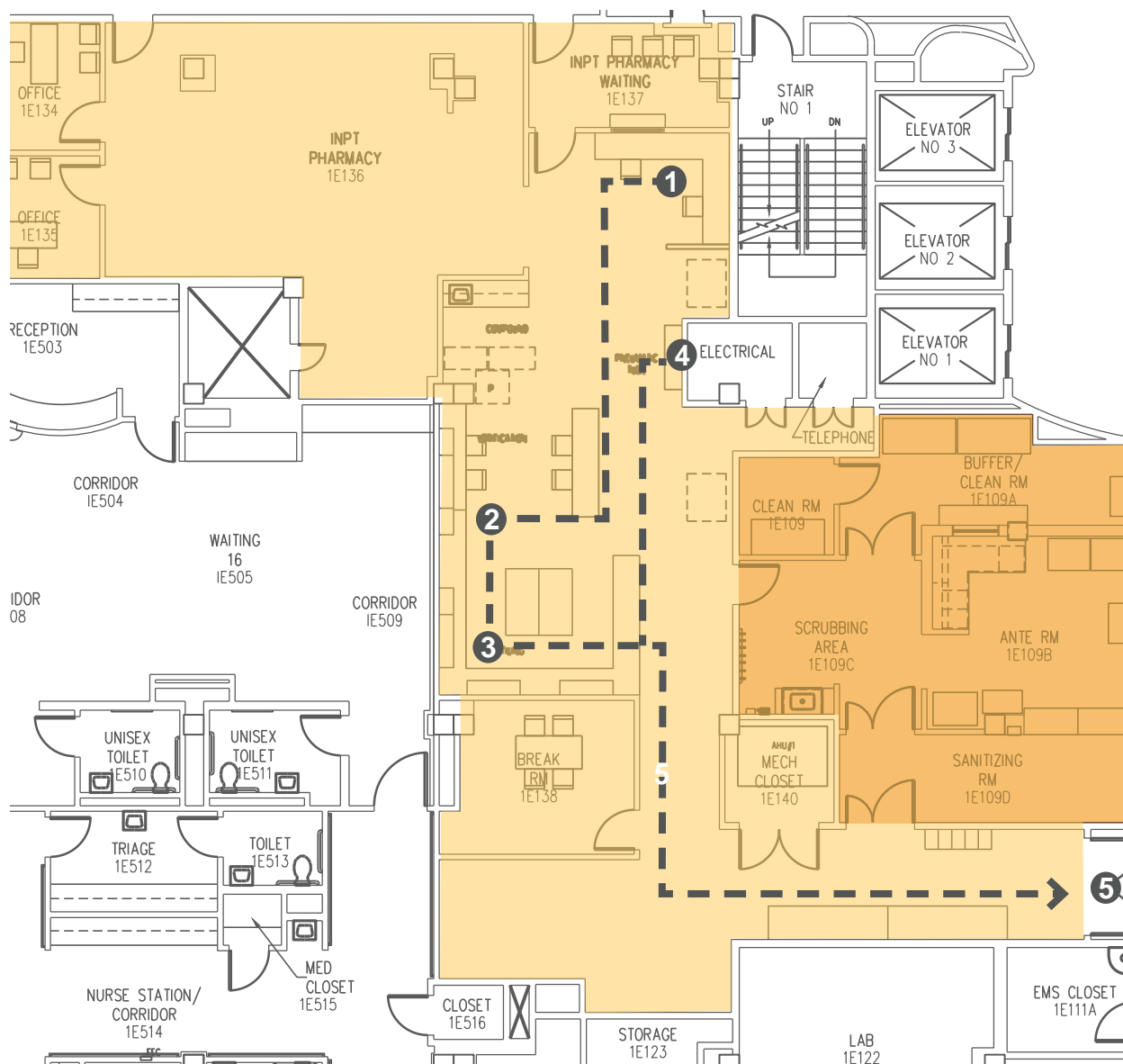


Figure 5.90 Washington DC VAMC Inpatient Pharmacy Medication Order Flow

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation

Key Notes:

- 1** Order comes in and processed.
- 2** Order sent to label printer.
- 3** Once order is received, drugs are manually picked, labeled and checked by pharmacist for individual distribution or cart delivery.
- 4** STAT drug orders & orders issued after carts depart are distributed through pneumatic tube system.
- 5** ADM orders are stacked on carts. when carts are filled, they are delivered to the units at a specific time every day.



Outpatient Pharmacy Medication Flow

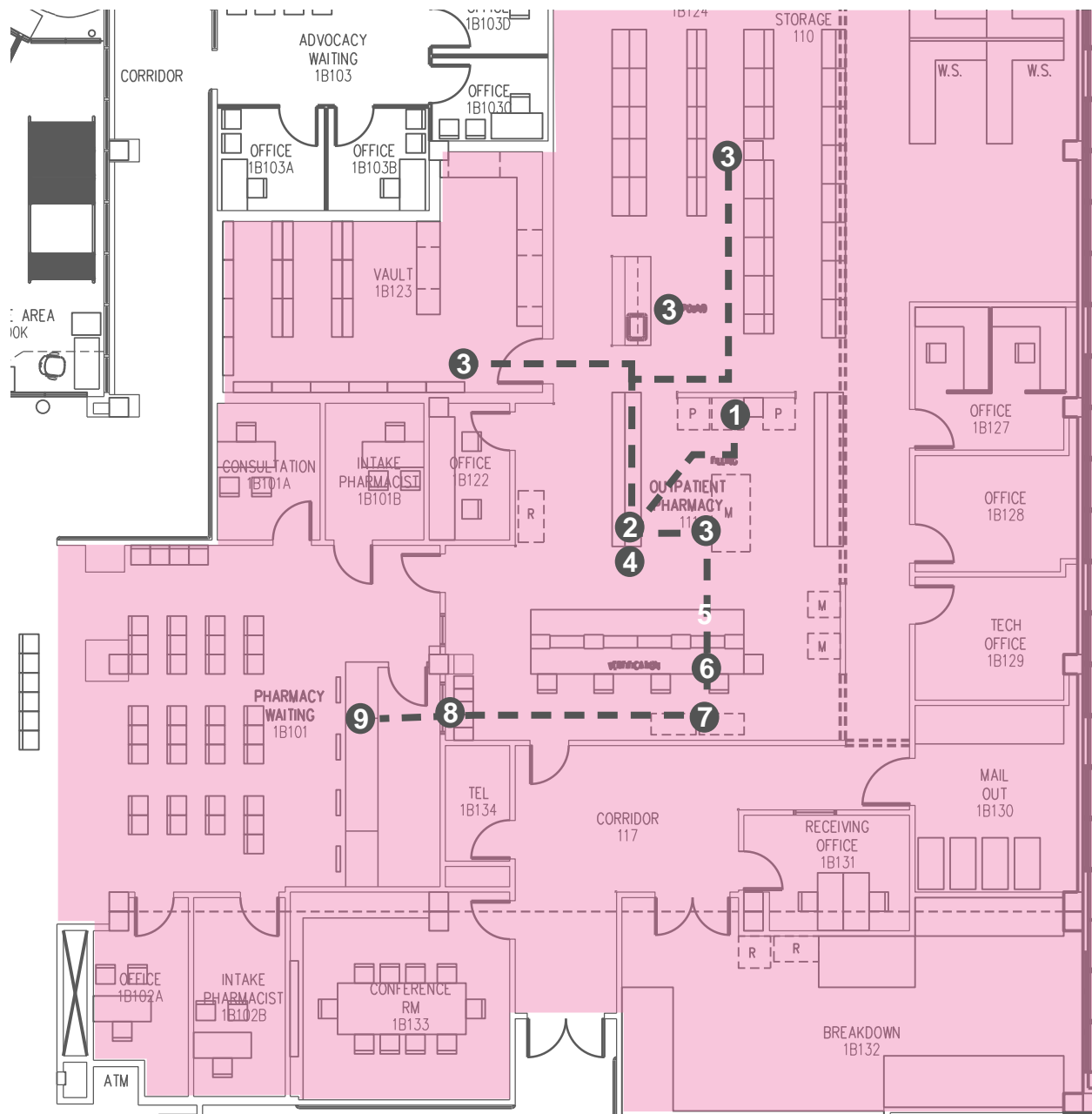


Figure 5.91 Washington DC VAMC Outpatient Pharmacy Drug Flow

Legend:

- Outpatient
- Clean Room
- Inpatient
- Staff Area
- Support
- Circulation

Key Notes:

- 1** Order received & label printed.
- 2** Tech processes order.
- 3** Order processed either through automation or hand-picked, includes compounding & narcotic.
- 4** Order filled & tech station.
- 5** Techs drop off order to pharmacist.
- 6** Pharmacist checks.
- 7** Order ready for dispensing.
- 8** Order passed through to counter staff.
- 9** Order dispensed to patient.



5.2 Storage Study

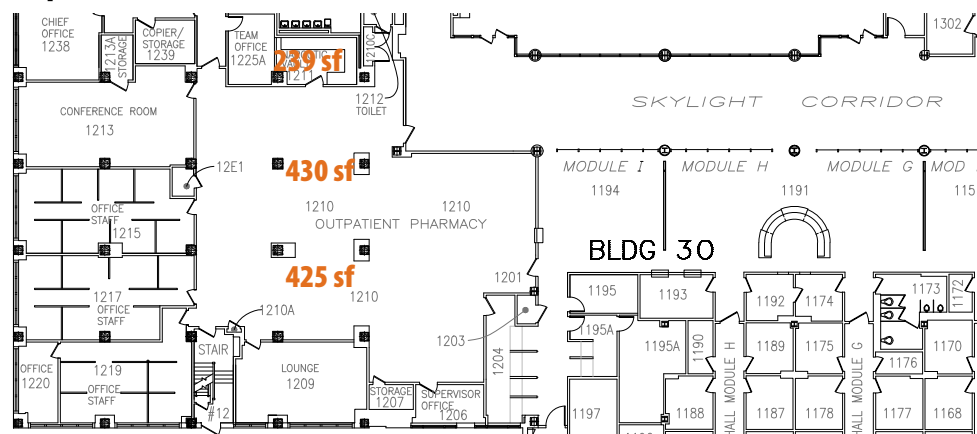
The Storage Survey of VA Medical Center pharmacies and VA pharmacies in non-VA hospitals surveyed for this Design Guide are intended to help guide the storage requirements of various pharmaceutical services the VA provides. This context informed both the development of the Room Templates and Test Fits but are in no way considered exhaustive or comprehensive. A combination of square footage takeoffs of existing plans and visual inspection of pharmacy equipment informed the metrics provided in this section.



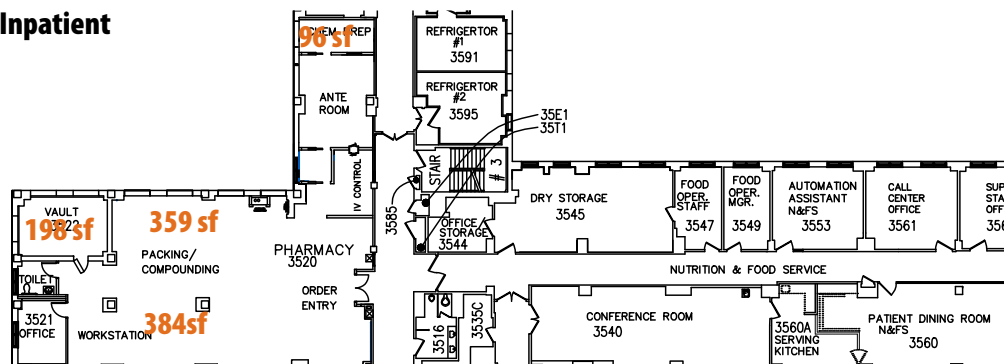
5.2.1 Jesse Brown VAMC Storage Survey



Outpatient



Inpatient

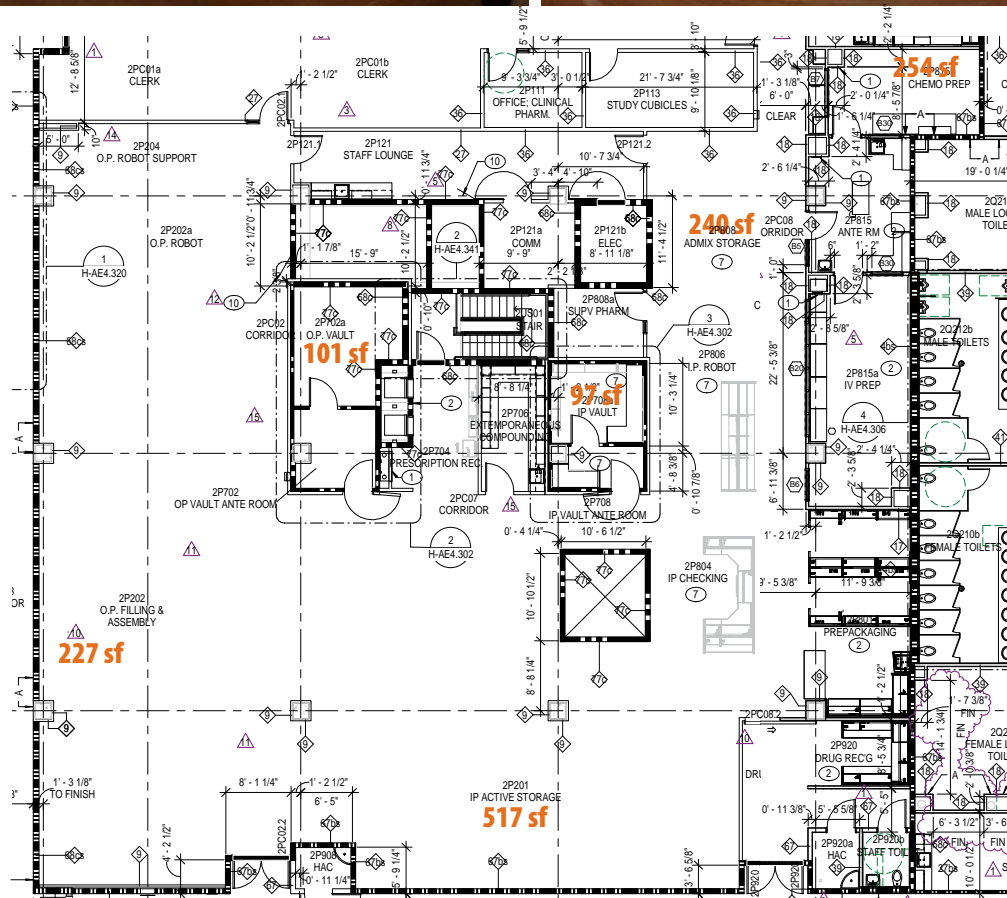


SITE	OP					IP									
	Narcotics	C2	Machines	Drugs	General	Fridges	Carousel	High Density	Narcotics	C2/Omniceil	HD	IV	Drugs	General	Fridges
Jesse Brown	239		2 (4 bay) ScriptPro	430	425	5			198			96	359	384	4
Orlando	101		1 (4 bay) Optifill	750		7			97		254	454	517	227	3 2x10'
Tampa	280		2 1 (4 bay) ScriptPro	568	132	4		284	140		2		402	502	5
Gainesville	240		1 (5 bay) Optifill	600	282	3		153	368		5	26	290	53	7
UCMC			1 1 (4 bay) ScriptPro	117	224			162	159		10		432	61	5 2x10'
Elmhurst			1 1 (4 bay) ScriptPro									125	122	696	3 2x11'
Rush									115		3		375	375	440
DC	384		1 (2 bay) Parata	785	300	10						83	211	300	190
AVERAGE	248.8			541.6667	272.6	5.8		149.75	179.5	5	116.8	263	349.625	319.125	4.75

Figure 5.92 Jesse Brown VAMC Storage Survey



5.2.2 Orlando VAMC Storage Survey

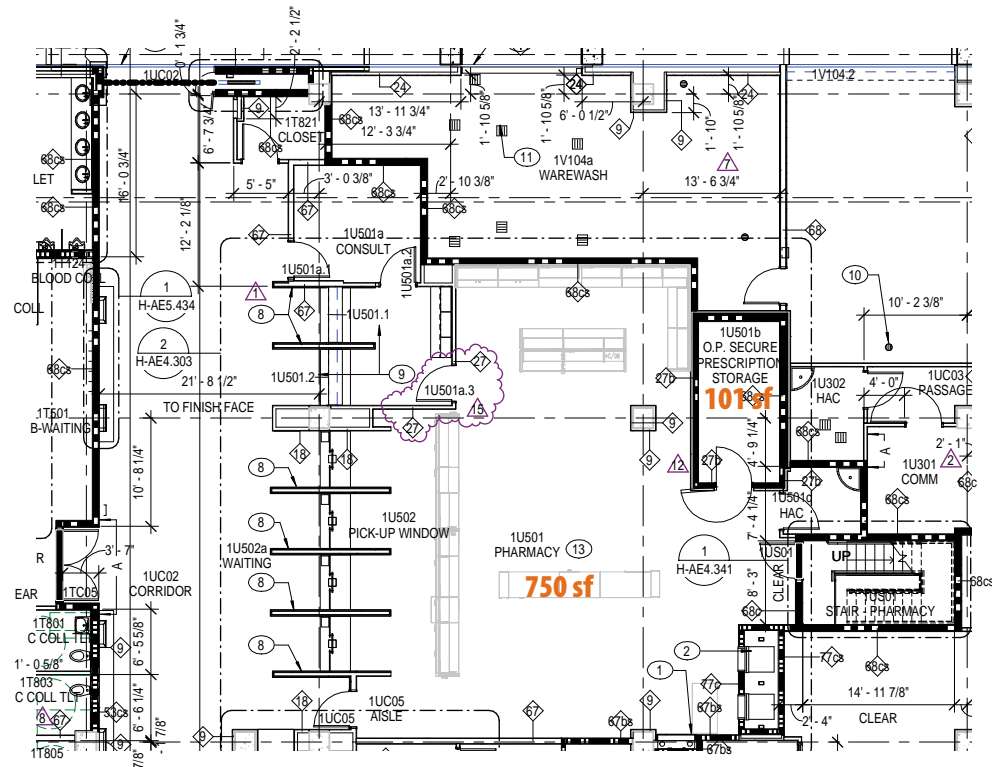


SITE	OP	Narcotics	C2	Machines	Drugs	General	Fridges	Carousel	High Density	IP	Narcotics	C2/Omniceil	HD	IV	Drugs	General	Fridges	Carousel	High Density
Jesse Brown	239			2 (4 bay) ScriptPro	430	425	5				198			96	359	384	4		
Orlando	101			1 (4 bay) Optifill	750		7				97		254	454	517	227	3	2x10'	
Tampa	280			2 1 (4 bay) ScriptPro	568	132	4			284	140	2			402	502	5		171
Gainesville	240			1 (5 bay) Optifill	600	282	3			153	368	5	26		290	53	7		53
UCMC				1 1 (4 bay) ScriptPro	117	224				162	159	10		12	432	61	5	2x10'	
Elmhurst				1 1 (4 bay) ScriptPro										125	122	696	3	2x11'	
Rush															375	375	440	4	4x10'
DC	384			1 (2 bay) Parata	785	300	10					3		83	211	300	190	7	
AVERAGE	248.8				541.6667	272.6	5.8			149.75	179.5	5	116.8	263	349.625	319.125	4.75		120.333333

Figure 5.93 Orlando VAMC Inpatient: Storage Survey



5.2.3 Orlando VAMC Storage Survey

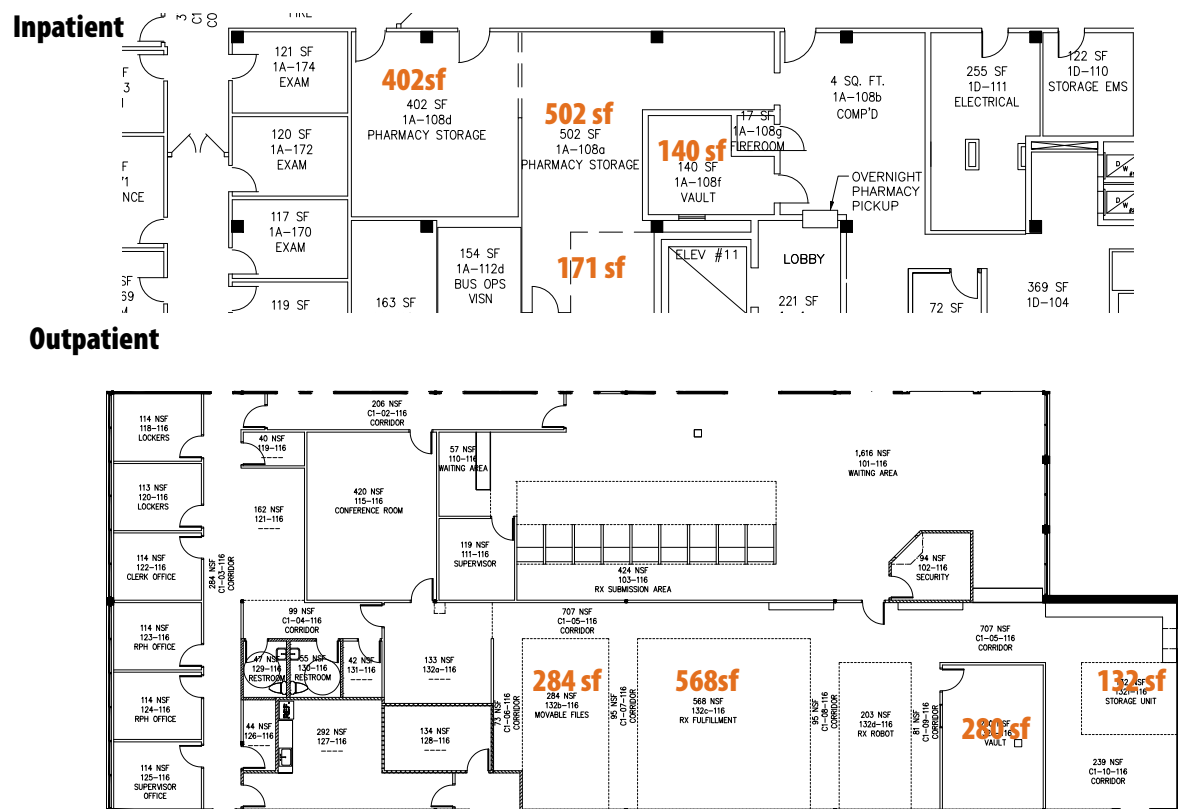


SITE	OP	Narcotics	C2	Machines	Drugs	General	Fridges	Carousel	High Density	IP	Narcotics	C2/Omniceil	HD	IV	Drugs	General	Fridges	Carousel	High Density
Jesse Brown	239			2 (4 bay) ScriptPro	430	425	5			198				96	359	384	4		
Orlando	101			1 (4 bay) Optifill	750		7			97			254	454	517	227	3 2x10'		
Tampa	280			2 (4 bay) ScriptPro	568	132	4		284	140		2			402	502	5		171
Gainesville	240			1 (5 bay) Optifill	600	282	3		153	368		5	26		290	53	7		53
UCMC				1 (4 bay) ScriptPro	117	224			162	159		10		12	432	61	5 2x10'		
Elmhurst				1 (4 bay) ScriptPro										125	122	696	3 2x11'		
Rush										115		3		375	375	440	4 4x10'		137
DC	384			1 (2 bay) Parata	785	300	10						83	211	300	190	7		
AVERAGE	248.8				541.6667	272.6	5.8		149.75	179.5		5	116.8	263	349.625	319.125	4.75		120.3333333

Figure 5.94 Orlando VAMC Outpatient: Storage Survey



5.2.4 Tampa VAMC Storage Survey



SITE	OP	Narcotics	C2	Machines	Drugs	General	Fridges	Carousel	High Density	IP	Narcotics	C2/Omniceil	HD	IV	Drugs	General	Fridges	Carousel	High Density
Jesse Brown	239			2 (4 bay) ScriptPro	430	425	5				198			96	359	384	4		
Orlando	101			1 (4 bay) Optifill	750		7				97		254	454	517	227	3 2x10'		
Tampa	280			2 1 (4 bay) ScriptPro	568	132	4			284	140	2			402	502	5		171
Gainesville	240			1 (5 bay) Optifill	600	282	3			153	368	5	26		290	53	7		53
UCMC				1 1 (4 bay) ScriptPro	117	224				162	159	10		12	432	61	5 2x10'		
Elmhurst				1 1 (4 bay) ScriptPro									125		122	696	3 2x11'		
Rush										115		3		375	375	440	4 4x10'		137
DC	384			1 (2 bay) Parata	785	300	10						83	211	300	190	7		
AVERAGE	248.8				541.6667	272.6	5.8			149.75	179.5	5	116.8	263	349.625	319.125	4.75		120.333333

Figure 5.95 Tampa VAMC Storage Survey



Inpatient



Figure 5.96 Gainesville VAMC Inpatient: Storage Survey

5.2.6 UCMC Storage Survey

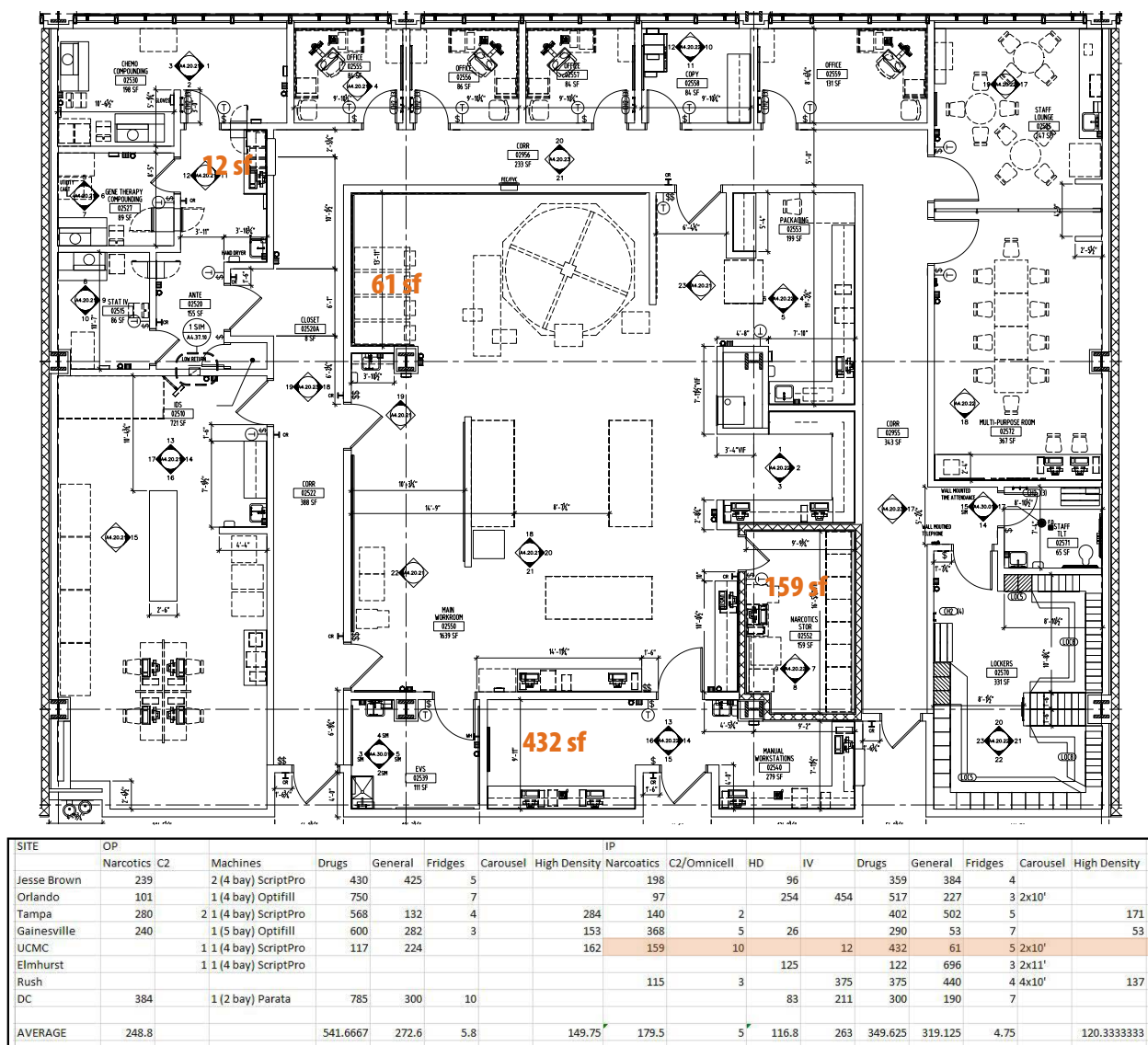
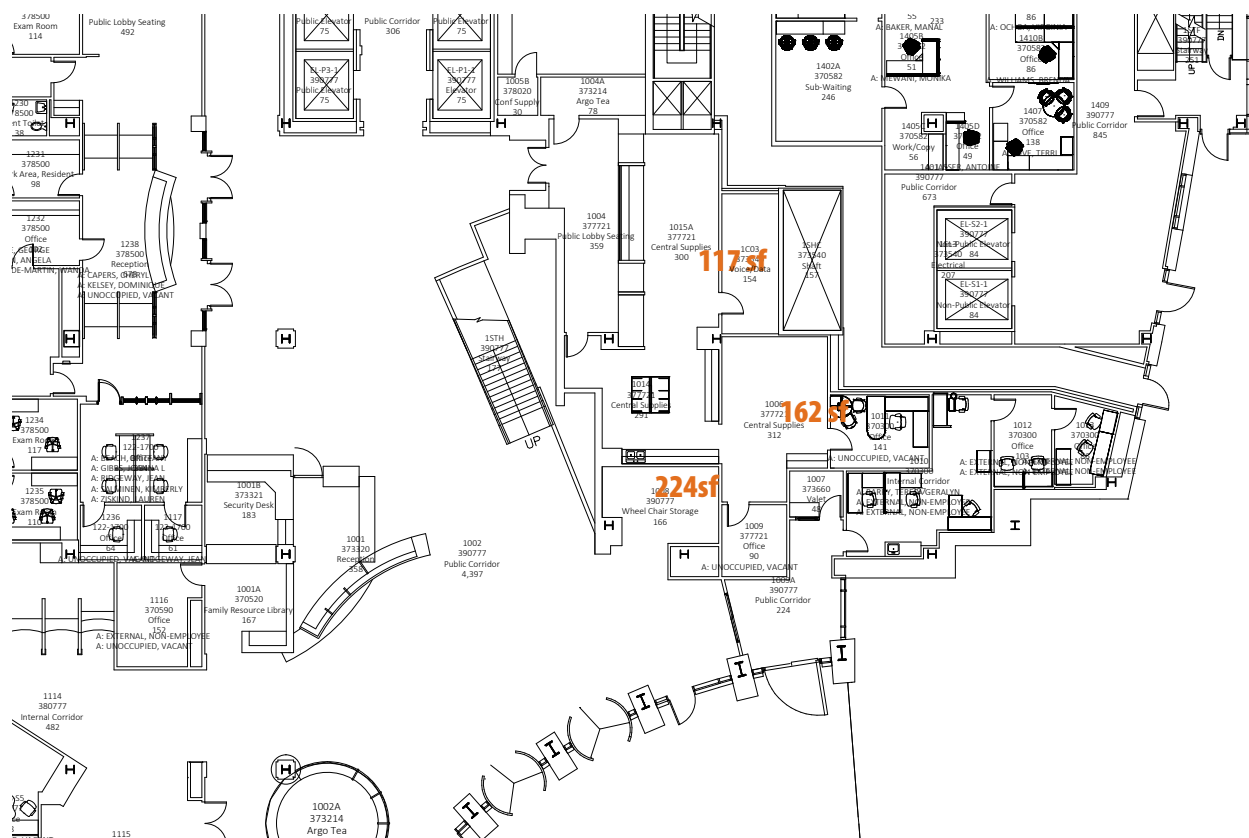


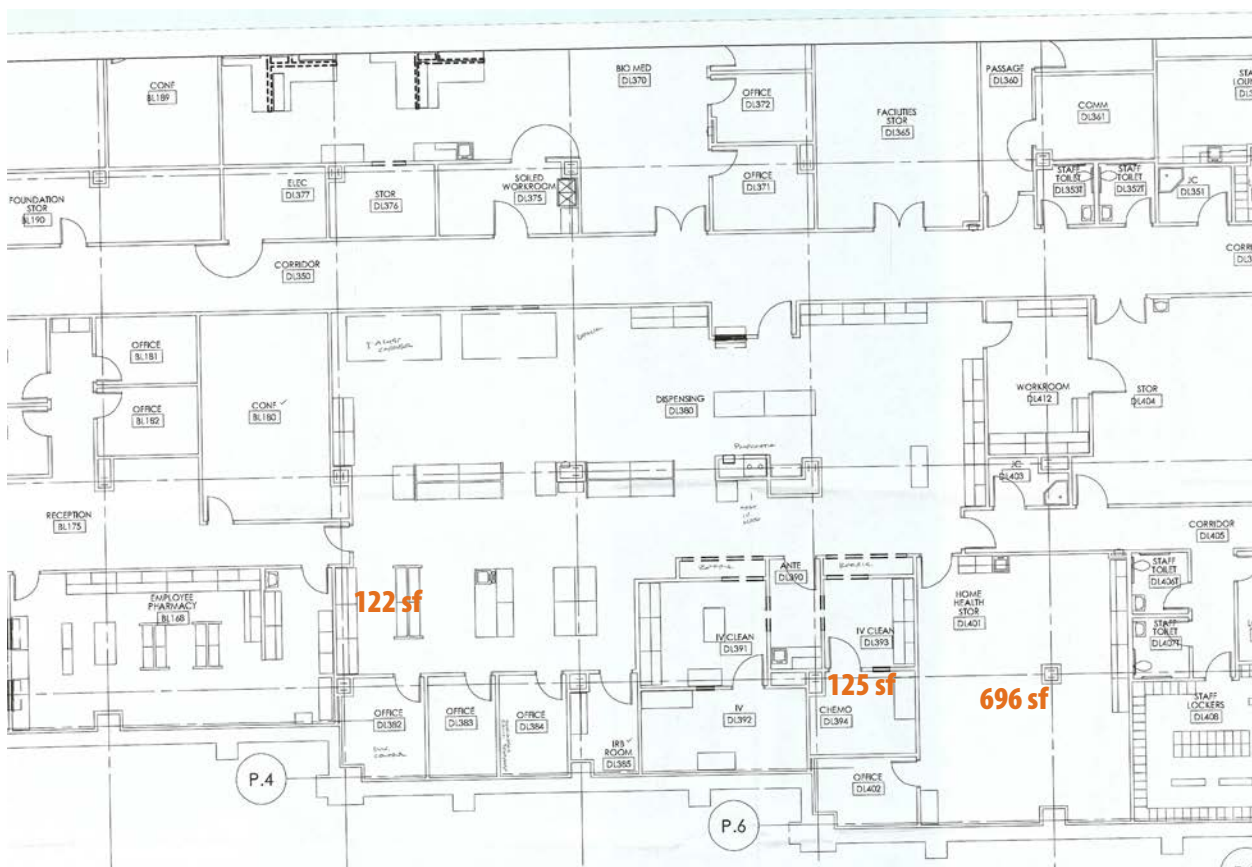
Figure 5.97 UCMC Inpatient: Storage Survey





SITE	OP			IP													
	Narcotics	C2	Machines	Drugs	General	Fridges	Carousel	High Density	Narcotics	C2/Omniceil	HD	IV	Drugs	General	Fridges	Carousel	High Density
Jesse Brown	239		2 (4 bay) ScriptPro	430	425	5			198			96	359	384	4		
Orlando	101		1 (4 bay) Optifill	750		7			97			254	454	517	227	3 2x10'	
Tampa	280		2 1 (4 bay) ScriptPro	568	132	4		284	140		2			402	502	5	171
Gainesville	240		1 (5 bay) Optifill	600	282	3		153	368		5	26		290	53	7	53
UCMC			1 1 (4 bay) ScriptPro	117	224			162	159		10		12	432	61	5 2x10'	
Elmhurst			1 1 (4 bay) ScriptPro									125		122	696	3 2x11'	
Rush									115		3		375	375	440	4 4x10'	137
DC	384		1 (2 bay) Parata	785	300	10						83	211	300	190	7	
AVERAGE	248.8			541.6667	272.6	5.8		149.75	179.5		5	116.8	263	349.625	319.125	4.75	120.333333

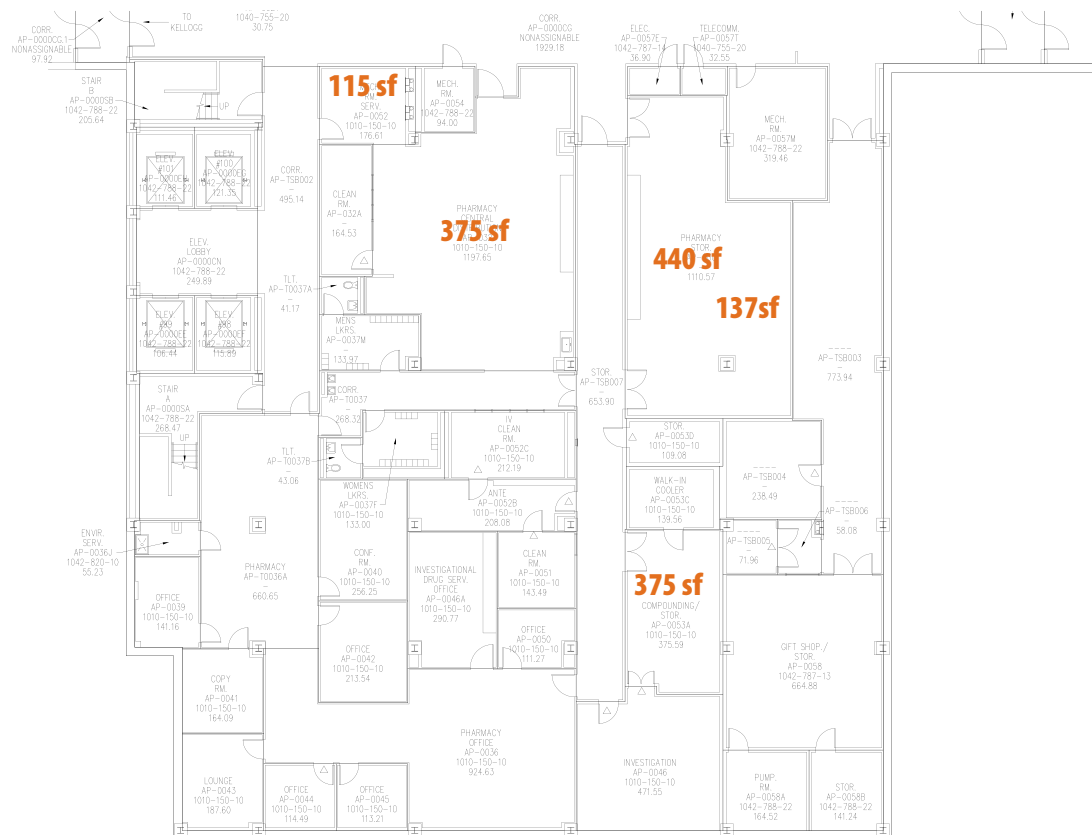
Figure 5.98 UCMC Outpatient: Storage Survey



SITE	OP			IP													
	Narcotics	C2	Machines	Drugs	General	Fridges	Carousel	High Density	Narcotics	C2/Omicell	HD	IV	Drugs	General	Fridges	Carousel	High Density
Jesse Brown	239		2 (4 bay) ScriptPro	430	425	5			198			96	359	384	4		
Orlando	101		1 (4 bay) Optifill	750		7			97			254	454	517	227	3 2x10'	
Tampa	280		2 1 (4 bay) ScriptPro	568	132	4		284	140		2		402	502	5		171
Gainesville	240		1 (5 bay) Optifill	600	282	3		153	368		5	26	290	53	7		53
UCMC			1 1 (4 bay) ScriptPro	117	224			162	159				12	432	61	5 2x10'	
Elmhurst			1 1 (4 bay) ScriptPro								10	125		122	696	3 2x11'	
Rush									115		3		375	375	440	4 4x10'	137
DC	384		1 (2 bay) Parata	785	300	10						83	211	300	190	7	
AVERAGE	248.8			541.6667	272.6	5.8		149.75	179.5		5	116.8	263	349.625	319.125	4.75	120.3333333

Figure 5.99 Elmhurst VAMC: Storage Survey

5.2.9 Rush VAMC Storage Survey



SITE	OP	Narcotics	C2	Machines	Drugs	General	Fridges	Carousel	High Density	IP	Narcotics	C2/Omniceil	HD	IV	Drugs	General	Fridges	Carousel	High Density
Jesse Brown	239			2 (4 bay) ScriptPro	430	425	5			198				96	359	384	4		
Orlando	101			1 (4 bay) Optifill	750		7			97			254	454	517	227	3	2x10'	
Tampa	280			2 1 (4 bay) ScriptPro	568	132	4		284	140		2			402	502	5		171
Gainesville	240			1 (5 bay) Optifill	600	282	3		153	368		5	26		290	53	7		53
UCMC				1 (4 bay) ScriptPro	117	224			162	159		10		12	432	61	5	2x10'	
Elmhurst				1 1 (4 bay) ScriptPro										125	122	696	3	2x11'	
Rush										115		3		375	375	440	4	4x10'	137
DC	384			1 (2 bay) Parata	785	300	10						83	211	300	190	7		
AVERAGE	248.8				541.6667	272.6	5.8		149.75	179.5		5	116.8	263	349.625	319.125	4.75		120.333333

Figure 5.100 Rush VAMC: Storage Survey





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5.3 Test Fits

Disclaimer: Test Fits are for demonstration purposes only. They are intended for planning exercises and should not be used for construction documentation, equipment purchasing, bidding or cost estimating. RCPs, elevations, axons, data sheets and equipment lists are not provided for Test Fits.

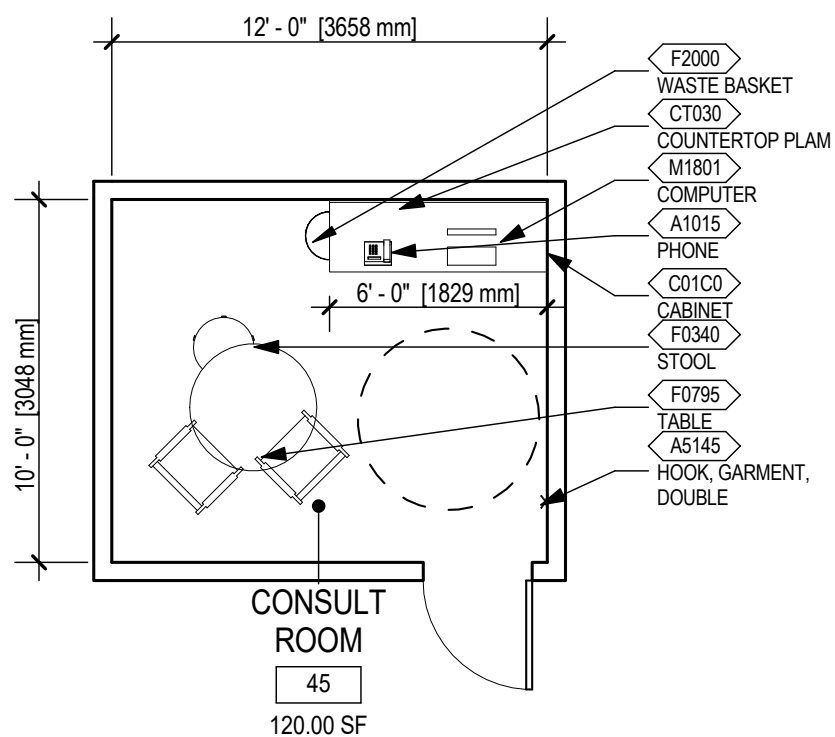
Test Fits are graphical representations of selected room types that illustrate the integration of space, components, systems, and equipment. They provide typical configurations and general technical guidance, and are not intended to be project specific. Specific infrastructure design requirements are contained in VA Design Manuals and Space Planning Criteria located in the VA Technical Information Library (TIL).

As Test Fits are not project-specific, site specific issues must be addressed with the context of VA Standards and applied to each individual project with the shareholders and design team. Use of these Test Fits 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.

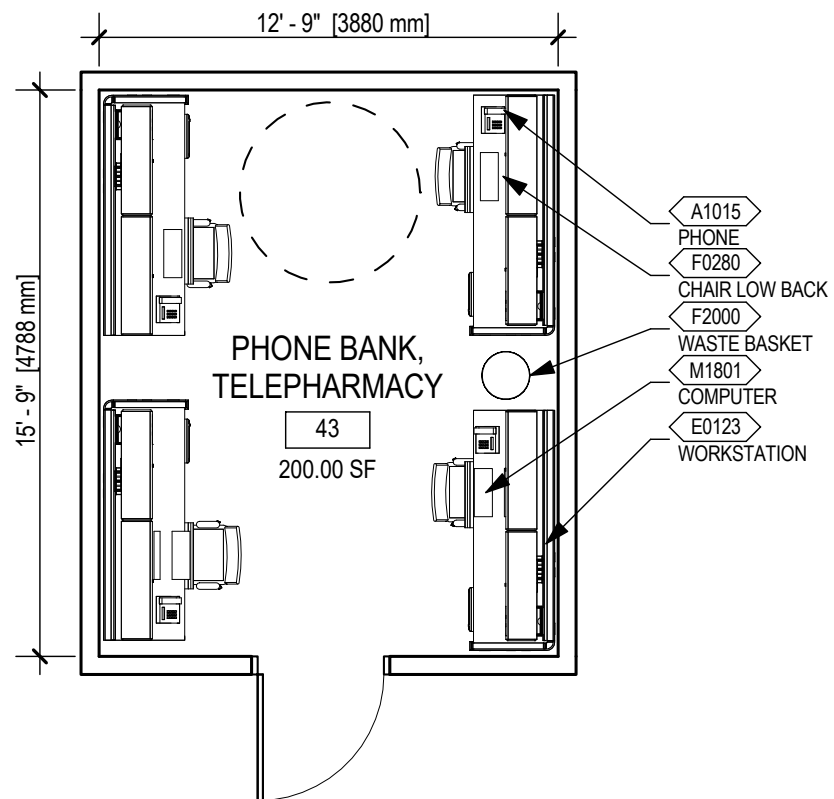
Equipment and systems are shown in an illustrative, performance-based format and are not intended to depict, suggest, or otherwise constitute endorsement of any specific product or manufacturer. Manufacturers should be consulted for actual dimensions, configurations, and utility requirements.



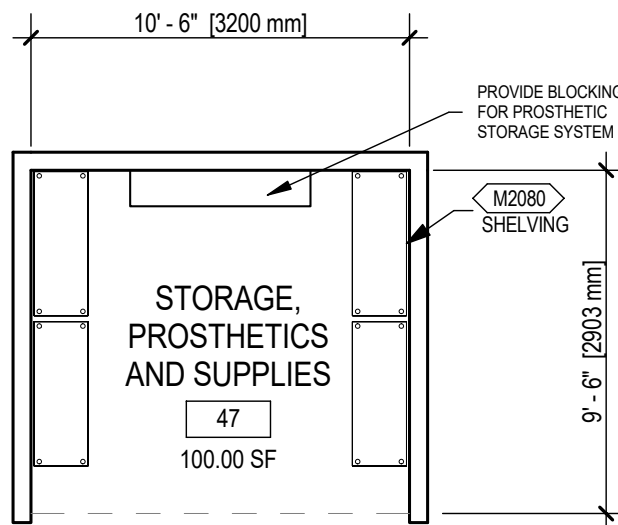
5.3.1 Consult Room



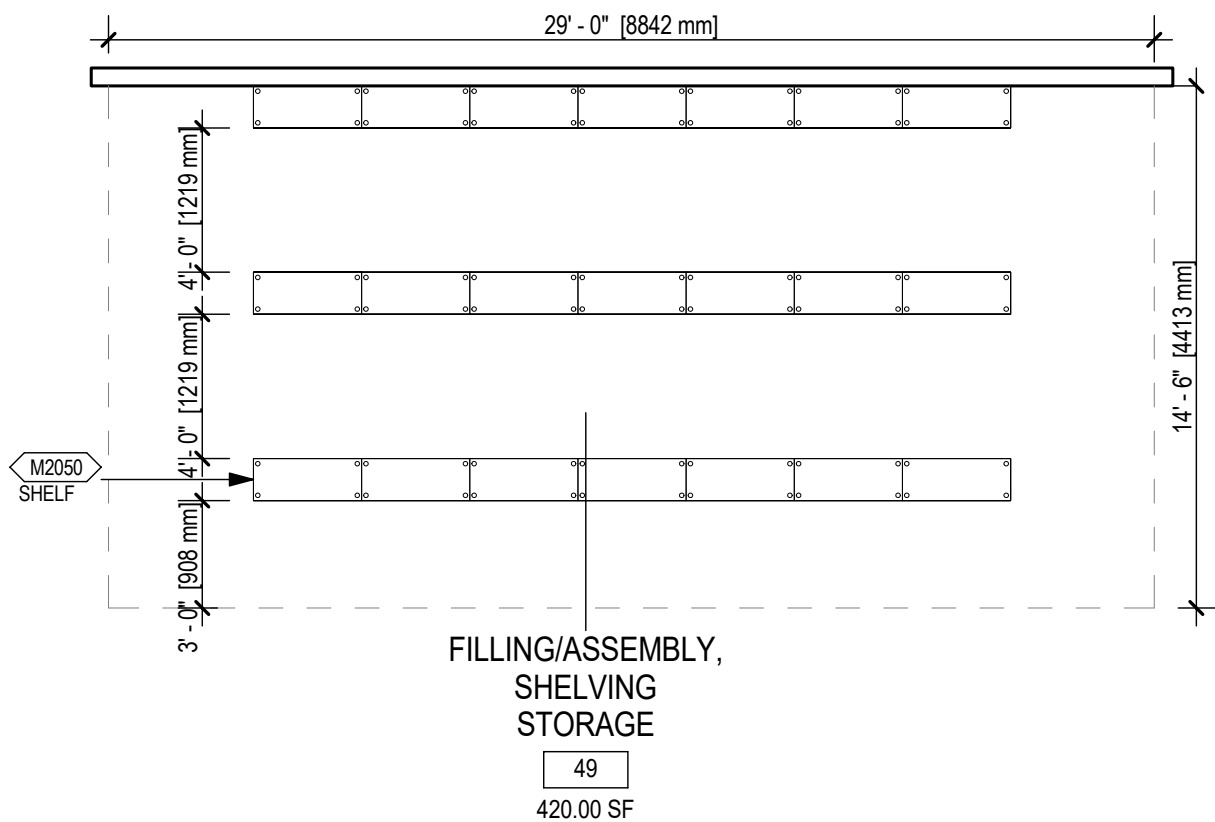
5.3.2 Phonebank, Telepharmacy



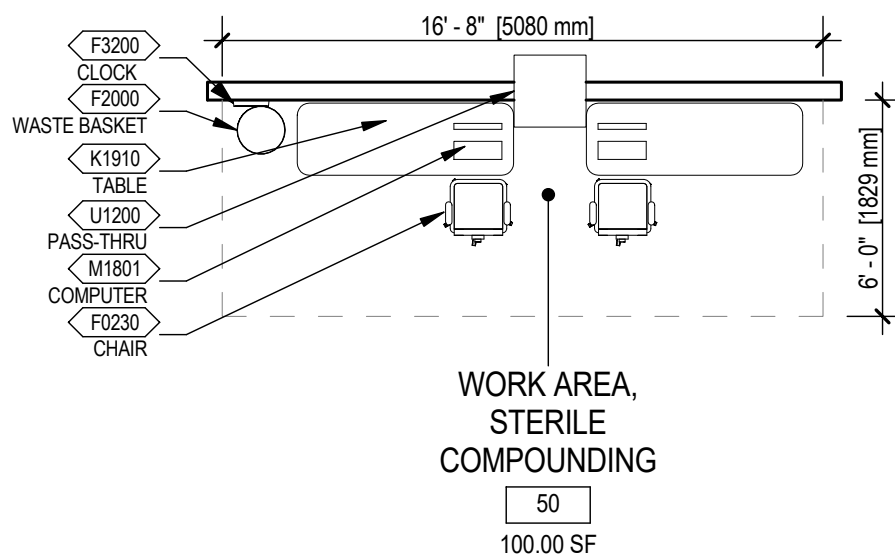
5.3.3 Storage, Prosthetics and Supplies



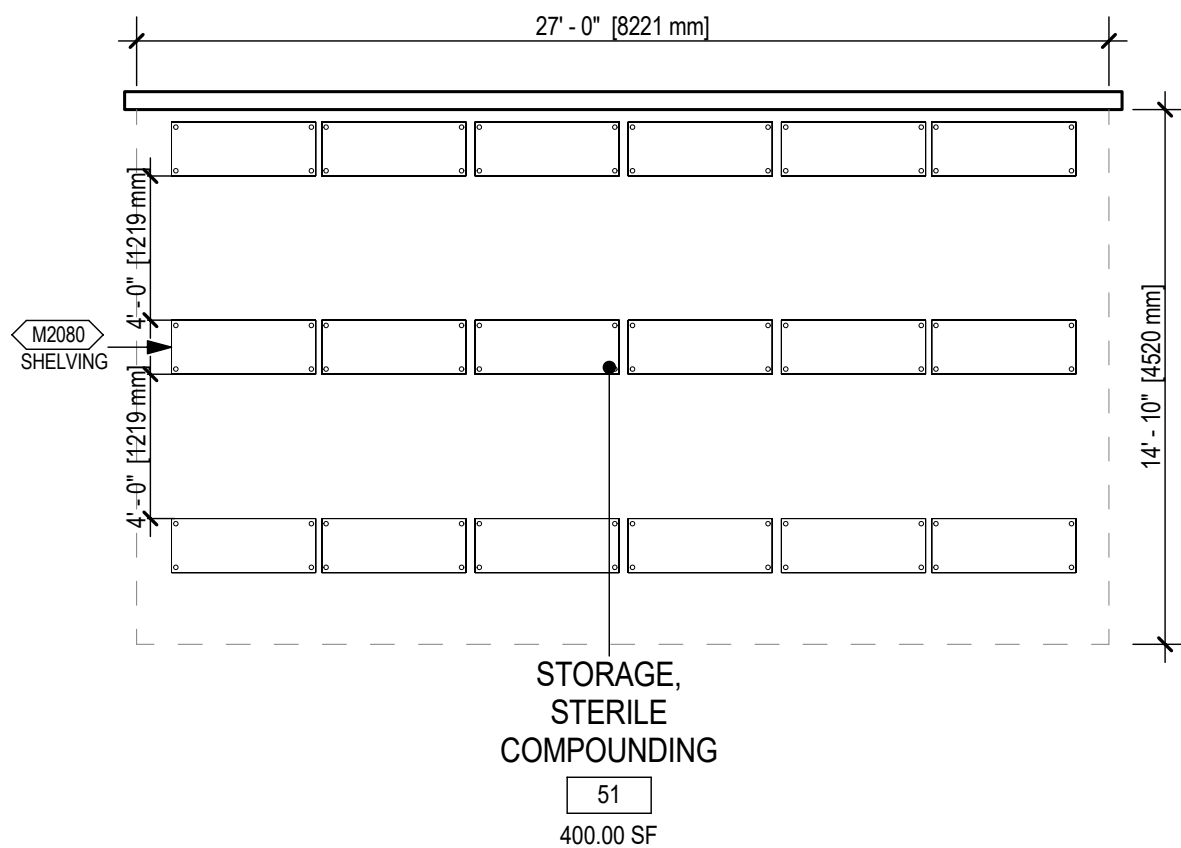
5.3.4 Filling/Assembly, Shelving Storage



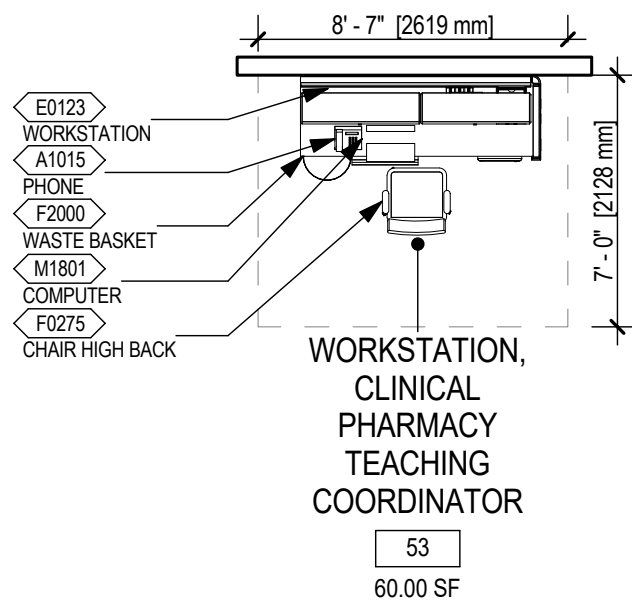
5.3.5 Work Area, Sterile Compounding



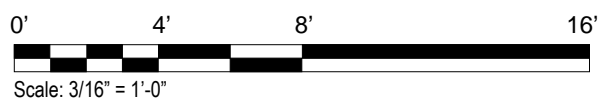
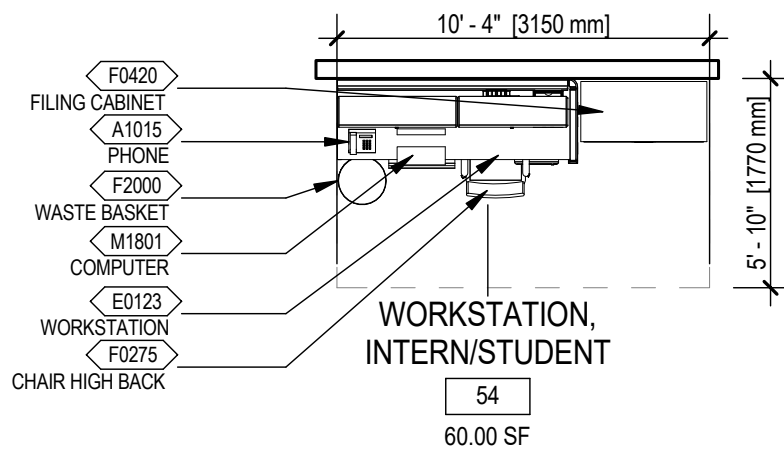
5.3.6 Storage, Sterile Compounding



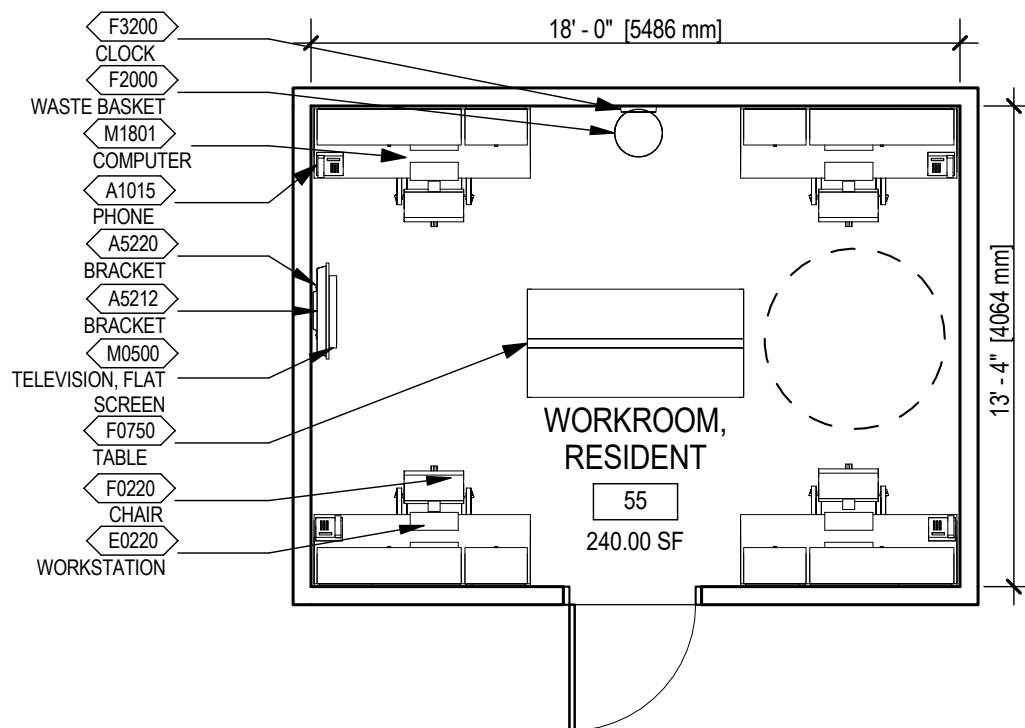
5.3.7 Workstation, Clinical Pharmacy Teaching Coordinator



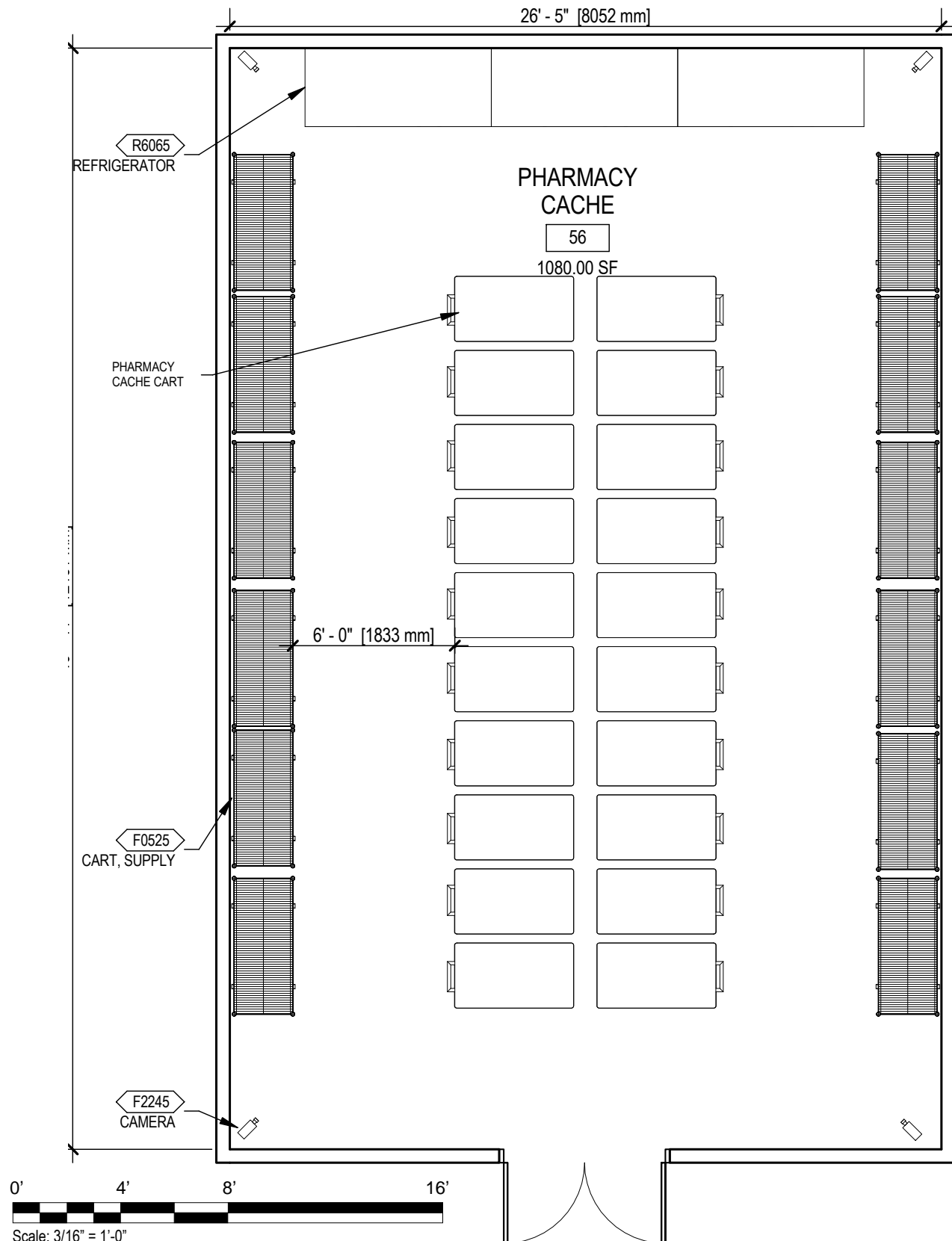
5.3.8 Workstation, Intern/Student



5.3.9 Workroom, Resident



5.3.10 Pharmacy Cache



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