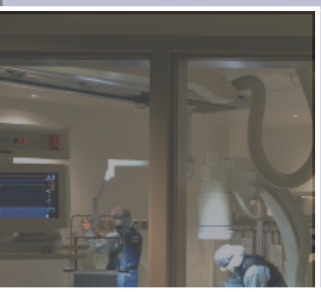
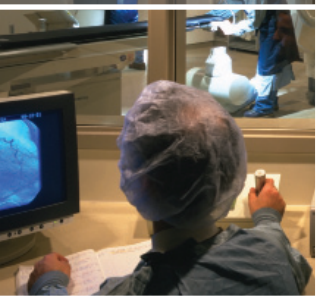
Department of
Veterans Affairs
Office of Construction & Facilities Management

design guide

NOVEMBER 29, 2011

ELECTROENCEPHALOGRAPHY LABORATORY (EEG)





ELECTROENCEPHALOGRAPHY LABORATORY (EEG)

SECTION 1 - FOREWORD

FOREWORD

The material contained in the Electroencephalography Laboratory Design Guide is the culmination of a coordinated effort among the Department of Veterans Affairs (VA), the Veterans Health Administration, the Office of Construction & Facilities Management, the Strategic Management Office, and the Capital Asset Management, Planning Service Group, and Hellmuth, Obata & Kassabaum, P.C. The goal of this Design Guide is to maximize the efficiency of the design process for VA facilities and ensure a high level of design, while controlling construction and operating costs.

This document is intended to be used as a guide and is supplementary to current technical manuals, building codes and other VA criteria in planning healthcare facilities. The Design Guide is not to be used as a standard design; it does not preclude the need for a functional and physical design program for each specific project.

The Electroencephalography Laboratory Design Guide was developed as a design tool to assist the medical center staff, VACO Planners, and the project team in better understanding the choices that designers ask them to make, and to help designers understand the functional requirements necessary for proper operation of this procedure suite.

This Design Guide is not intended to be project-specific. It addresses the general functional and technical requirements for typical VA Healthcare Facilities. While this Guide contains information for key space types required in an Electroencephalography Lab, it is not possible to foresee all future requirements of the Procedure Suite in Healthcare Facilities. It is important to note that the guide plates are generic graphic representations intended as illustrations of VA's furniture, equipment, and personnel space needs. They are not meant to limit design opportunities.

Equipment manufacturers should be consulted for actual dimensions and utility requirements. Use of this Design Guide does not supersede the project architect's and engineers' responsibilities to develop a complete and accurate design that meets the user's needs and the appropriate code requirements within the budget constraints.

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SECTION 2 - NARRATIVE

GENERAL CONSIDERATIONS

VA operates the nation's largest healthcare system with over 5.5 million patient visits per year. While veterans' health care needs are often similar to the general population, they are also different in significant ways. For example, veterans can suffer from a higher prevalence of disabilities from traumatic injuries, post-traumatic stress disorder (PTSD) and neurological disorders. To respond to these needs, VA is in the process of developing and integrating a care delivery model focused on patient centered care specifically as it applies to veterans. This mirrors general trends in healthcare where patient centered care is part of a major understanding of how best to enhance healing and support better outcomes. To integrate knowledge derived from other industry efforts, VA is working with Planetree as a partner. Planetree's efforts are helping to lead the way to personalizing, humanizing, and demystifying the healthcare experience for patients and their families. They bring a history of integrating changes required to protocols and facilities to support patient centered care. Veteran Centered Care has been defined by VA as follows:

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

In addition, Veteran Centered Care is based on twelve core principles which are noted below. Although all are important parts of the VA approach to care, nine principles stand out because they can be supported directly or indirectly by facility design solutions. These nine principles are noted in bold.

Veteran Centered Care Core Principles

1. **Honor the veteran's expectations of safe, high quality, accessible care.**
2. **Enhance the quality of human interactions and therapeutic alliances.**
3. Solicit and respect the veteran's values, preferences, and needs.
4. Systematize the coordination, continuity, and integration of care.
5. **Empower veterans through information and education.**
6. Incorporate the nutritional, cultural and nurturing aspects of food.
7. **Provide for physical comfort and pain management.**
8. **Ensure emotional and spiritual support.**
9. **Encourage involvement of family and friends.**
10. **Ensure that architectural layout and design are conducive to health and healing.**
11. **Introduce creative arts into the healing environment.**
12. **Support and sustain an engaged work force as key to providing veteran centered care.**

The following discussion begins with General Industry Trends followed by Veteran Centered Care Design Trends. General Industry Trends is organized around four main areas of concern: Safety and Risk Reduction, Efficiency and Flexibility, Planning that Accommodates Program Growth, and Response to Human Needs as they apply to objectives for planning and design of Electroencephalography Labs.

Veteran Centered Care Design Trends is guided by an understanding of how the nine facility linked core principles of Veteran Centered Care can strengthen VA goals for care delivery in support of better patient experiences and, ultimately, outcomes.

GENERAL INDUSTRY TRENDS

1. Safety and Risk Reduction

Plan to control cross infection

Hand washing and controlled access

To enhance infection control, ensure that hand-washing stations or hands-free automated hand-rub devices are strategically located for easy access to caregivers.

Avoid clean/dirty circulation conflicts

Plan exam and test areas to avoid circulation conflicts between patients and service traffic and between soiled and clean areas. One way to clarify movement is to provide a public side to the procedure area from which patients and families access care, and a service side which accommodates staff work areas, and from which service traffic arrives and waste leaves.

Promote staff observation of patients

Since increased observation from staff will foster a safer environment for patients, plans should seek to provide clear visualization of patients by staff. For exam areas nurse positions should be planned to observe patient waiting and travel to exam and test areas.

Specify materials and finishes that enhance infection control

Use materials, finishes, and casework that resist microbe growth and are easily cleaned. See PG 18-14 for specific requirements.

Specify anti-microbial materials and finishes to the greatest extent possible. Minimize seams in floor and wall finishes and at floors to walls. To limit dust accumulation, avoid horizontal surfaces which are not work surfaces. Provide storage for all unpackaged items in enclosed casework.

Fully Integrate Electronic Medical Records

VA uses a system of electronic medical records and bar-coding of medications. As a key initiative to improve safe care, it is important to continue to expand the implementation of electronic medical records, and improve and strengthen protocols for their use, to achieve the most beneficial results. As all records shift to a full EHR-based system, these electronic tools reduce risk and raise efficiency. In addition to quick access to comprehensive records, including imaging and test results, and consistency of patient documentation across all services, benefits include the ability to locate nurses closer to patients and enhance opportunities for more time with patients. Space efficiency benefits include a decreased need for records storage both at departmental service locations and at central storage spaces.

2. Efficiency and Flexibility

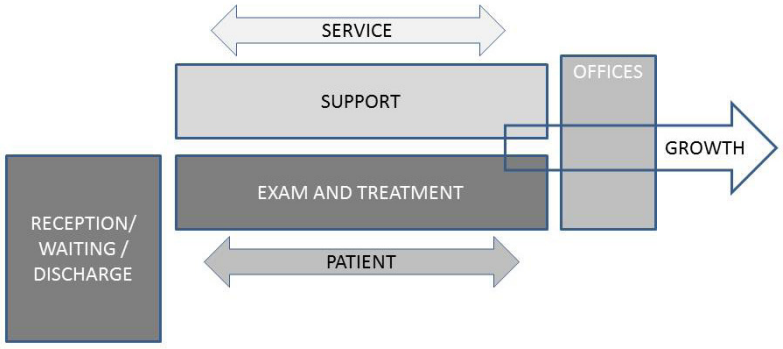
Increasing efficient operations will support VA objectives to provide quality service.
Standardization of key room plans, so that items like equipment and sharps containers are always in the same location in procedure rooms, can reduce errors and speed services as staff provides care in different rooms.

Where size permits, planning of procedure areas adjacent to each other with appropriate links, will provide the opportunity to share resources among two or more services. Shared resources can include waiting, linen storage, housekeeping, general storage, waste storage, and staff support areas.

3. Planning that Accommodates Program Growth

Position non-clinical space for future growth

Planning for larger scale long term growth for key program components should be identified early in the design process. Space needed to accommodate projected growth can be addressed by first identifying the ideal direction for planned growth to occur. At the end furthest from patient access to the exam area, locate “soft” or non-clinical program space, such as offices or storage, since they can most easily be relocated to permit conversion of the space to accommodate clinical growth needs.



PLANNING FOR GROWTH

4. Response to Human Needs

Patient dignity and self-determination must be accommodated while considering operational efficiencies. Patients’ vulnerability to stress from noise, lack of privacy, poor lighting, and other causes, and the subsequent harmful effects it can have on the healing process, can be addressed by facility planning and design that recognizes these issues and proactively incorporates design solutions to support dignity, privacy, acoustic control, comfort, and patient empowerment over their environment.

In addition to control of infection discussed above, to reduce stress and increase patient privacy and dignity, outpatients and inpatients should follow separate paths into the exam area.

Service traffic should be separate from patient traffic to the greatest extent possible so that waste, equipment movement, and housekeeping traffic are, as much as possible, separate from patient pathways.

Good planning and design appeal to the spirit and sensibilities of patients and care providers alike. Opportunities exist in the design of Electroencephalography Laboratory service areas to address the above issues and to incorporate creative solutions that enhance patient comfort and contribute to a positive patient experience. A primary architectural objective should be to minimize an institutional image of healthcare facilities and to surround the patient and family members with finishes and furnishings that are familiar and comforting.

Noise reduction will reduce stress. Consider use of finishes that absorb noise such as carpet in appropriate non-clinical areas and sound absorbent ceiling tiles in appropriate clinical and non-clinical areas.

Lighting design can reduce stress. Where patients are prone, such as on stretcher travel through patient corridors, choices can include cove lighting against corridor walls to prevent patients from looking into the glare of light fixtures. Wall mounted sconces can provide a similar effect and also reduce an institutional feeling.

Patient privacy from visual intrusion can be enhanced by controlling views into exam rooms. Careful planning of door swings related to patient exam positions and use of cubicle curtains at room entries and any area where disrobing is required should all be considered.

VETERAN-CENTERED CARE DESIGN TRENDS

Safe high quality accessible care

Easy access to services

An ideal for Veteran Centered Care is point of service care where all services a patient may need on a given visit are located at or near the patient's day visit location. This ideal should be used as a guide to inform how program components could best be organized. The services to be accessed may range from exam to patient education to research linked tests, to nutrition or life style or psychological counseling.

When patients must transfer, there should be a clear and easily navigated pathway between points of service.

Women Veterans' Privacy & Security

Consideration for the privacy and security of Women Veterans will be addressed in the overall planning and design of the Electroencephalography Laboratory to carefully assess all spaces for these needs. Of particular concern are the exam and procedure rooms which shall include the following:

Procedure rooms where a female patient may be left unattended (i.e. to dress / undress) must have locks that can be disengaged by staff from the corridor side. Procedure rooms must be located in a space where they do not open into a public waiting room or a high-traffic public corridor. Access to hallways by patients/staff who do not work in that area should be restricted. Privacy curtains must be present and functional in procedure rooms. Privacy curtains must encompass adequate space for the healthcare provider to perform the procedure unencumbered by the curtain. A changing area must be provided behind a privacy curtain. Examination tables must be shielded from view when the door is opened. Examination tables must be placed with the foot facing away from the door. Patients who are undressed or wearing examination gowns must have proximity to women's restrooms that can be accessed without going through public hallways or waiting rooms.

Sanitary napkin and tampon dispensers and disposal bins must be available in women's public restrooms. A family or unisex restroom should be available where a patient or visitor can be assisted. Baby changing tables should be available in women's and men's public restrooms.

Waiting areas should provide a private setting for women Veterans through the use of partitions and/or furniture. Refer to VHA HANDBOOK 1330.01, Health Care Services For Women Veterans, May 21, 2010.

Empower Veteran

Patient control over their environment

Patients in treatment often benefit from a sense of control of the process they are experiencing. One component will be the ability to control their treatment environment.

Access to education

Education about a patient's health issues is an important component of clinical care leading to better outcomes. Knowledge is empowering and can enhance a patient's ability to understand reasons for and

benefits of specific tests and treatment. Opportunities for patient education should be planned for easy access in settings where the patient can control privacy. These can include information kiosks or rooms in waiting areas.

Enhance Human Interaction / Encourage Involvement of Family and Friends

Facility solutions that support increased interaction with care providers and family or friends include providing for family and friends in waiting by offering adequate space and amenities.

Healing Environment

Planning solutions should promote patient dignity and increase privacy. This will lower stress and increase comfort in support of healing and wellness.

In exam rooms, curtains or screens should be used to increase privacy options. Patient diagnostic or treatment position should orient the patient's head toward the door, rather than his or her feet.

Reception and Waiting areas should include planning that provides different spaces for patients who seek social interaction and for those who seek more privacy. Smaller scale spaces with separations created by low partitions, furniture or planters will provide options for more privacy in these settings.

Access to nature and to daylight can lower stress. Areas for family respite should be provided in or near the exam area. Where site, climate, and building configuration permit, access to outdoor space can serve as a welcome area for respite. In addition, planning that brings daylight, if not views, into the exam area would be an important addition to support healing.

One strategy to bring natural light deep into the building might be to use light shelves at the window wall that bounce light off ceilings thus delivering light deeper into the exam area. To the extent that this can be achieved, this more effective delivery of light can help the entire building become a light-filled facility for healing in which all users; patients, family, and staff, reap the benefits.

Other issues specific to planning and design for Veterans' Care include the following:

Imagery and Artwork

Veterans' military experiences require a specific approach to the selection of imagery and artwork that is healing and restorative. Commemorative settings and iconography of national and symbolic importance help veterans recover from post-traumatic stress disorder. Units with artwork and color palettes that incorporate nature imagery that are not evocative of combat settings, and that honor veterans (e.g., photography of Mount Rushmore and national parks), can calm and restore patients. Note that nature images that may be considered restorative and healing for patients in the general public can communicate exposure and vulnerability to a veteran whose military service occurred in a similar setting (e.g. savannah or desert images).

Veterans of Recent Conflicts

As a result of their injuries, many veterans of recent conflicts, Operation Enduring Freedom and Operation New Dawn, suffer from multiple traumas including traumatic brain injury, post-traumatic stress disorder, spinal cord injury, and amputation. Extremity wounds are the most common injury of veterans of recent conflicts.

VA facilities require full accessibility planning in all areas including clearances, floor finishes, floor levels with ramp transfers between different levels, hardware and plumbing fixture design.

Veterans entering the system are generally younger than veterans currently utilizing VA services from previous conflicts. Planners should consider access to contemporary information technology and entertainment, and strategies which address the lifetime prognosis for veterans suffering from multiple traumas.

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SECTION 3 - FUNCTIONAL CONSIDERATIONS

FUNCTIONAL ORGANIZATION

A Functional Area (FA) is the grouping of rooms and spaces based on their function within a clinical service. The organization of services in this Guide follows the categories established in VA Space Planning Criteria, Chapter: 226 – Electroencephalography Laboratory.

This clinical service is organized in five Functional Areas:

FA 1: Reception Area
FA 2: Patient Area
FA 3: Support Area: Patient Care
FA 4: Staff and Administrative Area
FA 5: Education Area

Electroencephalography Laboratory includes two key exam functions – one for electroencephalography (EEG) testing and one for electromyogram (EMG) testing.

The Functional Diagram in this section and Guide Plates, Reflected Ceiling Plans and Room Data Sheets in Section Four, show function, flow, organization, equipment, utilities and operational concepts. They should not be interpreted as preconceived floor plans, as the diagrams do not correlate exactly to all the rooms and functions available in Space Planning Criteria, nor to those which may be required or authorized for individual projects.

FUNCTIONAL AREAS AND RELATIONSHIPS

FA 1: Reception Area

Reception Area accommodates the initial processing and admission of all scheduled and unscheduled outpatients. These areas include registration functions, waiting, and opportunities for patient education.

The reception control area shall be strategically located to give the receptionist clear observation of waiting areas to facilitate control of outpatient traffic entering the suite and secure the department from unauthorized access. On the day of the procedure, ambulatory patients will register at the reception area. Functional considerations include location of workstation monitor screens to protect patient information, access to lockable files, and accessibility compliant work stations.

The reception control area should be organized in a way that maintains patient confidentiality. Waiting for patients and families should be organized so that separate patient circulation paths provide separate to prep and exam rooms and are separate from service traffic. Outpatient processing areas should be separate from inpatient circulation and holding areas when both outpatients and inpatients use the same exam rooms.

Waiting areas should be configured with small clusters of seating for privacy and for a less institutional environment. Veterans experiencing post-traumatic stress disorder (PTSD) prefer seating where they do not feel vulnerable from being approached from behind. Ensure that a specific complement of seats is located to support this need. The use of table lamps and appropriate furnishings and finishes allow for intimate spaces which encourage conversations and reduce stress levels in visitors.

Family waiting areas shall be located in close proximity to the exam spaces to facilitate post exam physician visits with families to discuss results and treatment options. In some instances the need to accommodate families with children may be required. This may include designating a children’s area in waiting areas with appropriate furniture and content and should be addressed on a facility basis. The Consult Room should be located adjacent to Waiting.

When possible, access to natural daylight, views of nature, and other positive distractions should be provided to improve the human experience in these spaces. While it is common practice to include television viewing capability in waiting spaces, studies have shown increased stress and blood pressure levels in persons in waiting spaces exposed to television. This should be evaluated on a project by project basis.

For smaller size services, sharing functions associated with Reception and Waiting with other similar and adjacent services should be considered on a per facility basis.

FA 2: Patient Area

Patient areas accommodate the EEG and EMG examination of non-emergency outpatients, scheduled and unscheduled, and inpatients when the service is part of a hospital.

There are two exam room types: Electroencephalography and Electromyography.

EEG and EMG tests require electrodes, which receive neural or muscle signals, respectively, to be applied to the patient's skin and then removed after the test. Electrodes are applied in the patient Prep Room. EEG and EMG instruments are extremely sensitive. Tracings can be greatly influenced by the actions and the physiologic status of the patient. It is important that the patient be properly prepared both physically and psychologically in order to obtain an accurate and reliable test record. Patients' prep experience should be considered in locating and planning the patient preparation room.

Environmental conditions such as light level and ambient noise must be stable, as changes may be perceptible to patients and thus create physical responses which impact readings. Temperature and relative humidity must be balanced to prohibit static electrical charges at all times. Acoustically isolate exam rooms to inhibit distracting stimuli which can alter the readings.

In addition, because of their sensitivity to external electrical impulses, EEG and EMG rooms need to be at least fifty feet from sources of electromagnetic interference such as large motors, elevators, or A/C equipment. Confirm with the specific facility that there are no known conditions that would require shielding from such sources of interference.

Some electrodes may penetrate the skin. For EEG, these need to be wiped down in the exam room, then packaged and sent to the Sterile Processing Department (SPD). All cleaning of these electrodes will occur in SPD. EMG uses disposable electrodes.

Other services, such as Neurology and Rehabilitation, may require EMG exams. To facilitate efficient sharing, the location of the EMG room should recognize the need for a reasonable adjacency with those other services.

The exam area includes a separate room – the Patient Prep Room – in which the electrodes are placed on the patient prior to entering the exam room. This room should be the first clinical space the patient encounters after leaving the waiting area on their way to the exam. To facilitate accurate test results, this part of the exam process should provide a low stress introduction for the patient to the exam process.

The physical design of the suite must meet patient privacy and patient rights requirements as well as employee safety and ergonomics standards as adopted by VA.

All procedural spaces shall be designed for visual and acoustical privacy for the patient. All measures shall be taken to reduce risk of infection. The hospital's Infection Control Risk Assessment (ICRA) shall establish and review infection control measures.

FA 3: Support Area: Patient Care

One key support function is a Reading Room. This is a multi-purpose room which accommodates the evaluation of EEG and EMG tests, including monitoring, reading, and interpreting them. In addition, the room accommodates training residents, interns and other staff. To facilitate efficient operations, this room should be located with easy access from the exam area as well as the Staff and Education areas.

An Instrument and Work Room is included to house EEG and EMG equipment and related items. It includes a work counter for equipment adjustments and simple repairs.

This area includes Soiled and Clean Utility Rooms and Equipment Storage. All support rooms of this type should be located in close proximity to the exam rooms they support. In larger facilities they can support multiple blocks of exam and test rooms and be organized in a way that permits access off a controlled access service corridor.

A Housekeeping Aides Closet (HAC) with space containing a floor receptor or service sink and storage space for housekeeping supplies and equipment shall be provided.

FA 4: Staff and Administrative Area

Enclosed office spaces and technician cubicles shall be provided per number and area authorized for the service. Offices include those for Director of EEG, Physician, Nurse Manager, and Chief Technician. A cubicle may be authorized for a Technician. Consider grouping clinician/staff offices and cubicles into a team work area to promote multidisciplinary interaction which leads to improved quality of care and efficiency of care. Access to and control of natural light should be considered in designing these spaces for staff satisfaction and stress reduction.

In planning for future flexibility of spaces, it is beneficial to plan for a modular approach for offices to allow the space to be reused without significant reconfiguration.

The Staff Lounge and Staff Locker Room are important as respite areas which reduce stress and enable staff to maintain a high level of quality service when clinics are active. The Staff Lounge shall be conveniently located to staff work areas but separate from patient areas. Provision of a separate locker room from the staff lounge is desirable for staff privacy and noise reduction. Staff toilets should be located with immediate adjacency to the staff lounge but should not open into it. These staff support functions should be considered for sharing with other adjacent services as appropriate.

FA 5: Education Area

A Conference/Classroom, if authorized within this service, should be near the administrative offices. If other conference rooms are provided in nearby services, there may be efficiencies that can be achieved by sharing or co-locating conference rooms.

OTHER FUNCTIONAL CONSIDERATIONS

General Considerations

The planning approach should locate high volume short duration services closer to patient waiting areas to decrease patient travel time and distance and increase staff responsiveness.

The physical design of all areas must meet patient privacy and patient rights requirements as well as employee safety and ergonomics standards as adopted by VA.

All spaces shall be designed to reduce risk of infection. The hospital's Infection Control Risk Assessment (ICRA) shall establish and review infection control measures.

Physical Security

Security is a key objective when patients are undergoing procedures and when they are preparing or recovering from them. During exams patients may feel vulnerable. Attention to traffic unrelated to the exam, noise, and light levels, are all issues which planning and design choices can help control.

Exam rooms should be organized to provide entry from a controlled access corridor, limited to patients and related clinical staff. Patient positions in exam rooms should generally be located so that people entering the room approach from the patient's side with the patient's head in view.

Patients who require changing out of street clothes in an exam or prep room, should be provided with control of access, privacy, such as a lockable door, and cubicle curtains, shades or screens.

Flexibility

The design of healthcare facilities must respond to changes in technology, changing workloads, and operational efficiency objectives. To facilitate easy, more cost effective, and future adaptability, designers should maximize the use of spaces of standard size and proportions sized to accommodate a range of related functions. Use of a standard planning module (grid) throughout a clinical procedures area is encouraged. Spaces with special requirements, special equipment, or unusual sizes should be grouped where possible and designed to accommodate change with minimal disruption to the remainder of the suite.

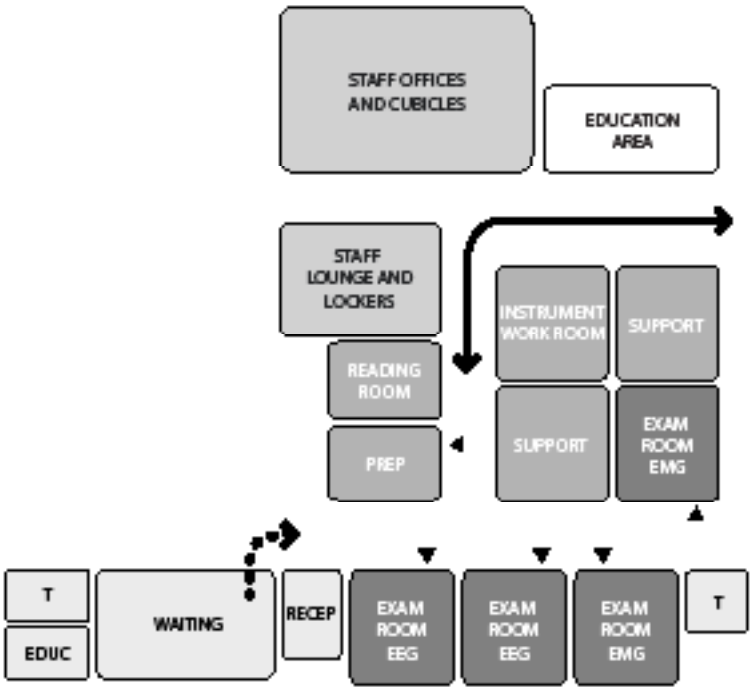
Efficiency

VA is committed to efficient use of resources including energy, materials, equipment, and staff.
Refer to Sustainability Design and Energy Reduction Manual on VA Technical Information Library (TIL).

Accessibility

Accessibility is accommodated by the application of PG 18-13, VA Barrier Free Design Guide; Architectural Barriers Act Accessibility Standards (ABAAS), Appendices C and D to 36 CFR Part 1191 (adopted by GSA and supersedes Uniform Federal Accessibility Standards, UFAS); and ADA Standards for Accessible Design (28 CFR Part 36) to space and fixed equipment layouts.

FUNCTIONAL DIAGRAM



Electroencephalography Laboratory

LEGEND

- EXAM/TESTING/PROCEDURE
- PREP/RECOVERY/SUPPORT
- STAFF AND ADMINISTRATIVE AREA
- RECEPTION AREA
- EDUCATION AREA
- STAFF SERVICE
- OUTPATIENT
- GENERAL ENTRY

RELATIONSHIP MATRIX

SERVICE	RELATIONSHIP	REASONS
ICU	3	C,G
MS&N Patient Care Units	3	C, G
Patient Prep and Recovery	N	
Emergency Department	3	C, G
Main Entrance	3	H
Cardiovascular Labs	X	K
Endoscopy	X	K
Ambulatory Surgery/ Minor Procedure	X	K
Radiology	X	K
Diagnostic Testing	2	H
Pulmonary Clinic / Testing	4	H
Cardiology Clinic / Testing	4	H
Digestive Disease Clinic/Testing	N	
Neurology Clinic/Testing	1	A, G, H
Ventilator Storage	N	
Respiratory Therapy	N	
Pharmacy	5	B
Laboratory	5	B
Social Work / Case Management	4	H
PT/OT	1	H
Food Service / Kitchen	N	
SERVICES		
RELATIONSHIP	REASON	
Sterile Processing Department (SPD)	N	
Staff On-Call Rooms	N	
Linen Storage	5	B
Waste Management	5, X	B, E, F
Loading Dock	5, X	B, D
Elevator Machine Room	X	L

LEGEND

Relationship:

1. Adjacent
2. Close / Same Floor
3. Close / Different Floor Acceptable
4. Limited Traffic
5. Connection Needed
N. Not Applicable
X. Separation Desirable

Reasons:

A. Common use of resources
B. Accessibility of supplies
C. Urgency of contact
D. Noise or vibration
E. Presence of odors or fumes
F. Contamination hazard
G. Sequence of work
H. Patient convenience
I. Frequent contact
J. Need for security
K. Closeness inappropriate
L. Interference

SECTION 4 - DESIGN STANDARDS

INTRODUCTION

This section covers technical considerations for planning and designing the Electroencephalography Laboratory (EEG) Labs. The discussion includes detailed technical considerations for architectural, mechanical systems and other related components. To support this discussion, selected rooms are detailed in the form of Guide Plates. Each Guide Plate includes a floor plan, reflected ceiling plan, room data sheet, and an equipment list which provides a comprehensive overview of space planning and utility requirements and locations for the key rooms in this service.

Guide Plates for the following key rooms in this section are as follows:

Exam Room, EEG (OPEE1)

Exam Room, EMG (OPEE1)

Note that room dimensions on the floor plans closely approximate, but may not always reflect the exact programmed room area stated in the Space Planning Criteria, Chapter 226 Electroencephalography Laboratory (EEG).

TECHNICAL CONSIDERATIONS

Architectural

Interior Design

Follow guidance in PG 18-10, Ambulatory Care/Outpatient Clinic / Interior Design Manual for New Construction and Renovations of Hospitals and Clinics, and PG 18-14, Room Finishes, Door, and Hardware Schedule. Where a specific guide plate is not provided for a space or function, refer to PG 18-14 and the general design information below. Coordinate interior / material finish selections with Interior Design and Way-finding concept developed on a per project basis.

The goal of the design is to provide an interior environment that fosters healing of both the patient's mind and body, and respects the public funding aspect of VA projects. Design concepts should be comprised of a few simple choices, appear clear to users, and provide a welcoming, calm setting. Materials that have natural origins or clear links to nature and use subtle patterns and color tones rather than strong hues will support this goal. Minimal means – few rather than many colors, for example, should be used to achieve goals.

Key functional and design considerations include:

1. Durability and cleanliness
2. A timeless quality for materials and colors
3. Creation of a distinctive, clear lead for the planning and selecting of furnishings and art

Elements which create non-functional horizontal surfaces, like decorative moldings which become dirt catchers, or wall coverings that cannot be washed down, should be avoided.

Way-finding

Patients, visitors and staff need to know where they are, where their destination is, how to get there and have the ability to return to their point of origin. In addition to signage, strategies for way-finding should be part of early design concepts and be integral with architectural planning and finish choices. In this way, way-finding can become a natural, intuitive part of the overall design. Refer to Interior Design Manual for New Construction and Renovations of Hospitals and Clinics and VA Signage Design Guide.

Examples of design strategies to achieve way-finding goals include:

- Utilize specific color, pattern, or artwork cues for different components in a unit or service
  Based on choice of color palette, public areas can be clearly differentiated from procedure areas and further differentiated from service areas. Use of artwork can signal a department entrance.
- Treat corridor ends and junctures as way-finding opportunities.
  Where possible, corridor ends can be sources of daylight or special graphic or color panels can be used to cue destination information from a distance.

Partitions

Partitions should generally be gypsum wallboard (GWB) on appropriately sized metal studs. Provide sound attenuation in accordance with PG 18-3, VA Design and Construction Procedures, Topic 11: Noise Transmission Control. Provide wall protection in accordance with the Interior Design Manual for New Construction and Renovations of Hospitals and Clinics.

Consider incorporating corner guards in corridors and other areas where the potential for wall damage from wheeled patient and cart traffic is anticipated. To reduce an institutional feeling, corner guards should be set flush to adjacent wall surfaces, as opposed to surface mounted, and selected in a color that matches adjacent wall color. In service areas, stainless steel corner guards or guard plates can be used.

Floors

Floors in most spaces, including exam rooms, treatment rooms, corridors, and supply and storage spaces should be a resilient tile with a six inch (150 mm) high rubber base. Floors in soiled utility room should be welded seam sheet resilient flooring with integral coved six inch base. Floors in offices, conference rooms, and waiting areas should be carpet with a four inch (100 mm) high rubber base. Floors in toilet rooms should be porcelain tile with a matching tile base.

Ceilings

In most spaces, including toilet rooms, lay-in acoustic ceiling tile should be used. Where required for sanitation or moisture resistance, such as in soiled utility or isolation rooms, acoustical ceiling tile shall have a washable sprayed plastic finish, designated “SP” in PG 18-14.

Interior Doors

Doors should be 1-3/4 inches (44 mm) thick, solid core, flush wood doors or hollow metal doors in hollow metal frames. Hollow metal doors should be used where high impact is a concern and where fire rated doors are required. Door widths of 48 inches (1219.2 mm) are recommended for all wheeled traffic and for bariatric wheelchair access to all patient spaces.

Since a preponderance of wheel chairs and wheeled patient transport should be expected in VA facilities, consider use of doors fully clad in solid vinyl guard sheets. These will maximize protection, add durability, ease maintenance, and lessen an institutional feeling. In non-patient service areas, in lieu of full cladding, solid vinyl kick or mop plates should be added to both sides of doors.

Millwork

Key locations such as nurse stations and departmental reception points, will be well served with the use of custom millwork to respond to individual facility designs and configurations. Millwork should be used as an architectural encasement for standard modular components, such as files and storage cabinets which are listed in the Equipment List for each relevant space. Millwork would provide both the transaction surface at stand up height as well as the work counter at normal desk height for a receptionist or nursing staff.

Transaction counters should be made of solid surface materials which resist chipping and staining. Work surfaces at desk height may be constructed of solid surface materials or plastic laminate with flush let-in vinyl edges. Consider including task lighting built under the transaction counter. Coordinate locations of computers, printers, keyboards and power and data ports as required by facility needs.

Hardware

Accessible type should be used throughout. Refer to VA PG 18-14, Room Finishes, Door and Hardware Schedule and PG 18-4, National CAD Standards and Details Detail 08 00 00-1.dwg for additional information. Lock mechanisms which can be disengaged by staff from the corridor side should be used for all spaces where patients may disrobe, including toilet rooms and exam rooms.

S*ecurity*

Partitions, doors, and hardware for Procedure Suites, and other sensitive spaces have special security requirements. Refer to PG 18-3, VA Design and Construction Procedures, Topic 14: Security and latest VA directives related to safety and security for Women Veterans.

Structural

Structural design of VA facilities shall comply with the latest editions of the following:

- Reinforced concrete design - Building Code Requirements for Reinforced Concrete (ACI Standard 318-02) and Commentary (ACI-318R-02), American Concrete Institute.
- Structural steel design - Manual of Steel Construction, Load and Resistance Factor Design, Specifications for Structural Steel Buildings, American Institute of Steel Construction, Second Edition.
- International Building Code (IBC), International Conference of Building Officials.
- VA Seismic Design Requirements (H-18-8)

In compliance with Executive Order (EO) 12699, and EO 12941, all new and existing buildings constructed or leased by the Federal Government must be seismically safe.

Equipment

Equipment Lists are provided as part of the Guide Plates in this section. Additional general information and guidance is available on the VA Technical Information Library (TIL). Refer to Equipment Guide List (PG-18-5) for list of equipment, furnishings and utility requirements for each space in a functional area. Refer to Equipment Reference Manual (PG-18-6) for graphic representations of each piece of equipment to be purchased and installed by the construction contractor. Refer to equipment manufacturers' data for information specific to a particular equipment item.

PLEASE NOTE: The descriptions found in the equipment list do not match those in MIL-STD 1691, in their entirety. The JSN has been used to identify the piece of equipment however the equipment, selected for each particular project, needs to match the description found in this document in lieu of the description in MIL-STD 1691.

Casework

For planning and utilization concerns, casework systems with modular components will provide flexibility and durability. Casework systems should incorporate components dimensioned for ease of multiple re-use installation applications. Casework systems should be planned to avoid corner installations and filler panels.

Counters for all clinical and clinical support areas shall be made of solid impervious resin materials per PG 18-14, which offer long-term durability, and resist 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.

Information Management Systems

Reference VA Design Guide Office of Information and Technology (OI&T) for Information Management Systems. Coordinate with local information management system in place.

In general, ports for data access shall be distributed to all occupied spaces. Specific locations for data access will be per Guide Plates in this document and/or as required by specific project needs.

Heating, Ventilation and Air Conditioning

General

Air conditioning systems will be provided to heat, cool and ventilate the Electroencephalography (EEG) Laboratory as required to satisfy VA design criteria. Follow criteria in VA Technical Information Library (TIL) HVAC design manual (PG-18-10) listed on VA website under Office of Construction & Facilities Management (CFM). Also refer to (PG-18-1) Master Construction Specifications and (PG-18-4) Standard Details and CAD Standards for items that may apply within the EEG Lab. See Sustainable Design and Energy Reduction Manual (April 2010) for additional information and requirements.

The air conditioning system serving EEG and EMG Exam Rooms shall be designed to operate at occupied/unoccupied capacity to suit applicable schedule.

Room Data Sheet Criteria

The number of occupants, air conditioning temperatures, noise criteria, and room pressurization indicated on the room data sheets in Section Four are for the purpose of establishing general planning parameters. The design architect and engineer (A/E) shall verify the actual occupant load and air conditioning load for each specific room on each individual project. Verify equipment loads for actual equipment to be furnished within that room for each individual project. The percent of outside air shall be based upon the total supply air quantities determined for a specific project.

Air Quality and Distribution

In general, clean areas shall be maintained at positive air balance and soiled areas shall be maintained at negative air balance with respect to adjoining areas. Where specific pressure requirements exist, they are noted on the Room Data Sheet for each Guide Plate room.

Corridors shall not be used to supply or exhaust/return air from adjacent rooms, except that they may be used to ventilate Housekeeping Aides Closets (HAC's) and small electrical or telephone closets opening directly onto them. Ex-filtration and infiltration from positive or negative pressure rooms adjacent to a corridor must be considered in balancing air flow.

Transfer air should not be more than 100 CFM (2.8m3/min) per undercut door within the EEG Lab.

Care should be taken to minimize the short circuiting of air between supply and return or exhaust openings in rooms, with careful placement of supply registers and return grills inside rooms. See Reflected Ceiling Plan Guide Plates for location guides.

Exhaust System

The HVAC design shall provide for exhaust air from spaces to control the transfer of odors and provide proper room pressurization and proper air changes per hour that may be required by the HVAC Design Manual or building code standards.

Energy Conservation

The need to conserve energy is mandated by the Federal Government, by Executive Order and Federal Law. In addition, 19 Federal Agencies, including VA, have signed a Memorandum of Understanding (MOU) outlining specific goals and targets for energy conservation and sustainable design. The following references apply to VA project design, with more detailed information to be found within the HVAC Design Manual for Hospital Projects:

Sustainable Design & Energy Reduction Manual (April 2010)
DOE Final Rule, and Energy Policy Act (EPACT 2005)
Energy Conservation Executive Order No. 13423 Dated January 24, 2007

Mycobacterium Tuberculosis (TB)

Centers for Disease Control (CDC) requirements for the design of public areas within buildings which accommodate mycobacterium tuberculosis patients must be addressed by architectural and mechanical disciplines. Check current requirements for transmission of mycobacterium tuberculosis and TB Criteria in the latest CDC documents. Check specific CDC requirements for the need of an isolation recovery room within the EEG Lab.

Seismic Requirements

Where required, install HVAC systems with seismic provisions as outlined in the PG-18-10, HVAC Design Manual for Hospital Projects and Master Construction Specifications MCS Section 13 05 41, Seismic Restraint Requirements for Non-Structural Components.

Design Conditions

Year-round Conditions: 70°F to 75°F [21°C to 24°C] and 20% to 60% RH as defined in 2008 ASHRAE Standard 170 (including amendment d). The system shall be capable of maintaining temperatures within the range during normal working conditions. The cooling load for these spaces shall be calculated to maintain 75°F [24°C] at 60% RH and the heating load shall be calculated to maintain 70°F [21°C] at 20% RH. The year-round conditions can be used for variable air volume (VAV) or constant volume (CV) systems. Year-round design conditions shall be used for all patient areas. See March 2011 VA HVAC Design Manual for further details.

Plumbing

General

Plumbing Systems shall be designed as required to meet the needs of the EEG Lab and EEG/EMG individual rooms. Follow criteria in VA Technical Information Library (TIL) Plumbing Design Manual (PG-18-10) listed on VA website under Office of Construction & Facilities Management (CFM). Also Refer to (PG-18-1) Master Construction Specifications and (PG-18-4) Standard Details and CAD Standards for items that may apply within the EEG.

Room Data Sheet Criteria

The Room Data Sheets in Section Four indicate typical quantities of plumbing fixtures and equipment as well as medical gas outlets. They are provided to establish the general planning parameters. The design architect and engineer (A/E) shall verify the exact fixtures and medical gas locations and quantities for individual projects.

Water Systems

Domestic cold and hot water shall be piped to all plumbing fixtures and equipment requiring these utilities. A hot water return system shall be provided to ensure the design temperature is met at the fixture furthest from the source.

Waste Water Systems

Plumbing fixtures and drains shall be drained by gravity through sanitary waste stacks, including required vent stacks. Fixtures located below gravity drain line shall be pumped as required by a duplex ejector system. Any special acidic waste shall be drained through corrosion-resistant, flame-retardant piping into either a local or centralized acid dilution tank.

Medical Gas Systems

If medical gases are required, their distribution is noted on guide plates for key selected rooms. The design A/E shall refer to the latest edition (2010) of the Facility Guidelines Institute (FGI) Guidelines for the Design and Construction of Healthcare Facilities for minimum quantities and locations of medical gases. Specific quantities and locations should be determined on a per project basis.

FGI notes minimum gas requirements. Specific quantities and locations should be planned with facility user advisor groups on a per project basis

Seismic Requirements

Where required, the plumbing and medical gas systems shall be installed with seismic provisions as outlined in the PG-18-10, Plumbing Design Manual for Hospital Projects and Master Construction Specifications MCS Section 13 05 41, Seismic Restraint Requirements for Non-Structural Components.

Electrical

General

Because of the sensitivity of EEG and EMG signals, these rooms need to be located at least fifty feet from potential sources of interference, like elevators and large mechanical system motors.

Electrical Systems shall be designed as required to meet the needs of the EEG Lab and EEG individual rooms. Follow criteria in VA Technical Information Library (TIL) Electrical Design Manual (PG-18-10) located on VA website under Office of Construction & Facilities Management (CFM). Also refer to (PG-18-1) Master Construction Specifications and (PG-18-4) Standard Details for CAD Standards for items that may apply within the EEG.

Lighting

Lighting is typically provided utilizing recessed fluorescent luminaires with acrylic prismatic lenses. Recessed fluorescent fixtures with parabolic louvers may be used at the nurse station, reception, and offices to control glare on monitor screens. Consider providing under-cabinet or under-shelf fluorescent lights above counter work surfaces for task lighting. The fixtures typically use F32T8 lamps, as the minimum acceptable efficiency lamp in compliance with the Energy Policy Act (EPACT 2005). Lamps shall not be high output, and shall have a minimum color rendering index (CRI) of 70 and a color temperature of 3500 degrees Kelvin (K).

Surface mounted fixtures may be used where existing conditions or clearances above a suspended ceiling cannot accommodate recessed fixtures.

The lighting systems shall comply with Federal energy policy, VA Energy Conservation Policy, and Sustainable Design and Energy Reduction Manual.

Lighting intensities shall conform to PG 18-10, Electrical Design Manual, Appendix, Illumination Levels, the IES Lighting Handbook and IES publication RP-29-06, “Lighting for Hospitals and Healthcare Facilities.” Reducing patient illumination levels below established levels in these reference documents is not recommended. Lighting levels are noted in foot candles on Room Data Sheets for each Guide Plate room.

Lighting energy consumption can be reduced in several ways including: reducing lighting fixture count, using highly efficient fixtures, managing when lighting is used and the amount of illumination delivered, using task lighting, and selecting fixtures, lamps, and controls, such as occupancy sensors, for appropriate locations that best meet the needs of the staff and patient occupants.

Lighting in the EEG Lab shall be controlled by wall mounted switches and/or dimmers located at the entrance to each room. Ceiling mounted dual technology (Ultrasonic/Infrared) occupancy sensors shall be used in all rooms with intermittent use, including storage rooms, utility rooms, and Housekeeping Aides Closets. See EEG/EMG Guide Plate for specific lighting requirements for these rooms.

Lighting load densities shall be verified for the actual design, as they may vary depending on the room configuration, fixture types, lamps, and ballasts used.

Power

General

General purpose duplex receptacles are located per regulatory requirements on each wall of a room or a space. Dedicated duplex or special receptacles are provided for select pieces of equipment (.e.g. Electroencephalograph). Emergency power outlets are shown in Guide Plate floor plans for select rooms in this section and are addressed in PG 18-10, Electrical Design Manual.

Coordinate National Electrical Manufacturers Association (NEMA) size and configuration with system equipment suppliers.

Special Purpose

Workstations with personal computers (PC's) are typically provided with quadruplex receptacles for the PC, monitor, and printer. Junction boxes are to be provided for equipment requiring a hardwired connection.

Nurse Call System and Code One System

The nurse call and code one systems shall be PC based, and consist of patient call stations, staff stations, duty stations, dome lights and head-end equipment located in signal closet. The actual system configuration is dependent on the overall layout of the department and should be coordinated with the functional design.

Telephone

Telephone outlets are typically provided at each workstation or in each room. Refer to PG-18-10 for additional requirements.

Information Technology (IT)

Computer Data (Telecom) outlets are typically provided at each workstation with a computer (PC) and/or a printer. Specific locations for key rooms are noted on Floor Plans in Section Four.

Clock system

Provide battery operated clocks synchronized wirelessly. Both the overall system and the specific locations will be determined on a per facility basis.

Television

Television outlets are provided at selected areas as determined by function or local facility policy.

Public Address

Provide a system in accordance with Master Construction Specifications (MCS) Section 27 51 16, Public Address (PA) and Mass Notification Systems. The public address system is typically part of the telephone system and speakers are typically located in corridors and public spaces. The actual system configuration will depend on the overall design layout and functional requirements. The EEG Lab will not have an independent public address PA system. Determine whether a Public Message System (PMS) will be included as part of the hospital-wide PA system.

Fire and Life Safety Systems

Fire Protection/Sprinkler Systems

Fire Protection/Sprinkler Systems shall be designed as required to meet the needs of the EEG Lab and EEG individual rooms. Follow criteria in VA Technical Information Library (TIL) non-building specific for Fire Protection Design Manual (PG-18-10) listed on VA website under Office of Construction & Facilities Management (CFM).

See reflected ceiling plans (RCP) in this section for sprinkler head locations in key rooms.

Fire Alarm System

Fire Alarm Systems shall be designed as required to meet the needs of the EEG Lab and EEG individual rooms. Follow criteria in VA Technical Information Library (TIL) non-building specific for Fire Protection (Fire Alarm) Design Manual (PG-18-10) listed on VA website under Office of Construction & Facilities Management (CFM).

Waste Management

Space requirements for waste holding areas will vary with the selection of waste collection and recycling methods and systems on a per facility basis. They need to be analyzed to determine the method to be considered for new facilities or coordinated with existing facilities. While space needs are determined by VA Space Planning Criteria on a departmental basis, space provisions for waste collection need to be distributed and dedicated for a variety of uses.

Medical Waste

Medical waste is generated in most patient care spaces, including EEG and EMG exam rooms and prep spaces as well as instrument clean up areas where it is bagged, collected and transported to the Soiled Utility Rooms. There it is held in separate containers pending transport to the medical waste handling facility or disposal by contract.

General Waste

General waste is generated in all spaces and is held in containers for collection and/or sorting.

Recyclable Waste

Methods for sorting, collecting, transporting and disposing of recyclable products must be specifically analyzed for each facility and location. The optional use of disposable and reusable products is an important consideration in recycling and waste disposal alternatives.

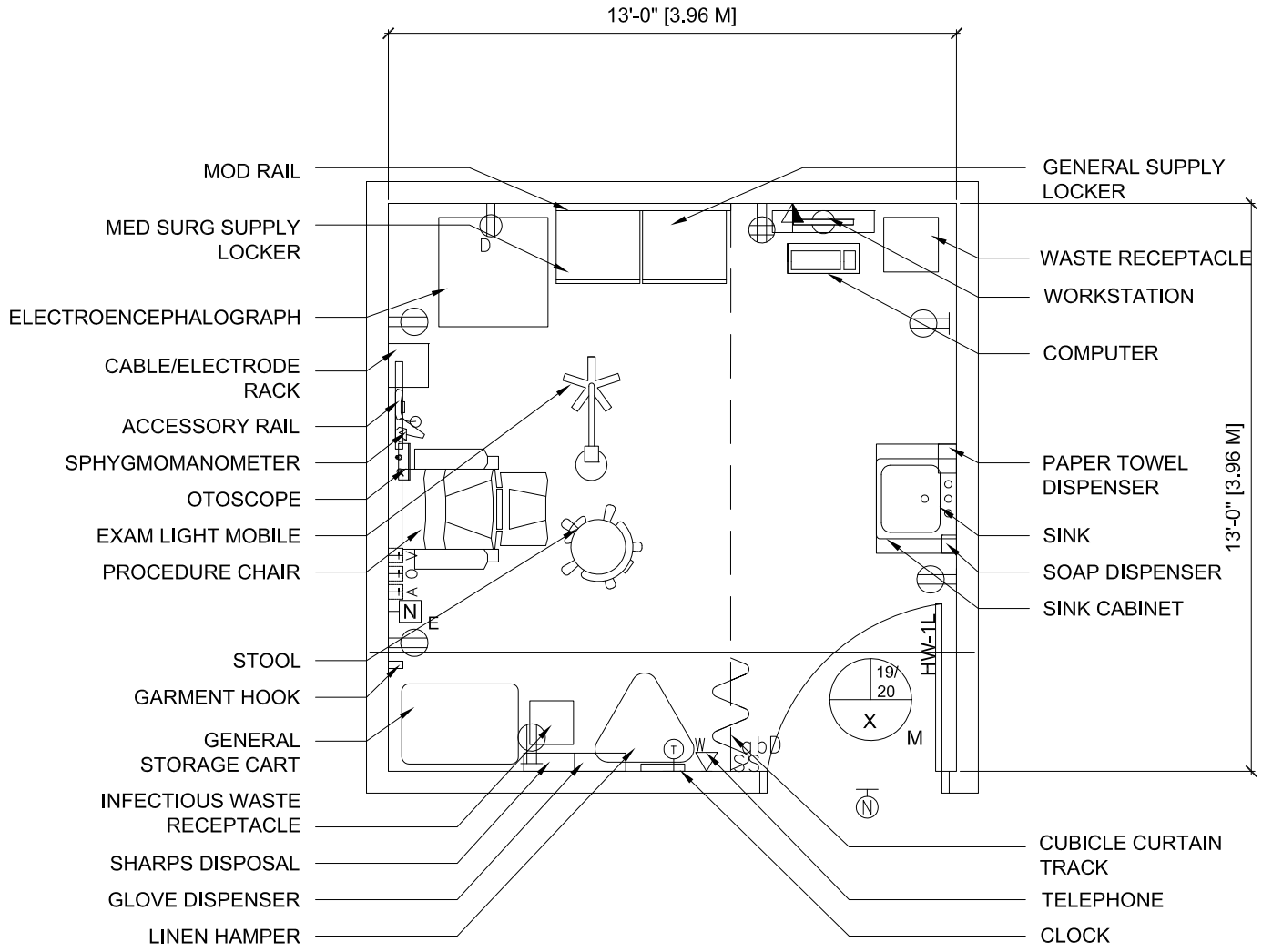
Soiled Linen

Soiled reusable linens may be generated in exam rooms and prep rooms. Soiled linens are collected in carts or hampers (depending on volume) and are held in Soiled Utility Rooms pending transport to the laundry facility. Disposable linens are included with recyclable waste or medical waste as appropriate.

Reusable Medical Equipment (RME)

For the EEG, reusable utensils, instruments, and electrodes which are used in exam and treatment areas, are wiped down on the unit and packaged for transport to the Sterile Processing Department (SPD). Specific protocols for utensil and instrument reprocessing shall be confirmed with each individual facility.

EXAM ROOM, EEG (EXRE1)



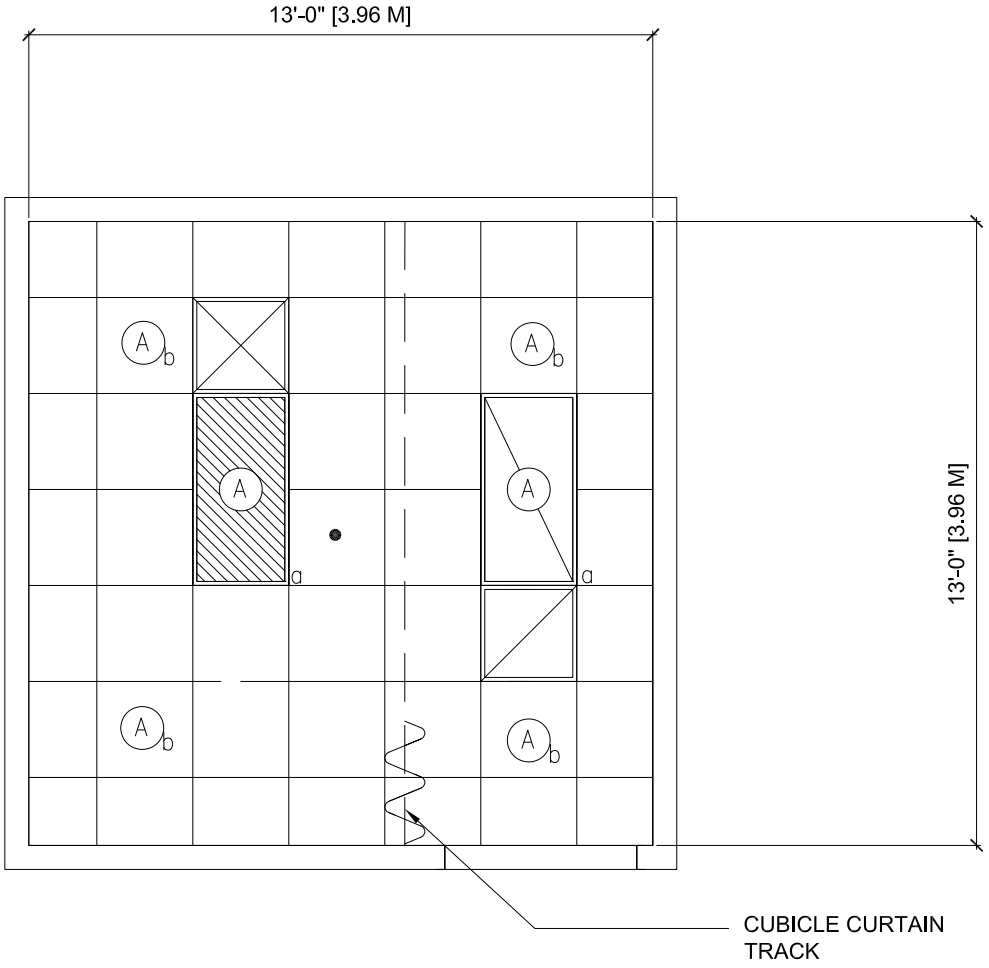
SCALE $\frac{1}{4}$" = 1'-0"

M 2 1 0 1 2 4 Ft

Exam Room, EEG (EXRE1)

Electroencephalography Laboratory (EEG)
Floor/Equipment Plan (170 NSF / 15.8 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating 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.



Exam Room, EEG (EXRE1)

SCALE $\frac{1}{4}$" = 1'-0"

M 2 1 0 1 2 4 Ft

Electroencephalography Laboratory (EEG)
Reflected Ceiling Plan (170 NSF / 15.8 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating 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.

Exam Room, EEG (EXRE1)
Room Data Sheet

ARCHITECTURAL	
Ceiling:	AT
Ceiling Height:	9'-0"
Wall Finish:	GWB *1
Base:	RB
Floor Finish:	SVT
Door:	19/20 X-M
Hardware:	1L

Notes:

*1. See Design and Construction Procedures PG-18-3, "Noise Transmission Control"

POWER	
General:	As Shown
Special:	As Shown
Emergency:	
Notes:	Dedicated Power Required

COMMUNICATIONS	
Patient Monitor:	
Nurse Call:	Yes
Security/Duress:	
CCTV:	
Telephone:	Yes
Pub. Addr:	
Radio:	
Data:	Yes
Panic Call:	
Battery Operated Clock:	Yes
Intercom:	
Staff/Duty Station:	

LIGHTING

General:

1. Two (2) 2'x4' (600mm x 1200mm) Fluorescent Light Fixture, Acrylic, Prismatic Lens w/ F32T8 Lamps, 3500˚K, CRI=70 (minimum)
2. Four (4) Recessed Light Fixtures
3. Provide Ballasts Per Fixture for Desired Switching Configuration
4. Lighting Level: 50fc / 10fc
5. Dimmable

HEATING, VENTILATING AND AIR CONDITIONING	
Dry Bulb Temp Cooling:	75˚F (24˚C)
Dry Bulb Temp Heating:	70˚F (21˚C)
Min. % Outside Air:	2
100% Exhaust Air:	
Noise Criteria:	NC 35
Steam:	
Relative Humidity/Cooling:	60%
Relative Humidity/Heating:	20%
Minimum Air Changes/Hr.:	8
Room Pressure:	Neutral (0)
AC Load Lights:	As Required
AC Load Equipment:	As Required
Number of People:	3
Special Equipment:	

PLUMBING AND MEDICAL GASES	
Cold Water:	Yes
Hot Water:	Yes
Domestic Water (HWH):	Yes
Laboratory Air:	
Laboratory Vacuum:	
Sanitary/Vent:	Yes
Medical Air:	1 Outlet
Medical Vacuum:	1 Outlet
Oxygen:	1 Outlet
Nitrogen Oxide:	
Nitrogen:	
Anesthesia Evac:	
Sprinkler:	Yes
Tempered Water:	
Water Control:	Infrared

SPECIAL EQUIPMENT

Electroencephalograph

Exam Room, EEG (EXRE1)
Equipment List

JSN	NAME	QTY	ACQ/INS	Description
A5108	Waste Disposal Unit, Sharps	1	VV	A container with wall mounting brackets for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps.
A0927	Rack, Cable/Electrode	1	VV	15-Slot electrode rack wall mounted (12"W x11"Dx3.5"H)
A1017	Telephone, Wall Mounted	1	VV	Telephone, wall mounted
A1132	Rail, Accessory Mounting, Length As Required	AR	VV	Horizontal mounting rail will consist of lock mounting devices capable of; supporting up to 75 pounds each, being repositioned, and mounting and dismounting of equipment without the use of tools. The rail must be capable of supporting medical equipment and accessories normally found in exam or patient rooms. The rail system must be capable of mounting and dismounting equipment without leaving or creating new holes in the finished surface of the wall.
A5075	Dispenser, Soap, Disposable	1	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels.
A5145	Hook, Garment, Double, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate.
A5180	Track, Cubicle, Surface Mounted, With Curtain	1	CC	Surface mounted cubicle track, with curtain. Track constructed of extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed.

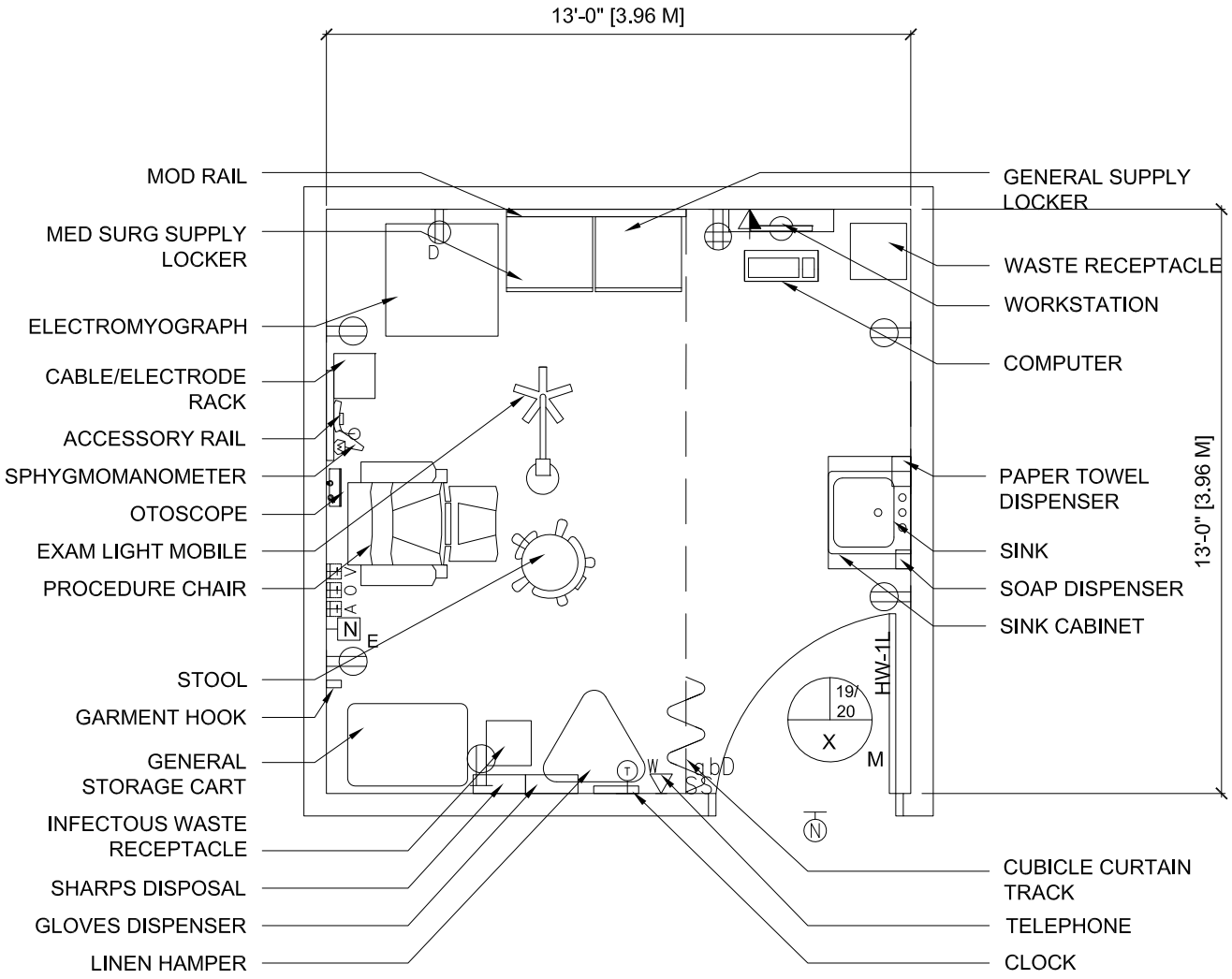
C05P0	Cabinet, Sink, U/C/B, 2 Door, 36x48x22	1	CC	Standing height under counter base sink cabinet with solid hinged doors. Also referred to as a double-door sink cabinet. Coordinate actual clear cabinet dimension with the actual outside dimension of sink that is specified to ensure that they are compatible.
CS200	Sink, SS, Single Compartment, 12x28x16 ID	1	CC	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.
E0906	Locker, Supply, General, Wall Mtd, 23"W x 20"D	1	VV	THIS TYPICAL INCLUDES: 1 Locked Storage Container 2 Tray/Shelves 1 Drawer, 3""H (76mm) 3 Drawers, 6""H (152mm) 2 Drawers, 9""H (229mm) 1 Tray/Shelf Divider Drawer Organizer Bins Consider the need for an E0921 to transport the locker from place to place.
E0912	Locker, Supply, Med Surg, Wall Mtd, 23"W x 20"D	1	VV	THIS TYPICAL INCLUDES: 1 Locked Storage Container 4 Tray/Shelves 5 Drawers, 3""H (76mm) 2 Drawers, 6""H (152mm) 2 Tray/Shelf Dividers Drawer Organizer Bins Consider the need for an E0921 to transport the locker from place to place.
E0949	Cart, General Storage, Mobile with Keyless Lock, 42"H x 32"W x 22"D	1	VV	THIS TYPICAL INCLUDES: 1 Cart Body, Style-A Narrow, w/Raised Edge Top 1 Accessory Rail, Side 2 Drawers, 3"" H (76mm) 4 Drawers, 6"" H (152mm) Drawer Organizer Bins and Keyless Lock
E1500	Rail, MOD, Wall Mtd	AR	VV	Wall mounted rail used for hanging (mounting) supply lockers, shelves drawers on a wall. Length as required.

F0340	Stool, Self Adjusting	1	VV	Self adjusting stool. Consists of a foam padded upholstered seat with attached foot rest for added comfort. Mounted on swivel casters. Designed for doctor's use during examinations.
F2017	Waste Receptacle, 24 Gal	1	VV	Rectangular steel waste receptacle with step-on lid and 24 gallon capacity. The receptacle is used to collect and temporarily store small quantities of paper refuse.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M0750	Flowmeter, Air, Connect w/50 PSI Supply	1	VV	Air flowmeter. Unit has a stainless steel needle valve with clear flowtube for connection to 50 PSI air outlet from central pipeline system. Flowmeter to be provided with appropriate adapter fitting and outlet Database prices reflect fittings with an attached DISS power outlet. Other outlet and adapter configurations are available.
M0755	Flowmeter, Oxygen, Low Flow	1	VV	Oxygen flowmeter. Consists of a clear crystal flowtube calibrated to 3.5 or 8 LPM depending on manufacturer. For oxygen regulation in hospital settings. Flowmeter to be provided with appropriate adapter fitting and outlet Database prices reflect fittings with an attached DISS power outlet. Other outlet and adapter configurations are available.
M0765	Regulator, Vacuum	1	VV	Vacuum pressure regulator for connection to central piped vacuum system. Standard display scale is graduated at least from 0 to 200 mm Hg of vacuum. Displays on specialized regulators may cover other vacuum ranges. Regulator type (continuous, intermittent, continuous/intermittent, surgical, pediatric, thoracic, etc.) as required.
M1801	Computer, Microprocessing, w/Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers.
M1802	Work Station, Computer, Retractable, Wall Mounted	1	VV	A wall mounted retractable work station. Work station is used as a computer station in treatment rooms, exam rooms and areas where physical space in limited. To allow full mobility of monitor to allow physician to face patient while in use.

M3070	Hamper, Linen, Mobile, w/ Lid	1	VV	Mobile linen hamper with hand or foot operated lid. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Holds 25" hamper bags. Mounted on ball bearing casters.
M4100	Sphygmomanometer, Aneroid, Wall Mounted	1	VV	Aneroid sphygmomanometer. Unit is wall mounted and has large graphic dial display for easy reading from all angles. It has a 90 degree (angle) swivel and 10 degree (angle) forward tilt to reduce glare.
M4200	Otoscope/Ophthalmoscope, Wall Mounted	1	VV	Wall mounted otoscope and ophthalmoscope. Includes 6 foot line cord and plug and accepts and includes two handles. Contains head turn-on/turn-off, built-in speculum tray and 8 foot coiled power cords.
M4925	Chair, Exam/Treatment, with Motor	1	VV	Exam/treatment chair with motor. Chair is electrically powered and can be positioned for a wide range of procedures. Unit is mounted on a 24"(approx) iron casting base with foot controls on both sides of the chair. Chair is equipped with footrests and fully adjustable headrest and armrests. It is used in hospitals, clinics, or office settings for examinations, treatments, and minor procedures.
M7401	Light, Exam, Mobile, Spotlight, Mobile Stand	1	VV	The exam light shall be a mobile floor unit. The light will be a halogen bulb that can produce a continuous and homogeneous spot of light adjustable from 5 to 9 inches in diameter from a set distance. The light intensity shall be a minimum of 750 foot-candles at a distance of 16 inches and have a color temperature of 3,200 degrees Kelvin. The unit will consist of an arm or sleeve of approximately 45 inches in length to allow for easy arm rotation and arm movement up and down. The unit shall be mounted on a caster base for easy movement.

M7723	Electroencephalograph, 32 Channel	1	VV	32 channel electroencephalograph. Unit consists of a cart, regulated power supply, a chart drive, an input cable, a master electrode selector, a monitor, electronic data storage devices, a computer and a plastic stimulator. Unit features fully automatic or manual operation, photic stimulation and a built-in impedance meter. The unit is designed for maximum efficiency in recording and performing encephalographic studies. The system offers a full range of electrode selection and programmed protocols. This is an advanced diagnostic unit for use in neurology clinics.
	Dispenser, Glove, Triple	1	VV	Triple glove box holder constructed of formed stainless steel for horizontal or vertical mounting.
	Waste Receptacle Step-on, Red 7 Gal	1	VV	7 Gallon steel infectious waste receptacle w/step-on lid (12x12x17)

EXAM ROOM, EMG (EXRE2)



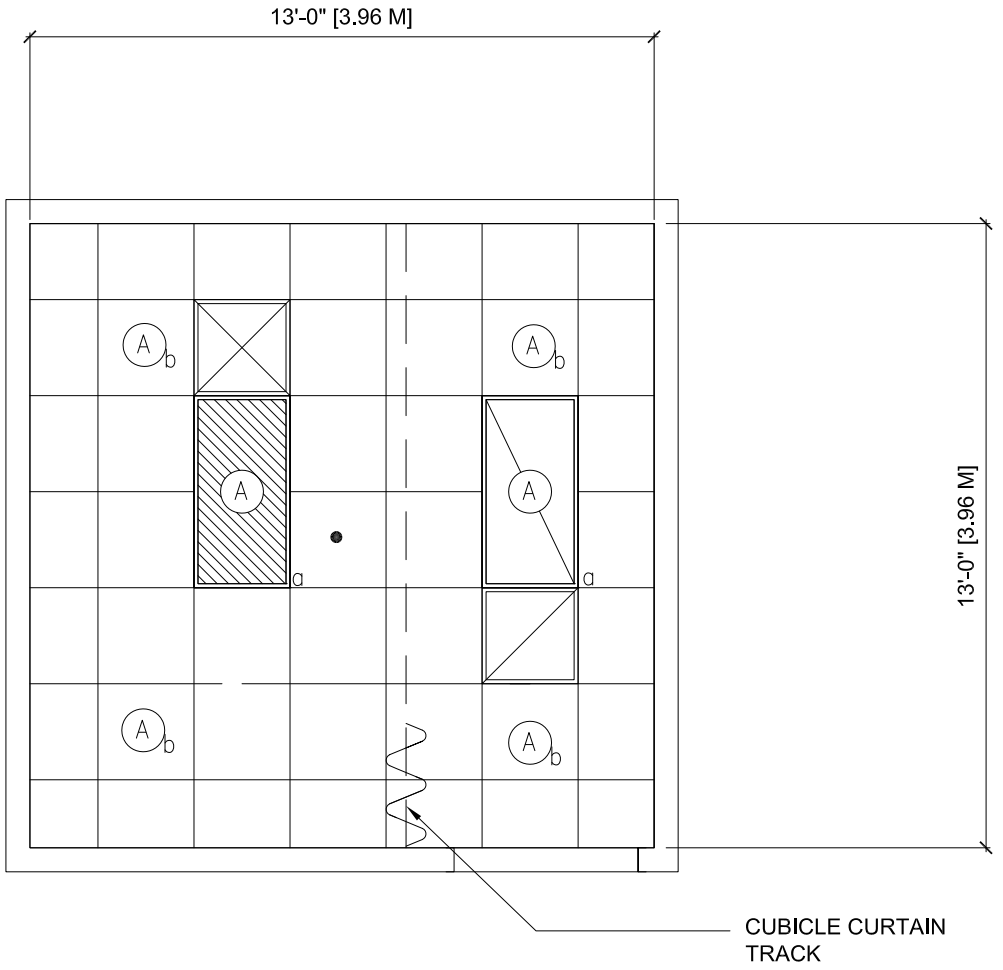
Exam Room, EMG (EXRE2)

SCALE $\frac{1}{4}$" = 1'-0"

M 2 1 0 1 2 4 Ft

Electroencephalography Laboratory (EEG)
Floor/Equipment Plan (170 NSF / 15.8 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating 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.



Exam Room, EMG (EXRE2)

SCALE $\frac{1}{4}$" = 1'-0"

M 2 1 0 1 2 4 Ft

Electroencephalography Laboratory (EEG)
Reflected Ceiling Plan (170 NSF / 15.8 NSM)

NOTE: Guide plates are graphical representations of selected room types, illustrating 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.

Exam Room, EMG (EXRE2)
Room Data Sheet

ARCHITECTURAL	
Ceiling:	AT
Ceiling Height:	9'-0"
Wall Finish:	GWB *1
Base:	RB
Floor Finish:	SVT
Door:	19/20 X-M
Hardware:	1L

Notes:

*1. See Design and Construction Procedures PG-18-3, "Noise Transmission Control"

POWER	
General:	As Shown
Special:	As Shown
Emergency:	
Notes:	Dedicated Power Required

COMMUNICATIONS	
Patient Monitor:	
Nurse Call:	Yes
Security/Duress:	
CCTV:	
Telephone:	Yes
Pub. Addr:	
Radio:	
Data:	Yes
Panic Call:	
Battery Operated Clock:	Yes
Intercom:	
Staff/Duty Station:	

LIGHTING

General:
1. Two (2) 2'x4' (600mm x 1200mm) Fluorescent Light Fixture, Acrylic, Prismatic Lens w/ F32T8 Lamps, 3500˚K, CRI=70 (minimum)
2. Four (4) Recessed Light Fixtures
3. Provide Ballasts Per Fixture for Desired Switching Configuration
4. Lighting Level: 30 (Provide illumination by floures-cent lamps producing light between CRI ratings 90 and 100.) Base design on the lower lumen ratings of these lamps.
5. Dimmable

HEATING, VENTILATING AND AIR CONDITIONING	
Dry Bulb Temp Cooling:	75˚F (24˚C)
Dry Bulb Temp Heating:	70˚F (21˚C)
Min. % Outside Air:	2
100% Exhaust Air:	
Noise Criteria:	NC 35
Steam:	
Relative Humidity/Cooling:	60%
Relative Humidity/Heating:	20%
Minimum Air Changes/Hr.:	8
Room Pressure:	Neutral (0)
AC Load Lights:	As Required
AC Load Equipment:	As Required
Number of People:	3
Special Equipment:	

PLUMBING AND MEDICAL GASES	
Cold Water:	Yes
Hot Water:	Yes
Domestic Water (HWH):	Yes
Laboratory Air:	
Laboratory Vacuum:	
Sanitary/Vent:	Yes
Medical Air:	1 Outlet
Medical Vacuum:	1 Outlet
Oxygen:	1 Outlet
Nitrogen Oxide:	
Nitrogen:	
Anesthesia Evac:	
Sprinkler:	Yes
Tempered Water:	
Water Control:	Infrared

SPECIAL EQUIPMENT

Electromyograph

Exam Room, EMG (EXRE2)
Equipment List

JSN	NAME	QTY	ACQ/INS	Description
A0927	Rack, Cable/Electrode	1	VV	15-Slot electrode rack wall mounted (12"W x11"Dx3.5"H)
A1017	Telephone, Wall Mounted	1	VV	Telephone, wall mounted
A1132	Rail, Accessory Mounting, Length As Required	1	VV	Horizontal mounting rail will consist of lock mounting devices capable of; supporting up to 75 pounds each, being repositioned, and mounting and dismounting of equipment without the use of tools. The rail must be capable of supporting medical equipment and accessories normally found in exam or patient rooms. The rail system must be capable of mounting and dismounting equipment without leaving or creating new holes in the finished surface of the wall.
A5075	Dispenser, Soap, Disposable	1	VV	Disposable soap dispenser. One-handed dispensing operation. Designed to accommodate disposable soap cartridge and valve.
A5080	Dispenser, Paper Towel, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, single-fold, paper towel dispenser. Dispenser features: tumbler lock; front hinged at bottom; and refill indicator slot. Minimum capacity 400 single-fold paper towels.
A5108	Waste Disposal Unit, Sharps	1	VV	A container with wall mounting brackets for collecting and transporting syringes and other sharps for decontamination and disposal. Available in 2 gallon and 8 gallon with locking rotor. Complies with OSHA regulations for handling sharps.
A5145	Hook, Garment, Double, SS, Surface Mounted	1	CC	A surface mounted, satin finish stainless steel, double garment hook. Equipped with a concealed mounting bracket that is secured to a concealed wall plate.
A5180	Track, Cubicle, Surface Mounted, With Curtain	1	CC	Surface mounted cubicle track, with curtain. Track constructed of extruded aluminum. Equipped with self lubricating carriers, beaded drop chain hooks, and flame resistant curtain. To include removable end caps. Designed to be suspended around patient areas where privacy is needed.

C05P0	Cabinet, Sink, U/C/B, 2 Door, 36x48x22	1	CC	Standing height under counter base sink cabinet with solid hinged doors. Also referred to as a double-door sink cabinet. Coordinate actual clear cabinet dimension with the actual outside dimension of sink that is specified to ensure that they are compatible.
CS200	Sink, SS, Single Compartment, 12x28x16 ID	1	CC	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.
E0906	Locker, Supply, General, Wall Mtd, 78"H x 23"W x 20"D	1	VV	THIS TYPICAL INCLUDES: 1 Locked Storage Container 2 Tray/Shelves 1 Drawer, 3""H (76mm) 3 Drawers, 6""H (152mm) 2 Drawers, 9""H (229mm) 1 Tray/Shelf Divider Drawer Organizer Bins Consider the need for an E0921 to transport the locker from place to place.
E0912	Locker, Supply, Med Surg, Wall Mtd, 23"W x 20"D	1	VV	THIS TYPICAL INCLUDES: 1 Locked Storage Container 4 Tray/Shelves 5 Drawers, 3""H (76mm) 2 Drawers, 6""H (152mm) 2 Tray/Shelf Dividers Drawer Organizer Bins Consider the need for an E0921 to transport the locker from place to place.
E0949	Cart, General Storage, Mobile with Keyless Lock, 42"H x 32"W x 22"D	1	VV	THIS TYPICAL INCLUDES: 1 Cart Body, Style-A Narrow, w/Raised Edge Top 1 Accessory Rail, Side 2 Drawers, 3"" H (76mm) 4 Drawers, 6"" H (152mm) Drawer Organizer Bins and Keyless Lock
E1500	Rail, MOD, Wall Mtd	1	VV	Wall mounted rail used for hanging (mounting) supply lockers, shelves drawers on a wall. Length as required.

F0340	Stool, Self Adjusting	1	VV	Self adjusting stool. Consists of a foam padded upholstered seat with attached foot rest for added comfort. Mounted on swivel casters. Designed for doctor's use during examinations.
F2017	Waste Receptacle, 24 Gal	1	VV	Rectangular steel waste receptacle with step-on lid and 24 gallon capacity. The receptacle is used to collect and temporarily store small quantities of paper refuse.
F3200	Clock, Battery, 12" Diameter	1	VV	Clock, 12" diameter. Round surface, easy to read numbers with sweep second hand. Wall mounted unit for use when impractical to install a fully synchronized clock system. Battery operated, (batteries not included).
M0750	Flowmeter, Air, Connect w/50 PSI Supply	1	VV	Air flowmeter. Unit has a stainless steel needle valve with clear flowtube for connection to 50 PSI air outlet from central pipeline system. Flowmeter to be provided with appropriate adapter fitting and outlet Database prices reflect fittings with an attached DISS power outlet. Other outlet and adapter configurations are available.
M0755	Flowmeter, Oxygen, Low Flow	1	VV	Oxygen flowmeter. Consists of a clear crystal flowtube calibrated to 3.5 or 8 LPM depending on manufacturer. For oxygen regulation in hospital settings. Flowmeter to be provided with appropriate adapter fitting and outlet Database prices reflect fittings with an attached DISS power outlet. Other outlet and adapter configurations are available.
M0765	Regulator, Vacuum	1	VV	Vacuum pressure regulator for connection to central piped vacuum system. Standard display scale is graduated at least from 0 to 200 mm Hg of vacuum. Displays on specialized regulators may cover other vacuum ranges. Regulator type (continuous, intermittent, continuous/intermittent, surgical, pediatric, thoracic, etc.) as required.
M1801	Computer, Microprocessing, w/Flat Panel Monitor	1	VV	Desk top microprocessing computer. The unit shall consist of a central processing mini tower, flat panel monitor, keyboard, mouse and speakers.
M1802	Work Station, Computer, Retractable, Wall Mounted	1	VV	A wall mounted retractable work station. Work station is used as a computer station in treatment rooms, exam rooms and areas where physical space in limited. To allow full mobility of monitor to allow physician to face patient while in use.
M3070	Hamper, Linen, Mobile, w/Lid	1	VV	Mobile linen hamper with hand or foot operated lid. Made of heavy tubular stainless steel with heavy gauge welded steel platform. Holds 25" hamper bags. Mounted on ball bearing casters.

M4100	Sphygmomanometer, Aneroid, Wall Mounted	1	VV	Aneroid sphygmomanometer. Unit is wall mounted and has large graphic dial display for easy reading from all angles. It has a 90 degree (angle) swivel and 10 degree (angle) forward tilt to reduce glare.
M4200	Otoscope/Ophthalmoscope, Wall Mounted	1	VV	Wall mounted otoscope and ophthalmoscope. Includes 6 foot line cord and plug and accepts and includes two handles. Contains head turn-on/turn-off, built-in speculum tray and 8 foot coiled power cords.
M4925	Chair, Exam/Treatment, with Motor	1	VV	Exam/treatment chair with motor. Chair is electrically powered and can be positioned for a wide range of procedures. Unit is mounted on a 24"(approx) iron casting base with foot controls on both sides of the chair. Chair is equipped with footrests and fully adjustable headrest and armrests. It is used in hospitals, clinics, or office settings for examinations, treatments, and minor procedures.
M7401	Light, Exam, Mobile, Spotlight, Mobile Stand	1	VV	The exam light shall be a mobile floor unit. The light will be a halogen bulb that can produce a continuous and homogeneous spot of light adjustable from 5 to 9 inches in diameter from a set distance. The light intensity shall be a minimum of 750 foot-candles at a distance of 16 inches and have a color temperature of 3,200 degrees Kelvin. The unit will consist of an arm or sleeve of approximately 45 inches in length to allow for easy arm rotation and arm movement up and down. The unit shall be mounted on a caster base for easy movement.
M7725	Electromyograph	1	VV	Unit consists of a microcomputer, leads, electrically isolated amplifiers, stimulators, display and storage capabilities. The system measures muscular electrical activity during contractions which the patient or a stimulator can induce. Specific applications include nerve conduction studies to detect myelopathies (myelin degradation), neuropathies (nerve compression) or myopathies (muscle disease). Most units also include an evoked potential capability. See related auditory evoked potential units at JSN M0035 and similar electronystagmographs at JSN M7730.
	Dispenser, Glove, Triple	1	VV	Triple glove box holder constructed of formed stainless steel for horizontal or vertical mounting.
	Waste Receptacle Step-on, Red 7 Gal	1	VV	7 Gallon steel waste receptacle w/step-on lid (12x12x17)

GUIDE PLATE SYMBOLS LEGEND

SYSTEM	DESCRIPTION OF SYMBOLS	SYMBOL
Auxiliary Systems	Telephone data outlet-mounted 18" (450mm) A.F.F. unless otherwise noted	
	Telephone data outlet-mounted above counter top/counter top back splash	A
	Wall-mounted telephone outlet-mounted 48" (1200mm) A.F.F. unless otherwise noted	W
	Video outlet type as noted in equipment list	V
	Speaker-ceiling mounted	S
	Intercom outlet	I
	Nurse call dome light-ceiling mounted	N
	Nurse call dome light-wall mounted	N
	Nurse call duty station	N D
	Emergency nurse call	N E
	Nurse call staff station	N S
	Volume control-wall mounted	V
	Security/duress-alarm button wall mounted	P
	Junction box-purpose and location as noted	J
Mechanical	Room thermostat-mounted 5'-0" (1520mm) A.F.F.	T
	Room humidistat-mounted 5'-0" (1520mm) A.F.F.	H
	Supply	
	Return	
Plumbing	Medical gas outlet (letter designates service)	□
	Sprinkler	●

SYSTEM	DESCRIPTION OF SYMBOLS	SYMBOL
Wiring devices switches	BLANK = SINGLE POLE 3 = THREE-WAY D = DIMMER LV= LOW VOLTAGE LM= LOW VOLTAGE MASTER PB= PUSH BUTTON STATION T = TIMER OPERATED X = EXPLOSION PROOF 2 = DOUBLE POLE 4 = FOUR-WAY K = KEY OPERATED L = LOCK P = WITH PILOT LIGHT RC= REMOTE CONTROL WP= WEATHER PROOF Mo= OCCUPANCY SENSOR	S_2
	Single pole switch	S
	Single pole switch - suffix of "a", "b", or "c" indicates separate control of fixture(s) with same designation	S^a
	Door switch	DS
	Emergency power off (EPO) push button	EPO
Lighting Fixtures	2'x2' (600mm x 600mm) fluorescent fixture	A
	1'x4' (300mm x 1200mm) fluorescent fixture	A
	2'x4' (600mm x 1200mm) fluorescent fixture	A
	Wall-mounted fluorescent fixture	A
	2'x2' (600mm x 600mm) fluorescent fixture- emergency power	A
	2'x4' (600mm x 1200mm) fluorescent fixture- emergency power	A
	Wall-mounted fluorescent fixture-emergency power	A
	Under-cabinet light fixture	A
	Wall-mounted light fixture-type as noted	A
	Ceiling mounted light fixture-type as noted	A
	Emergency recessed light fixture	A
	Recessed light fixture	A

SYSTEM	DESCRIPTION OF SYMBOLS	SYMBOL
Wiring devices receptacles	Duplex receptacle, NEMA 5-20R-20 amp-mounted 18" (450mm) A.F.F. Unless otherwise noted	
	Duplex receptacle, NEMA 5-20R-20 amp-mounted above counter top/counter top back splash	A
	Duplex receptacle, Dedicated	D
	Duplex receptacle with ground fault interrupter, NEMA 5-20R- 20 amp-mounted 18" (450mm) A.F.F. Unless otherwise noted	
	Duplex receptacle with ground fault interrupter, NEMA 5-20R- 20 amp-mounted above counter top/counter top back splash	A
	Weatherproof while in use duplex receptacle with GFI, NEMA 5-20R-20 amp-mounted 18" (450mm) A.F.F. Unless otherwise noted	WP
	Quadruplex outlet, NEMA 5-20R-20 amp-mounted 18" (450mm) A.F.F. Unless otherwise noted.	
	Quadruplex outlet, NEMA 5-20R-20 amp-mounted above counter top/counter top back splash	A
	Quadruplex outlet with ground fault interrupter, NEMA 5- 20R-20 amp-mounted 18" (450mm) A.F.F. Unless otherwise noted	GFI
	Quadruplex outlet with ground fault interrupter, NEMA 5-20R- 20 amp- mounted above counter top/counter top back splash	A GFI
	Duplex receptacle on emergency power, NEMA 5-20R-20 amp-mounted 18" (450mm) A.F.F. unless otherwise noted	E
	Quadruplex receptacle, NEMA 5-20R-20 amp- emergency power	
	Special receptacle of the type required	
	Single receptacle, NEMA 5-20R-20 amp	
	Single receptacle, NEMA 5-20R grounding type	
	Electrical surface mounted multi-outlet raceway assembly, NEMA 5-20R receptacles at 2'-0" (600mm) intervals, single or multiple channel as required- mounted 12" (300mm) above counter.	
	Junction box - purpose and location as noted	J

SECTION 5 - APPENDIX

TECHNICAL REFERENCES

The references listed below are comprised of both a summary of current relevant VA standards and criteria followed by a summary of current industry standards, all of which have guided the information in this Electroencephalography Lab Design Guide. The Design Guide refers to the sources throughout the text when information is more detailed or extensive than would be appropriate to be included in this guide. VA sources can be accessed on VA website.

VA Standards and Criteria

VA Space Planning Criteria Chapter 226
Accessibility and Barrier-Free Design Guide PG-18-13
Design and Construction Procedures H-18-3
Equipment Information PG-18-5
Master Construction Specifications PG-18-1
Standard Details PG-18-4
Room Finishes, Door and Hardware Schedule PG-18-14
Seismic (Structural) Design Requirements H-18-8
Signage Design Guide
Space Planning Criteria PG-18-9
Sustainable Design and Energy Reduction Manual April 2010
VA Technical Criteria (PG-18-10 Design Manuals) pertaining to Architectural, Interior Design, HVAC, Plumbing, and Electrical Ambulatory Care/Outpatient Clinic/Interior Design Manual for New Construction and Renovations of Hospitals and Clinics
Design Guide Office of Information and Technology (OI&T) for Information Management Systems Physical Security Design Manual (Final Draft)
Emergency Power & Water Supply During Natural Disasters, Phase 2
VA Fire Protection Design Manual 2009
Energy Conservation (EPACT 2005 and DOE – Final Rule)
Energy Conservation (Executive Order No. 13423 Dated January 24, 2007: Strengthening Federal Environmental, Energy, and Transportation Management)
Memorandum of Understanding (MOU): Federal Leadership in High Performance and Sustainable Buildings.
Commissioning Guidelines (issuance pending)

Industry Standards and Criteria

ADA Standards for Accessible Design 2010
International Building Code, 2009
NFPA 101, 2009
FGI Guidelines for Design and Construction of Health Care Facilities - 2010

ABBREVIATIONS & ACRONYMS

-A-

ABAAS	Architectural Barriers Act Accessibility Standards
AC	Air Conditioning
ACI	American Concrete Institute
ADA	Americans with Disabilities Act of 1990
A/E	Architect/Engineer
AIA	American Institute of Architects
ASHRAE	American Society of Heating, Refrigeration, and Air-Conditioning Engineers
AT	Acoustical Ceiling Tile

-B-

-C-

C	Celsius
CAB	Cabinet
CAD	Computer Aided Drafting
CCTV	Closed Circuit Television
CDC	Centers for Disease Control
CFM	Construction & Facilities Management or Cubic Feet per Minute
CRI	Color Rendering Index
CV	Constant Volume

-D-

DEPT	Department
DGSF	Department Gross Square Feet
DOE	Department of Energy
DNSF	Department Net Square Feet
DNTG	Department Net-to-Gross
DWG	Drawing

-E-

EEG	Electroencephalography
EHR	Electronic Health Record
EMG	Electromyography
EO	Executive Order
EPACT	Energy Policy Act

-F-

F	Fahrenheit or Filter
FA	Functional Area
FC	Footcandle
FGI	Facilities Guidelines Institute

-G-

GFI, GFCI	Ground Fault Circuit Interrupter
GSA	General Services Administration
GWB	Gypsum Wall Board System

-H-

HAC	Housekeeping Aides Closet
HIPAA	Health Insurance Portability and Accountability Act of 1996
Hr	Hour
HVAC	Heating, Ventilation and Air Conditioning

-I-

IBC	International Building Code
ICRA	Infection Control Risk Assessment
ICU	Intensive Care Unit
IES	Illuminating Engineering Society
IT	Information Technology

-J-

-K-

K	Kelvin (degrees)

-L-

-M-

M	Meters
MCS	Master Construction Specifications
MIN	Minimum
MM	Millimeters

MOU	Memorandum of Understanding
MS&N	Medical Surgical and Nursing
-N-	
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NSF	Net Square Feet
NSM	Net Square Meters
-O-	
OI&T	Office of Information & Technology
OND	Operation New Dawn
OSHA	Occupational Safety and Health Administration
OT	Occupational Therapy
-P-	
PA	Public Address
PC	Personal Computer or Piece or Polycarbonate or Portland Cement
PG	Program Guide or Page
PMS	Public Message System
PRB	Profile Base
PT	Physical Therapy
PTSD	Post Traumatic Stress Disorder
-Q-	
-R-	
RB	Resilient Base
RCP	Reflected Ceiling Plan
RH	Relative Humidity or Right Hand
RME	Reusable Medical Equipment
-S-	
SP	Sprayed Plastic Finish
SPD	Sterile Processing Department
SVT	Solid Vinyl Floor Tile (Luxury Vinyl Tile)
-T-	
TB	Tuberculosis or Through Bolt or Towel Bar
TIL	Technical Information Library
-U-	
UFAS	Uniform Federal Accessibility Standard
-V-	
VA	Veteran's Administration] or Volt Ampere
VACO	Veteran's Affairs Central Office
VAV	Variable Air Volume
VCT	
-W-	
W	Watts, Waste or Workload (input data statements)
WM	Wall-Mounted
WSF	Welded Seam Sheet Flooring
-X-	
-Y-	
-Z-	