Alberta
Infrastructure and Transportation

Consultants Guide for Accommodation and Tenant Improvements

September 2007

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This document is to serve as a guideline for consultants contracted with Alberta Infrastructure and Transportation. It outlines the appropriate steps required to see accommodation and tenant improvements project through design development, contract documents and award of a contract.

Although the document contains established processes and guidelines, it should be understood that, should more practical and economical methods of delivering a project become apparent to consultants, they are encouraged to discuss these with the project manager.

Every attempt is made to keep this document current with the latest technology in the industry. Consultant feedback is very important in order to successfully achieve this.

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This guide supersedes the “APWSS Consultants Guide” dated 93.04.30.

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1.1 Select Consultant

.1 The Prime Consultant generally performs the design phase, provides the construction administration services and performs other duties as outlined in the Consultant Agreement. The Prime Consultant chooses sub-consultants for the project and enters into a contractual agreement with them.

.2 It may be necessary to select consultants for surveys or other specialty services. The Project Manager enlists the support of in-house staff (e.g. Land Services, Technical Services, etc.) to assist in consultant selection.

1.1.1 Consultant Meeting

.1 Once the consultant has been selected, the Project Manager arranges a meeting with the consultant to review the full scope of the project.

.2 The consultant submits a *Fee Proposal* outlining estimated costs to complete the work, and provides a *Schedule of Work*. The consultant may also be required to complete a Schematic Design to assist in assessing project costs.

1.1.2 Fee Schedule

.1 Alberta Infrastructure and Transportation bases consulting fees on the recommended Alberta Architectural Association (AAA) fee schedule.

.2 Review of Consultant Fee Proposal:

.1 Project Manager reviews the proposal; if the fee proposal is acceptable, the Project Manager drafts a Letter of Agreement.

.1 If the fee proposal is not acceptable, further negotiations are required.

.2 Project Manager may review the consultant's estimates to determine the reason for the discrepancy, and determine if the reasons are valid.

.2 If consensus cannot be reached, an alternate consultant will be selected.

1.1.3 Approval and Letter of Agreement

.1 Once the consultant fee proposal is accepted, the Project Manager drafts a Letter of Agreement.

.1 The Letter of Agreement is issued to the consultant with attached *Terms and Conditions* and *Service Schedule* if applicable.

.2 If Service Schedule is not required, reference must be made in the Letter of Agreement to include the requirements listed in the Consultant Deliverables document.

.1 Consultant signs and returns copy of the agreement to appropriate departmental contact as identified in the Letter of Agreement.

.2 Department contact provides a copy of the signed Letter of Agreement to the Project Manager.

1.2 Initiate Project Implementation

.1 The Project Manager assembles all relevant documentation for the design consultant. Information includes:

Background Materials	**Reference Materials** (*See Reference Materials Section for Links*)
• File Number • Project ID • Plan No. • Bid No. • Existing drawings and documents • Planning studies • W5 – Statement of scope, schedule and budget	• "the Red Book" – Alberta Infrastructure design requirements for buildings • Standards for Consultant Deliverables – Alberta Infrastructure Software, CAD drawing and Layering Standards • Consultant's Guide • Data wiring standards • Energy conservation standards • Specification Deliverables

1.2.1 Initial Design Meeting

.1 The Project Manager arranges a design start-up meeting with the consultant and project members. The purpose of this meeting is to provide the opportunity for the project team to confirm the project scope, time and costs with the client, and review options developed during schematic design phase.

1.3 Schematic Design

.1 Based on the project criteria and program requirements, the consultant may be required to develop schematic design documents which:

.1 Illustrate options for meeting client needs

.2 Support the proposed fee schedule

.2 The schematic design is conceptual in nature, and includes a report and sketches illustrating the general scope, scale and relationship of project components. Cost evaluations of alternative design solutions are also part of this process. These documents complete the Schematic design report and

are submitted to the project team for review and approval. The client department selects the final schematic design.

1.4 Design Development

.1 In the design development phase the consultant provides sketch drawings in more detail based on selected Schematic Design option to determine more precise aspects of planning, appearance and construction. Construction estimates are also updated.

.1 Consultant develops several design solutions, based on the selected Schematic Design option and includes drawings, outline specifications and cost assessments.

.2 Special construction requirements are identified. They may include soundproofing, security, mechanical, electrical, furnishings, equipment, site restrictions and other specific facility circumstances.

.3 A furniture and equipment inventory may be required.

.1 Existing and/or recycled furnishings may be used, and are incorporated into floor plan development.

.4 The final design is reviewed by the client department and other resources, as required. The Project Manager solicits feedback and comments.

Reviewer	Input Required
• Client department • Cost Management • Technical Services Branch • Property Management	• Assess if needs are met (meets W5 requirements) • Confirm cost estimate is within budget • Confirm that standards are met • Comment of operational and maintenance impact

.5 Final design may require final sign-off prior to continuing to the next phase.

.6 ***For leased space:*** if the proposed development will significantly impact building structure, systems or environment, the design report will be forwarded to the building owner.

.7 The Project Team makes the decision to proceed into the next phase.

1.5 Construction Documents

.1 The Project Manager oversees the consultant's development of the construction documents, preparation of drawings and specifications and arranges for:

.1 Review of the construction documents at appropriate stages by the Project Team and client department.

.2 Document reviews with Technical Services Branch, Cost Management and Contract Document Specialists:

.1 to manage risk

.2 ensure drawings and specifications conform to Alberta Infrastructure and Transportation standards

1.5.1 Construction Documents

.1 In the construction documents phase, the consultant provides:

.1 Working drawings including plans, elevations, sections and construction details that illustrate the coordination of architectural, structural, mechanical and electrical utility plan details, where applicable. *Use formats as outlined in the Consultant Deliverables document*.

.2 Specifications in the format suited to the project complexity and scope. *Use formats as outlined in the Specification Deliverables.*

.2 Contracts are tendered either through an invitational or public tender process.The Project Manager has the option to tender all projects using the public tender process.

1.5.2 Assignable Contracts

.1 An assignable contract is a contract that has been entered into or will be entered into between the Minister and another contractor/supplier for the procurement of goods or services. The *Terms and Conditions*, which provide for the assignment of such contract, apply to the Prime Consultant. An assignable contact is usually entered into prior to tendering the Prime Contract for the purpose of:

.1 Pre-purchasing goods that may have long delivery times.

.2 Procuring services that overlap with work of the Prime-Contract or must be coordinated with such work.

.2 The Prime Contract includes:

.1 A cash allowance to cover the cost of the assignable contract.

.2 Contract documentation for the assignable contract (notifying the Prime Consultant of *Terms and Conditions*, and scope of work for which he will take responsibility for upon assignment are included as "Information Documents" within the contract documents of the Prime Contract).

.1 Contract assignment is processed not later than the award dates noted in the Prime Contact or as required by the advancement of the work.
.2 An assignable contract is awarded within a cash allowance by way of change order.

1.5.3 Invitational Tender Process

.1 Pretender estimates must be less than $25,000.
.2 Contract form can be based on *Short Form Contract* or *Small Projects Master*.
.3 Consultant, Project Manager, or Tender Administration Branch can administer the tender process.
.4 Cost consultant and/or Procurement section may or may not be involved in the construction document review process.
.5 Project Manager completes the *Pre-tender* form.
.6 Project proceeds to tender.

1.5.4 Public Tender Process

.1 Pre-tender estimate is greater than $25,000.
.2 Tender Administration Branch administers the tendering process.
.3 *Master Specification Documents* used for form of contract varies, and is generally based on the estimated construction cost, and for complexity of the work.

Generally, for projects where construction value is estimate at:

<$100,000	Use Small Projects Master Specifications Bonding requests are not included
>$100,000 & < $500,000	Use Basic Master Specifications Project entered into APC/COOLNet
>$500,000	Use Basic Master Specifications Project entered into APC/COOLNet

1.5.5 Construction Document Review

.1 Regular construction document review meetings are scheduled to review project requirements.
.2 The Consultant submits completed construction documents along with a Pre-Tender report to the project manager. The Pre-Tender report includes the following information:
  .1 Project location and name
  .2 Project ID, File Number and Plan No.
  .3 Brief project description
  .4 Cost estimate (provides detailed breakdown as appropriate for the project)
  .5 List of documents

.6 Recommended construction schedule
.7 Special project needs
.8 Cash allowances
.9 Copy of development permit application
.10 Other related information and special requirements of the project

.3 Final documents are submitted to the Project Manager for review and distribution to prepare for the tendering process. The Consultant submits all documents in both electronic and hard copy format (refer to *Consultant Deliverables* document for acceptable formats).

Project Team Member	Copy of Document(s) and Approval Required
• Cost Management	• Pretender report, copy of document
• Procurement	• Copy of drawings, electronic and hard copy of specifications
• Client department	• Sign-off original drawings and final acceptance (written approval required for multi-use projects
• Building Owner	• Copy of construction documents

The Consultant, Project Manager and Cost Management verify that the cost estimate is within the budget and within the TPC.

1.6 Tender Process

This is the process where the signed-off construction documents are issued for tender for the purpose of obtaining competitive bids. At the end of this process, the intent is to enter into a contract with successful contractor for the work of the project.

1.6.1 Pre-Tender Process

.1 Prime Consultant prepares a Pre-Tender report and forwards a copy to the Project Manager who submits copies to:
.1 Cost Management
.2 Tender Administration

.2 Project Manager arranges for client department and director to sign off the drawings.

.3 Cost Management confirms funding and program code, and forwards appropriate document to the Project Manager.
.1 *Pre-tender Summary and Funding Approval* form (public tender)
.2 *Invitations Tender* form (invitation tenders)

.4 Concurrently, the Contract Document Specialist arranges for appropriate sign-off of specifications.

.5 Project Manager arranges a pre-tender walk-through date (for contractors) as required.

.6 Project Manager confirms a tender closing date with the Contract Document Specialist and Tender Administration and provides a document distribution list to Tender Administration.

.7 Project Manager forward specifications, drawing and funding forms to the Director or appropriate signing authority for approval to tender.

.1 Approved pre-tender documents are forwarded to Tender Administration to tender the project

.8 Project Manager may conduct a pre-tender meeting attended by the consultants, Facilities and/or Property Manager, contractors and subcontractors to review scope of project and to tour the site.

1.6.2 Pre-Tender Meeting

.1 This meeting may be required for some projects, and is held with the Facilities Manager, Project Manager, Prime Consultant, and interested bidders.

.1 Project Manager arranges for access to the site prior to meeting.

.2 Interested bidders arrive to tour the facility.

.3 Project Manager and Prime Consultant review the scope of work.

.2 In cases where this meeting is mandatory, all interested bidders must sign an attendance sheet. Only those bidders who attended the meeting and obtain a signature on the attendance sheet are eligible to bid on the project.

1.6.3 Administering the Tender

.1 When Tender Administration Branch administers the tender process, it forwards bid documents to appropriate persons identified on the Distribution list, and to bidders.

.2 Tender Administration posts projects onto COOLNETS and/or APC.

.3 If requested by the Project Manager, Tender Administration prepared public advertisements and arranges for publication in specific newspapers (usually in rural areas only).

.4 During the bid period, the Contract Document Specialist receives all questions related to the bid documents.

.1 They may contact the Prime Consultant or Project Manager for clarification on any project issues.

.5 Solutions to issues that arise from general inquiries are identified in an addendum.

.6 Consultant prepares addendum and associated details, drawings and attachments and submits them to the Project Manager in hard copy and electronic format.

.7 Project Manager, Contract Document Specialist and Cost Consultant review the addendum.

.8 The Project Manager signs off addendums before forwarding to Tender Administration for distribution by fax, courier or other appropriate methods to all bidders of record.

.9 Tender Administration receives and opens bids in public at the specified time, date and place. Bids generally close at 2:01:00 pm on Wednesday in Calgary and on Thursday in Edmonton.

.1 Project Managers may arrange to have bids close on other days.

.10 Tender Administration provides a *Bid Summary Sheet* listing all bidders and their respective bids.

.11 Tender Administration forwards the *Bid Summary Sheet* and the bid package associated with the three lowest bids to:

.1 Cost Management
.2 Consultant
.3 Project Manager
.4 Contact Document Specialist

.12 Cost Management may require clarification from valid bidders (e.g. to submit incomplete/missing forms). The Contract Document Specialist reviews the bids for compliance with contract documents and Alberta Infrastructure and Transportation award procedures.

.13 If the low bid is within the pre-tender estimate, contract award is recommended.

.14 If valid bid is over the pre-tender estimate by less than 10%, and bid price can be accommodated with TPC:

.1 Recommend to the CRC that project award be deferred and:

.1 Negotiate with valid bidder to reduce scope and bring project cost down to an acceptable amount within the budget or

.2 Request a TPC Increase:

.1 Obtain TPC increase approval prior to recommending contract award

.15 If project cost reduction cannot be successfully negotiated, or if scope reduction is not an option, or the TPC increase is not approved, the project team may recommend that the contract not be awarded. This may result in the cancellation of the project or result in the project being redesigned.

1.6.4 Bid Review

.1 The Project Manager, Prime Consultant, Cost Manager and Contract Document Specialist:
  .1 Review bids and provide comments to the Project Manager
  .2 Complete *Contract Award Recommendation* form

1.6.5 Award Recommendation

.1 The Project Manager prepares the *Contract Award Recommendation* form, and attaches recommendations from:
  .1 Tender Administration
  .2 Contract Document Specialist
  .3 Prime Consultant

.2 Recommendations are forwarded to the appropriate signing authority for review and approval.

.3 If the valid bid is over $100,000 recommendation of contract award is submitted through appropriate signing authority and then submitted to the CRC for review and approval.

.4 If the valid bid is within 10% of pre-tender cost estimates, and is less than $100,000 and greater tan $25,000, the contract award recommendation is forwarded to CRC for information only.

.5 CRC reviews bid recommendations and either approves the contract award or issues instructions for further actions.

.6 If the Project Manager or Prime Consultant administers the tender process (projects valued up to $25,000), then contract awarded is approved at the Director level.

1.7 Contract Award

.1 Once the General Contractor has been selected, the specifications included in the Pre-Tender Package become the contents of a legal contract between Alberta Infrastructure and Transportation and the Contractor. Details of specifications become contractual obligations, and will be referred to as such through the construction and project completion process.

1.7.1 Letter of Award

.1 When contract award recommendation is approved:

.1 Depending on who administers the tender process, Tender Administration or the Project Manger will draft the Letter of Award to General Contractor.

.2 Project Manager reviews draft Letter of Award prior to forwarding to the appropriate signing authority for signature (Director signs letter).

.3 Tender Administration or Project Manager issues Letter of Award, which identifies documents to be submitted to Project Manger prior to commencing work on site.

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2.1 Casework Hardware

.1 Choice of product should be made on the basis of utility, aesthetics, security objectives and end use desired. A minimum of GRADE 2, CGSB-69-GP-8m is to be used.

Usage	**Type**
Catches	Friction catches: Two Rollers held by spring tension. Elbow catches: Spring Action Catch Magnetic catches: 'Floating magnet'
Hinges	Cabinet flush doors; loose pin Cabinet flush overlay; concealed for flush overlay for vertical frame; hinge joint exposed; concealed application.
Locks	Drawer or door; brass pin tumbler cylinder type; mortised strike.
Pulls	D style
Drawer	Heavy duty full extension, ball bearing rollers on cabinet tracks.
Shelf Rests	Style B [right angle]
Shelf Standards	Flush application in grove; adjustment for shelf Brackets rests at 12 mm increments.
Specification	
Division 8	Section 08700B / Hardware

.2 Hardware Schedule is to be included in the specification or on the working drawing.

2.2 Architectural Woodwork

.1 Provide casework of medium grade (custom) in accordance to the AWMAC standards.

Usage	Detail
Reception counter	As per user department's requirement
Drop-down Counter for Observation Room	J2
Counter - c/w drawer and hinged door - c/w drawers - c/w sink and hinged door Overhead cupboards	 P1 P2 P4 P3
Specification	
Division 6	Section 06400B / Architectural Woodwork

2.3 Doors and Frames

.1 Door and frame schedule is to be included in the specification or on the working drawing.

Usage	Type	Detail
General Office	Solid core 914 mm W x 2134 mm H	 N/A
Exits	U.L.C. Fire Rated	N/A
Observation Room	Solid core door	L
Secure Storage	Metal c/w solid core	N/A
Specification		
Division 8	Section 08111B / Hollow Metal Frames Section 08115B / Hollow Metal Doors Section 08211B / Flush Wood Doors	

2.4 Hardware

.1 Select hardware on the basis of utility, aesthetics, security objectives and end use desired. For renovation work or smaller projects, match existing.

Usage	**Type**	**Grade**	**Grade** (Barrier fee requirements)
Offices	Passage Type	Medium Duty Commercial CGSB – 69.17-M86 Series 4000, Grade 2, Knob Design	Heavy Duty Commercial CGSB – 69.17-M86 Series 4000, Grade 1 Lever Design
File/Storage	Lockset	Medium Duty Commercial CGSB – 69.17-M86 Series 4000, Grade 2, Knob Design	Heavy Duty Commercial CGSB – 69.17-M86 Series 4000, Grade 1, Level Design
Entry Doors	Lockset	Medium Duty Commercial CGSB – 69.17-M86 Series 4000, Grade 2, Knob Design	Heavy Duty Commercial CGSB – 69.17-M86 Series 4000, Grade 1, Level Design
Security	Cypher Lock	Heavy Duty Commercial 5 digit combination c/w key override. User activated quick combination. Change code feature. Knob Design	Heavy Duty Commercial 5 digit combination c/w key override. User activated quick combination. Change code feature. Knob Design

Usage	Type	Grade	Grade (Barrier fee requirements)
Secure Storage	Lockset & Deadbolt	Heavy Duty Commercial CGSB – 69.17-M86 Series 4000, Grade 1, Knob Design (lockset) Heavy Duty Commercial CGSB – 69.21-M90 Grade 1 (deadbolt)	Heavy Duty Commercial 2CGSB – 69.17-M86 Series 4000, Grade 1, Level Design (lockset) Heavy Duty Commercial CGSB – 69.21-M90 Grade 1 (deadbolt)
	Closers where required	Medium Duty Commercial CGSB – 69.20-M90 Grade 2 Surface Closer – Modern Type with Cover	As required by Code
Offices	Hinges	Medium Duty Commercial CGSB – 69.18-M90 Grade 2, Full Mortise Five knuckle NRP for Entrance Doors	As required by Code
Offices	Door Stops	Medium Duty Commercial CGSB – 60.32-M90 Wall Type Bumper	As required by Code

Usage	Type	Grade	Grade (Barrier fee requirements)
Exits/Fire rated door as required by code	Door Closer	Shall be fully hydraulic, full rack and pinion action. Closer shall be non-handed non-sized with fully adjustable spring power. Closer shall have separate adjustments for latch speed, general speed, back check and delayed action where required to facilitate the disabled. Closer shall come complete with non-handed cover. Closer shall carry a 10 year warranty.	As required by code
	Panic Devices	Push pad exit devices ANSI A156.3 D84 Grade 1. UL listed for accident hazard or fire exit hardware. Panic device shall be non-handed, field sizeable 19mm throw latch bolt. Cylinder dogging where permitted. Thru bolt mounted.	As required by code
	Hinges	Five knuckle, wrought steel ball bearing hinges. NRP for outswing doors. Sized to suit opening and door thickness.	

Usage	Type	Grade	Grade (Barrier fee requirements)
Closet		Track assemblies are to be concealed and include hinges, jamb, brackets, pivots, slide, glide and pulls.	
Specification			
Division 8		Section 08700B/Hardware	

.2 Hardware Schedule is to be included in the specification or on the working drawing.

2.5 Glazing

.1 The use of glazing for offices is restricted to those classifications working in security risk areas and for viewing into public areas.

Usage	Type	Detail
Offices for security	Clear float glass	D & D1
Observation room	One way, transparent mirrored glass	J & K
Exam rooms	Clear float glass	D
Specification		
Division 8	Section 08801B / Glass and Glazing General Requirements	
Construction Document Requirement		
Details		

2.6 Carpet

.1 The carpet must meet the minimum product requirements as set in the specification.

Usage	Carpet Type
General Purpose Office	Standard Office Carpet
Deputy Ministers Carpet	32 oz/sq yd 1085 g/m cut pile

Specification	
Division 9	Section 09680B / Standard Office Carpet
	Section 09684B / Carpet
The carpet manufacturer's manual is to be submitted with the tendered documents.	

Construction Document Requirement
Special Requirements Plan
Finish Plan

.2 Use the Special Requirements Plan if there is more than one type of carpet or pattern direction.

2.7 Paint

.1 Select a paint product suitable to site conditions.

Specification	
Division 9	Section 09901B / Painting and Finishing General Requirements
	Section 09904B / Interior Painting and Finishing Schedule

Construction Document Requirement
Finish Plan
Finish Schedule

2.8 Wallcovering

.1 Specify vinyl-faced gypsum board or site-applied wallcovering where applicable for project.

Usage	Wallcovering	Type
General Office	Site-applied	Type I
General Office	Vinyl-faced gypsum board	Type I
Deputy Minister or equivalent	Maximum of $28/lineal metre	Type II
Specification		
Division 9	Section 09721B / Vinyl Coated Wall Fabric	
Division 10	Section 10616B / Demountable Steel Stud and Gypsum Board Partitions	
Construction Document Requirement		
Finish Plan		
Finish Schedule		

2.9 Acoustic Performance

2.9.1 Definitions

.1 The following are definitions of common terms used to describe the acoustic characteristics of building materials and assemblies:

.1 **Sound Transmission Class (STC)**: a single number rating of the sound transmission loss properties of a wall, floor, window or door. A good reference for wall and floor STC ratings is the Alberta Building Code.

.2 **Ceiling Attenuation Class (CAC)**: this is a single number rating of the sound transmission properties of a suspended ceiling system between two rooms having a common plenum.

.3 **Noise Reduction Coefficient (NRC)**: a single number rating of the sound absorptive properties of a material ranging from 0.01 (negligible absorption) to approximately 1.00 (very high absorption). Manufacturers of ceiling boards, wall panels and various sound absorptive finishes will usually list the NRC rating in their product information.

.4 **Articulation Class (AC)**: a ceiling performance rating specifically used for open-plan offices. Articulation Class is a single number

rating describing a ceiling boards' ability to attenuate speech sounds between workstations.

2.9.2 Partitions

.1 Partitions are typically a demountable partition system. Gypsum board partitions may be required where existing partitions are being matched or a fire rated demising wall is required or for rooms that require higher levels of sound isolation. Use the following table as a guide for selecting partitions.

.2 Prepare large scale details that show continuous, airtight seals at building component junctions such as: partition to exterior wall/column; partition to window mullion; plenum barrier to metal deck junction

.3 Separate all electrical and data outlets on opposite sides of a wall by at least one stud space to prevent sound flanking.

.4 Provide an effective sound barrier where common partitions intersect with perimeter heating cabinets. Evaluate site conditions and determine if the common partitions can be built right up to the exterior wall so as to provide a complete airtight barrier. Ideally only the pipe should penetrate the wall (best solution). If extending the wall through the cabinet is not possible, determine if the remaining opening through the heating cabinet is accessible. If so, specify a gypsumboard/insulation/gypsumboard blocking, cut-to-fit and sealed into place (good solution). If cabinet opening is too small and/or not accessible, then provide glass-fibre batt insulation packed very tightly into the opening (least effective solution).

.5 Specify sound-rated door seals and automatic door bottoms for Executive Offices, Intake Rooms or Interview Rooms where doors open directly into waiting areas. See Detail L.

.6 Do not use operable partitions between areas that require a high degree of speech privacy. Where operable partitions are deemed necessary for general noise isolation, specify a partition that has a minimum STC 50 rating. Detail operable partitions according to ASTM E557, *Standard Recommended Practice for Architectural Application and Installation of Operable Partitions.*

Room Usage	STC	Detail	Comments
Filing room, coat closets, storage rooms without equipment	35	A Demountable, no insulation E Gypsum board, no insulation	**Negligible Privacy**
Offices, small meeting and conference rooms	40	B Demountable, c/w insulation F Gypsum board, c/w insulation	**Normal Privacy**
	Non-Rated	D Demountable c/w glazing D1 Gypsum board c/w glazing	
Boardrooms, Social Work Office, Mental Health Office, AADAC	40	As above **+ Sound Masking**	**Confidential Privacy** if used with Electronic Sound Masking
Boardrooms, Video-Conference Rooms, Social Work Office, Mental Health Office, AADAC	45	C Demountable c/w insulation and plenum barrier. H Gypsum board, full-height. c/w insulation	**Confidential Privacy** without sound masking. Add masking if confidential privacy is required at slightly raised voice levels.
Fire rated wall as required by the Alberta Building Code and local authorities	45	G Fire rated partition	
Server Rooms	55	K Gypsum board, c/w insulation and plenum barrier	Applies to large server rooms with noisy cooling units
Secure Storage	n/a	I Gypsum board/plywood	
Therapy/Observation Room	55	J Gypsum board; full-height J1 Non-full-height c/w gypsum board ceiling	Confidential Privacy at elevated voice levels

2.9.3 Suspended Ceilings and Acoustic Finishes

.1 Mixed office space (predominantly closed offices with small open plan areas dispersed throughout):

.1 Specify ceiling boards with a minimum CAC 35 and NRC 0.60. Generally, these boards will be a mineral-fibre type.

.2 Open plan offices (predominantly comprised of large areas of workstations using systems furniture with few closed offices dispersed throughout): Specify ceiling boards with a minimum AC 170 for open plan areas. The same ceiling boards can also be used for closed offices if full height walls are specified. Otherwise, closed offices require ceiling boards with a minimum CAC 35 rating. Manufacturers offer ceiling boards with identical appearance for both applications.

.3 Open plan offices where speech privacy is critical (e.g. call centres): Specify ceiling boards with a minimum AC 200. This high performance ceiling should only be used if all other open plan design conditions are optimized (screen heights of approx. 1800mm, sound masking, parabolic light diffusers and a workstation layout designed to minimize voice interference).

.4 Where glass fibre ceiling boards are used, a foil backing is required.

.5 Consider sound absorptive wall panels, ceiling baffles or acoustic textured spray-on materials for large volume spaces where the expected activity is likely to create excessive noise. Acoustic finishes should have a minimum NRC 0.60 but higher ratings are recommended.

.6 Consider maintenance requirements in the selection of acoustic finishes. Avoid cloth faced ceiling boards, soft spray-applied materials and other finishes that are difficult to clean.

2.9.4 Electronic Sound Masking

.1 Use the Alberta Infrastructure and Transporation Basic Master Specification (Sections 16821 *Self-Contained Sound Masking Units* or Section 16822 *Centralized Sound Masking System*) to specify sound masking systems. Consult with Technical Services Branch – Acoustics Section (780 422-7437) for assistance with specifying.

.2 Do not use sound masking systems that emit sound directly into the office space. These systems are typically of poor quality with limited adjustment capabilities that do not meet the Alberta Infrastructure and Transportation performance specification for electronic sound masking.

.1 Specify electronic sound masking for open plan office space where optimum acoustic conditions are required.

.2 Specify electronic sound masking for closed offices where confidential privacy is required and full height walls or plenum barriers cannot be accommodated.

.3 The Acoustics group is available to provide assistance at 422-7437

2.10 Signage

.1 If signage is specified for a leased building, confirm whether signage to match base building is to be selected.

.2 Signage must conform to the Government of Alberta Visual Identity Program April 2005, as published by Public Affairs Bureau.

.3 The Alberta Corporate Identity Guidelines can be found at: www.corporateidentity.gov.ab.ca

Construction Document Requirement
Signage Plan

2.11 Window Treatment

.1 The use of interior window treatments is restricted to program areas requiring visual privacy, i.e. Observation Rooms.

.2 Landlord standard to be specified if suitable.

.3 Drapery, vertical louvre blinds or horizontal blinds selected in lieu of landlord standard must appear similar in colour or lined in order to appear compatible from the exterior.

Usage	**Type**
Perimeter	Landlord standard
Observation Room	As function dictates
Deputy Minister or equivalent	Other than landlord standard to a maximum of $75.00/pleated lineal metre, lined at 1525 mm length.
Specification	
Division 12	Section 12492B / Drapery and Accessories Section 12491B / Vertical Louvre Blinds
Construction Document Requirement	
Partition and Drapery Plan	

2.12 Furniture

2.12.1 Standing Offer Standard Furniture

.1 Seating products and systems furniture products have been prequalified and are available on standing offer.

2.12.2 Non-standard Furniture

.1 Office furniture which is purchased through the Government of Alberta tender process and is specified by the consultant.

2.12.3 Equipment

.1 Appliances and program specific equipment are considered fixed assets and are purchased by the user from their operating budgets.

Furniture Budget Guidelines for Open Office Environments

a) Positions	Cost per position
Range 3	$8,000.00
Range 4	$7,500.00
Range 5	$7,000.00
Range 6	$6,000.00

b) Support Spaces Meeting Rooms (includes table and chairs)	Cost per person
6 - 8 people	$1,200.00
10 - 12people	$1,100.00
14+ people	$1,000.00

c) Reception	Cost per area
4 people	$4,000.00
6 people	$5,000.00

Furniture Budget Guidelines for D.M. & A.D.M. Offices

a) Positions	Cost per position
Range 1	$15,000.00
Range 2	$12,000.00
Executive secretarial area within suite	$6,500.00
Reception seating	$4,000.00

It is recommended that individual furniture item budgets not be exceeded.

Furniture Item	Range 1	Range 2
	Deputy Minister	Assistant Deputy Minister
Desk	$2,000.00	$1,600.00
Credenza or bookcase and file	$1,500.00	$1,000.00
Tilter chairs	$900.00	$800.00
Side chairs (2)	$600.00 each	$500.00 (each)
Sofa	$2,500.00	$2,000.00
Lounge chairs	$1,000.00	$800.00
Occasional table	$1,500.00	$1,000.00
and/or meeting table		

Note: Office meeting table and chairs may be specified in lieu of lounge furniture.

Furniture Budget Guidelines for Support Spaces

Type	Cost
Reception	
Chairs and/or sofa per seat	$700.00
Tables (2)	$500.00
Reception workstation	$6,500.00
Storage Unit	$1,500.00
Task Chairs	$600.00
Conference Room	
Table/Chairs	$800.00 per person
Accessories	$1,100.00 per room
Type	**Cost per person**
Therapy Room	$500.00
Training Room	$400.00
tables, chairs	
Cafeteria tables, chairs	$300.00

2.13 Mechanical

.1 Refer to the "The Red Book" or the Lease Agreement to establish space temperatures, ventilation rates, relative humidity levels, background noise levels, etc., applicable to the space(s) being renovated.

.2 Aspects of the mechanical design not addressed by the "The Red Book" or the Lease Agreement must, as a minimum, meet Alberta Building Code requirements.

.3 When proposed changes to distribution systems (ventilation, heating, plumbing, fire sprinklers) affect the volume flow rate required within a given floor area, the associated central systems should be reviewed to identify and address any system changes that may also be required.

.4 Adequate zoning of heating, cooling and ventilation systems is important for occupant comfort.

- .1 Where possible, zoning of these systems should coincide.
- .2 Do not mix interior and exterior spaces into a common zone.
- .3 Zone areas should not be larger than applicable leasing or "The Red Book" requirements.

.5 It is critical that changes made to life safety systems (fire sprinklers, fire hose cabinets, fire extinguishers, etc.) meet Code requirements. Any alterations shall be designed by a qualified Professional Engineer and approved by the Authority Having Jurisdiction.

.6 Address any changes to the building's control systems needed to accommodate the mechanical changes. This includes end devices, control panels, network, software changes, etc.

.7 Spaces with a high density of electronic equipment (server rooms, hub rooms, training rooms, etc.) may need dedicated mechanical systems, supplemental to existing building systems. Due to potentially high costs, these requirements should be identified as early as possible.

.8 Provide acoustic treatment of ducting and equipment when required to meet the applicable noise levels.

- .1 Do not install ceiling-mounted exhaust fans directly above meeting and conference rooms.
- .2 Install acoustic-lined ducting between the fan and the intake grilles of exhaust fans.
- .3 Do not attach computer room cooling units directly to access floor system or wall(s).
- .4 Provide vibration isolated supports or floor isolators as required.

.9 Inquiries related to the mechanical systems' design requirements can be made to the Director of Building Engineering at (780) 422-7451.

Specification	
Division 15	Completed by Mechanical Engineer
Construction Documents Required	
HVAC, Plumbing, Sprinklers, Fire Protection Completed by Mechanical Engineer	

2.14 Electrical

2.14.1 Lighting

.1 General

.1 Design lighting systems to the recommended practice guidelines of the Illuminating Engineering Society of North America. Where possible, meet LEED requirements for energy consumption.

.2 Lighting system design shall consider the effects of the following:

- System furniture and partitions in open plan space
- Low reflectance of some floor, wall and furniture finishes

.3 Lighting systems may be designed for non-uniform lighting levels provided:

- Maximum to minimum ratios are less than 10:1.
- Minimal relocation of luminaires is required to satisfy minimum illuminance levels where furniture and workstation layout is variable.

.4 Investigate any special lighting requirements for the user department and determine a solution in conjunction with the project manager.

.2 Levels

.1 Maintain the following minimum average maintained horizontal illuminance levels:

.1 Storage, Circulation and Corridors – 300 lux at floor level in traffic areas

.2 General Office Space – minimum levels on workstation work surfaces:

.1 For system designs supported by point by point computer lighting calculations:

.1 Indirect or semi-indirect systems – 450 lux

.2 Direct systems using low brightness luminaires – 500 lux

.2 For all other systems – 700 lux

.3 Sources

.1 Use high efficacy sources.

.1 General office space - T-8 lamps are preferred. T-5 lamps may be used where mounting height and glare control permit.

.2 Accent lighting - Use T-8 or compact fluorescent lamps

.3 Color temperature - 3100^{o}K is preferred for fluorescent sources.

.4 Exit Signs - Use LED lamps.

.5 Only use incandescent sources where dimming is required by the program.

.6 Do not use HID sources for interior lighting except by special permission.

.4 Ballasts

.1 Use electronic ballasts wherever possible with harmonic current content of <15.

.2 Use program start ballasts wherever more than one switch cycle per day is anticipated.

.3 Control

.1 Do not use breaker switching.

.2 Use low voltage switching for all 347 volt branch circuits.

.3 Provide switching for all conference rooms boar rooms, groups of small offices and large areas common to a single user.

.4 Use occupancy sensor switching where use patterns and switched load provide economic benefits.

.4 Diffusers

.1 Used framed lenses in fluorescent luminaires wider than 350mm

.2 Do not use styrene diffusers.

.3 Low brightness luminaires or direct indirect systems are preferred in areas with a large concentration of electronic workstations and for open plan office space that requires optimum acoustic conditions. Low brightness luminaires are not required in small offices with permanent partitions.

2.14.2 Electronic Offices

.1 General

.1 For projects containing electronic office space or electronic equipment review the requirements for supplemental electrical protection of electronic equipment with the Minister.

.2 Power

.1 Computer Grade Circuits - Provide computer grade circuits consisting of breakers, raceways, wire outlets and receptacles designed to provide power to electronic equipment. Supply only electronic equipment with these circuits.

.2 For installations with 24 or more computer grade circuits, provide a separate panel for them. Feed this panel from an isolating transformer with an electrostatic shield.

.3 Do not use common neutrals and provide a separate, isolated ground for each circuit.

.3 Grounding

.1 Provide an isolated ground buss in each branch circuit panelboard supplying electronic loads. Ground branch panelboard ground buss to the equipment ground at the panel. Where the panel is fed directly from a transformer, the ground shall be to the transformer neutral ground point.

.2 Provide a separate ground wire from each computer grade outlet to the branch circuit panelboard.

.3 Size all grounding conductors to carry the fault current necessary to trip the overcurrent devices protecting the loads, panelboards and feeders associated with the grounding system.

.4 Wire Management

.1 Review the requirements for a wire management system for data, computer and electronic communication cables with the Minister.

.2 Refer to the Voice and Data Cabling Standard herein for design criteria for voice and data wiring within facilities.

2.14.3 Telecommunications

.1 For telephone and wide area data service requirements, contact Brian Lee @ 415-8461.

2.14.4 Construction Document Requirements

.1 Specifications Completed by Electrical Engineer

.2 Power Layout Completed by Electrical Engineer

.3 Lighting Layout Completed by Electrical Engineer.

.4 Electrical documents shall comply with APEGGA's Guideline entitled "Responsibilities for Engineering Services for Building Projects V1.0 – April 2001"

2.14.5 Voice and Data Cabling Standard - General

.1 General Description

.1 The following design guidelines are designed to define the Department's Voice and Data Cabling Standard. They consist of referenced industry standards and other specific requirements for architecture, components and labeling.

.2 Standards

.1 Voice and Data Cabling Systems are to comply with the standards listed under Specific Criteria. They are generally based on CSA and related Standards, but specific criteria may vary slightly.

.2 In general, both voice and data cabling are to be designed and installed to the same performance criteria except where variations are noted under specific criteria.

.3 Architecture

.1 The Department's standard is based on a physical star architecture consisting of Workstation Provisions, Horizontal Wiring, Equipment Closets and Backbone.

.2 The general philosophy is to prewire each and every potential workstation location to an equipment closet for each floor area with backbone provisions to connect equipment closets together. This may be altered on a project by project basis to suit specific budget and client requirements.

.4 Media

.1 The basic media are unshielded twisted pair (UTP) and multi-mode fibre optic cable. Other cables only permitted by Project Manager for specific system requirements.

.2 The basic horizontal wiring consists of 4 pair, data grade UTP terminated at both ends with RJ 45 jacks (voice wiring may use punchdown blocks in the closets).

.3 Dual-strand fibre optic cable may be required for horizontal wiring in certain facilities designated as "long term facilities" and may be either terminated with ST connectors or un-terminated (dark fibre).

.4 Backbone wiring consists of a combination of multi-pair voice and/or data grade UTP, multi-strand fibre optic cables and special cables to suit the specific voice and data requirements of the facility.

.5 Provide patch cords for equipment closets and outlets based on the number of workstations wired.

.5 Labeling and Testing

.1 Each outlet, port, panel and cable is to be systematically labeled with as-built records produced. Larger projects may require a software based cable management system.

.2 Each port and cable run is to be tested, pair by pair (strand by strand for fibre) for specific performance values and results recorded. Contractor to test cables and Consultant to witness tests and review results.

.6 Responsibilities

.1 The Client Department is responsible for data system architecture and design, system electronics and software, baluns and adapters and system patching. These do not form part of the Alberta Infrastructure and Transportation project.

.2 Alberta Infrastructure and Transportation will provide the Consultant with the following information:

.1 Alberta Infrastructure and Transportation Master Specification

.2 Alberta Infrastructure and Transportation Consultants Guide

2.14.6 Voice and Data Cabling Standard – Specific Criteria

.1 Standards

.1 Voice and Data Cabling Systems are to be designed, installed, tested and labelled according to the following CSA Standards.

.1 CSA T568.1 - 05 (ANSI/TIA/EIA 568.B.1 - 2001) Commercial Building Telecommunications Cabling System Standards – Part 1 General Requirements

.2 CSA T568.2 - 05 (ANSI/TIA/EIA 568.B.2 - 2001) Commercial Building Telecommunications Cabling System Standards – Part 2 – Balanced Twisted Pair Cabling Components

.3 CSA T568.3 - 05 (ANSI/TIA/EIA 568.B.3 - 2000) Optical Fibre Cabling Components Standard

.4 CSA C22.2 Canadian Electrical Code Part 1

.2 These Standards are to be the latest edition and revision including any current addenda and any referenced ANSI/TIA/EIA Standards.

.3 In addition to the above mentioned standards, the data cabling system shall comply with following specific criteria unless otherwise directed by the Project Manager.

.2 System Performance

.1 The Voice and Data Cabling System shall meet the following minimum performance criteria as set forth in the referenced standards.

.1 Existing Installations – Category 5e UTP

.2 Short term Installations (less than 5 years intended life) – Category 5e UTP

.3 Special High Speed installations (applications in excess of 250MHz) – Multimode optical fiber

.4 All other Installations – Category 6 UTP

.3 Workstation Provisions

.1 For each Workstation:

.1 Provide outlets and horizontal wiring for each workstation location. These are locations which have or are likely to have an electronic workstation in the next 5 to 10 years. For most buildings this will mean each office, workstation or potential workstation.

.2 Where all potential workstations are not readily identified, use a ratio of one workstation per 12 m^2.

.3 Where partitioning and furniture prevent initial installation of outlets, coil 5 m of cable in the ceiling space.

.2 Outlets

.1 Provide modular outlets for each workstation.

.2 Provide each outlet with one 2 m long, straight through patch cord of cable identical to the horizontal wiring.

.3 Provide each outlet with two female RJ 45 jacks, one each for voice and data, data jacks to be keyed.

.4 Provide RJ 45 Jack pin out configuration in accordance with CSA Standards.

.5 Provide space in modular outlet for two future ST fibre connectors.

.6 Ensure pac pole dimensions (where used) will accommodate modular outlets.
.7 For installations with dark fibre cable, ensure box is large enough to permit coiling of fibre cable.

.3 Adapters Cables, Baluns and Network Cards
.1 All workstation adapters, baluns and network cards are the responsibility of the client department.

.4 Horizontal Wiring

.1 Install all voice and data wiring in ceiling space unless the Project Manager approves use of underfloor raceway.

.2 Cable Tray or Zone Raceway
.1 Provide either an open ventilated cable tray or a system of zone boxes with conduit feeders.
.2 No point on the floor plate more than 5 m from the cable tray or zone box.
.3 Cable tray or zone box feeders to terminate in the nearest equipment closet.
.4 Route cable tray or zone conduit to minimize cable run lengths.

.3 Workstation Raceway
.1 For outlets in partitions, provide raceway from outlet box stubbed into ceiling space with bushed ends.
.2 Provide pac poles for workstations without adjacent partitions.

.4 Cables
.1 No cable run to exceed 90 m total length from outlet to patch panel (70 m maximum preferred)
.2 Data Cable to be 4 pair, 24 AWG,
.3 Voice cable to be identical to data cable.
.4 Fibre cable, where installed, to be dual strand, 62.5/125 micron, multimode, FFDI compliant, plenum rated.

2.14.6 Equipment Closet Provisions

.1 Closet - Equipment closets should be large enough to accommodate:
.1 voice and data patch panels for both horizontal and vertical wiring.
.2 telephone equipment such as PABX exchanges.
.3 data network equipment such as MUXs, modems, MAUs, cluster controllers, hubs, etc.

.2 Backboards
.1 Provide plywood backboards on all walls of equipment closet for attaching cables and mounting IDC blocks.

.3 Patch Panels
.1 Provide separate patch panels to terminate both horizontal and backbone cables.

.4 Voice Patch Panels
- .1 insulation displacement connector type (IDC), punch down or BIX block (can be backboard mounted) or RJ45 modular jacks.

.5 Data Patch Panels
- .1 modular type RJ-45 ports, unkeyed, maximum 48 ports per panel
- .2 suitable for EIAA 19" rack mount,
- .3 IDC connections for work station cable

.6 Fibre Optic Patch Panels
- .1 ST connectors, 1 per strand, maximum 24 per panel
- .2 panel complete with cable dressing and securing provisions
- .3 cable dressed to provide one loop at rear of panel prior to connection

.7 Racks
- .1 wall mount brackets for installations of 48 ports or less
- .2 free standing 19" EIAA racks for installation of over 48 ports
- .3 complete with patch panels, cable dressing provisions, shelves, and labels
- .4 provide maximum of 1 shelf for each 48 ports

.8 Patch Cables
- .1 Provide one, 2 m long, 4 pair, data grade (level 5) patch cord for each workstation that is present at time of installation plus an allowance for future workstation to be determined in conjunction with Alberta Infrastructure and Transportation.

.9 Power
- .1 Provide one computer grade circuit for each equipment rack consisting of a separate circuit complete with separate hot, neutral and ground.

2.14.7 Backbone (Riser) Wiring

.1 Determine specific quantities and configuration of backbone cables in conjunction with the Project Manager on a project by project basis.

.2 Voice Riser
- .1 Provide 25 pair voice grade (level 3) UTP cable from each equipment closet to main telephone room to suit voice system requirements. Approximately one, 25 pair cable for each 100 m2 of office area.
- .2 Provide IDC blocks in main telephone room to terminate riser cables.

.3 Low Speed Data
- .1 Low speed data generally refers to terminal to cluster controller service such as IBM 3270. Determine requirements in conjunction with the Project Manager

.2 Provide 25 pair voice grade (level 3) UTP cable from equipment closet to equipment closet or from each equipment closet to computer rooms to connect terminals to controllers. Approximately one, 25 pair cable for each 10 terminals.

.3 Provide data patch panels, rack and shelves in riser closets and computer rooms to terminate each end of each cable run. Each RJ-45 jack to terminate two pairs.

.4 Medium Speed Data

.1 Medium speed data generally refers data speeds up to 250MHz. Determine cable requirements in conjunction with the Project Manager.

.2 These backbone cables are for HUB to HUB, MAU to MAU, LAN to bridge/gateway/server or LAN to LAN connections. Approximately 4 pairs (or 2 strands for fibre) for each LAN connection.

.3 Provide data grade (level 5) UTP cables from equipment closet to equipment closet or from each equipment closet to main computer room to interconnect each medium speed LAN.

.4 Provide data patch panels, racks and shelves in riser closets and computer rooms to terminate each end of each cable run. Each RJ-45 jack to terminate four pairs.

.5 Provide at least one, 12 strand, multimode fibre optic cable from closet to closet or from closet to computer room for medium speed data needs.

.6 Provide fibre patch panel in equipment closets and computer rooms to terminate each end of fibre cables.

.5 High Speed Data

.1 High speed data generally refers data speeds in excess of 250 MHz.

.2 Provide at least one, 12 strand, multimode fibre optic cable from closet to closet or from closet to computer room for high speed data needs.

.3 Provide fibre patch panel in equipment closets and computer rooms to terminate each end of fibre cables.

2.14.8 Labeling

.1 Provide a systematic labeling system for all outlets, cables and panels including sketches or drawings and a means of keeping track of test results and patching information associated with the labeling system.

.2 Outlet – label with a unique identification in local sequence by:

.1 Building Grid Identification (alpha-numeric)

.2 Numerical Sequence (numeric)

.3 Type (“D” for data and “T” for voice)

.4 Example: A5 – 3 D

.5 Do not use room numbers since these are subject to change.

.3 Equipment Closets (IDF Rooms) – label with unique identification by:
  .1 Floor Number (numeric)
  .2 Sequence (alphabetic)
  .3 Example: 12A

.4 Patch – label with unique identification by:
  .1 Type (“D” for date of “T” for voice)
  .2 Room label
  .3 Descriptive suffix (ie. “H” for Horizontal or “R” for Riser)
  .4 Example: D12AH

.5 Cables – label at each end with the destination identification:
  .1 Outlet end labelled with patch panel identification
  .2 Patch panel end labelled with outlet identification
  .3 Riser cables label similarly except add numerical sequence for number of cable in a multiple run
  .4 Example: Outlet end -D12AH, Panel end A5-3D, or D12AR2 or D11BR2

2.14.9 Testing

.1 Voice and Data Cabling Systems shall be tested in accordance with the appropriate CSA standard. Testing shall be witnessed by the designer and results shall be recorded and submitted as part of O&M Information. The following test parameters are required:
  .1 Category 5e and 6 – Channel Test results required for: wire map, length, insertion loss, Near-end crosstalk loss, Power sum near-end cross talk loss, Equal-level far-end crosstalk, Power sum equal-level far-end crosstalk, Return Loss, Propagation delay, Delay skew
  .2 Optical Fiber – Link attenuation

2.14.10 Support

.1 The Building Engineering Section is available to provide assistance at 422-7451.

2.15 Space Allocation Table

Range	Representative positions within each functional group		Macro Standards (for Planning use only)	Micro Standards (for use with traditional freestanding furniture)	Micro Standards (for use with systems furniture)
1	Executive Management Staff: Includes Deputy Ministers and equivalent Order-in- Council Appointments to Boards, Agencies, Crown Corporations and Commissions.	cl	35 um 375 USF	27um 290.6 USF	18.6 – 25.5 um
2	Senior Management Staff: Includes Assistant Deputy Ministers, Registrars, and equivalent positions of Boards, Agencies and Commissions.	cl	30.5 um 325 USF	18 um 193.8 USF	12 – 15 um
3	Middle Management Staff: Includes Executive Directors and Directors and equivalent positions of Boards, Agencies and Commissions.	cl	25.5 um 275 USF	15 um 161.5 USF	10 – 12 um
4	Supervisory/Professional Staff: Includes Managers, Senior Professionals (e.g. engineers, accountants), counselors, professionals, administrators at the junior management and equivalent bargaining unit level.	o w	21 um 225 USF	12 um 129.2 USF	9.3 – 10 um
5	Technical and Regulatory Staff: Includes technologists, inspectors and similar specialized staff,	oa	16.5 um 175 USF	9 um 96.9 USF	7.4 – 9.3 um
6	Administrative Support Staff: Includes all clerical and support staff.	oa	11.6 um 125 USF	8 um 86.1 USF	7.4 – 9.3 um

Prepared Housing & Public Works 1977 Reviewed Treasury, A.G.S. Housing & Public Works 1977	Approved (Macro Standards) Management Policy Committee of Cabinet October 25, 1977
Approved (Micro Standards – traditional freestanding furniture) Deputy Minister, PWSS February 25, 1988	Approved (Micro Standards – Systems Furniture) Deputy Minister, Infrastructure December 21, 2000

Note:

- Micro Space Standard: the area allocated to each position for the workstation and the circulation within the workstation.
- Macro Planning Standard: the area allocated to each position which includes the micro workstation plus an allowance for circulation and support space.

2.16 Space Planning – General Guidelines

.1 Enclosed offices may be provided to senior managers - director level and above.

.2 Enclosed offices should be positioned on the building core and be provided with glazing to receive natural light.

.3 Screened workstations for ranges 4 & 5 should be approximately 1675mm high or lower with some glazing to allow light to pass through the open space.

.4 Screened workstations for range 6 should be approximately 1370mm high or lower.

.5 Plan space so that short term space requirements are isolated from longer term requirements to enable future space reductions.

.6 To create flexibility, apply modular approach to space planning. Plan spaces to be compatible with building grids.

.7 Plan the size and location of smaller support spaces so that they can be converted to workstations if required.

.8 Workstations layouts should be standardized to allow long-term flexibility in the relocation of people.

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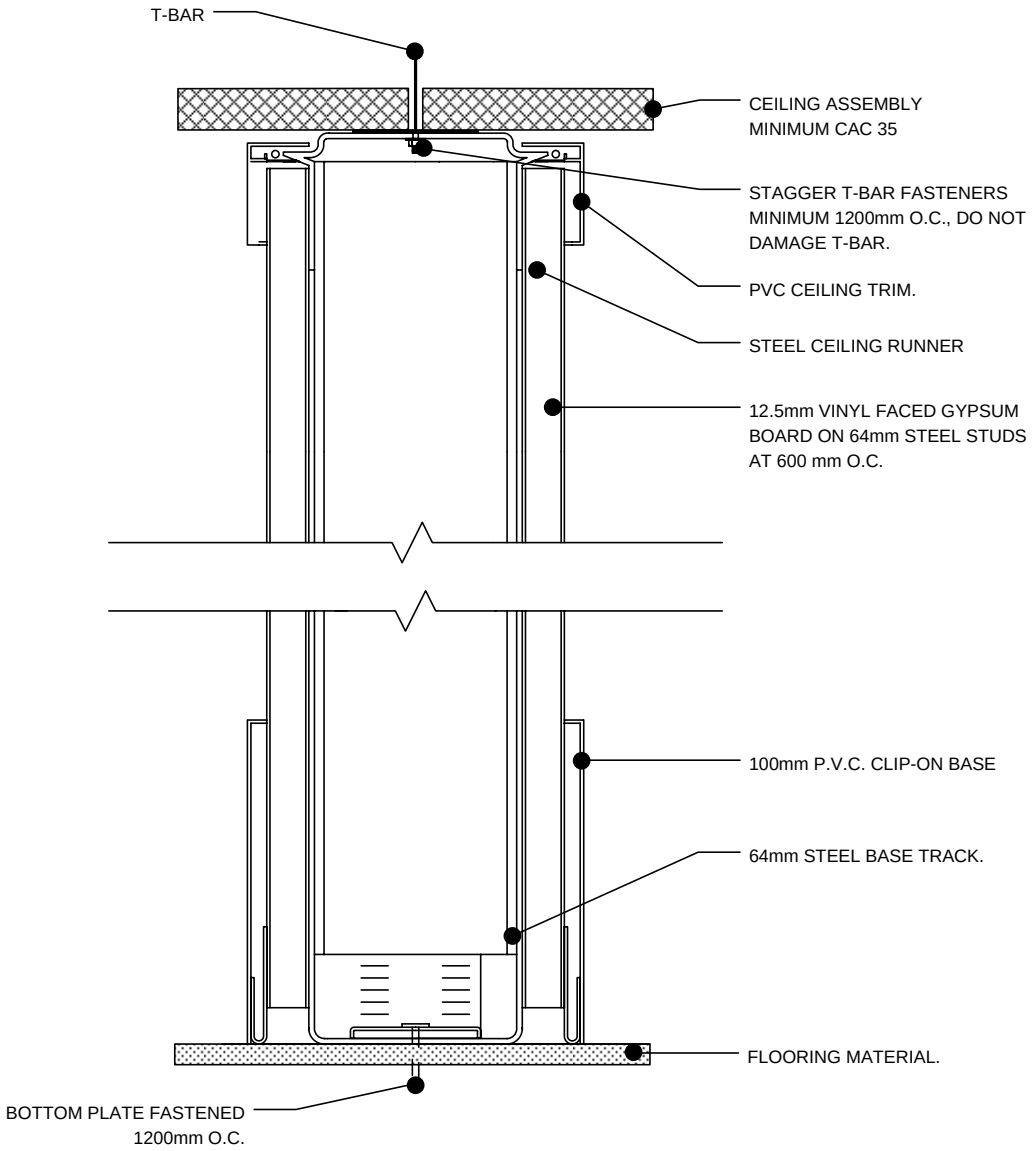
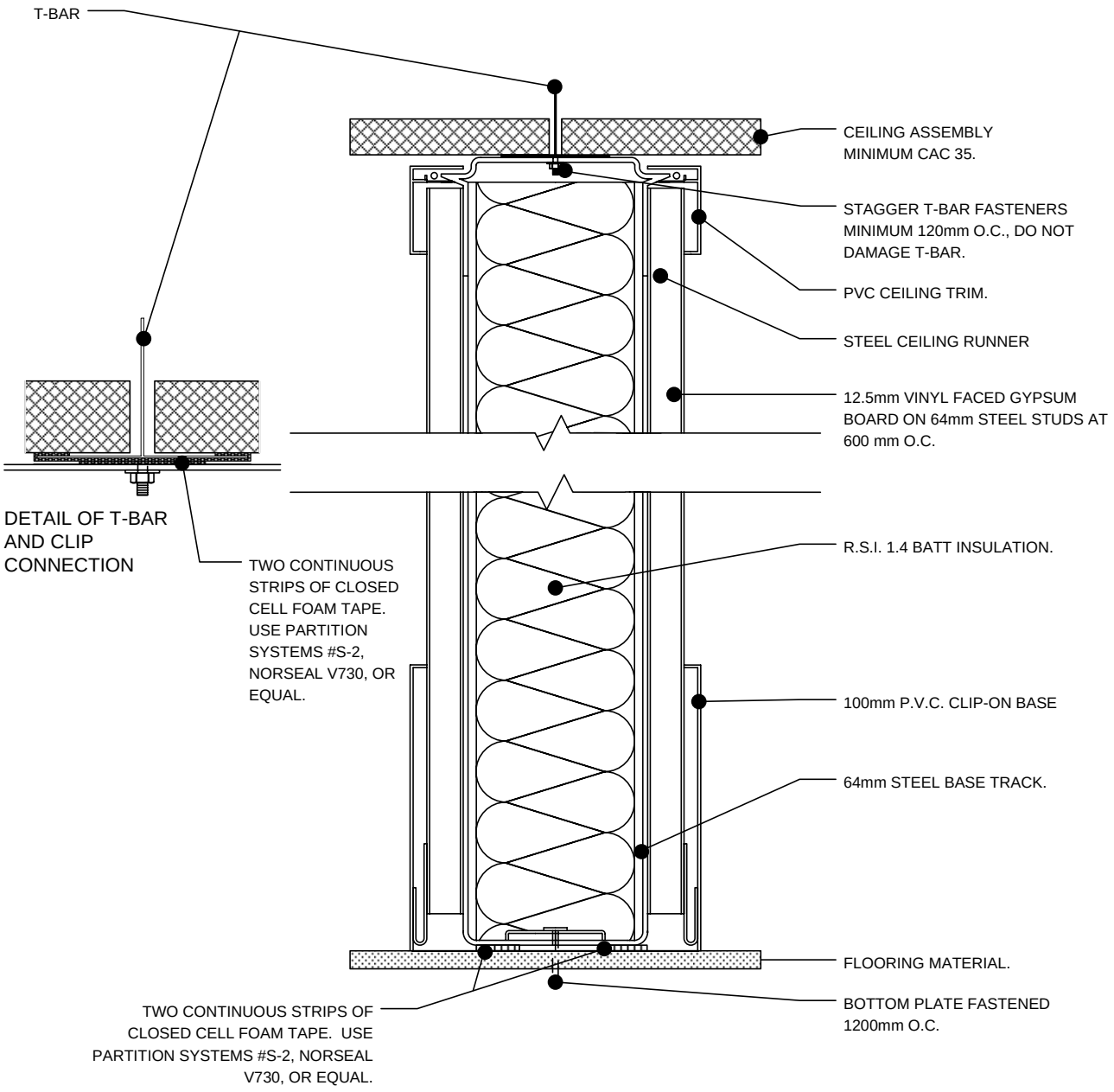


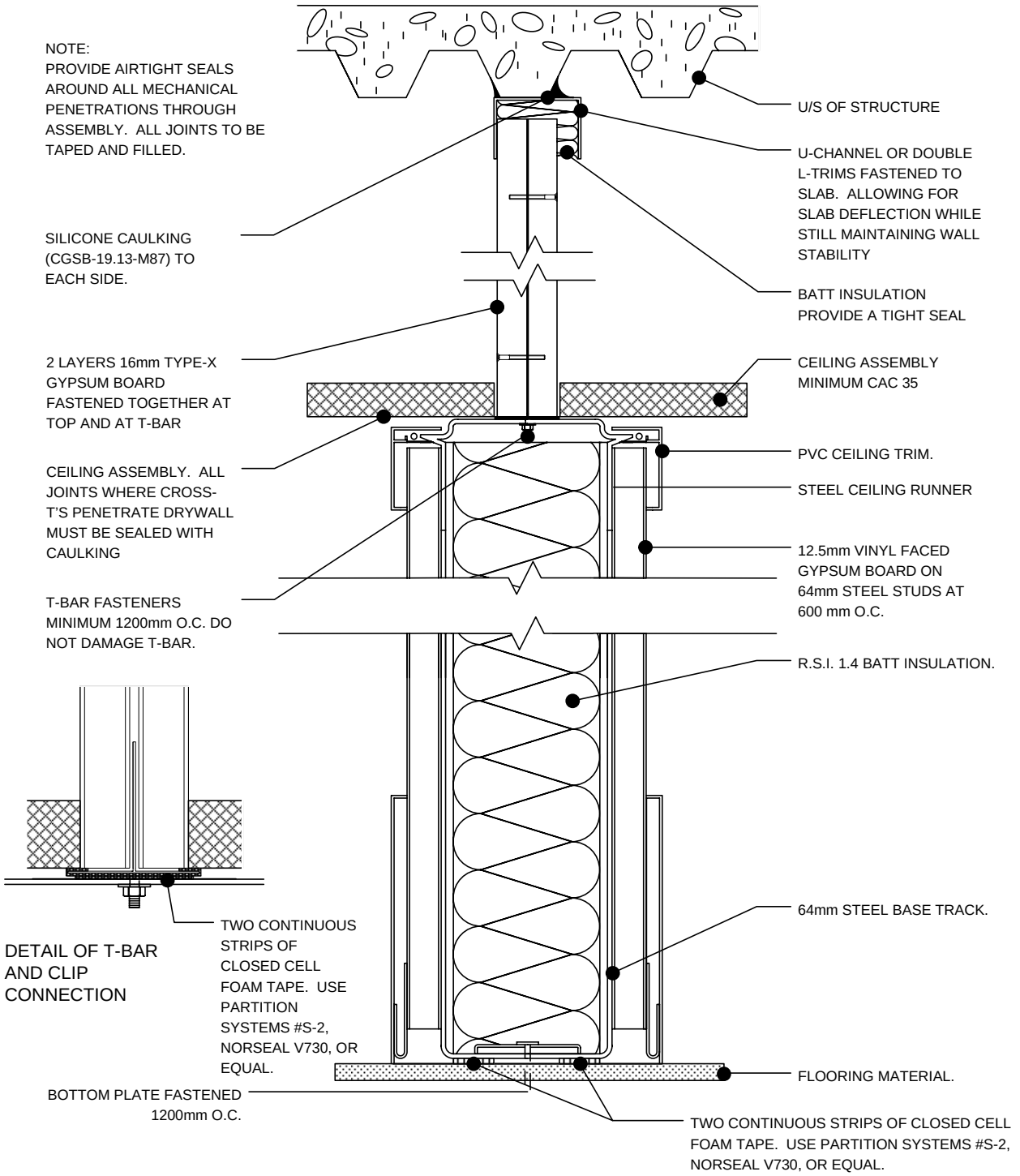
A

Demountable Partition
Scale: n.t.s.



B

Demountable Partition c/w Insulation
Scale: n.t.s.

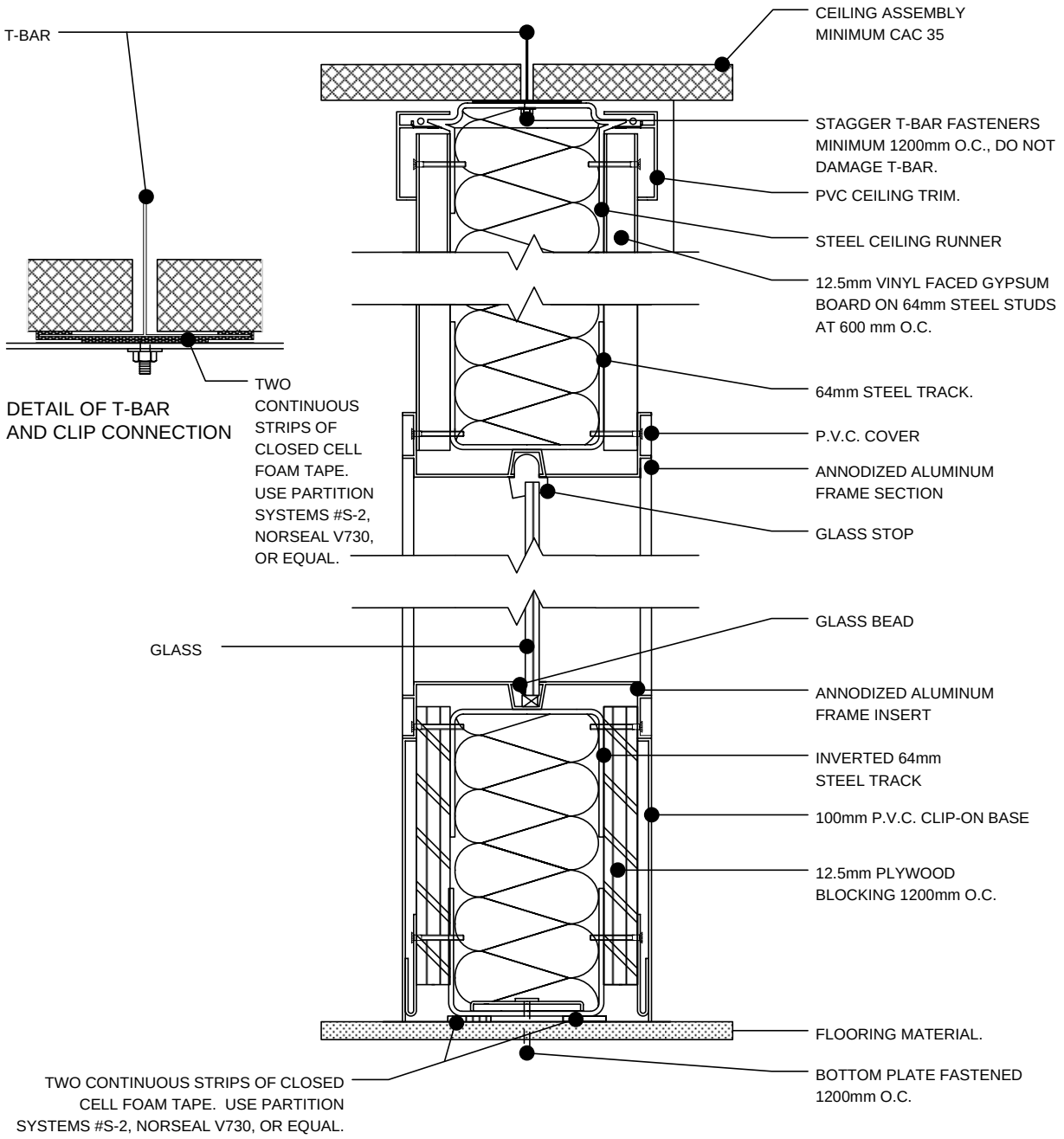


C

Demountable Partition c/w Plenum Sound Barrier

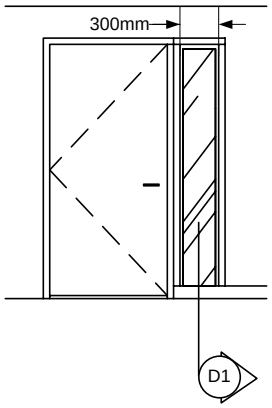
Scale: n.t.s.

NOTE:
NOT TO BE USED WITHIN WALLS THAT DIVIDE ROOMS REQUIRING CONFIDENTIAL SPEECH PRIVACY

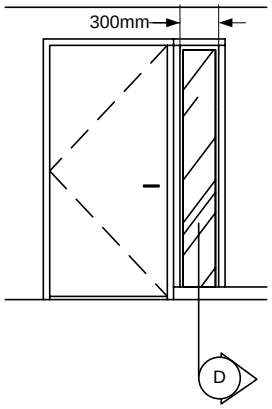


D

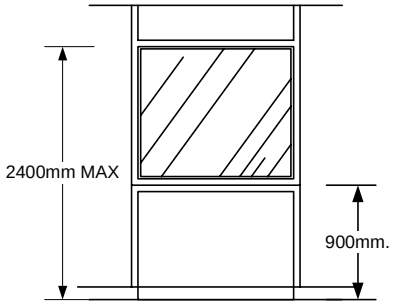
Demountable Partition c/w Single Glazing
Scale: n.t.s.



DOOR & SIDELIGHT
C/W WOOD FRAMES
Scale: n.t.s.

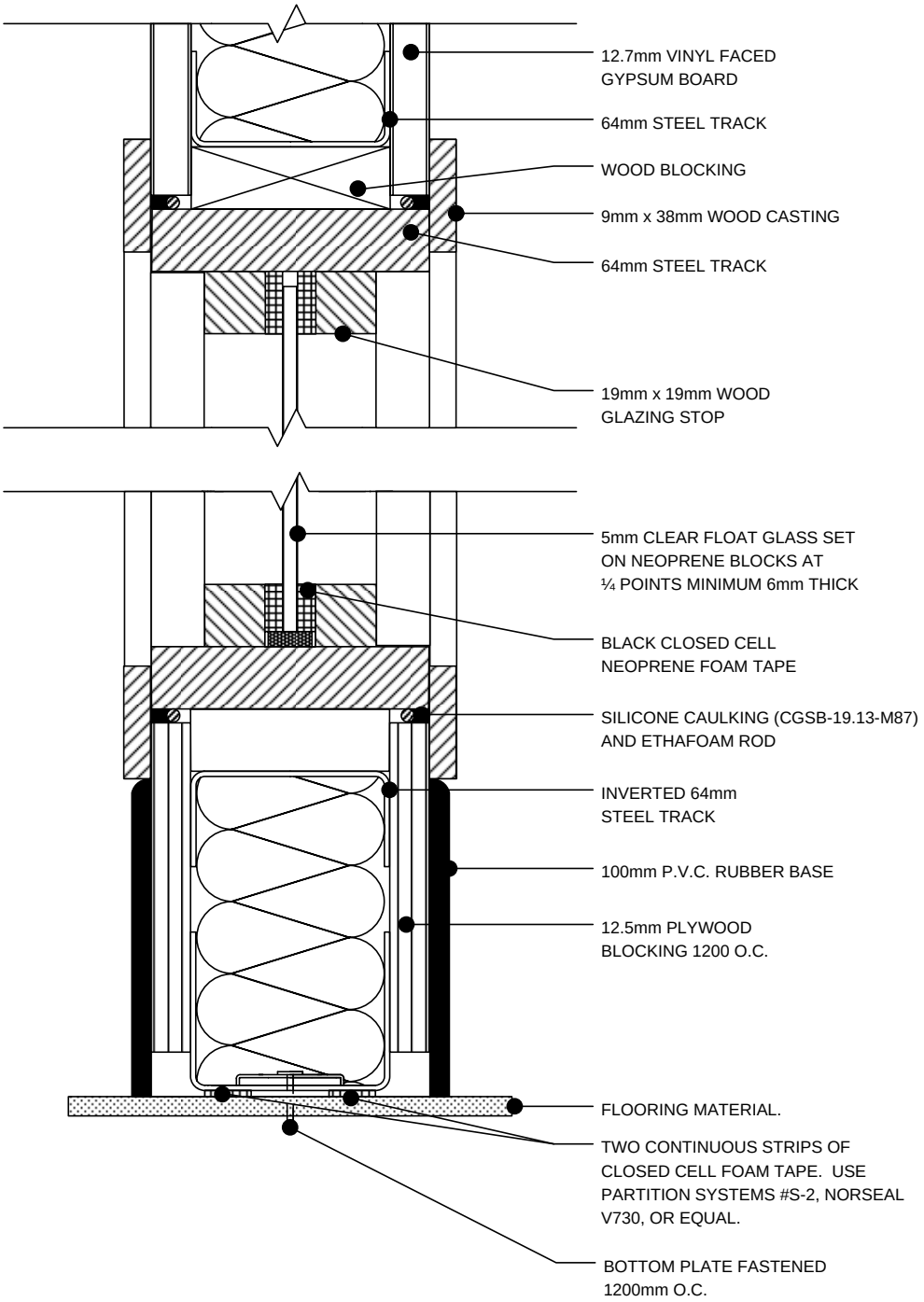


DOOR & SIDELIGHT C/W
DEMOUNTABLE PARTITION FRAME
Scale: n.t.s.



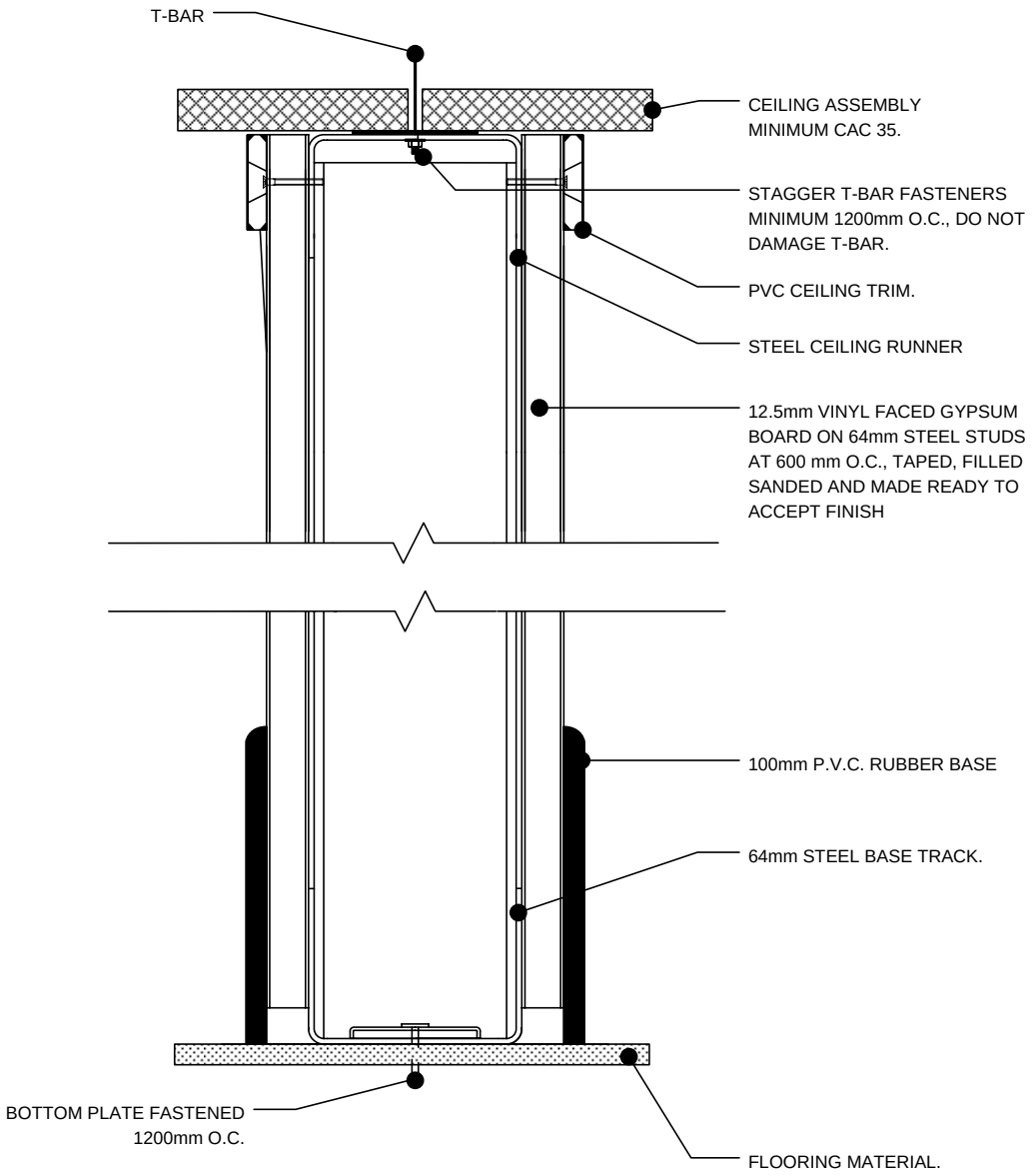
GLAZING C/W
DEMOUNTABLE PARTITION FRAME
Scale: n.t.s.

NOTE:
NOT TO BE USED WITHIN WALLS THAT DIVIDE ROOMS REQUIRING CONFIDENTIAL SPEECH PRIVACY



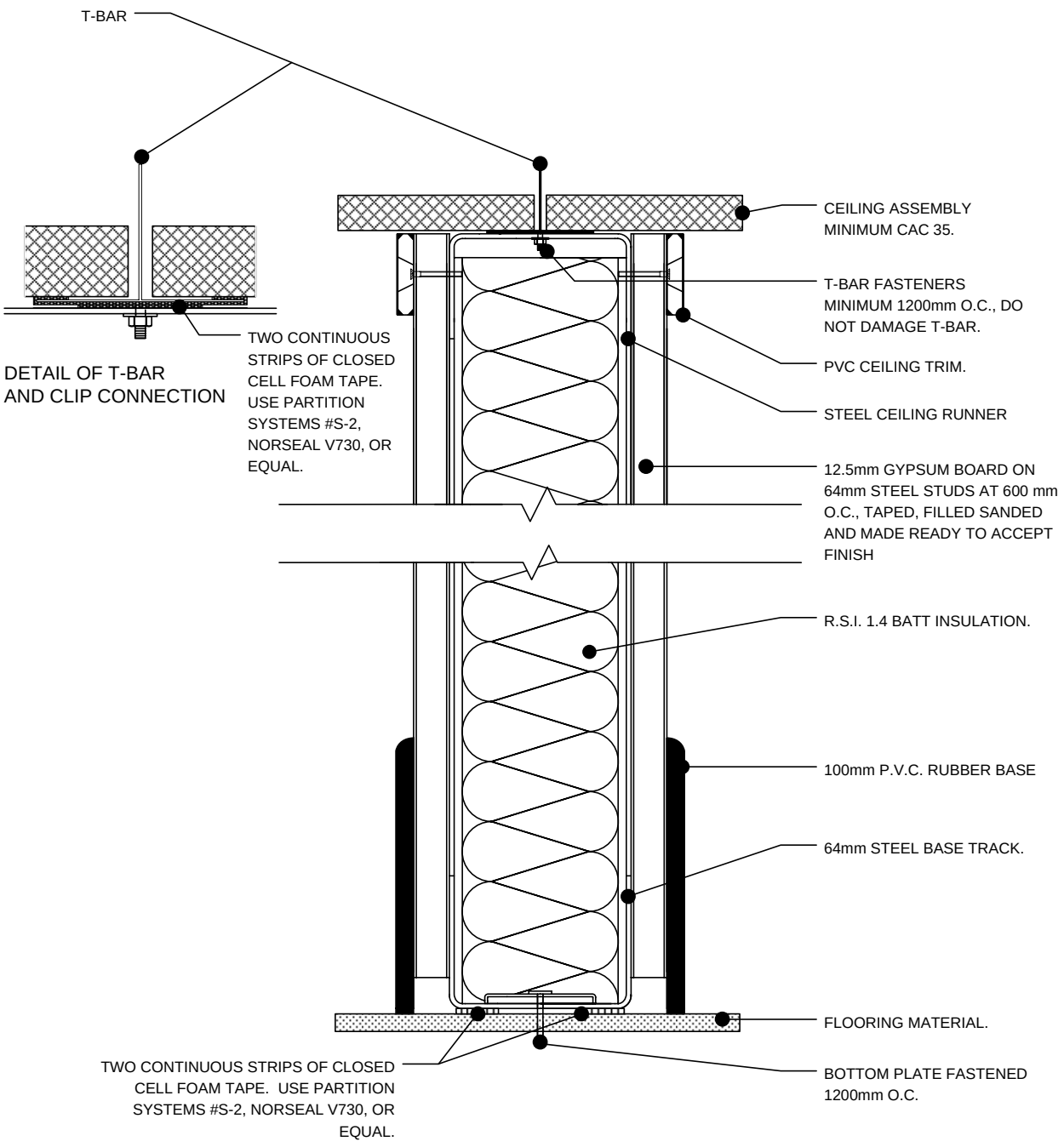
D1

Gypsum Board Partition c/w Single Glazing
Scale: n.t.s.



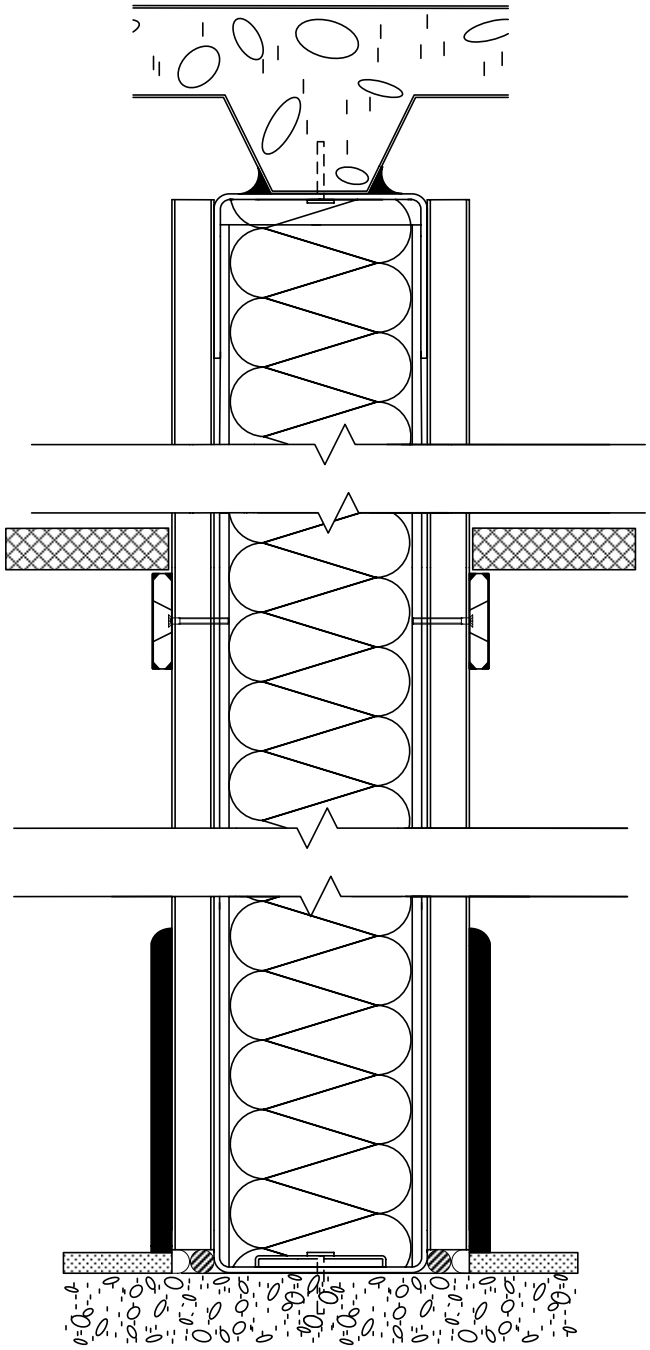
E

Gypsum Board Partition
Scale: n.t.s.



F

Gypsum Board Partition c/w Insulation
Scale: n.t.s.

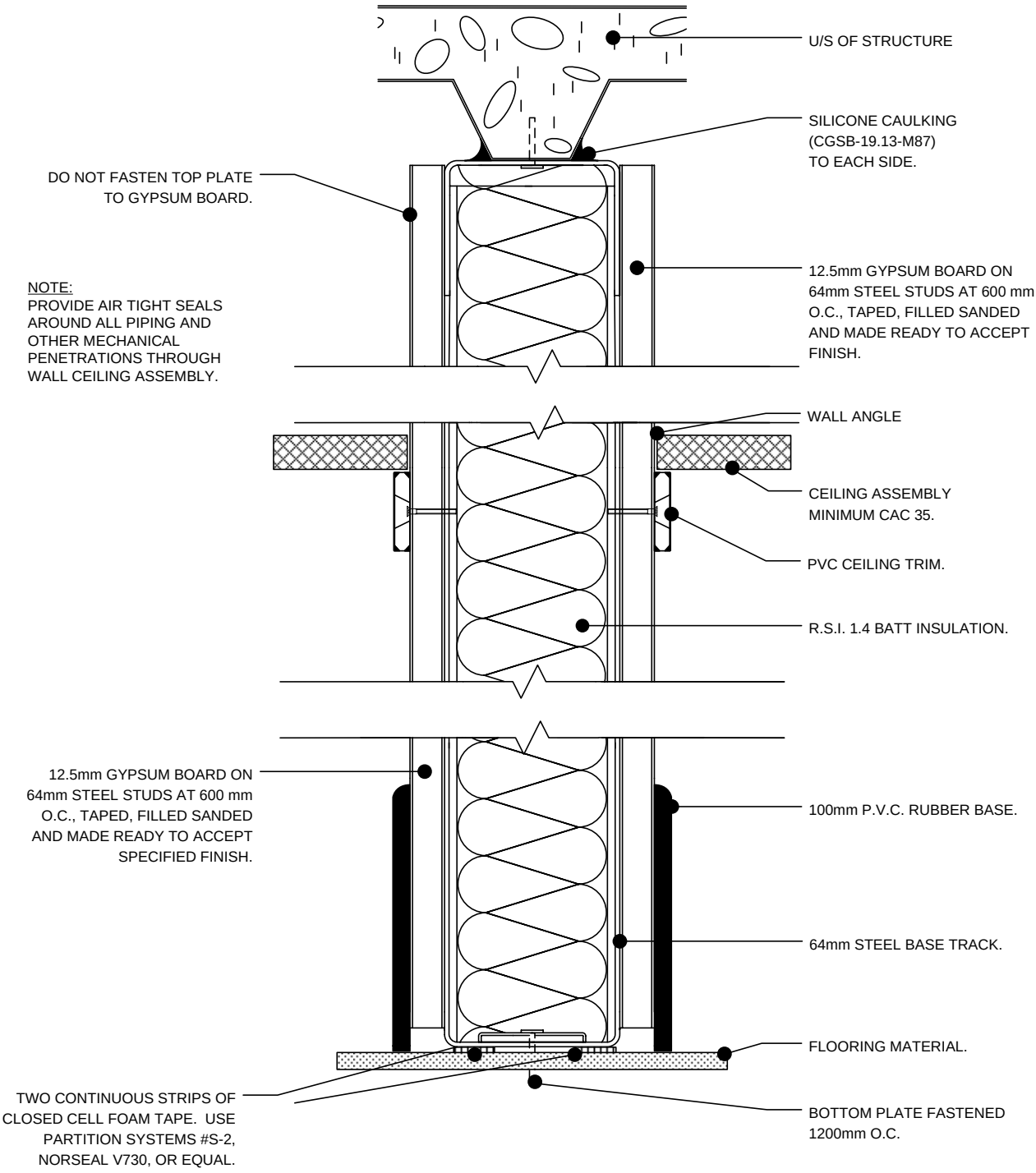


NOTE:
PROVIDE AIR TIGHT SEALS AROUND ALL PIPING AND OTHER MECHANICAL PENETRATIONS THROUGH WALL CEILING ASSEMBLY.

CONSULTANT IS RESPONSIBLE FOR DETAILING FIRE RATED PARTITION AS APPLICABLE UNDER CODE.

G

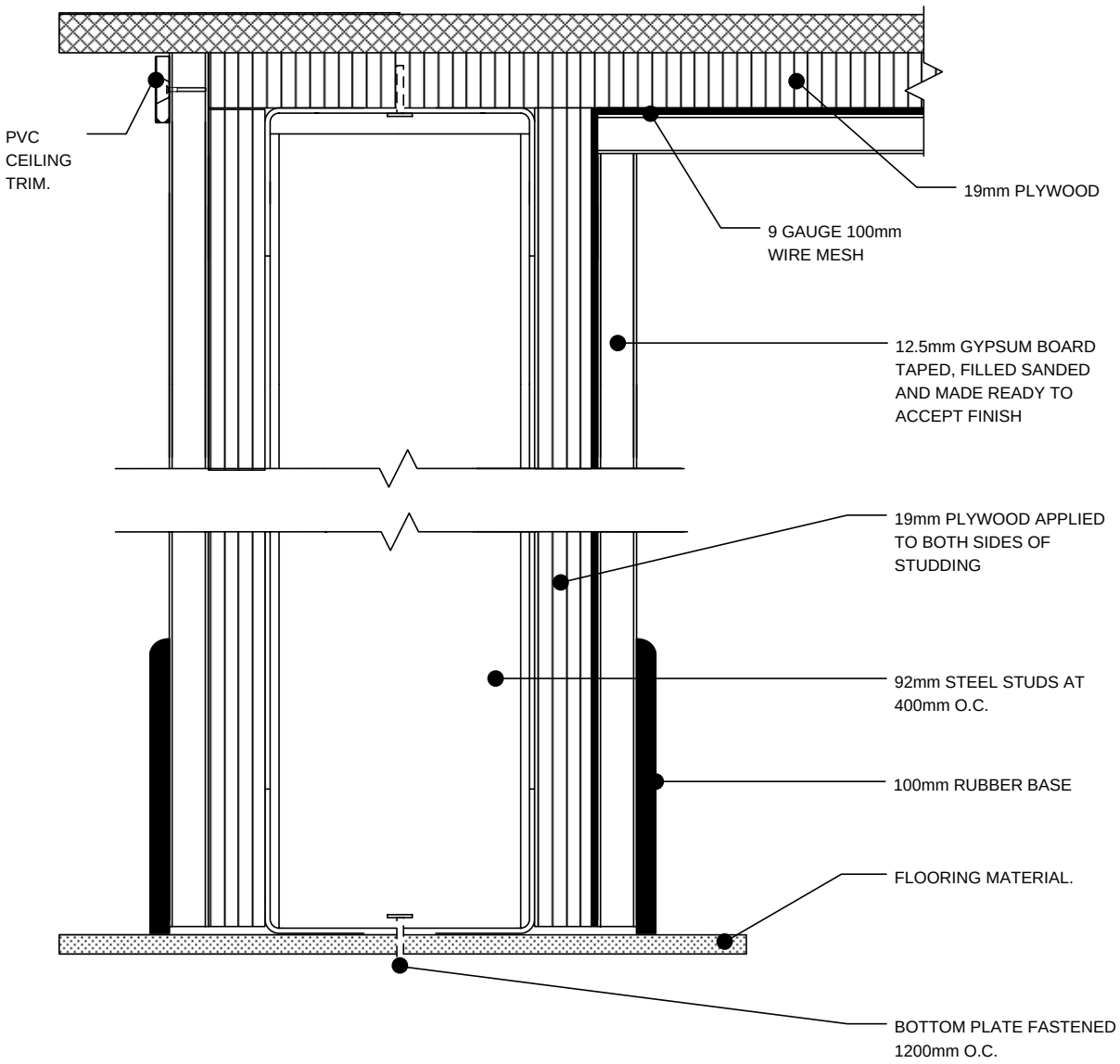
Fire Rated Partition
Scale: n.t.s.



H

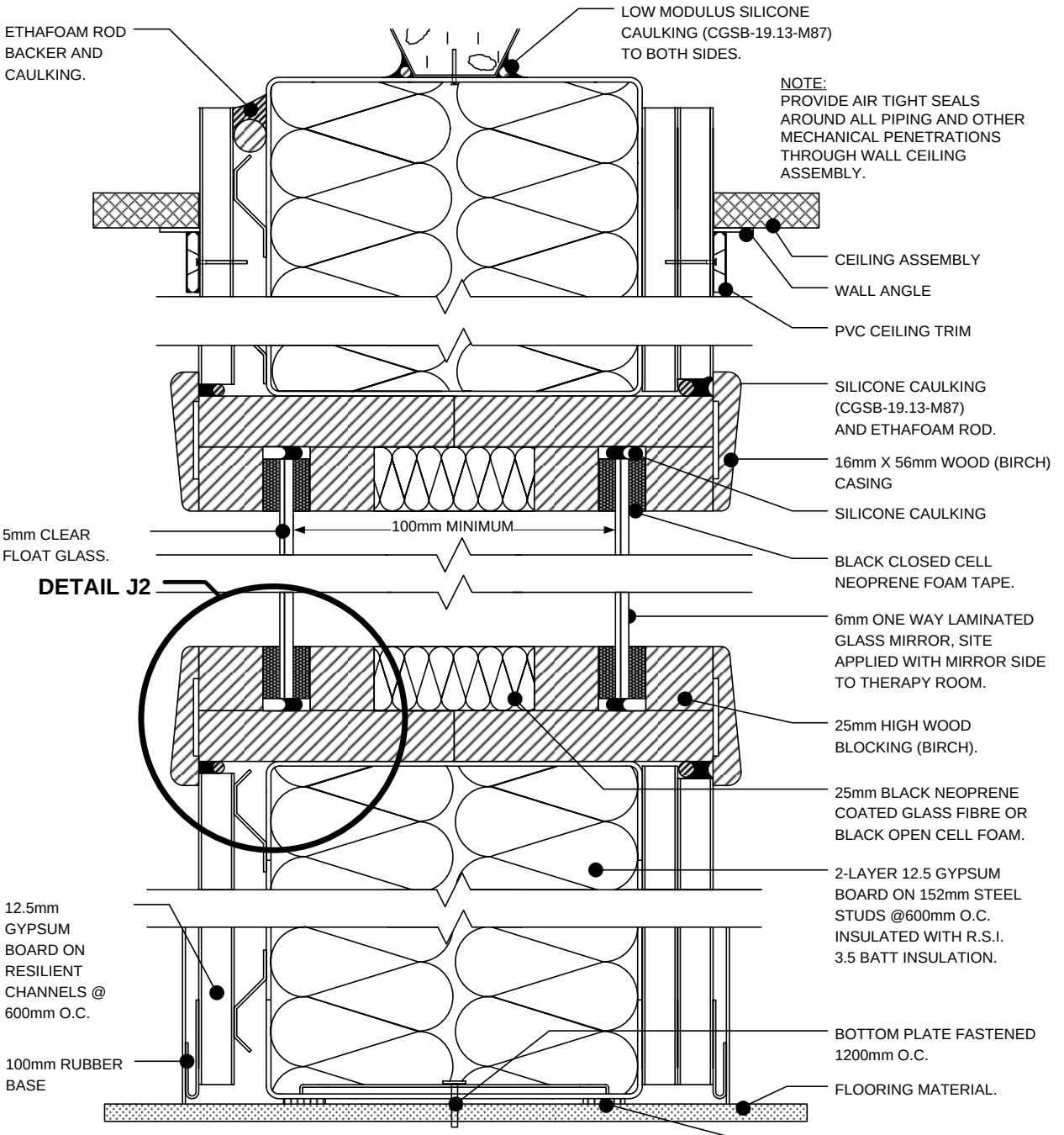
Gypsum Board Partition, Full-Height

Scale: n.t.s.



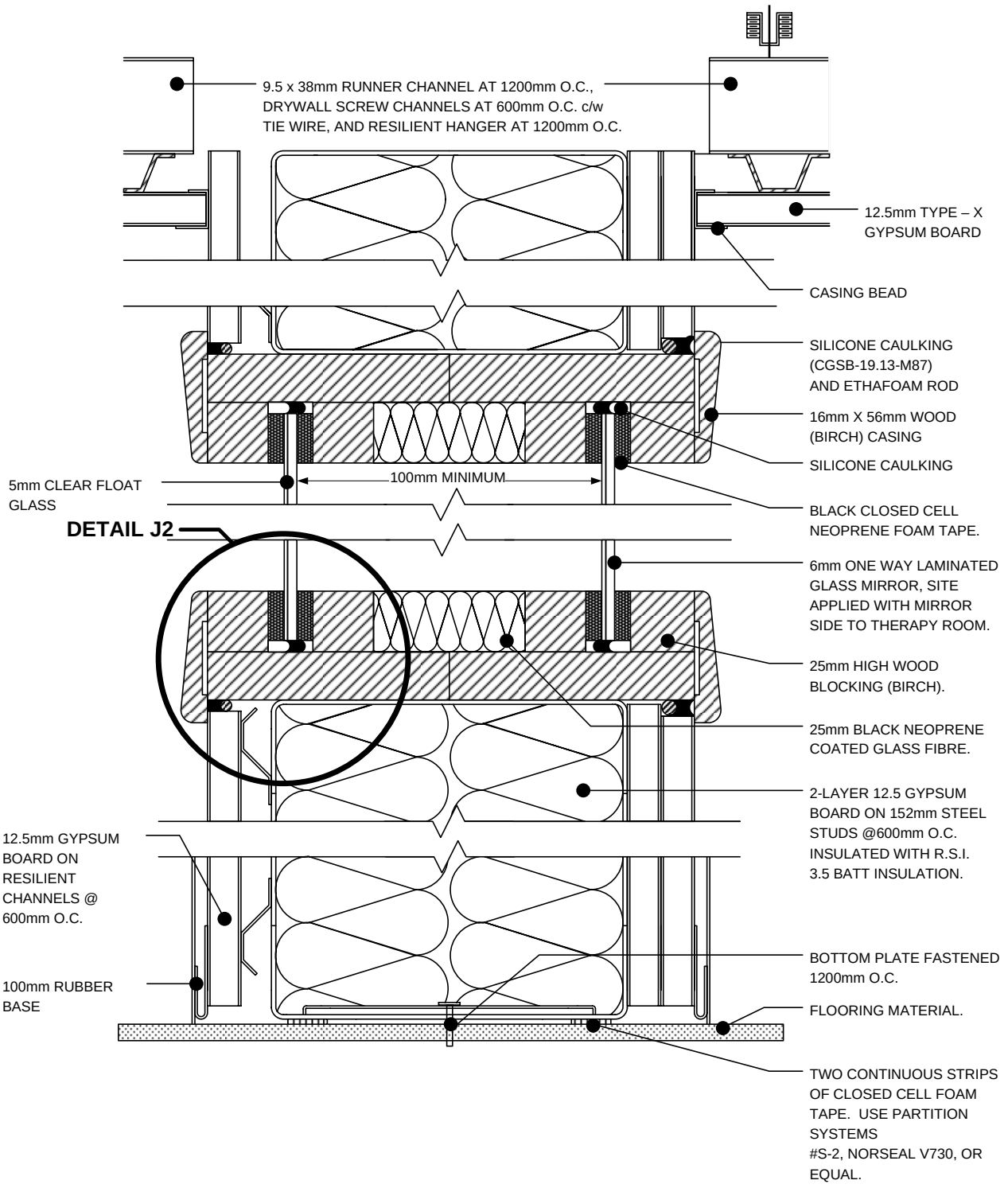
I

Gypsum Board/Plywood Partition and Ceiling – Secure Storage
Scale: n.t.s.



J

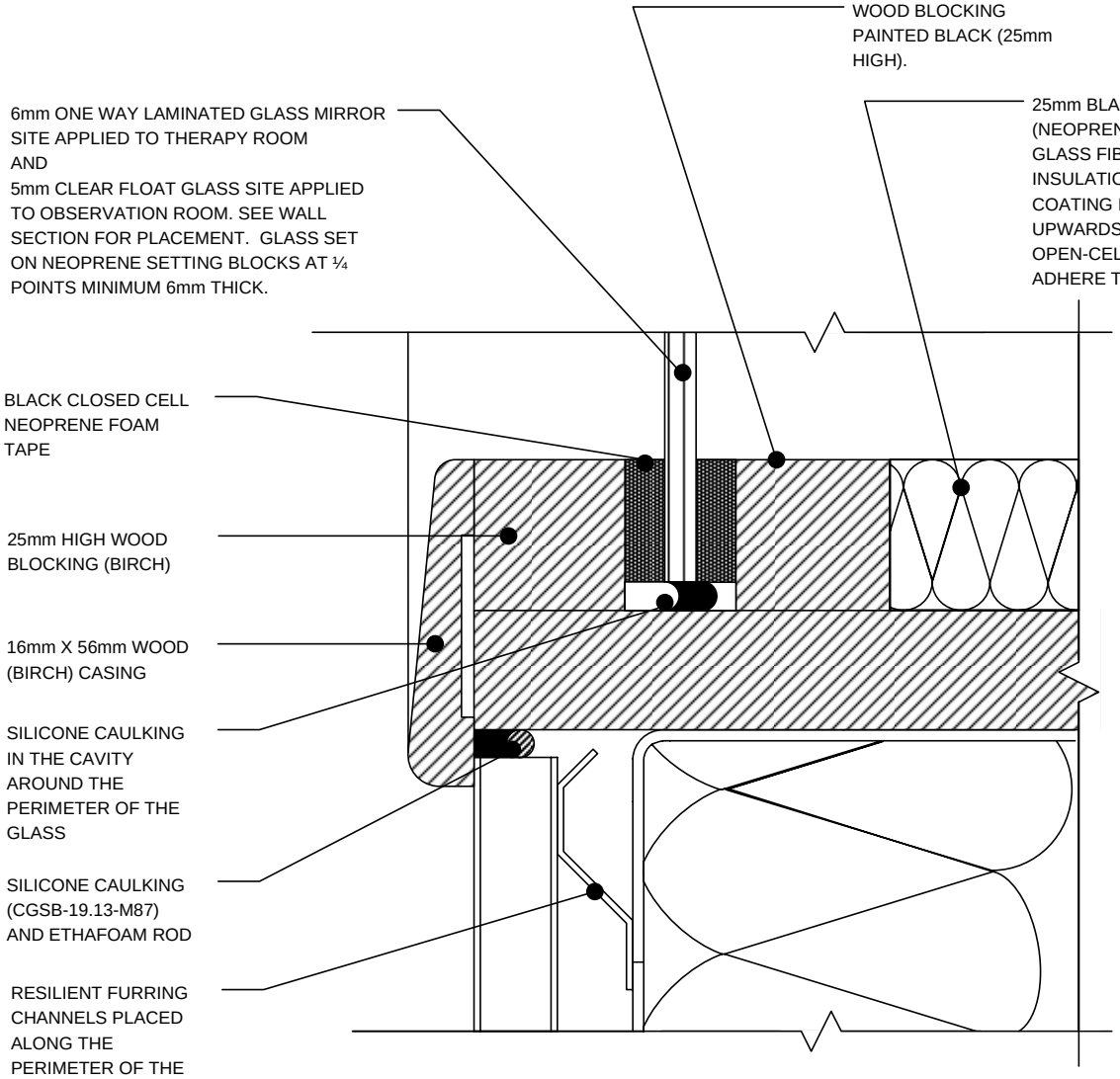
Gypsum Board Partition, Full-Height
(Therapy/Observation Room)
Scale: n.t.s.



J1

Gypsum Board Partition c/w Gypsum Board Ceiling (Therapy/Observation Room Alternative)

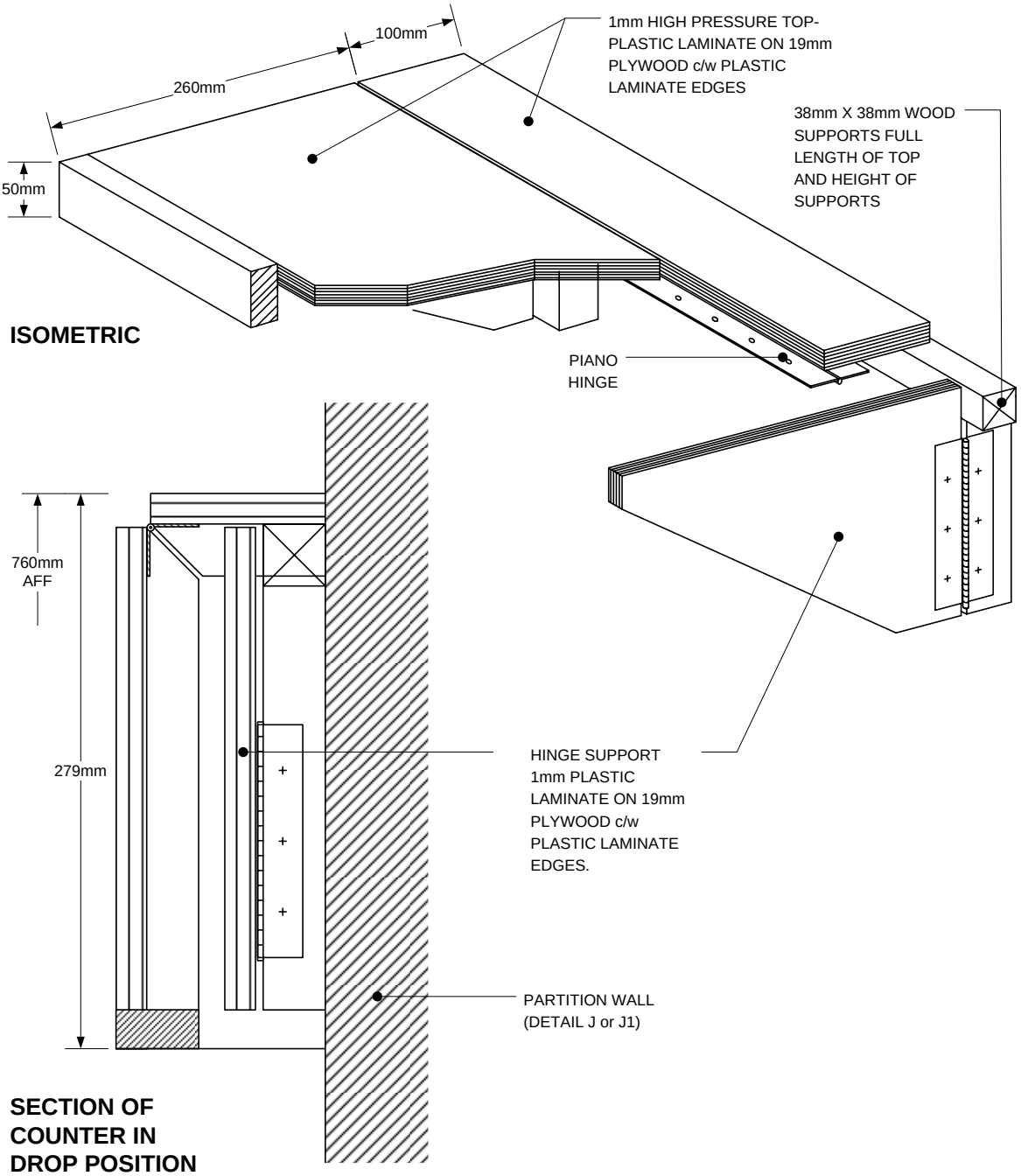
Scale: n.t.s.



NOTE:
PREFINISHED WOOD BLOCKING IN ORDER TO PREVENT LEACHING OF THE CAULKING INTO ADJACENT MATERIALS

J2

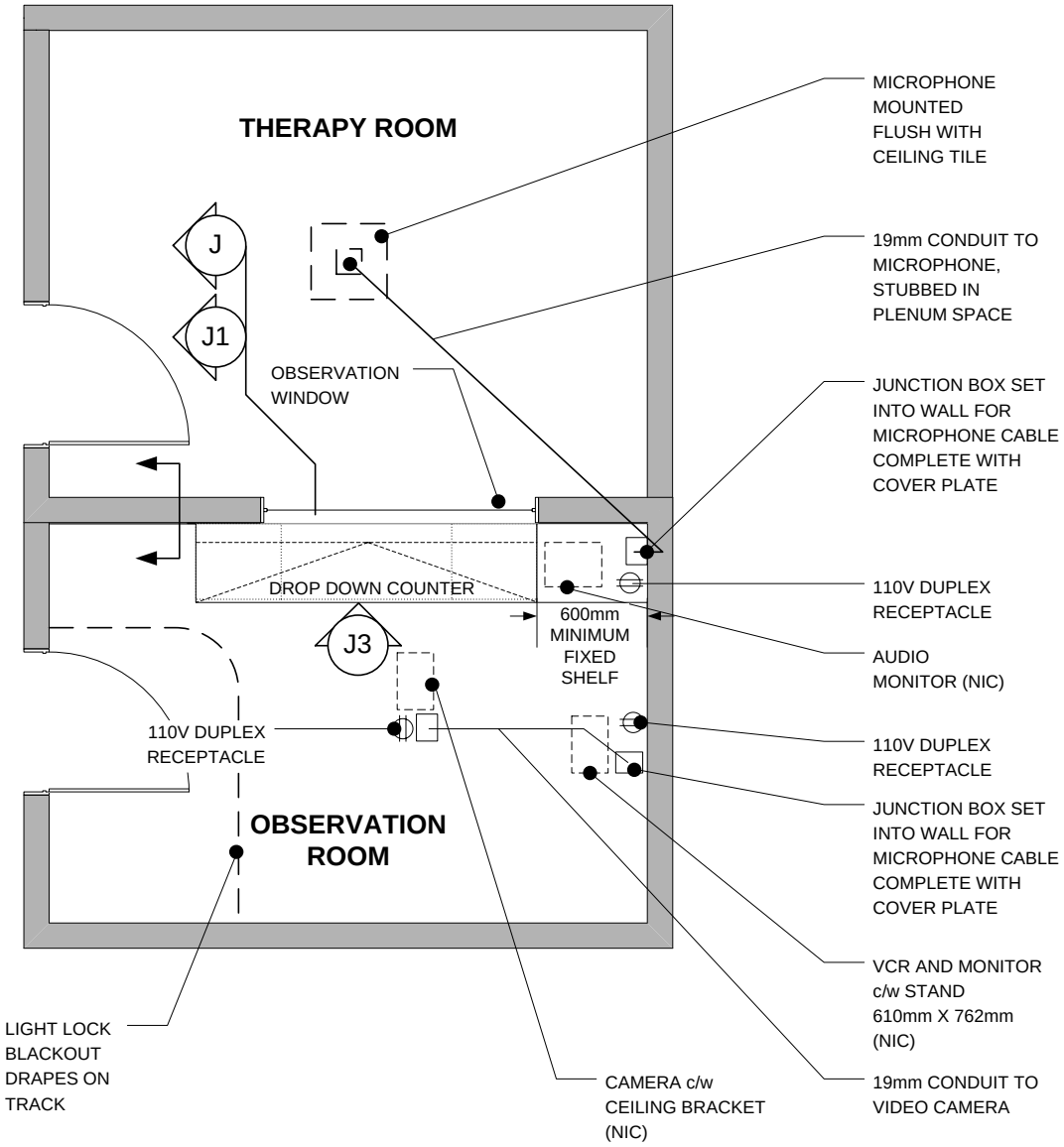
Glazing Detail Therapy/Observation Room
Scale: n.t.s.



J3

Drop Down Counter (Observation Room Only)

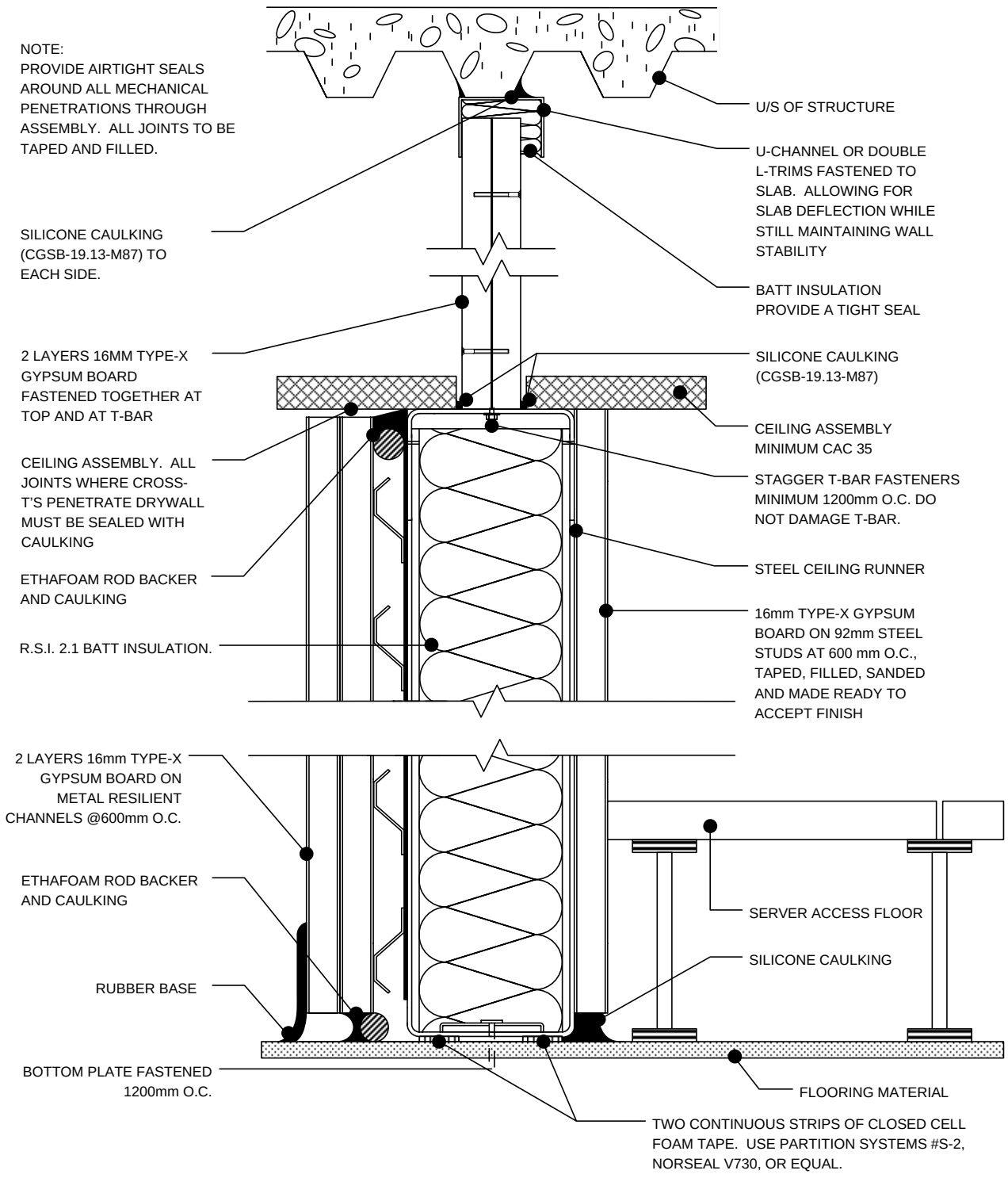
Scale: n.t.s.



J4

Conduit & Electrical Requirements for Audio System (Observation/ Therapy Room)

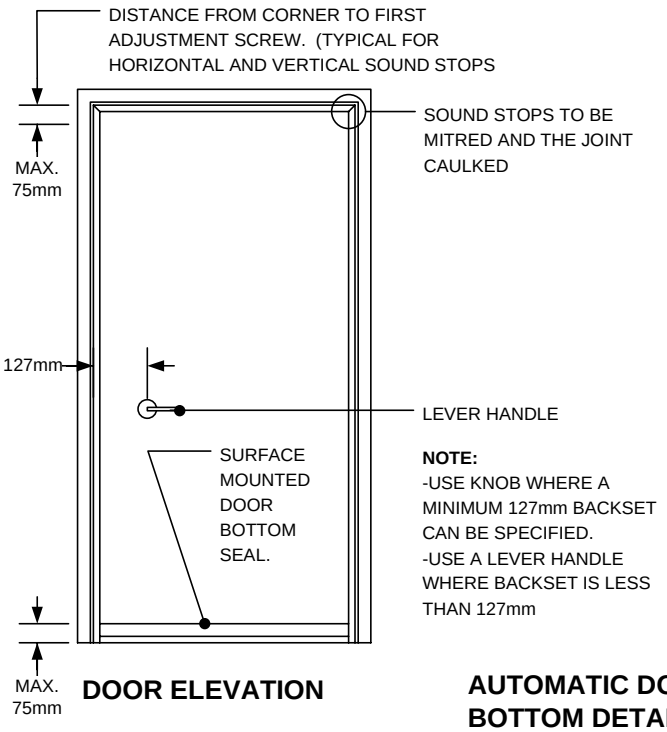
Scale: n.t.s.



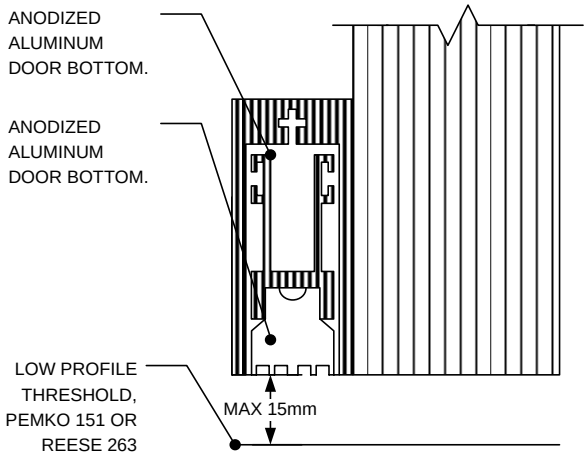
K

Gypsum Board Partition c/w Plenum Sound Barrier (Server Room)

Scale: n.t.s.



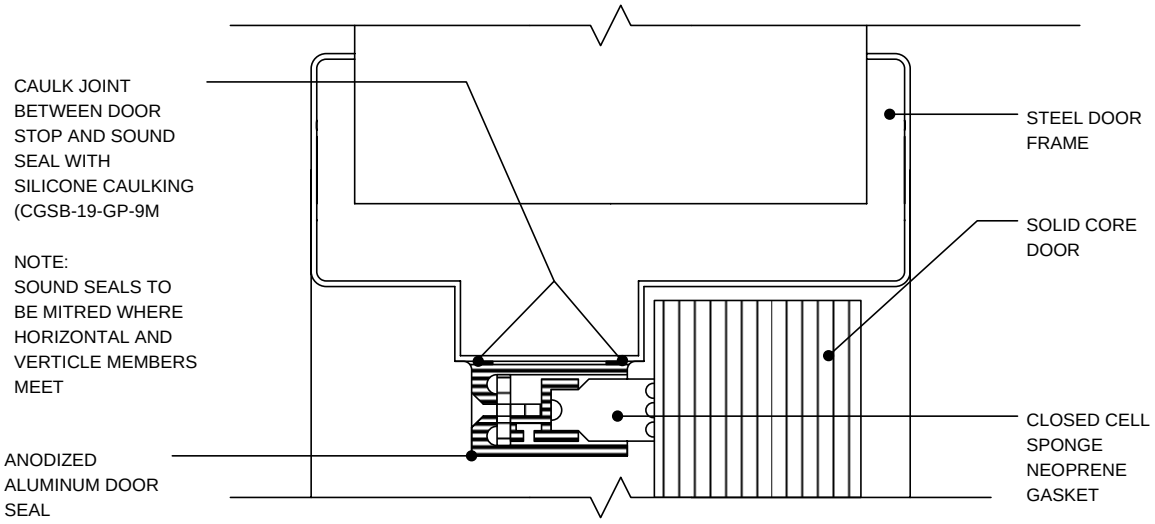
DOOR ELEVATION



SURFACE MOUNTED

AUTOMATIC DOOR BOTTOM DETAILS:

DOOR BOTTOMS SHALL BE EITHER PEMKO 430, REESE 521, OR REESE 330.



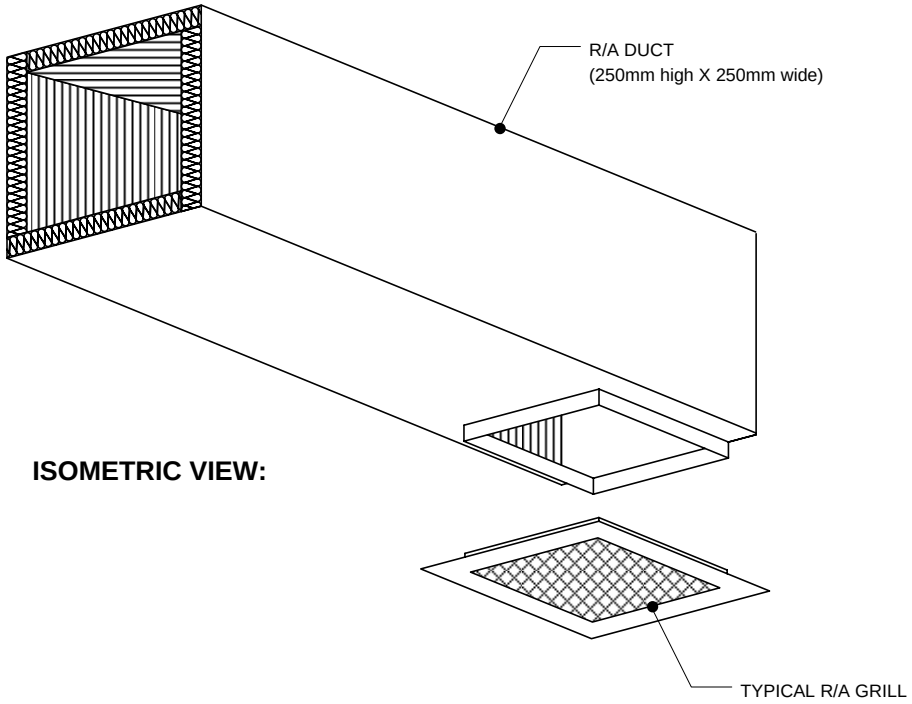
HEAD/JAMB SOUND SEAL DETAIL:

SOUND SEAL SHALL BE REESE 599

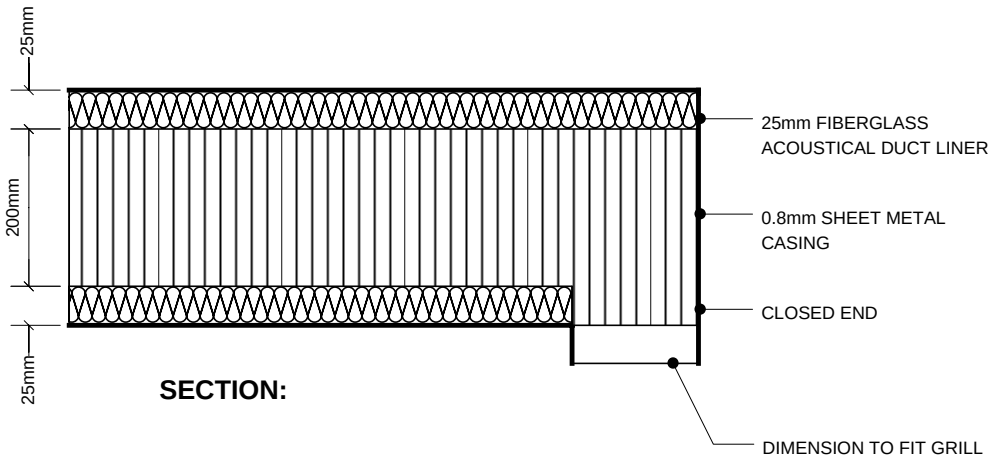
L

Sound-Rated Door Seals

Scale: n.t.s.



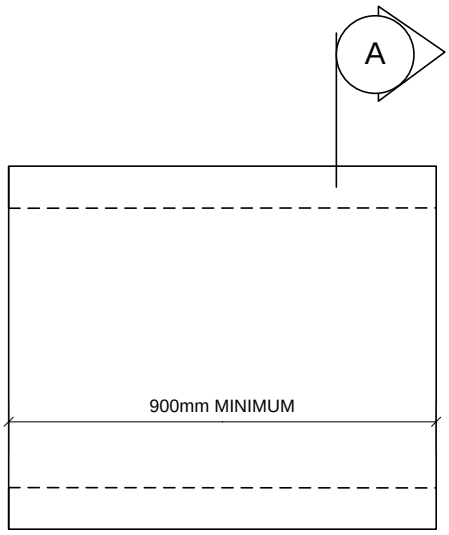
ISOMETRIC VIEW:



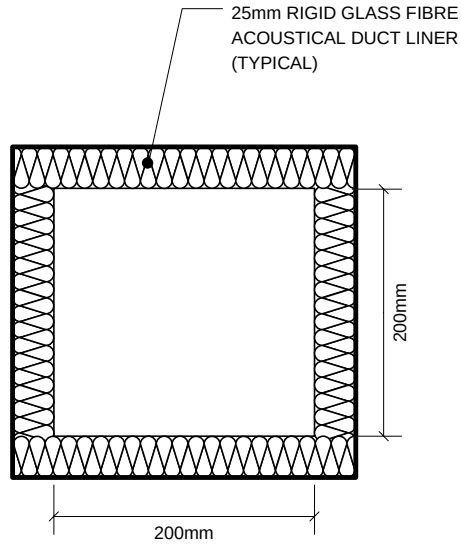
SECTION:

M

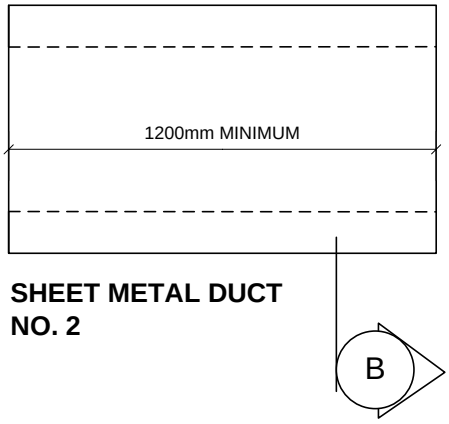
Return Air Grille – Acoustic Transfer Duct
Scale: n.t.s.



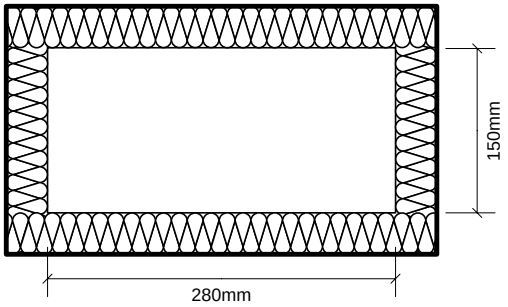
SHEET METAL DUCT NO. 1



SECTION: A



SHEET METAL DUCT NO. 2



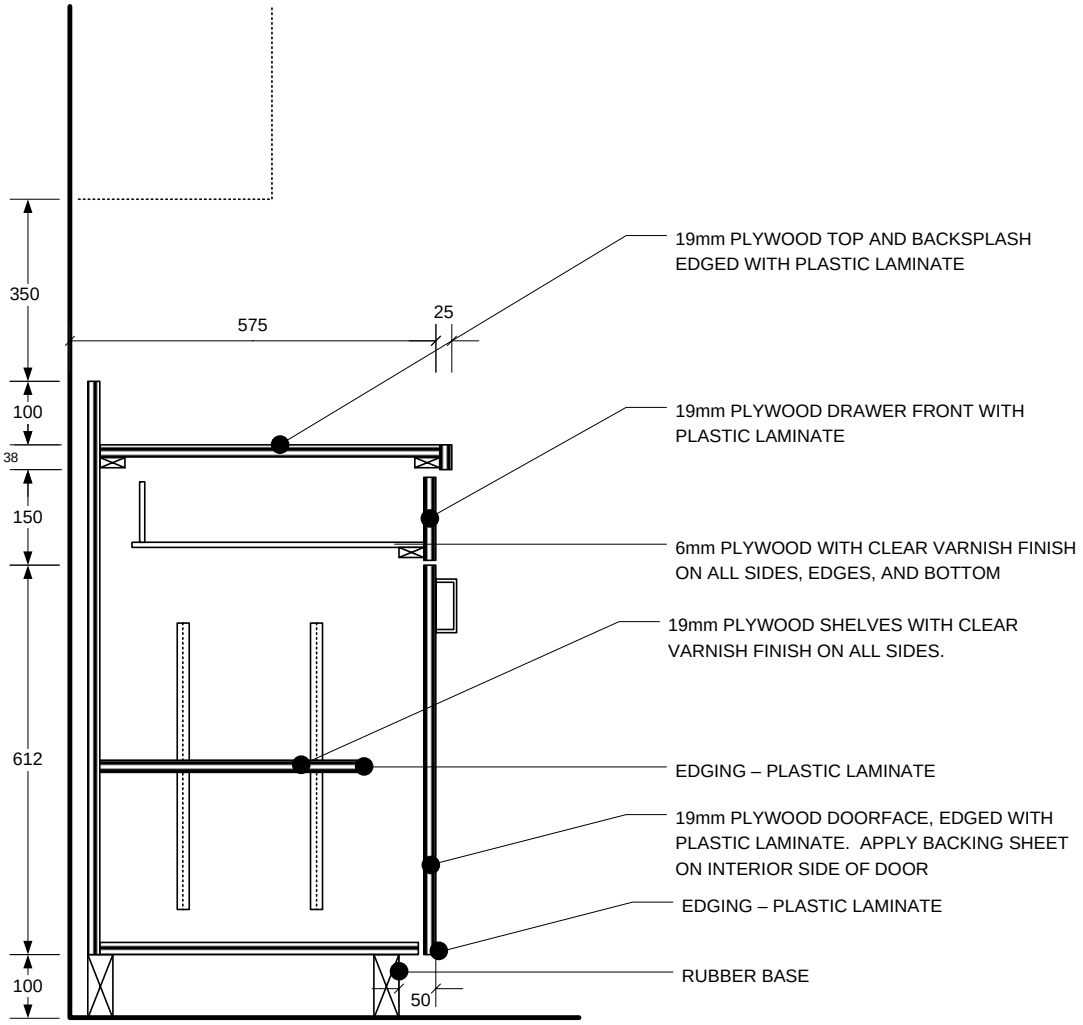
SECTION: B

CONSTRUCTION:

-INSTALL HALF OF DUCT ON EACH SIDE OF BARRIER.
-MORE THAN ONE DUCT MAY HAVE TO BE USED, DEPENDING UPON RETURN AIR REQUIREMENTS.
-RETURN AIR REQUIREMENTS TO BE DETERMINED BY A MECHANICAL CONSULTANT

N

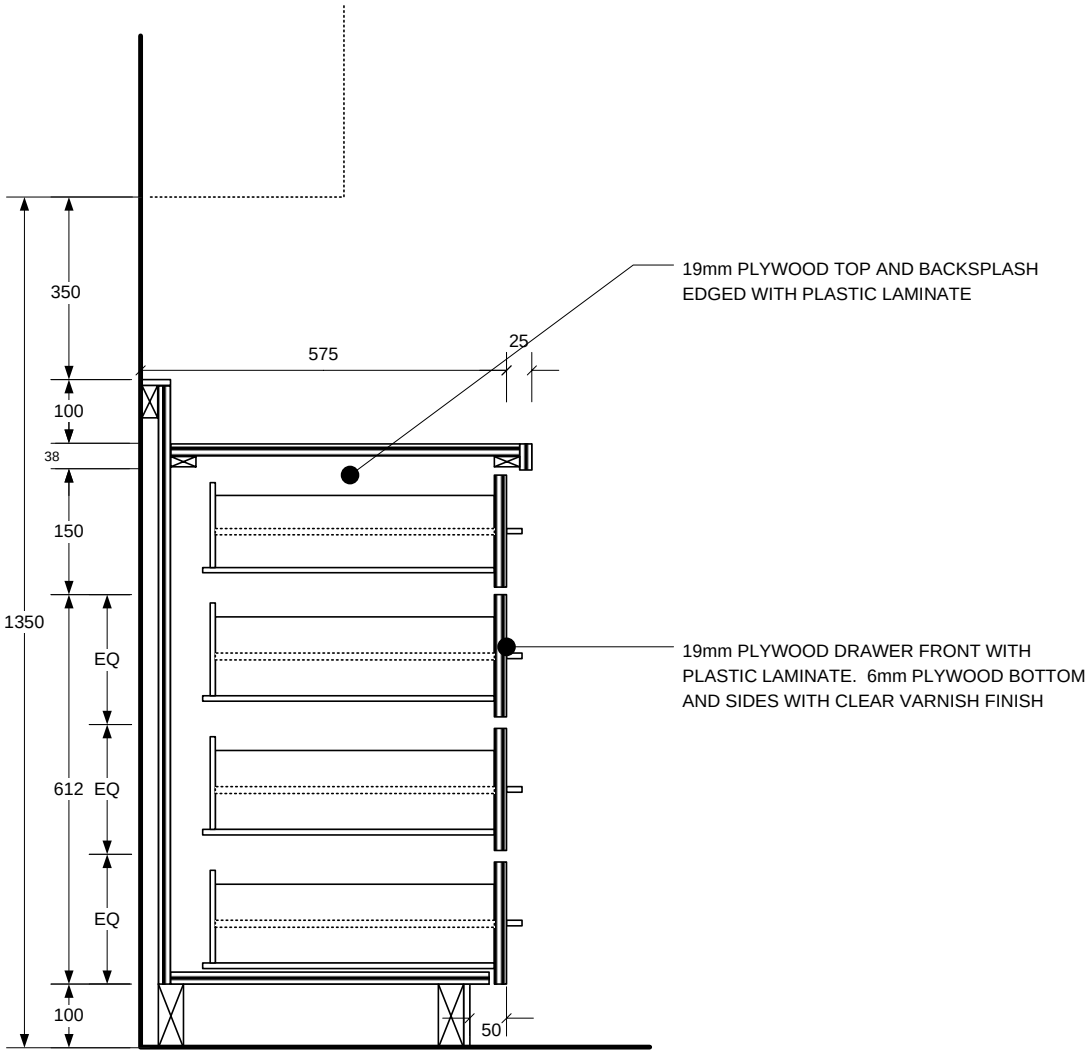
Acoustic Transfer Ducts for Plenum Barrier or Full-Height Walls (Totally Enclosed Room)
Scale: n.t.s.



Note:
MDF or particle board may be acceptable alternatives depending on use.

P1

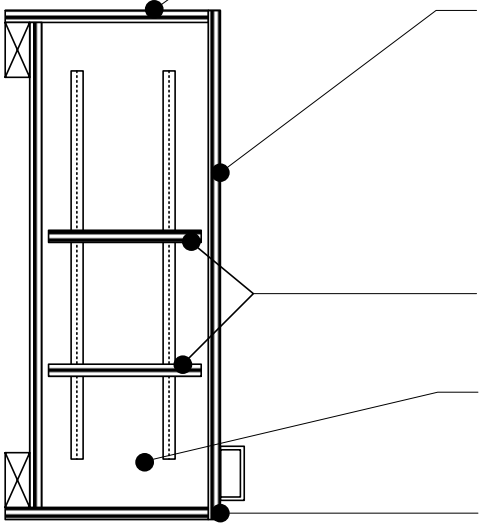
Counter c/w Drawer & Hinged Door
Scale: n.t.s.



Note:
MDF or particle board may be acceptable alternatives depending on use.

P2

Counter c/w Drawer & Hinged Door
Scale: n.t.s.

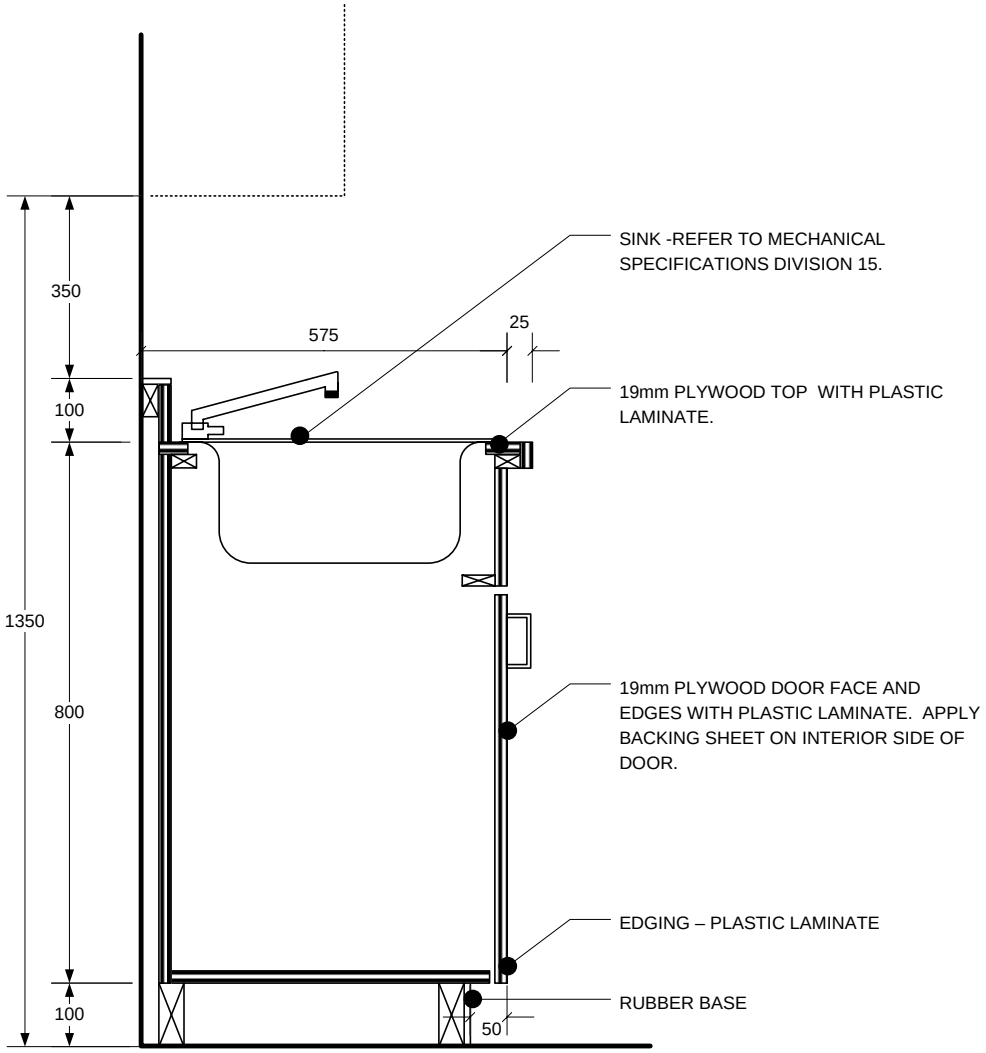


Note:

MDF or particle board may be acceptable alternatives depending on use.

P3

Overhead Cupboards
Scale: n.t.s.



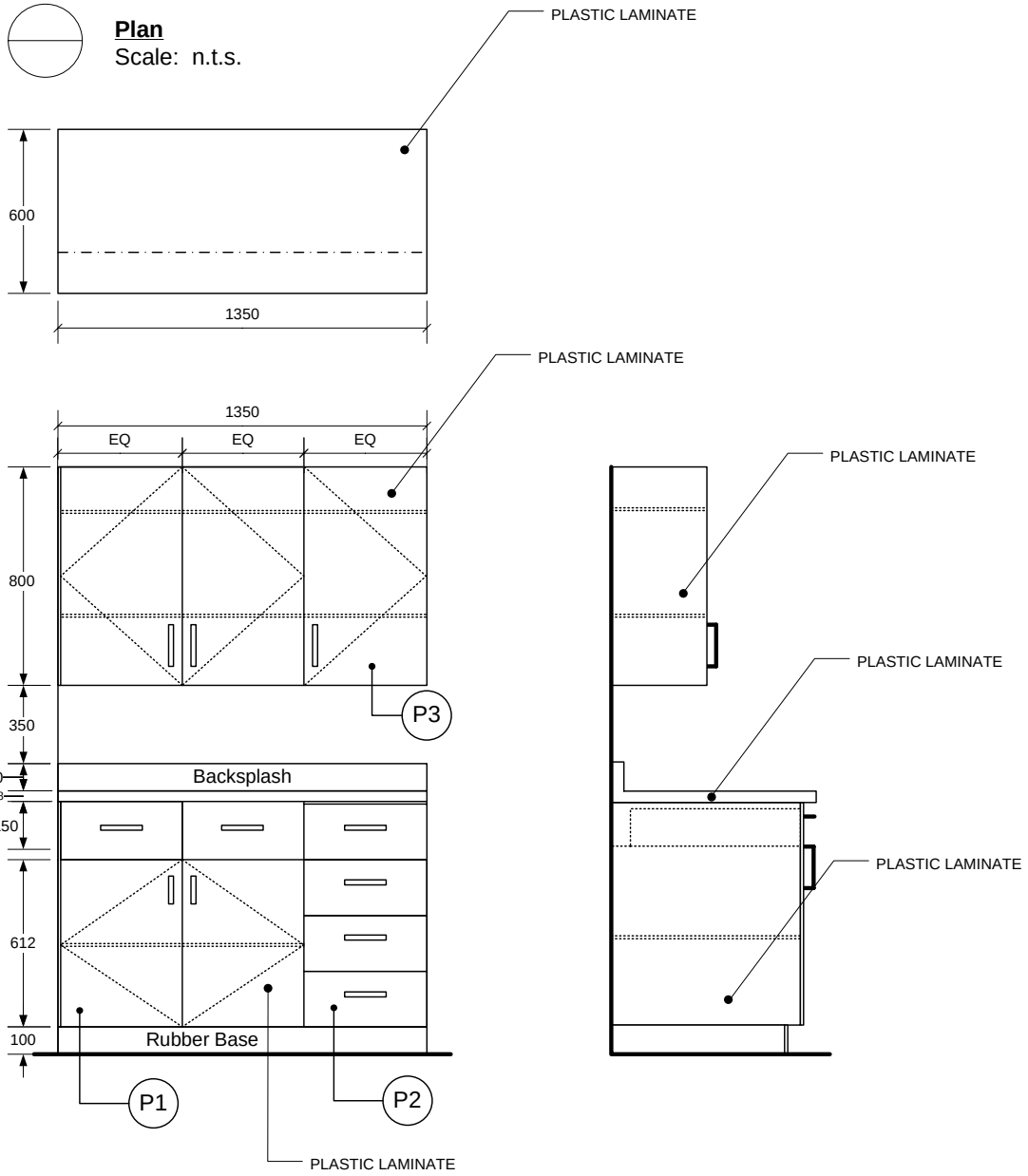
Note:

MDF or particle board may be acceptable alternatives depending on use.

P4

COUNTER C/W SINK

Scale: n.t.s.


Plan
Scale: n.t.s.
PLASTIC LAMINATE
600
1350
PLASTIC LAMINATE
1350
EQ
EQ
EQ
800
350
100
38
150
612
100
Backsplash
Rubber Base
P1
P2
P3
PLASTIC LAMINATE
Front Elevation
Scale: n.t.s.
PLASTIC LAMINATE
PLASTIC LAMINATE
PLASTIC LAMINATE
Side Elevation
Scale: n.t.s.

4.0 Reference Materials

.1 **Basic Master Specifications (BMS)**

http://www.infratrans.gov.ab.ca/INFTRA_Content/doctype486/production/bms_div_00_tofc.htm

Full specifications bidding and contract requirements for use by Project Management. This document forms the Contract with consultants and contractors.

.4 **"The Red Book" – Technical Design Requirements for Alberta Infrastructure and Transportation Facilities**

http://www.infratrans.gov.ab.ca/INFTRA_Content/docType486/Production/RedBook-14thEdition.pdf

Outlines technical design requirements for Alberta Infrastructure and Transportation Facilities and provides consultants an appropriate standard of technical design for new buildings, evaluation, upgrades and renovations in existing facilities.

.5 Specification Deliverables

http://www.infratrans.gov.ab.ca/INFTRA_Content/docType486/Production/SpecPrep.doc

http://www.infratrans.gov.ab.ca/INFTRA_Content/docType486/Production/FileFormats.doc

These links provide instructions that address issues most frequently encountered when preparing specifications.

.6 **Standards For Consultant Deliverables**

http://www.infratrans.gov.ab.ca/INFTRA_Content/docType486/Production/ConsultDeliverables2002-06.pdf

Describes established standards for consultant deliverables related to design and construction programs for buildings, referring to the production and submission of Alberta Infrastructure and Transportation 'deliverables' in the form of drawings, specifications, reports, schedules, etc. Document addresses three distinct areas:

.1 Software Standards
  .1 Identify software applications used by Alberta Infrastructure and Transportation, and acceptable formats for submission of consultant deliverables for building projects.

.2 CAD Drawing Standards
  .1 Identify established basic CAD drawings practices/conventions for building projects (except CAD layering).

.3 CAD Layering Standards
  .1 Describe the common and consistent approach to organizing and naming CAD drawing layers.

.7 **Start Up Procedure For Construction Projects**

http://www.infratrans.gov.ab.ca/INFTRA_Content/docType486/Production/CAF-01312.doc

Provides a checklist of issues to be addressed at construction start up, and reviewed at initial Project Team meeting.

.9 **Technical Standards**

http://www.infratrans.gov.ab.ca/INFTRA_Content/docType486/Production/Technical_Bulletins_TofC.htm

Technical standards drafted by Alberta Infrastructure and Transportation apply to all work performed in government owned and leased space, regardless of who carries out the project. Alberta Infrastructure and Transportation staff are available to client departments to consult on a variety of technical matters, including such areas as acoustics, mechanical, electrical, structural, architectural, and interior design systems ensuring that tenant improvements or work carried out by the client meeting Alberta Infrastructure and Transportation standards. For more information on resources available by Technical Services Branch, please refer to Technical Services Branch Technical Bulletin.

.11 **Title Blocks**

http://www.infratrans.gov.ab.ca/INFTRA_Content/docType486/Production/Title_Block_Dwg.htm

A collection of template drawings that contain the Alberta Infrastructure and Transportation title block and layers for a variety of disciplines, including architectural, structural, plumbing, mechanical, electrical, site development, etc.