MOT TESTING SCHEME

Requirements for Authorisation

CLASS III AND IV VEHICLES INSTALLATION AND EQUIPMENT REQUIREMENTS YEAR 2004

The Vehicle and Operator Services Agency, on behalf of the Secretary of State appoints Authorised Examiners and Designated Councils to carry out inspections known generally as MOT tests. This document sets out the application procedure and requirements that must be met.

IMPORTANT: THIS DOCUMENT SHOULD BE READ IN CONJUNCTION WITH THE REQUIREMENTS FOR AUTHORISATION FOR A VEHICLE TEST STATION (ALL CLASSES)

WARNING: Applicants are advised not to proceed with alterations to buildings or purchase of equipment, etc, before receiving written approval in principle from the Vehicle and Operator Services Agency.

Issue Date April 2008

Requirements for Class III & IV Testing

Contents

Premises, Test Bay and Equipment Layout

Premises, test bays and equipment layout will be considered suitable if they meet requirements laid out in "Requirements for Authorisation for all Classes".

1. a) a test bay and observation area housed in a weatherproof building;

   b) at least two off-road parking bays, or more if necessary, clearly marked as being for MOT test vehicles;

      The parking bays should be on hard standing each being not less than 4.5m by 2.5m marked by lines on the ground. If the average throughput is high (say over 20 tests per day) additional bays may be required at staff discretion. There must be a notice which clearly reserves the bays for MOT vehicles.

   c) a "Diesel Tested" sign if applicable.

2. A test bay with:

   a) clear unobstructed access from the entrance of the building;

   b) vehicle entrances and exits at least 2.4m high and 2.4m wide (except where the doorway is located within the 4.5m approach area of a Plate Brake Tester then the width must be at least 3.6m class III and 3.0m class IV);

   c) a width of at least 3.6m (minor intrusions such as wall piers may encroach on this dimension provided vehicle testing is not impeded); "Minor intrusion" means any part of the building structure or other fixtures which come within the minimum bay outline. They must be so positioned that vehicle movement and the recommended method of inspection are not impeded. Items of equipment other than the brake tester console and a desk surface for MOT purposes are not normally permitted;

   d) headroom of at least 2.4m (except over a lift - see e);

   e) headroom over a lift of at least 3.8m measured from the platform surfaces when fully lowered. The headroom should be extending rearwards 5m from starting from 0.5m beyond the non drive on end of the lift and at least 1.5m on each side of the lift longitudinal centre line. The width dimension may be gradually reduced to 1.2m on each side of the lift longitudinal centre line at a height of 3.8m;

   f) adequate general illumination.

Premises, Test Bay and Equipment Layout *(cont...)*

3. Equipment laid out:

   a) as shown in Annex 1 (other suitable layouts may be accepted);

   b) without walls or partitions between adjacent test bays;

   c) with at least 3.6m between the centre lines of test equipment in adjacent bays;

   d) with at least 0.5m clearance around all parts of the lift, including control boxes;

   e) with a clearance of at least 1.0m fore and 1.5m aft of a lift or pit to any entrance/exit door or wall.

Underside Inspection

The designated means of inspecting the underside of vehicles will be considered suitable if either a lift or a pit meeting the following is provided:

1. a wheel supporting platform lift (not centre post type) or a scissor lift with;

   a) platforms at least 3.9m long, without upstands or guard rails. Turning plates which are fixed or move less than 600mm longitudinally must be within the ±6mm limits. Rolled edges or vertical rails for jacking equipment may be allowed if not more than 25mm high. The platform length may include cross beams and cantilevered extensions, but not access ramps;

   b) platform surfaces capable of being raised at least 1.5m from the floor. Measured from the floor on which the tester stands;

   c) at least 800mm, but not more than 920mm, between the inner edges of the platforms and at least 1.90m between the outer edges. These dimensions may be met by means of adjustable platforms;

   d) a safe working load (SWL) of at least 3 tonnes; the SWL to be certified and clearly marked on the lift;

   e) jacking equipment having a minimum SWL of 1.5 tonnes, capable of simultaneously raising both front or both rear wheels of any vehicle, using the recommended test procedures and jacking points. If the jacking equipment does not move along the length of the inspection facility, duplicated equipment or satisfactory arrangements may be provided;

   f) adjustable captive bearing based turning plates that permit the steered wheels of any vehicle, when the lift is raised, to be turned freely from lock to lock. 'Captive' means that tools are required to remove any part of the turning plates. The distance between turning plate centres should be easily adjustable between limits of 1.14m and 1.67m. In all cases they should be free to rotate and move easily both laterally and longitudinally. When installed there must be a minimum distance of 3.35m from the centre of the turning plates to the drive on end of lift platforms. Fixed parts of turning plates must be at least 760mm apart. They should normally be not more than 25mm high and safe to drive on and off;

   g) If ATL or OPTL, combined steering and wheel play detectors from the VOSA approved list of equipment securely fixed to the lift. When installed there must be a minimum distance of 3.35m from the centre of the play detectors to the drive on end of lift platforms;

   h) chocks that operate automatically when the lift is raised. Permanent chocks may be fitted at the platform forward end, if not a 'drive-through' installation;

   i) if recessed confirmation that clearance provisions are as laid down in BS 7980:2003 Code of Practice for Vehicle Lifts. (This applies to new installations only, for existing installations, confirmation that the lift met the BSI 161AU or Garage Equipment Association standard at the time of installation);

Underside Inspection *(cont…)*

j) confirmation, in writing, by a competent person that the lift complies with all current safety standards (e.g. protection against pinching and shearing and roll off safety devices);

k) no wheel free equipment except for ATL or OPTL installations. No walkways;

l) if a scissor lift is used, there must be clear access between the platforms, i.e. scissors must be located underneath the platforms rather than between them;

m) if the lift is to the designated standard area for headlamp testing, the platforms must rest on fixed stops when lowered. Turn plates must be level to within ±6mm if they are not longitudinally adjustable by at least 600mm;

n) adequate general illumination.

2. A pit with:

a) an uninterrupted working length of at least 4.0m. Double length pits are not acceptable unless so modified that the MOT facility is isolated from the remainder of the pit. A cross pit RBT may be installed, (see C4.3.e)

b) a width of at least 760mm and not more than 920mm, over the working length;

c) a depth of at least 1.5m and not more than 1.8m, over the working length. Staging may be used to meet this requirement;

d) the capacity to accommodate vehicles weighing at least 3 tonnes;

e) sealing, which prevents the ingress of water;

f) bearing based turning plates and jacking equipment as required for a lift (see paragraph 1 above). The location of turning plates must be that the tester has adequate space to observe lock to lock from the front of the vehicle;

g) If ATL or OPTL, combined steering and wheel play detectors as required for a lift (see paragraph 1 above), adequate access for personnel which does not intrude on the working dimensions. Access steps may encroach on the 1.5m dimension to the wall, door or RBT provided there is a minimum 'gangway' floor width of not less than 600mm;

h) adequate access for personnel which does not intrude on the working dimensions. Access steps may encroach on the 1.5m dimension to the wall, door or RBT provided there is a minimum 'gangway' floor width of not less than 600mm;

i) adequate general illumination. This does not substitute for a hand held inspection lamp;

j) no upstands/guard rails. Rolled edges or vertical rails for jacking equipment may be allowed if not more than 25mm high.

Headlamp Aim Testing

A headlamp aim testing facility will be considered suitable if the following is provided:

1. A rail mounted headlamp tester either:

   a) on VOSA's latest list of Acceptable Equipment; or

   b) accepted by VOSA for use under the arrangements detailed in "Requirements for Authorisation for Vehicle Testing Station (All Classes)".

2. A headlamp tester installation with:

   a) a designated vehicle standing area which is certified as flat and level to within ±6mm and is either, (i) a clearly marked area of floor 3.6m long by 2.1m wide, which may straddle a pit, or roller brake tester, or is (ii) the lift platforms, or is (iii) the plates of a plate brake tester (surface mounted or flush fitting) which are certified as level to ±6mm in any 3m. Lift platforms must rest on positive stops when lowered. If during headlamp testing vehicle wheels rest on automatic chocks, or turning plates which are not longitudinally adjustable by at least 600mm, they must be within the ±6mm limits;

   b) rails certified as being level to within ±2mm and parallel to the standing area. The rails must be straight and the headlamp tester must not have excessive rock;

      The certificate for 'a' and 'b' above must show height measurement from a level plane at all intersecting points on a 300 (max) square grid covering the standing area and at points 300mm (max) apart on the rails. It must be signed by a competent person, such as a surveyor, manufacture's representative or agent and include date, status, address of firm and VTS address. A copy must be provided to VOSA for placing on the garage file. If the Roller Brake Tester encroaches on the standing area then the standing area levels must include the cover plates and meet the ±6 mm requirements.

   c) equipment correctly aligned to the standing area and positioned to take account of the vertical and horizontal location of headlamps tested;

   d) 1.0m (0.5m for 2005 specification equipment) clearance at the rear of the tester optical head. Floor mounted equipment such as brake testers must not be installed in this area;

   e) the height of the optical head must be adjustable so that the centre of the headlamp tester lens can be set to heights between at least 550mm and 1150mm (500 and 1200 for 2005 specification equipment) above the standing area;

   f) the floor must be durably and clearly marked with a datum line (or lines) at the recommended headlamp tester to headlamp lens distance (or zone) limits;

   g) any other test equipment within the standing area arranged so that it does not interfere with the proper testing of headlamps;

Headlamp Aim Testing *(cont…)*

h) where the installation encroaches on either the designated approach to or run-off area from a plate brake tester, the rails must extent laterally by sufficient a distance to allow the optical head to be moved completely outside of the areas;

i) additionally, in all installations, it is recommended that the rails are sunk into the ground to avoid any excess wear and tear on them, particularly where vehicles are driven over them.

3. Suitable arrangements for checking the alignment of the equipment with the standing area. Arrangements for checking alignment may consists of evidence provided either by a competent outside agency or by the VTS using the manufacturer's acceptable equipment. Provision must be made for checks to be carried out at no more than 6 monthly intervals and for records to be kept. It is acceptable if an alignment check is within the 6th calendar month in which the alignment was last checked.

Brake Testing

Brake testing equipment will be considered suitable if the following are provided;

1. A calibrated decelerometer on the VOSA's latest List of Acceptable Equipment;

2. Either a calibrated roller brake tester or a calibrated plate brake tester that is;

   a) on VOSA's latest List of Acceptable Equipment; or

   b) accepted by VOSA for use under the arrangements detailed in "Requirements for Authorisation for Vehicle Testing Station (All Classes)".

3. A **roller brake tester** must be installed so that:

   a) it is centrally located in an unobstructed, substantially level area, at least 9.0m long and 2.4m wide. The 9.0m by 2.4m area is a working space. At least 3.6m to the front and to the rear of the RBT centre line should be substantially level (which in good building practice is within ±12mm of a level plane). If ATL weighing facility is installed in the level area it must meet the above criteria for level;

   b) for 'in-line' layouts, any aperture in the roller brake tester floor plate is at least 1.5m from the inspection pit or lift platform. The 1.5m dimension should not include any part of the RBT floor plate which is sloping;

   c) vehicles are substantially level while being tested (a gradient of not more than 5%). 'Substantially level' in this context means that the RBT should be installed in accordance with the manufacturer's instructions;

   d) the console is positioned so that it can easily be read by the tester performing the test on the vehicle;

   e) when a cross-pit RBT is installed for MOT use, the length of pit taken up by the RBT shall be **in addition** to the minimum working length of pit specified for the under vehicle inspection. To meet this requirement, a distance of 1.5 metres will be added to the minimum pit length required. The extra 1.5m shall be measured to the first aperture in the top surface of the RBT. There must also be an interlock that prevents operation of the RBT when a person in the pit is in the vicinity of the RBT.

Brake Testing *(cont…)*

4. A **plate brake tester** must be installed so that:

   a) there is not less than 2.0m between the outer edges of the high friction working surfaces of each pair of plates (flush mounted);

   b) there is not greater than 1.0m between the inner edges of the high friction working surface of each pair of plates;

   c) a clear area of 4.5m shall be provided in advance of the plate brake tester. This area must be substantially level, i.e. any gradient must not exceed 5% (50mm in 1m). The 4.5m may be totally enclosed within the building, totally outside the building, or partly inside and outside, and must be kept free from substances which may affect traction of the vehicle, such as oil, high-gloss paint, etc.;

   d) where it is perceived that there may be a safety risk to people walking around inside the test bay, barriers and/or warning signs may be required to be erected along the approach area and/or the run-off area for the duration of the test;

   e) the plates are centrally located in a substantially level test area which (including approach and run-off area) is at least 3.0m wide;

   f) doorways positioned within the 4.5m approach area must be at least 3m wide class IV, 3.6m class III (see page 12);

   g) the installation height of the plates must not exceed 50mm above the surrounding floor;

   h) where the plate surface is not flush with the surrounding floor, lead on and off ramps shall provide a gradient of not more than 25%;

   i) surface mounted equipment must be located at least 1.5m from any doorway. This condition does not apply to flush fitted plate brake testers (lead on/off ramps can be positioned within the 1.5m area);

   j) a vehicle can be permitted to reverse out of the building during the brake test, providing the doorway does not open onto any footpath or roadway to which the public have access. Where the vehicle is permitted to reverse from the building, barriers must be installed to stop anyone walking into the path of the vehicle as it reverses through the doorway. The barriers, either permanent or capable of being suitably positioned at times when the plate brake tester is in use, must extend outwards from the building by a minimum of 3.0m and have a minimum height of 1.0m;

   k) a clear run off distance of 3.0m shall be provided after the plate brake tester working surface (this does not include any part of the lift platforms);

   l) in the case of a 'drive-through' layout where the plate tester is fitted AFTER the lift or pit there shall be a clear distance of 4.5m between them. Lead-off ramps from floor mounted lifts shall not encroach on this area;

   m) the console is positioned so that it can easily be read by the tester performing the test on the vehicle.

Brake Testing *(cont…)*

General

1. Roller/plate brake tester user/operator instructions.

2. A means of determining brake efficiency and imbalance from the roller/plate brake tester readings.

3. Suitable arrangements for re-calibration of the decelerometer, and either the roller brake or the plate brake tester (whichever is installed). The arrangements for checking calibration of the brake tester are similar to those for the headlamp tester. Provision must also be made for the decelerometer calibration to be checked by a competent outside agency at not more than two yearly intervals and for records to be kept.

4. Any non MOT equipment, if positioned in the test area, must be flush fitted.

5. ATL Roller and Plate brake testers must incorporate a weighing facility either installed within the equipment or remotely installed with an electronic link to the equipment.

Emissions Testing Equipment

SPARK IGNITION ENGINE EMISSIONS

All class 4 testing stations must have an analyser which meets the requirements below.

1. Exhaust gas analysis equipment will be considered suitable for all spark ignition engined vehicles if the following is provided;

a) a calibrated "1996 specification" exhaust gas analyser on VOSA's latest List of Acceptable Equipment;

b) gas analyser user/operator instructions;

c) suitable arrangements for re-calibration;

d) confirmation that the analyser contains the current up to date data base.

DIESEL ENGINE EMISSIONS

In addition to the above, all testing stations wishing to test diesel engined vehicles must have diesel smoke test equipment which meets the following requirements:

2. Diesel smoke test equipment will be considered suitable if the following is provided:

a) a calibrated diesel smoke meter on VOSA's latest List of Acceptable Equipment;

b) an oil temperature measuring device on VOSA's latest List of Acceptable Equipment;

c) smoke meter use/operator instructions;

d) suitable arrangements for re-calibration.

Class III Testing Only

Where only Class III testing is conducted the requirements for Class IV are varied as follows:

1.1 **Premises, Test Bay and Equipment Layout**

1.1.1. Premises: (No variations)

1.1.2. Test Bay:

a) vehicular entrances and exits at least 2.4m wide and 2.1m high;

b) bay width at least 3.4m;

c) bay headroom at least 2.1m;

d) headroom above lift platforms at least 3.2m over the area specified.

1.1.3. Equipment layout:

a) at least 3.0m between the centre lines of the test equipment in adjacent bays;

b) at least 900mm to the nearest obstruction in front of the forward end of the inspection facility;

c) at least 900mm between an inspection pit or platform and any vehicular entrance or exit.

2.2. **Underside Inspection**

2.2.1. Lift:

a) platforms at least 3.00m long and 1.67m between the outer edges with a suitable bridge and turning plate;

b) a suitable method of supporting the 'single wheel' (at least 1000kg SWL capacity) of any three wheeled vehicle on a firm surface and on a turning plate. A single wheel support must cater for single front or rear wheel configuration and there must be acceptable arrangements for testing headlamps aim, if applicable, for both wheel layouts;

c) jacking equipment at least 500kg SWL capacity.

Class III Testing Only *(cont…)*

2.2.2. Pit:

a) an uninterrupted working length of at least 3.4m, with a single bridge and turning plate;

b) a suitable method of supporting the 'single wheel' (at least 1000kg SWL capacity) of any three wheeled vehicle on a firm surface and on a turning plate. A single wheel support must cater for single front or rear wheel configuration and there must be acceptable arrangements for testing headlamp aim, if applicable, for both wheel layouts;

c) jacking equipment at least 500kg SWL capacity.

2.3. **Headlamp Aim Testing**

a) a vehicle standing area at least 3.0m long and 1.8m wide;

b) if the plate brake tester is the vehicle standard area, the plates shall be FLUSH with the surrounding floor and certified as level to ±6mm in any 3m.

2.4. **Brake Testing**

2.4.1. Roller Brake Tester

a) a roller brake tester centrally located in an unobstructed, substantially level area at least 7.3m long and 2.1m wide. 'Substantially level' in this context means that the RBT should be installed in accordance with the manufacturer's instructions and that lift platforms (where applicable are within ±12mm of a level plane);

b) at least 900mm between an inspection pit or lift platform and any aperture in the roller brake tester floor plate, if an in-line layout.

2.4.2. Plate Brake Tester

a) a flush-fitting plate brake tester must be installed;

b) the plate brake tester must be centrally located in a substantially level test area which (including the approach and run-off area) is at least 3.6m wide;

c) doorways positioned within the 4.5m approach to the plate brake tester must be at least 3.6m in width (to enable vehicles to be off-set to test the single wheeled axle).

Note:- The Brake testing facility must be able to cater with either a single front or rear wheel configuration.

2.5. **Emissions Testing**

Emissions testing of petrol and diesel engined Class 3 vehicles are not required.

Class III Combined with Class IV Vehicle Testing

2.6 Premises and equipment considered suitable for Class IV (Non ATL or Non OPTL) testing will also be accepted for Class III, and 3-wheeled Class IV testing if the underside inspection facility has the following:

a) a suitable method of supporting the 'single wheel' of any three wheeled vehicle on a firm surface and on a turning plate. A single wheel support must cater for single front or rear wheel configuration and there must be acceptable arrangements for testing headlamp aim, if applicable, for both wheel layouts;

b) a 'single wheel' support suitably located to allow proper headlamp aim testing, if the facility is also the designated standard area;

c) suitable jacking arrangements. If the jacking equipment is unsuitable for raising a 3 wheeler single wheel there must be suitable additional equipment of 500kg capacity.

Layout Drawings

NOTES TO ACCOMPANY LAYOUT DRAWINGS FOR CLASS III AND IV REQUIREMENTS FOR APPOINTMENT

(These are sample layouts only. They are not drawn to scale and are not intended to be used as architectural drawings).

1. Headlamp tester positioning is dependent on various factors

2. Standing areas are diagonally shaded;

3. **Class III**: Doorways positioned within the 4.5m approach to the plate brake tester must be at least 3.6m in width;
   Class IV: Doorways positioned within the 4.5m approach to the plate brake tester must be at least 3.0m in width;

4. Lifts and pits may be regarded as interchangeable in all layouts.

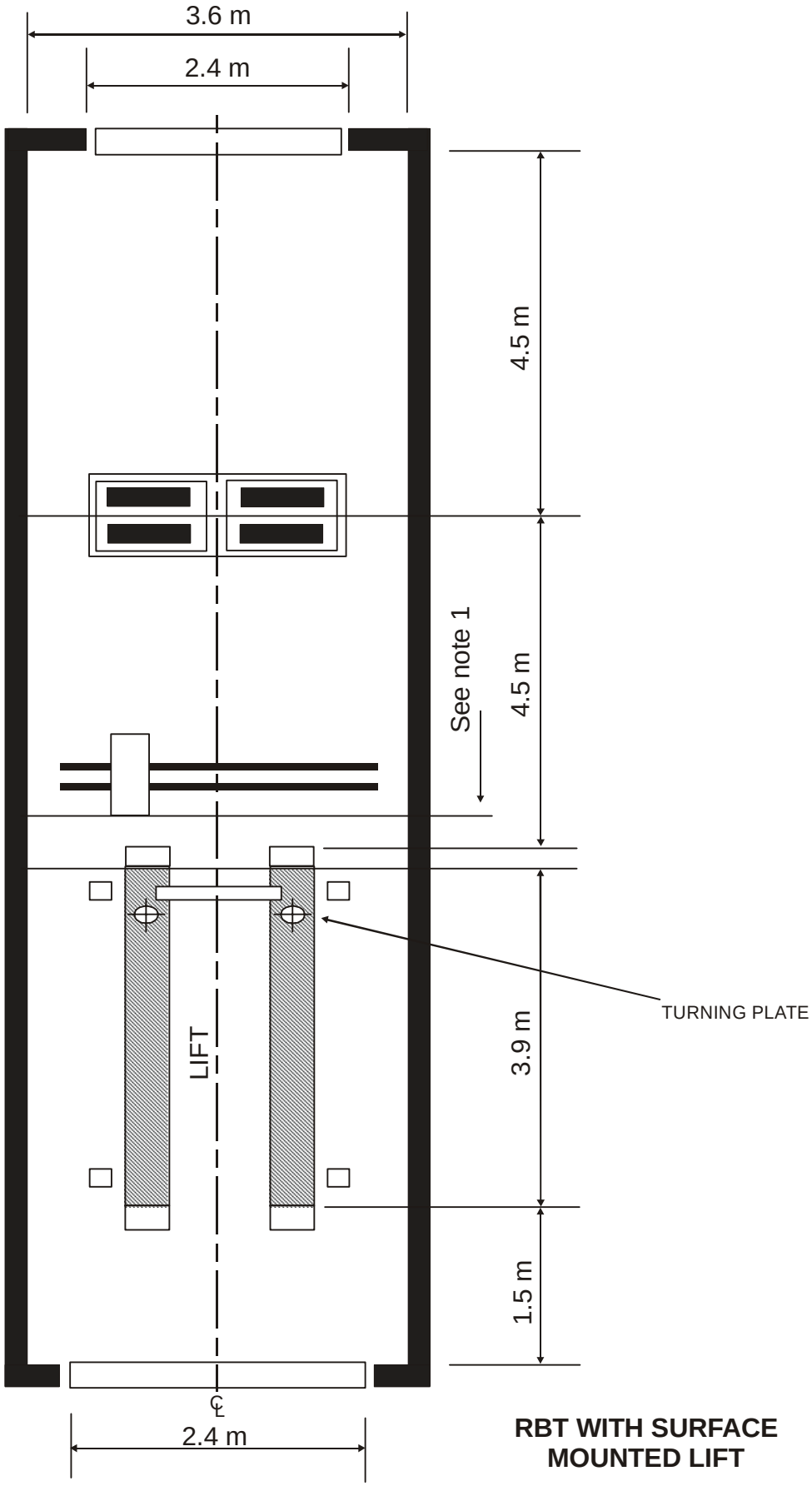
5. The dimensions shown are **minimum requirements** measured from the inside of walls and doors. (See warning below);

6. A clear distance of at least 4.5m shall be provided in advance of a plate brake tester installation.

WARNING: Adequate passageway clearance must be provided around testing facilities. In small test bays this may not be achievable with some standard specification test equipment (e.g. lifts with motors on a column).

Alternative layouts will be considered providing all dimensional requirements are met.

Layout Drawings *(cont…)*

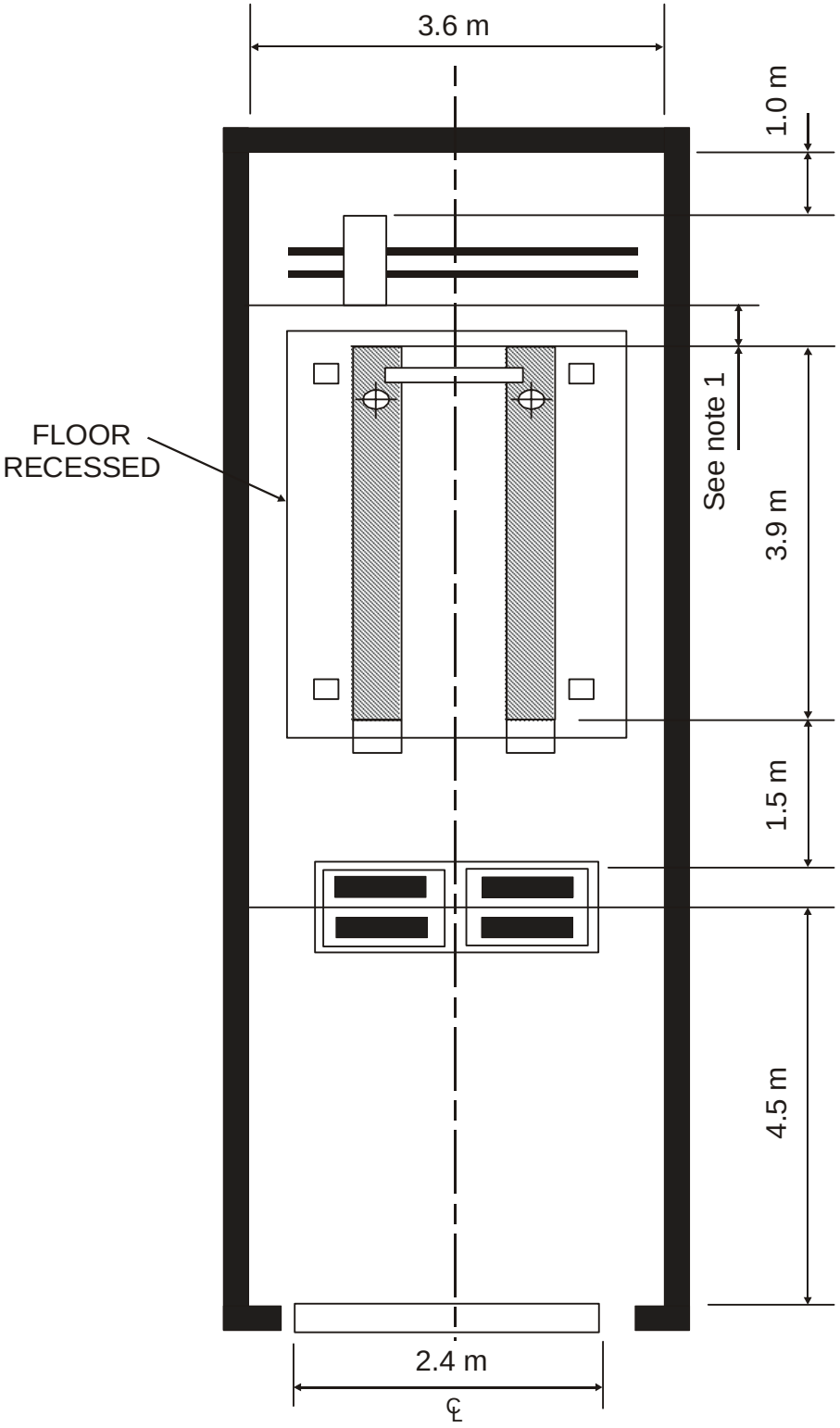


RBT WITH SURFACE MOUNTED LIFT

LAYOUT 1 (PREFERRED)

℄ Centre Line

Layout Drawings *(cont…)*

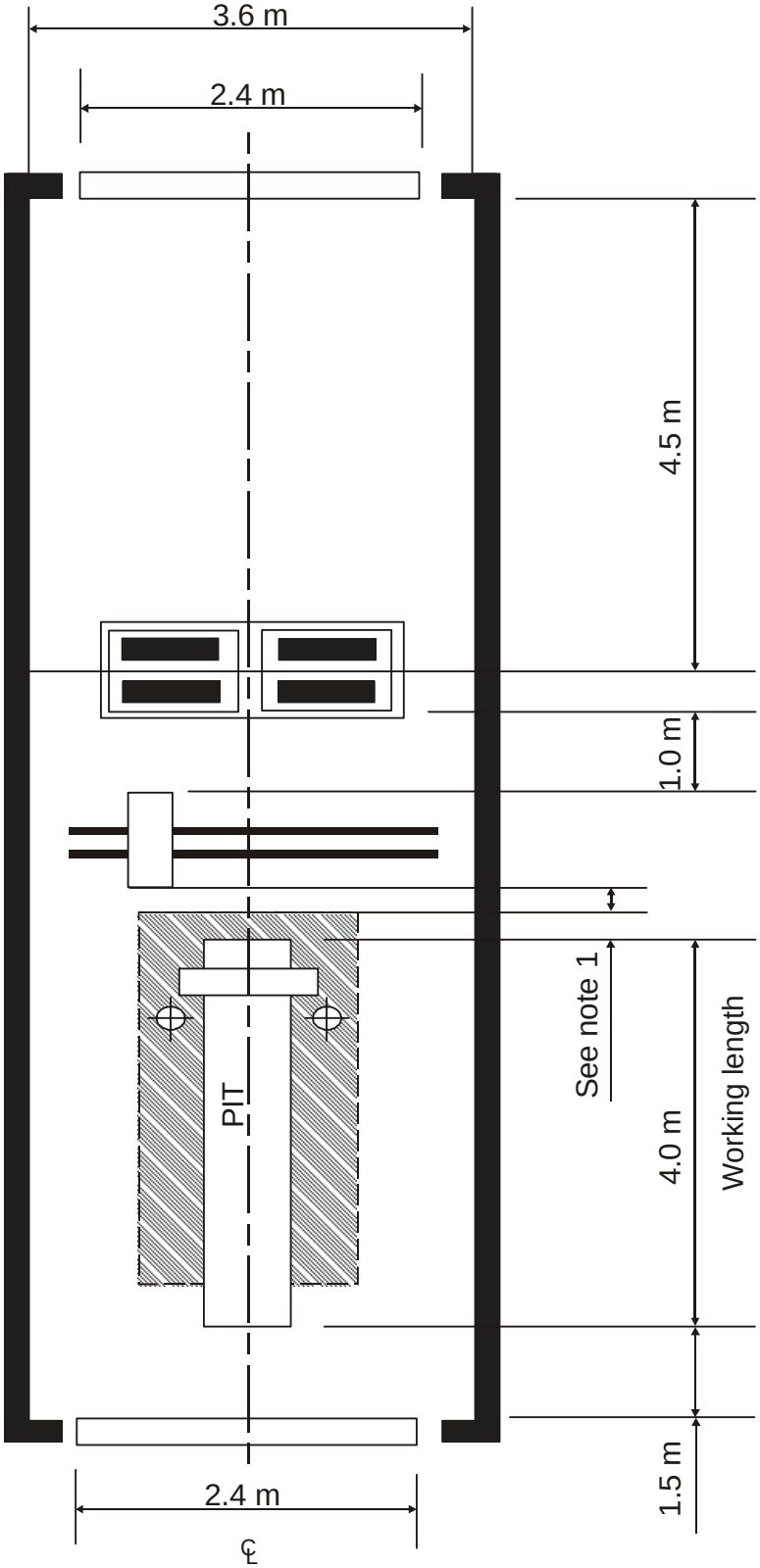


RBT WITH RECESSED LIFT

LAYOUT 2

℄ Centre Line

Layout Drawings *(cont…)*

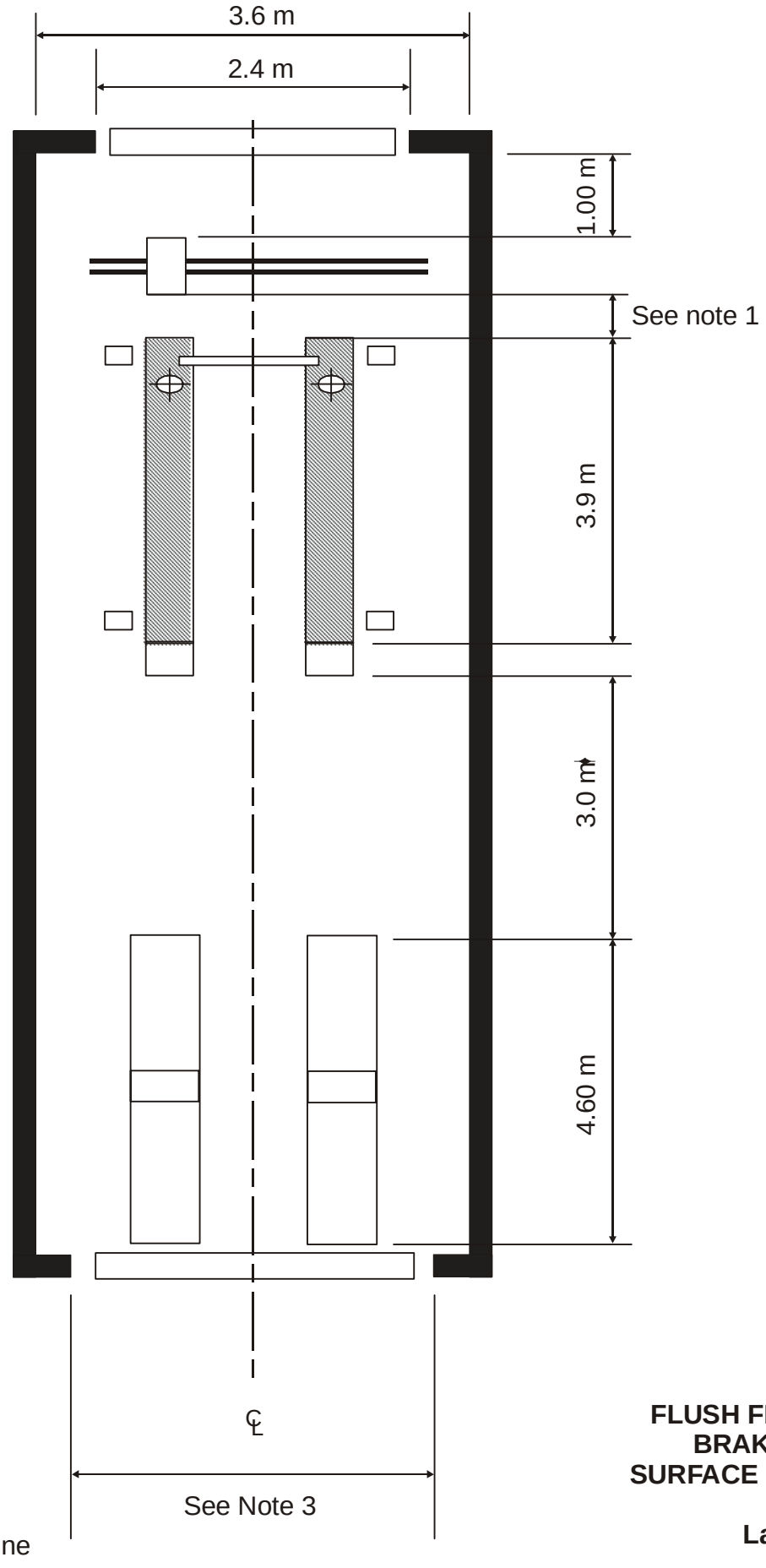


RBT WITH PIT

LAYOUT 3

℄ Centre Line

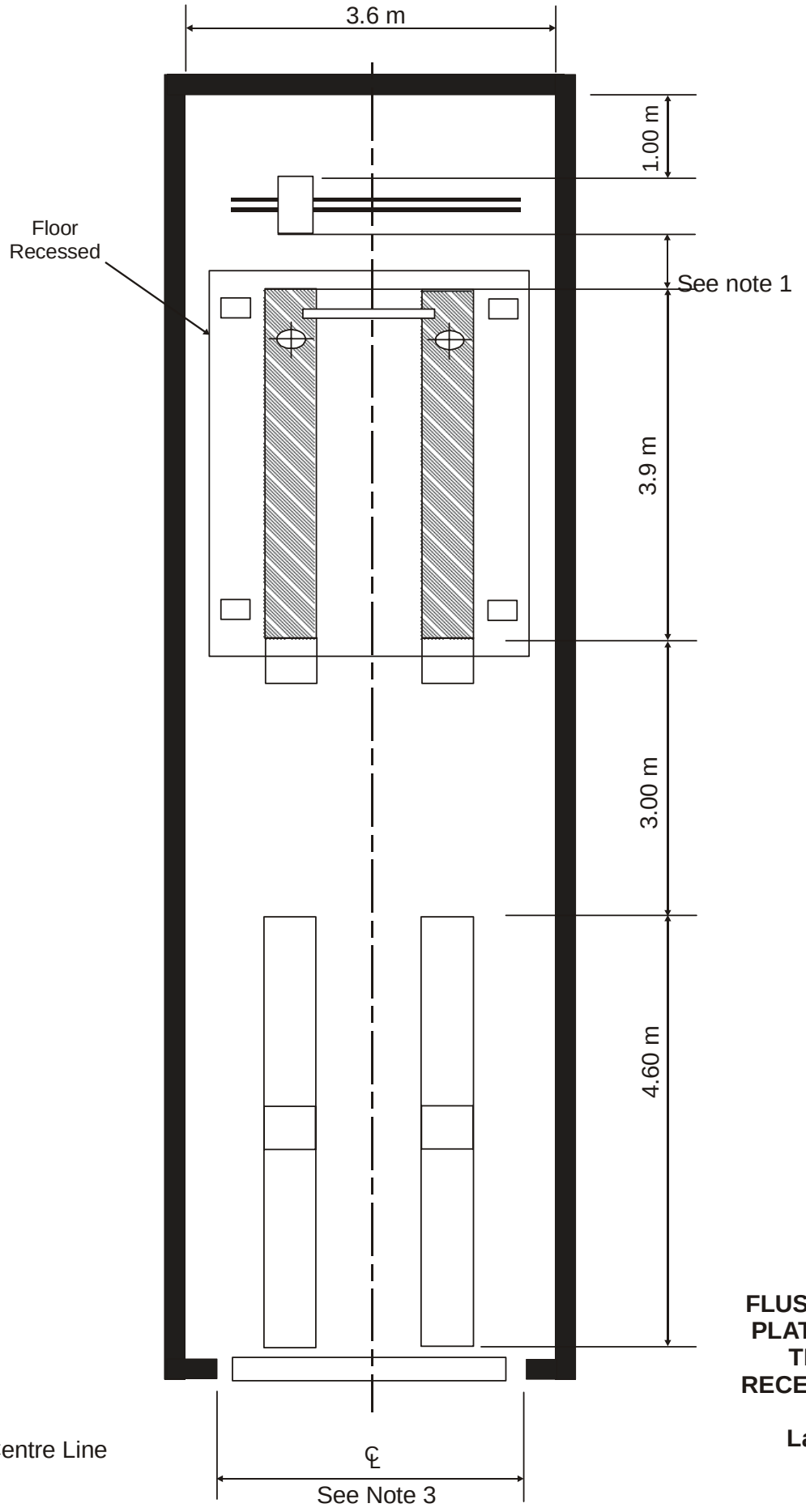
Layout Drawings *(cont…)*



FLUSH FITTING PLATE
BRAKE TESTER
SURFACE MOUNTED LIFT

Layout 4

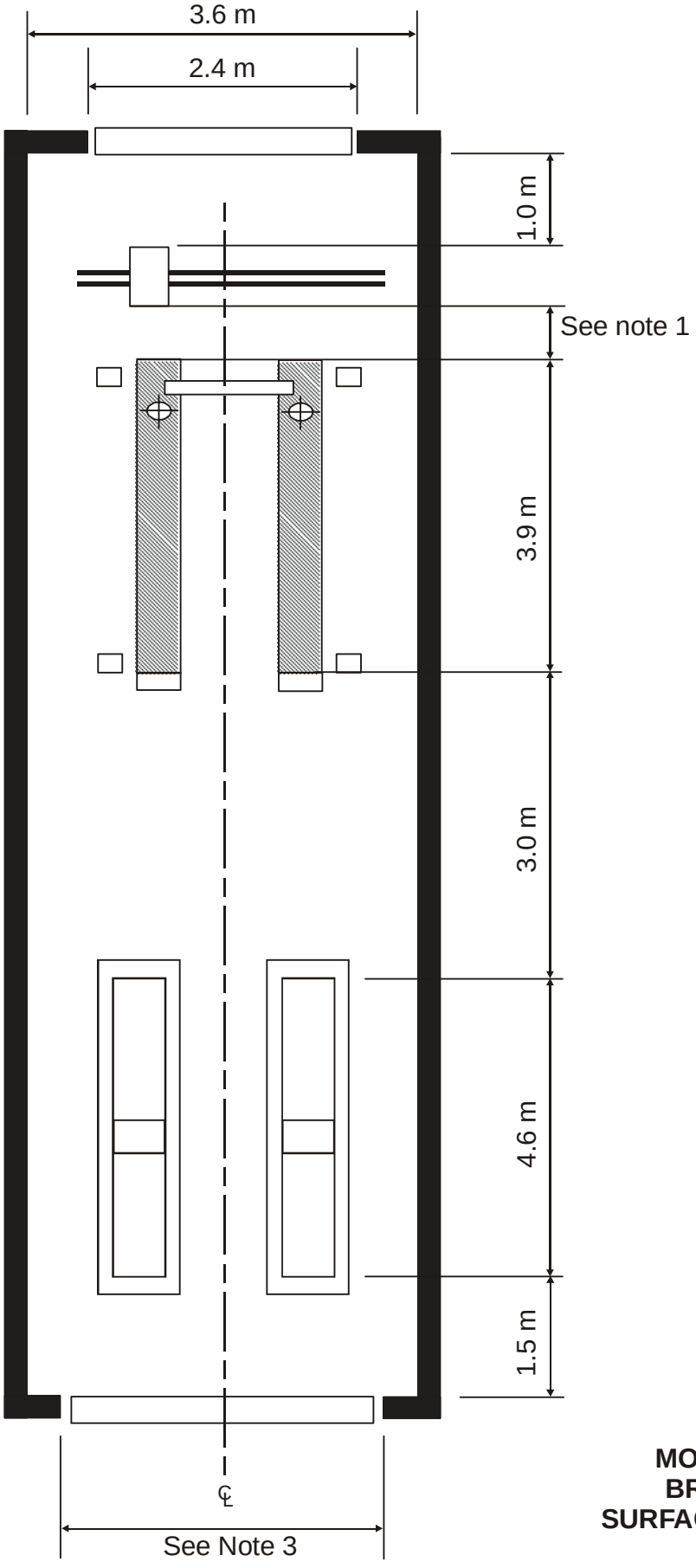
Layout Drawings *(cont…)*



FLUSH FITTING PLATE BRAKE TESTER RECESSED LIFT

Layout 5

Layout Drawings *(cont…)*

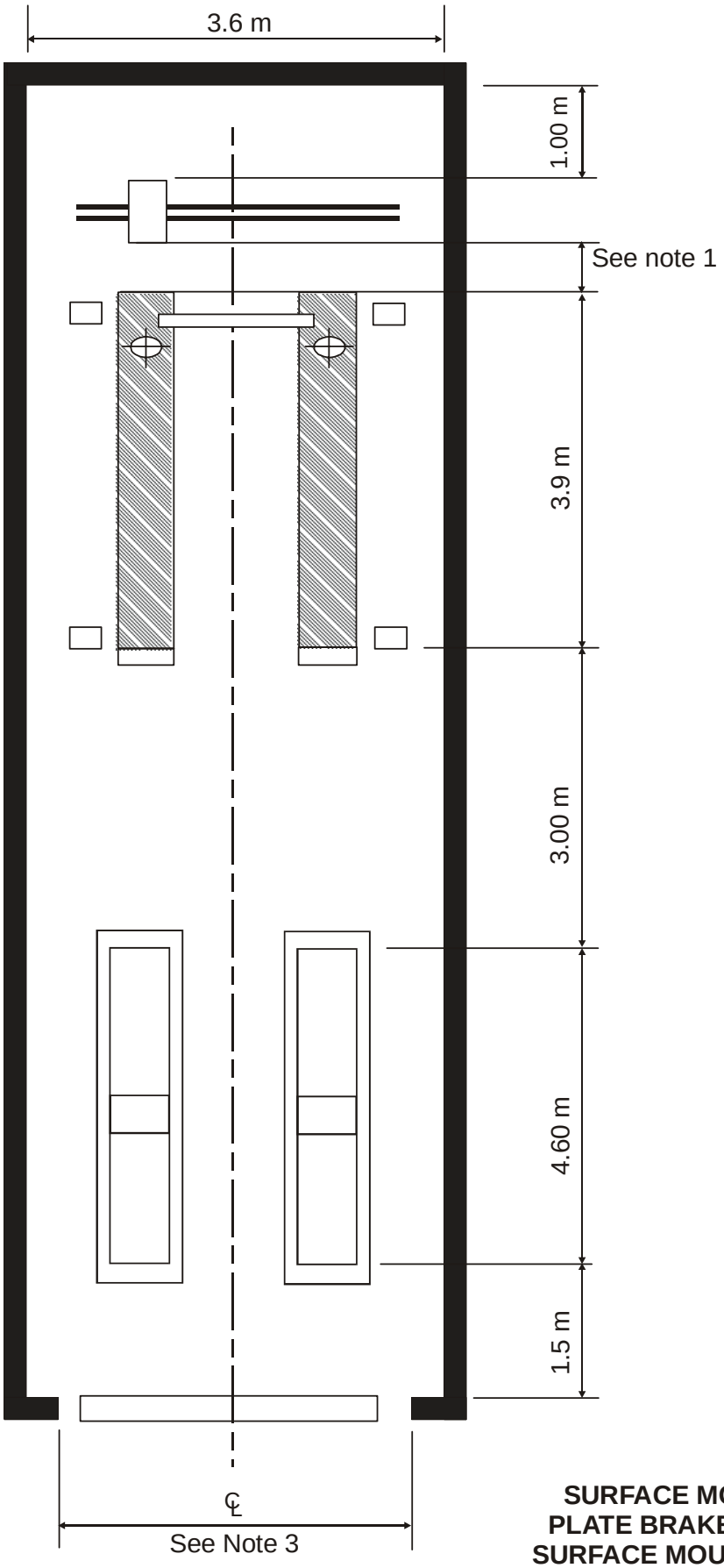


SURFACE MOUNTED PLATE BRAKE TESTER SURFACE MOUNTED LIFT

Layout 6

℄ Centre Line

Layout Drawings *(cont…)*

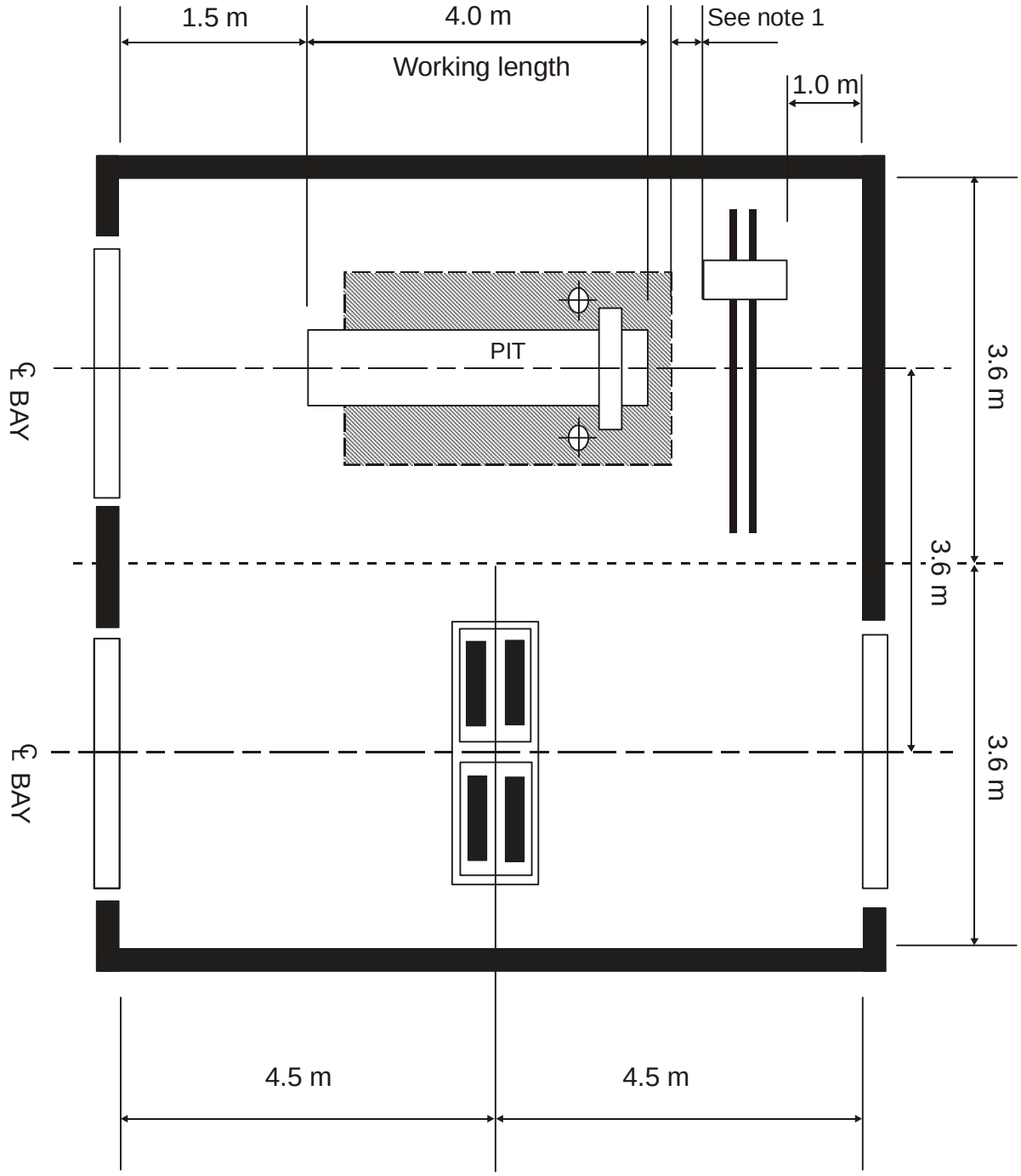


SURFACE MOUNTED
PLATE BRAKE TESTER
SURFACE MOUNTED LIFT

Layout 7

℄ Centre Line

Layout Drawings *(cont…)*

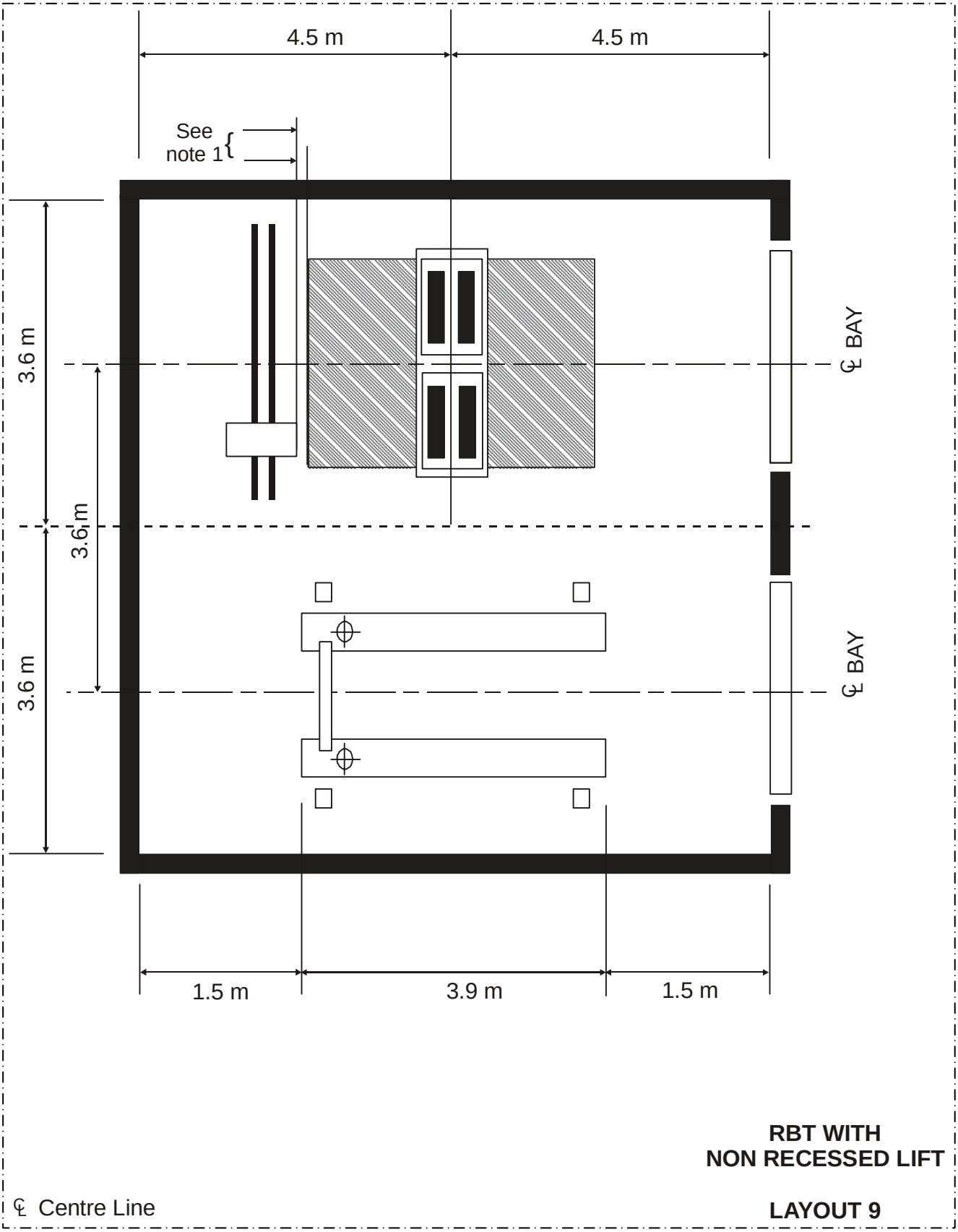


RBT WITH PIT

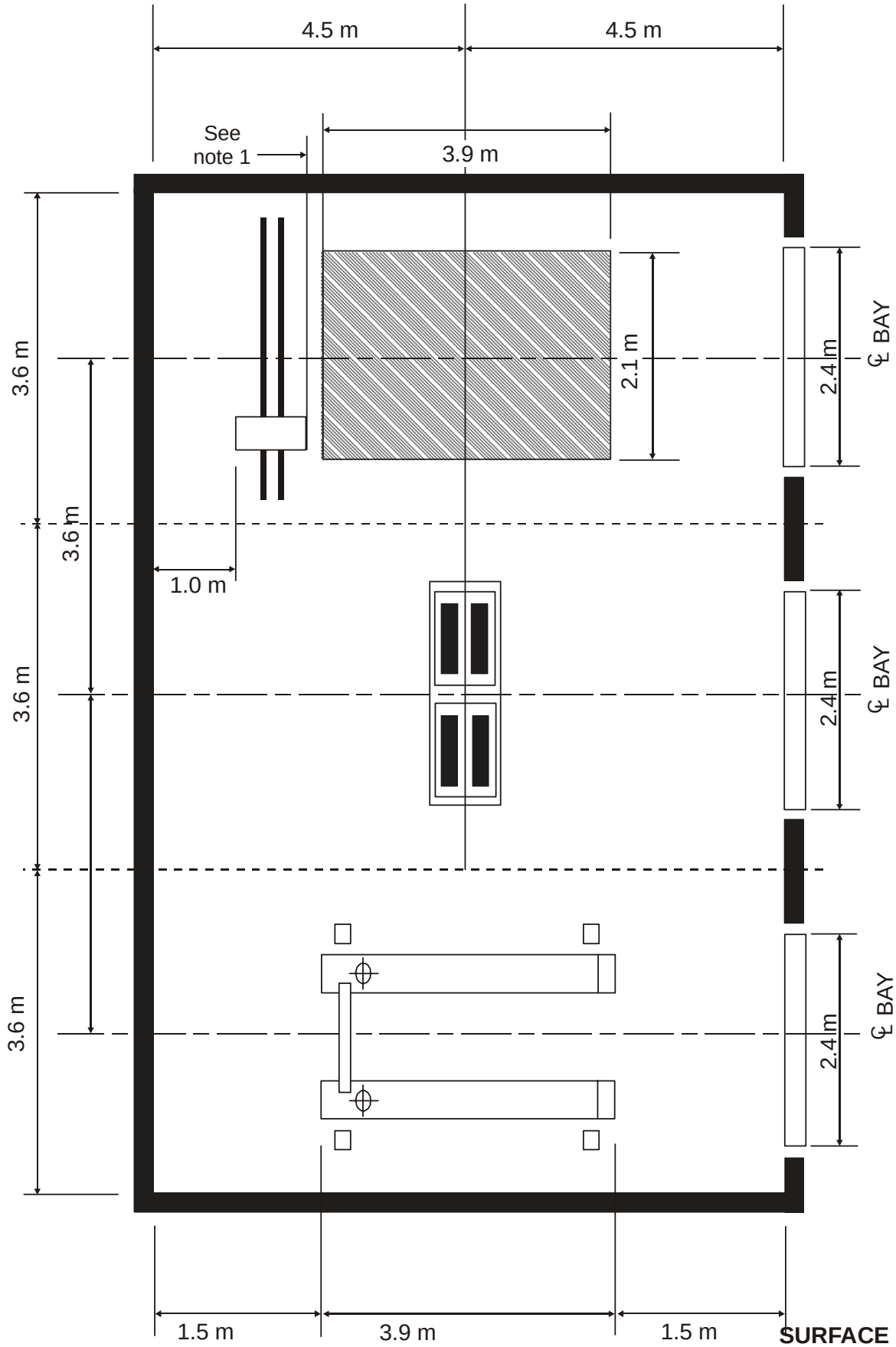
LAYOUT 8

℄ Centre Line

Layout Drawings *(cont…)*



Layout Drawings *(cont…)*

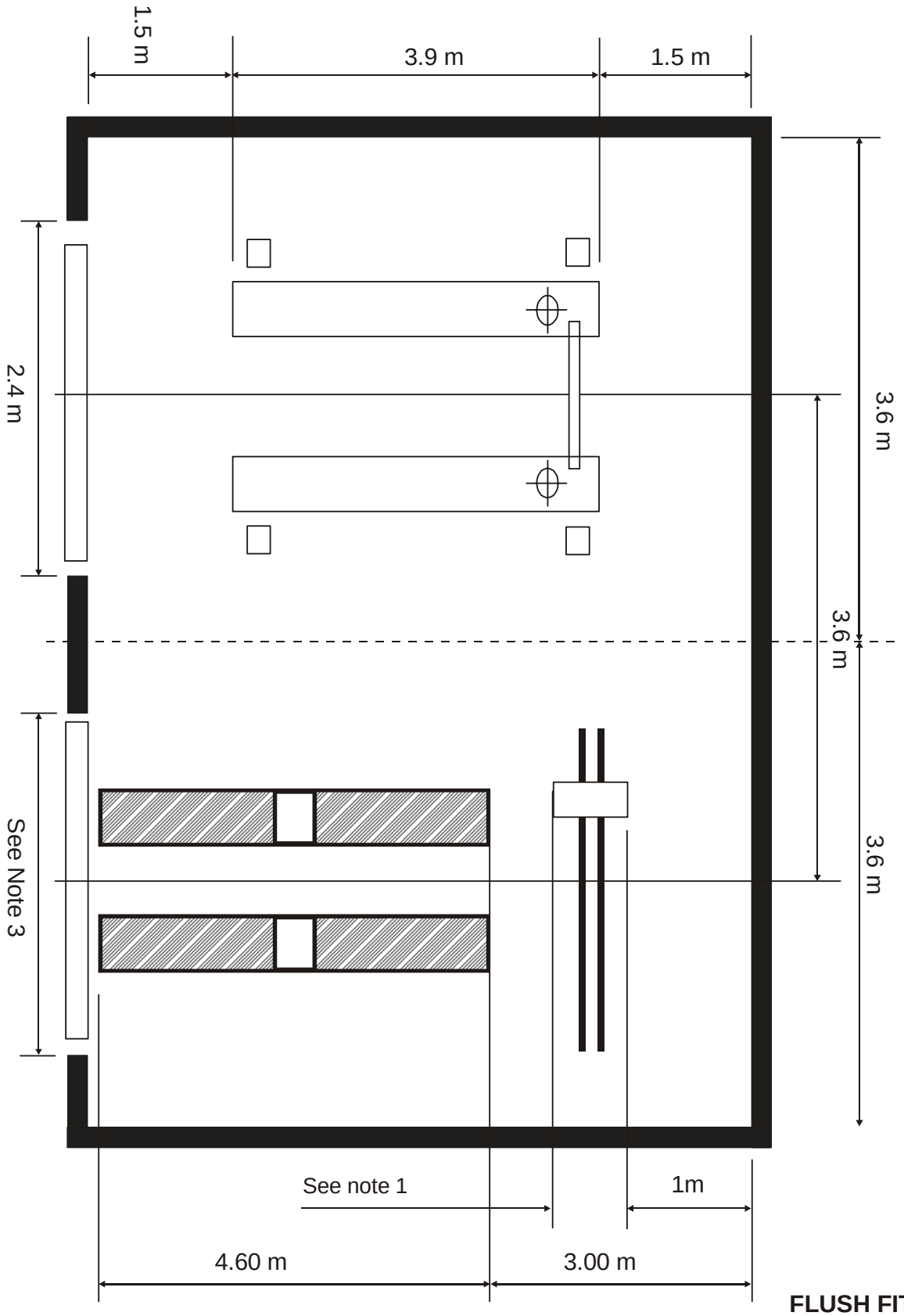


SURFACE MOUNTED LIFT WITH RBT

℄ Centre Line

LAYOUT 10

Layout Drawings *(cont…)*

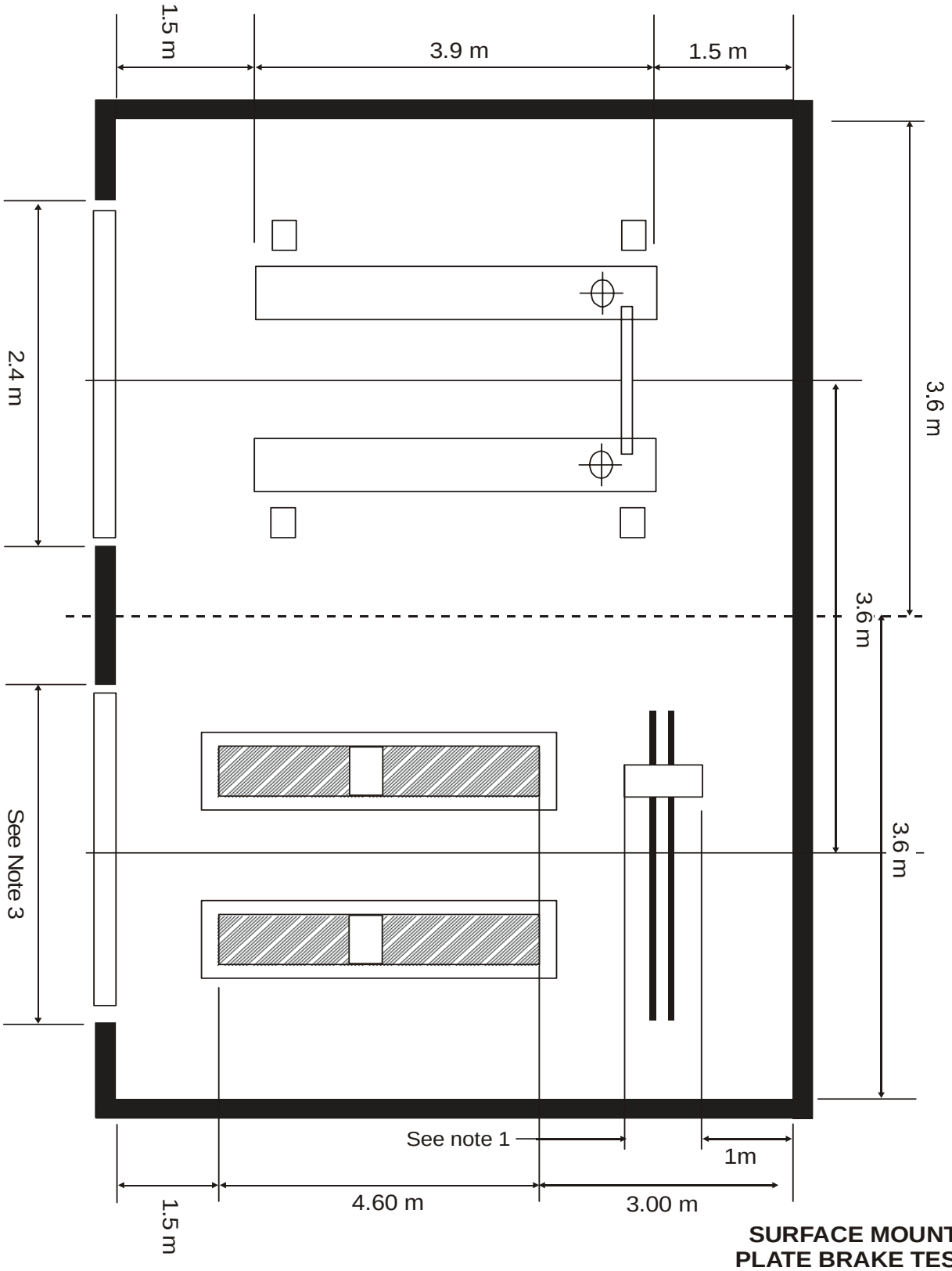


FLUSH FITTING
PLATE BRAKE
TESTER
SURFACE MOUNTED LIFT

℄ Centre Line

Layout 11

Layout Drawings *(cont…)*



SURFACE MOUNTED
PLATE BRAKE TESTER
SURFACE MOUNTED LIFT

℄ Centre Line

Layout 12