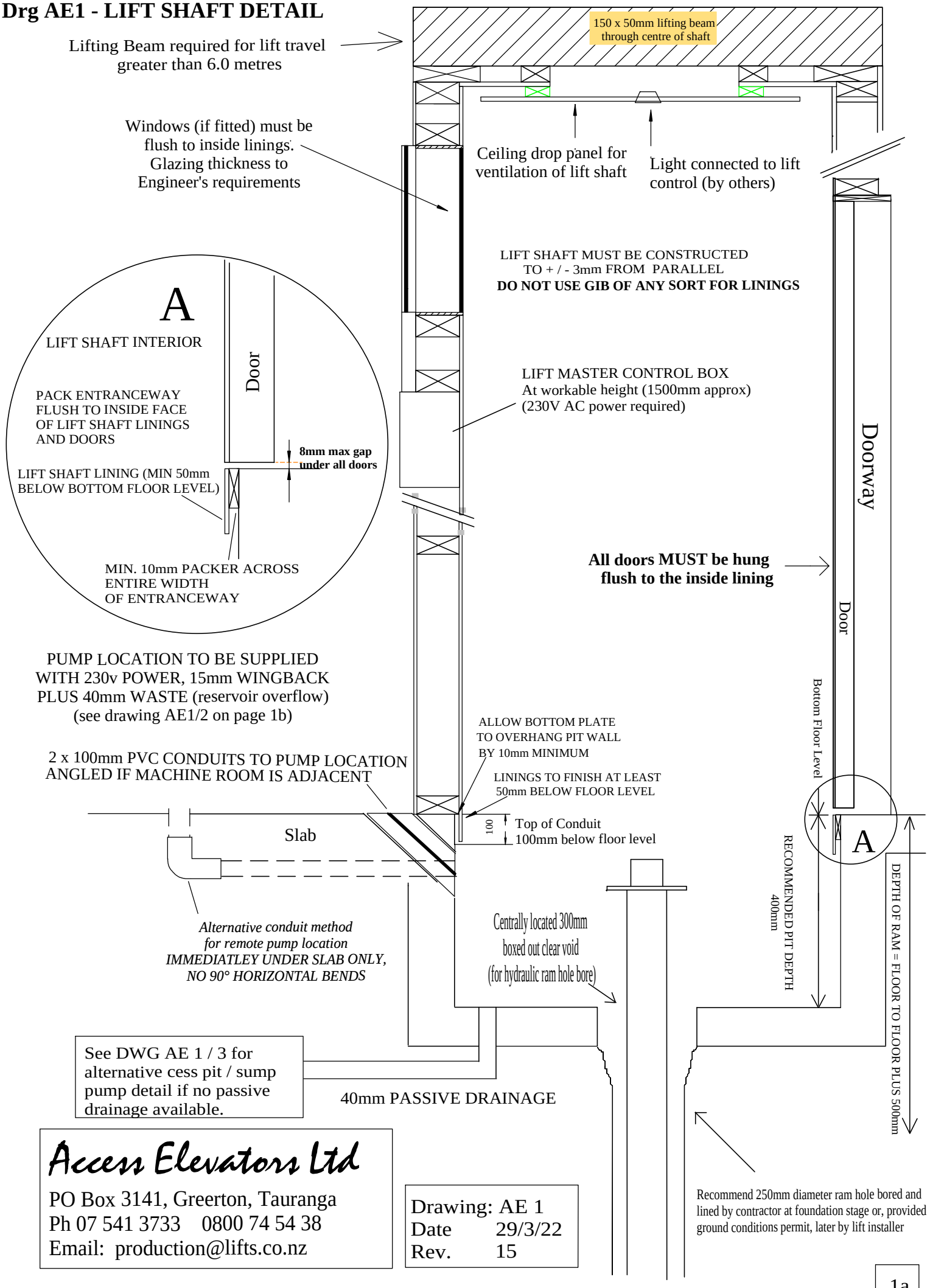
Drg AE1 - LIFT SHAFT DETAIL



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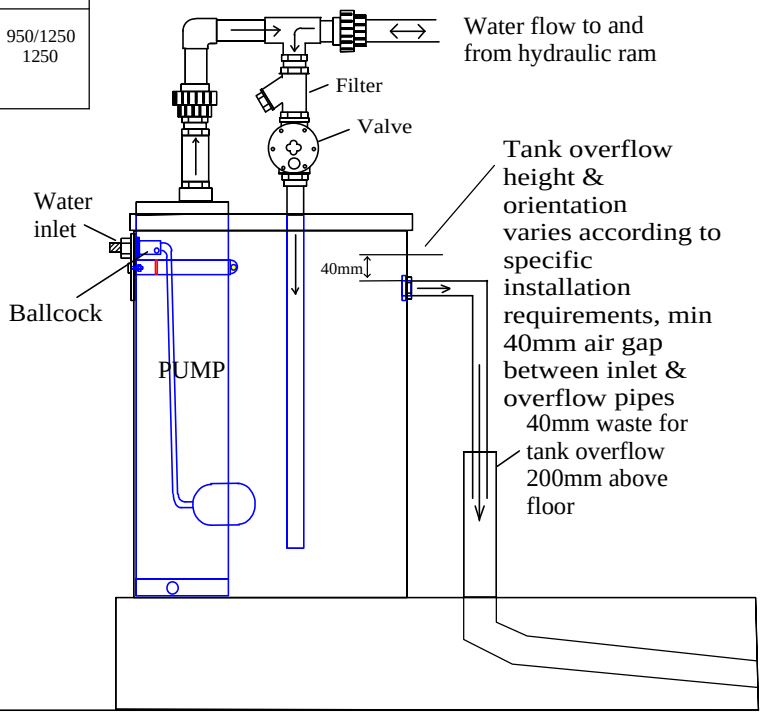
Drawing: AE 1
Date 29/3/22
Rev. 15

Drawing AE1/2

Pump Specifications					
Pump Model	Tank Dimensions (Lift rise < 5.5m)	Tank Dimensions (Lift rise >5.5m)	Pipework Height (to/from ram)	Mains Water Outlet Height (15mm wingback)	230V Supply Height
Hi Speed S100 Super S100-18	450 x 450 x 600H 500 dia x 900H	500 dia x 900 H 500 dia x 900 H	950/1250 1250	600/900 900	950/1250 1250

TYPICAL PUMP LAYOUT



Pump location to be supplied with:
- dedicated 10 amp 230v AC power
- 15mm wingback for water supply
- 40mm waste pipe for tank overflow

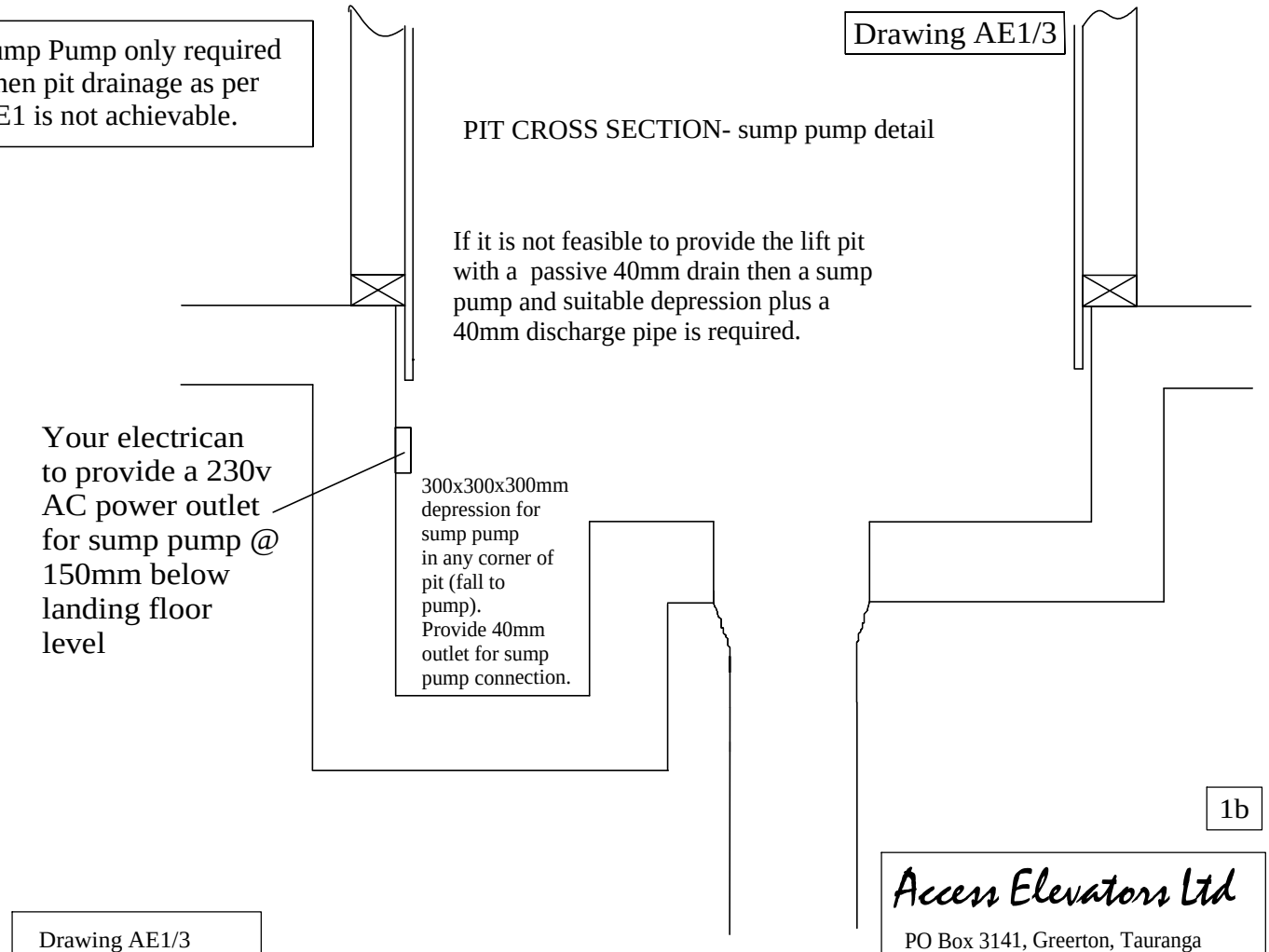
Drawing AE1/2
Date 10/08/20

Drawing AE1/3

Sump Pump only required when pit drainage as per AE1 is not achievable.

PIT CROSS SECTION- sump pump detail

If it is not feasible to provide the lift pit with a passive 40mm drain then a sump pump and suitable depression plus a 40mm discharge pipe is required.



Drawing AE1/3
Date 10/08/20

1b

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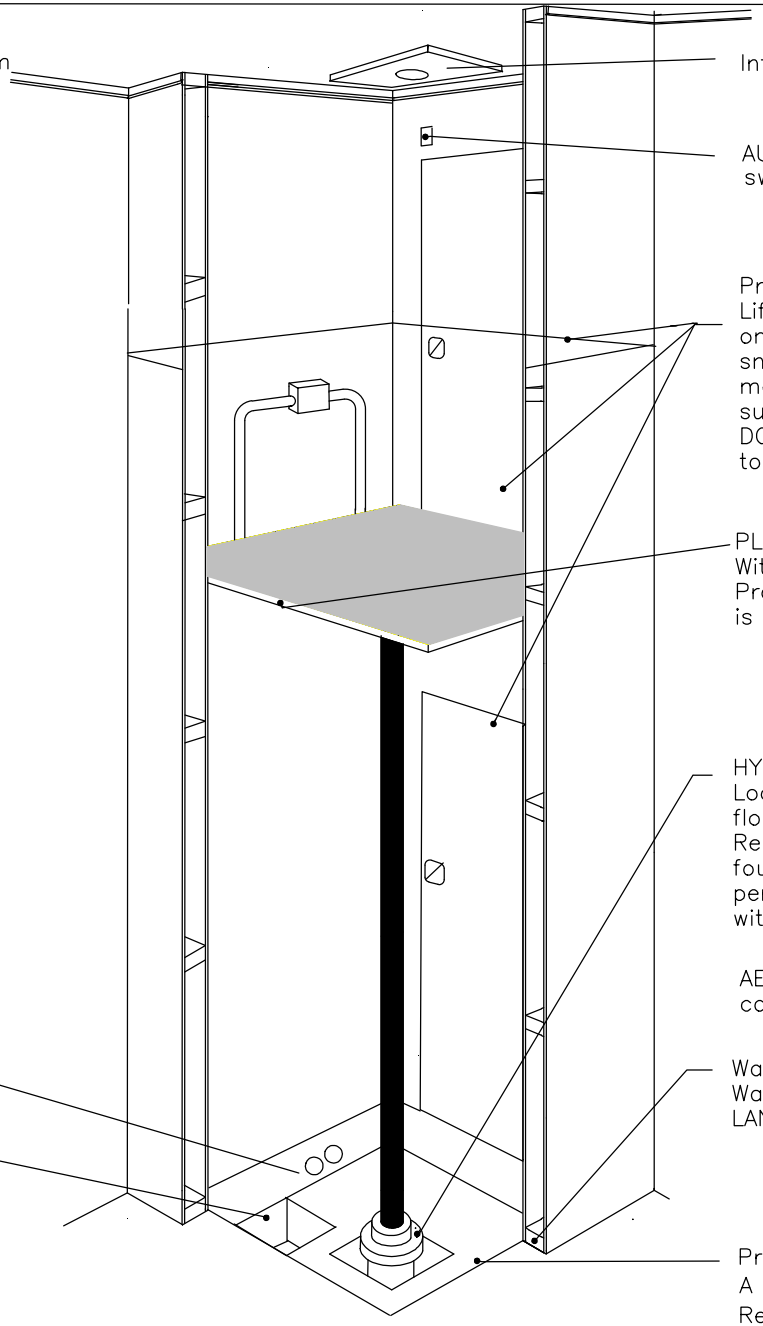
Provide venting to shaft above raised platform



Interior liftwell light – ideally fitted into a drop ceiling panel to allow ventilation above lift floor

AUTOMATIC lighting control fitted behind light isolator switch at a height beyond normal reach

PUMP LOCATION
Provide with 230v power supply and mains pressure 15mm wingback water connection for the reservior along with a waste facility for overflow.

The pump and valves may be positioned remote from the liftshaft but we prefer them located as close as possible to the liftshaft.

Pump/Reservoir unit may be remote from lift pit by up to 6 metres

WATER PUMP WITH RESERVOIR
Preferably located adjacent to liftwell (e.g. under stair or in a cupboard)

Reservoir should not be elevated above lower floor level

1) An ideal solution is to extend the pit, forming a recess for the pump (if located adjacent to shaft)

2) Two 100mm dia. conduits to vented pump location.
Allow for additional venting if required

Depression for sump pump if required

Provide LIFTSHAFT, DOORS & DUMMY HANDLES
Liftshaft and door to finish minimum 1000mm (residential only) above upper landing. Shaft to be lined with a smooth resilient material. Refer to specification. Electro–mechanical interlocking and flush internal handles are supplied and fitted by AE.
DO NOT DRILL DOORS FOR HARDWARE. Applies to timber doors and frames only, consult AE if different

PLATFORM
With floor mounted handrail incorporating control buttons
Provide carpet and underlay to AE installer unless lift is weather exposed (consult AE)

HYDRAULIC RAM
Located in 250mm dia hole, base of which is floor to floor + 500mm below lower landing
Recommend hole bore by contractor at the foundation stage or, provided gound conditions permit, later by the lift installer. Please consult with AE

AE can provide a sealed caisson if high water table conditions exist.

Wall framing to overhang pit wall by min 10mm.
Wall linings to finish at least 50mm below lower LANDING floor level.

Provide concrete pit & 40mm dia drain.
A sump pump and/or drain facility is required
Recommended pit depth 400 mm

Refer to AE Drawings AE1, AE1/2 & AE 1/3 for details

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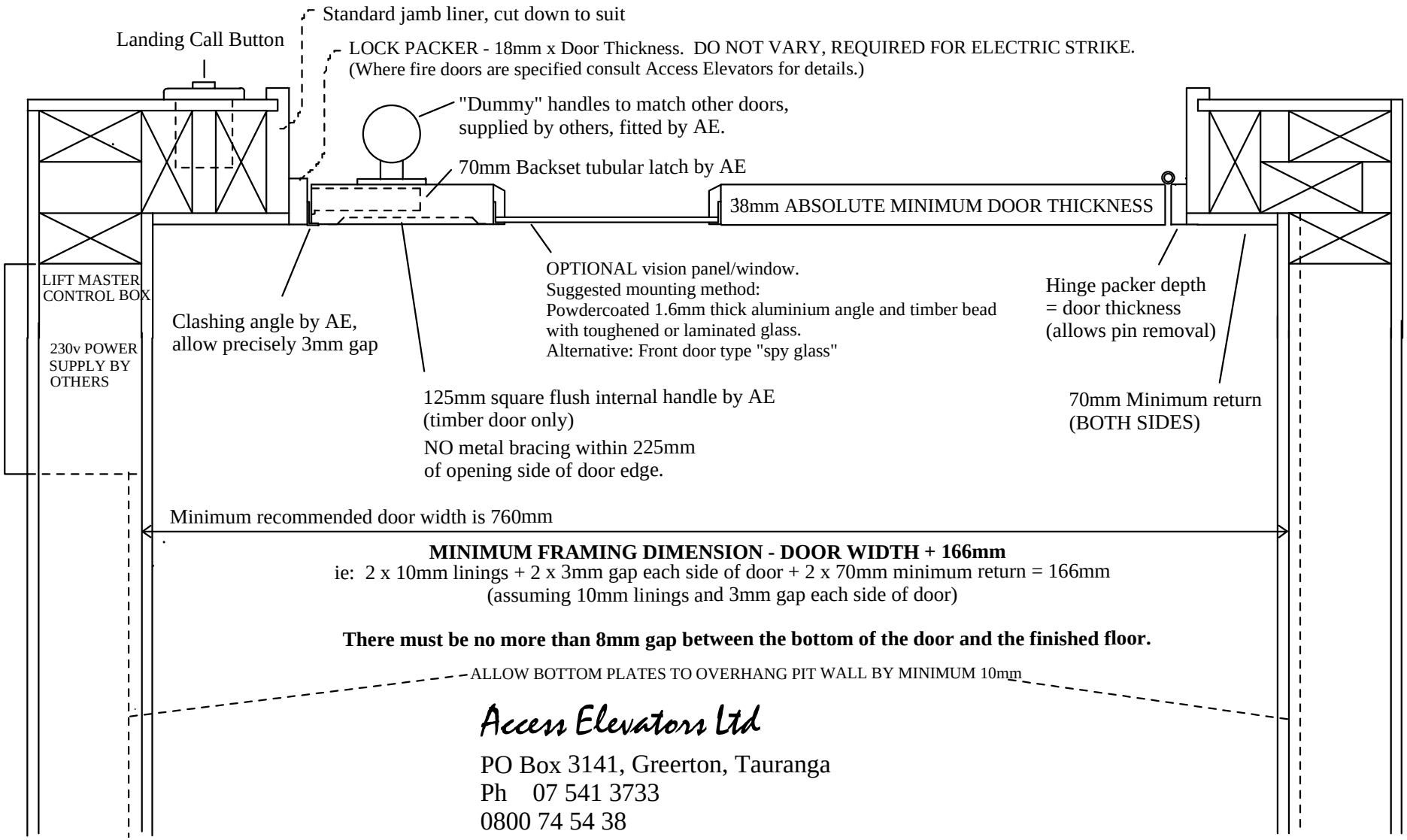
Phone 07 541 3733 0800 74 54 38

DATE	DRAWN	
29/03/22		TYPICAL "MAGIC CARPET" LIFT LAYOUT

DO NOT DRILL DOORS FOR HANDLES or LOCKS, lift installer fits these items
Applies to timber doors and frames only, consult AE if different.

Never fit lock spindle to handles unless they are integral to Keyed Emergency Opening Types



MINIMUM FRAMING DIMENSION - DOOR WIDTH + 166mm

ie: 2 x 10mm linings + 2 x 3mm gap each side of door + 2 x 70mm minimum return = 166mm
(assuming 10mm linings and 3mm gap each side of door)

There must be no more than 8mm gap between the bottom of the door and the finished floor.

ALLOW BOTTOM PLATES TO OVERHANG PIT WALL BY MINIMUM 10mm

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This document must be passed to the door supplier

DO NOT DRILL DOORS FOR HANDLES or LOCKS, lift installer fits these items
Applies to timber doors and frames only, consult AE if different
Never fit lock spindle to handles unless they are integral to Keyed Emergency Opening Type

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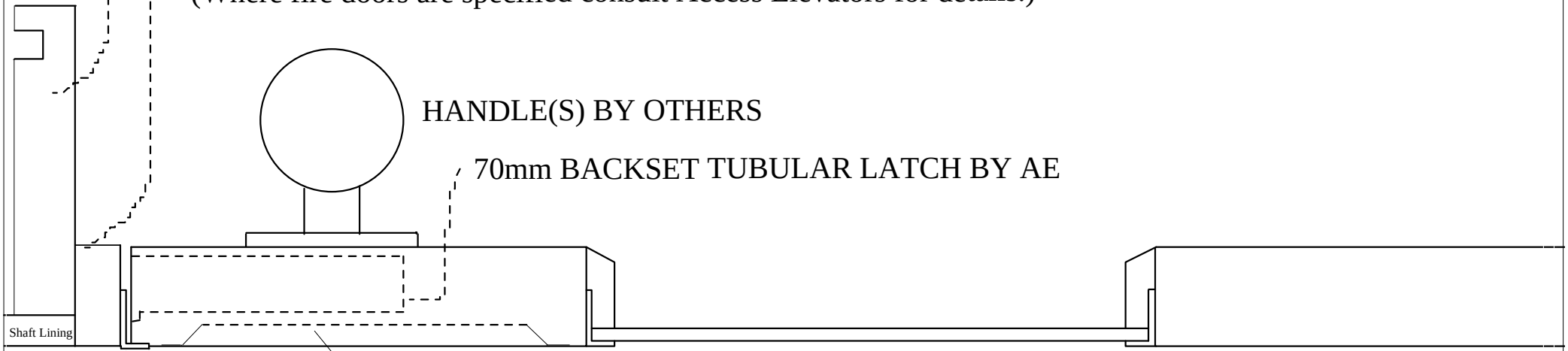
STANDARD JAMB LINER, CUT DOWN

LOCK PACKER - 18mm x Door Thickness
DO NOT VARY, REQUIRED FOR
ELECTRIC STRIKE.
(Where fire doors are specified consult Access Elevators for details.)



38mm ABSOLUTE MINIMUM DOOR THICKNESS

125mm square flush internal handle by AE (timber door only)

CLASHING ANGLE BY AE, ALLOW PRECISELY 3mm GAP

OPTIONAL: VISION PANELS/WINDOWS BY OTHERS, Suggested mounting system:
POWDERCOATED 1.6mm WALL ALUMINIUM ANGLE & TIMBER BEAD
TOUGHENED or LAMINATED GLASS
ALTERNATIVE ~ FRONT DOOR TYPE “SPY GLASS”

This document must be passed on to the door supplier

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280922

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Developers, Manufacturers, & Installers of Affordable Water Hydraulic Lifts.

LIFT SHAFT CONSTRUCTION
'Magic Carpet®' MOVING FLOOR LIFT SYSTEM (1.4m x 1.4m or less)

AN **ACCURATE LIFT SHAFT** MAKES FOR A BETTER LIFT. It is imperative that the builder works to detail and forms a shaft with walls parallel +/- 3mm. The shaft doesn't have to be square but please try to set the lower door returns at 90° as there is a tendency for them to finish well outside the right-angle. After walls are framed choose the best two adjacent walls and plane or pack the studs straight then use story rods to gauge the adjustment required on the opposite walls & correct them.
RISK OF FALLING PREVENTABLE BY MAINTAINING BARRIERS IN FRONT OF ALL OPENINGS.

RAM HOLE: ***The ram finishes approx 500mm longer than the height to be served***. Provided ground conditions are favourable (and for most std height 2 station lifts) the hole for the ram is bored by the lift installer after the roof is fitted. Depending on ground conditions, and in particular for lifts serving more than two floors, it may be more cost effective to have the hole machine bored at the foundation stage. ***Please consult with Access Elevators regarding hole boring.***
A caisson is required in areas of unstable ground or where a pre-drilled hole is to be left open for an extended period.
The caisson is normally open-ended to allow passive drainage from the pit and should not be less than 225mm I.D.
"250 diameter" Farmtuff PVC is a cost-effective caisson.

PIT: Should be at least 400mm deep. Form a concrete floor with a min. 300mm ID wide void in the centre and pit walls that allow the framing to overhang by 10-20mm. If the pit has to be less than 400mm deep it must have a 300mm or larger hole for the ram and we need at least 100mm depth (150mm depth for 1250mm or larger platforms) at the perimeter for the lift to finish level with the lower floor. A 40mm pit drain is a regulatory requirement. Two 100mm or larger PVC conduits should be installed from the pump location, entering the pit through the pit wall. If the pump is immediately adjacent to the lift shaft then conduits should be installed at 45°. Conduits to a remote pump location should be installed ***just under the floor slab*** with a 90° elbow & short upstand at the pump end to bring the conduit just clear of the floor.

LIFT SHAFT: ***The walls must be plumb and parallel***. Choose framing timber carefully, straight and dry and ideally running continuous lengths through all floor levels. Studs @ 600mm centres, or 400mm centres for lining materials less than 9mm thick. ***Ensure 70mm minimum door returns*** (including jamb) at lowest level and provide a 60mm cavity between studs on the handle side of the doors if possible. ***Wall linings must extend at least 50mm below lowest floor level. Do not fit any capping, skirting or architraves inside the lift shaft, including above top floor***. As the floor must be sized to the smallest dimension, variations will produce loose zones and should be kept to a minimum. The buffer zone between the platform and walls comprises carpet & underlay that will accommodate +/- 3mm without any loss of stability.

WE MUST BE PROVIDED WITH CARPET & UNDERLAY unless that requirement is specifically excluded on the quotation.

WALL LININGS: must be hard & resilient; ***Gib board is not acceptable.*** Options: MDF, Melamine, Wallpanel, Plywood, Melteca, Vertical Tongue & Groove, Tempered Hardboard, Aquapanel, Seratone, Villaboard. Arris horizontal joins and **don't use horizontal jointers.** Returns for lift doorways must be framed prior to installation of wiring looms. Do not line both faces of shafts until after prewire. Concrete shafts must be battened to allow for loom installation.
All lift doors and jambs must be flush to the lift shaft interior. There must be no more than 8mm gap between the bottom of the door and the finished floor. Refer to Door Detail Drawing for rebates & jambs. The hinge side packer enables removal of hinge pins and can be eliminated if rebates are made for the hinge boss (useful when modifying existing jambs or to preserve minimum returns in cramped enclosures). The packer on the handle side suits the interlock nosing, this won't sit neatly against the jamb if a packer of a different size is used. Deep panelled doors may be used provided interior faces of all lower & intermediate doors are over-paneled flush. ***Do not fit raw aluminium into walls or doors as the moving carpet induces discolouration. Hush Shutter doors unacceptable unless modified to suit our flush interior detail.***

VENTILATION MUST BE PROVIDED, allowing air to vent freely into/from static space both above and below the lift platform. The platform fits tightly against the walls and approx 3 cubic metres of air is moved per floor level, gaps around the doors will allow for some of this air movement but the draught will be lessened if additional venting is provided. It should be noted that there is no draught evident when the platform is stationary. ***Vents must not be fitted within the range of the actual lift movement.*** Customers with fully enclosed lift shafts should consider having a drop ceiling panel as per drawing AE1 or combination light/vent fixture in the roof, particularly for jobs which exceed 4.5m floor-floor as the ram can easily be installed through such a fixture.
DOOR HANDLES to be supplied by others: Dummy knobs (not "round hub" insert type) for the outside of all full-height lift doors. Knobs or handles need to be easily removable for emergency (manual) opening but non-domestic lifts require keyed handles (Lockwood or similar) where the key ***retracts*** the latch. ***Do not form any openings for handles or latches.***

Building, Plans, Permit, Water Supply & waste, Power & Lighting all by others.
This document must be passed on to the builder.

Access Elevators Ltd 'Magic Carpet®' Lift
Sub-trades Responsibilities

A COPY OF THIS PAGE MUST BE FORWARDED TO EACH OF THE UNDERMENTIONED TRADES-PERSONS.

PAINTER: The carpet runs in contact with the walls and a low friction finish is required, this can be achieved by a combination of paint type and application. Paint finish by either spray or brush will produce the smoothest finish and a gloss or semi-gloss oil base or water base enamel paint is required. Roller applied paint must be levelled out with a brush. Be warned that it is possible to prevent the lift from descending empty and also possible to induce an unpleasant shudder in the lift if the paint finish is not smooth.

ELECTRICIAN: **230 Volt connections to the lift master control box & pump, and associated electrical compliance certification are the responsibility of the site-contracting electrician.**

A dedicated 230v supply is preferred (minimum 10 amp supply to pump location), but the lift master control box (which in terms of power consumption is essentially a battery charger) may be fed off a lighting supply. All our master control boxes and pump starter enclosures include isolating switches, these boxes are fitted by us and are normally permanently connected to a power feed located at 900mm to 1600mm above the floor. If a common feed is installed it should be to an isolating switch that then supplies each of our enclosures.
The master control box is accessible only from outside the lift shaft and provided the location is unobtrusive, preferably fitted to a shaft side wall adjacent to the lower door (handle side). Lift shafts of block construction usually dictate the master box be surface mounted, sometimes above the lower door.
LIGHTING must be supplied and installed by others. The light is activated by opening the lift door which requires your electrician to fit the light and install an isolator & feed into a flushbox at the upper level only, usually at door head height or out of normal reach. This is a regulatory requirement.

SECURITY / TELEPHONE: A means of calling outside help must be provided and an internal alarm is fitted as standard.
Domestic Lifts:
Customers are offered the option of having a backlit keypad telephone fitted to their lift handrail along with a GSM SIM Unit in the lift machine room. An extra power point is required by the lift machinery for the GSM Unit.

Commercial Lifts:
You must supply 24 hour assistance by either:

a) Running a cable from the monitored alarm system to the lift pit to be connected by Access Elevators to the alarm button **AND**
have Access Elevators supply and fit a telephone and GSM SIM Unit. An extra power point is required in the lift machine room.

OR

b) have Access Elevators fit a phone, GSM Unit and an autodial to a 24 hour monitored number. An extra power point is required in the lift machine room.

PLUMBER:
The recirculating pump requires:

a) 15mm mains pressure feed at pump location (refer to AE1/2)

The pit **AND** pump locations require:

a) Passive drainage direct to ground, soak hole or gully trap (pit drainage must not be directly to waste system)

OR

b) Sump Pump

See also DRWG (page 1a) for conduits required from pump/valve location to lift pit and for pit drain details.

Building, Plans, Permit, Water Supply & Waste, Power and Lighting all by others.

This document must be passed on to the nominated sub-trades.

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Requirements For Commercial Lift Installations

As your lift is specified as a commercial installation, a completion inspection by an independent IQP registered inspector will be required. In order to comply with the regulations, there are a few requirements that you **must comply with**. These requirements are ***in addition*** to the specifications as detailed in our builder's pack, such as power and water connections, lighting, venting and drainage.

- The water tank/pump and lift controls must be in a dedicated lockable machinery space (the space must not be used for storage or for any other use). The door lock must be a non-latching type and the door must open outwards.

- The machinery room must have a light and double 230v switched socket outlet (provided by your electrician) and adequate venting.

- The lift pit must have a light and a 230v switched socket outlet (provided by your electrician).

- Where a fire alarm is installed, a connection is required from the alarm system to Access Elevators Master Control Box. We will send a separate sketch detailing this if required.

- Provide 24 hour monitoring and two way communication by either:
    a) Running a twisted pair cable (by others) from the 24hr monitored alarm system to the lift pit which will be connected by Access Elevators to the lift alarm button **AND**
    Connecting a telephone and GSM SIM unit. (Supplied and installed by Access Elevators.) Contact phone numbers must be displayed beside the phone handset. An extra 230v switched socket outlet is required in the lift machinery room.
    OR
    b) Connect a telephone, GSM SIM unit and autodial. (Supplied and installed by Access Elevators.) This will automatically dial the elected monitoring company and provide two way communication. Your monitoring company's dedicated phone number will need to be provided to us at the time of installation. An extra 230v switched socket outlet is required in the lift machinery room.

    Either option must be operational during a power failure.

- Vision panels are required in lift doors and must be fitted flush with the inside face. NZS4334 recommends that the vision panel is 900mm tall and 150mm wide and is positioned around 900mm from floor level.

- Where disabled access is required, automatic door drivers are normally a council requirement. Where these are specified, a 230V mains power feed is required at each door head.

Building Must Comply Before The Final Compliance Certificate Can Be Issued

5.3.13 Exposed inner faces of landing doors

Inner faces of landing doors exposed to passengers shall be smooth and flush and shall conform to the requirements for exposed faces of the lift shaft.

A landing swing door in a public lift shall be fitted with a vision panel. The opening for the vision panel shall extend as a minimum from 900 mm to 1800 mm above floor level, and be at least 150 mm in width and fixed 200 mm maximum from the opening side of the door. The recess formed by the vision panel shall not exceed 25 mm in depth. Any recess greater than 3 mm in depth shall be bevelled to an angle of no more than 45° from the plane of the door. Details shall be as shown in Figure 17 and Figure 18.

C5.3.13

A near flush glazing arrangement is preferred, as shown in Figure 18.

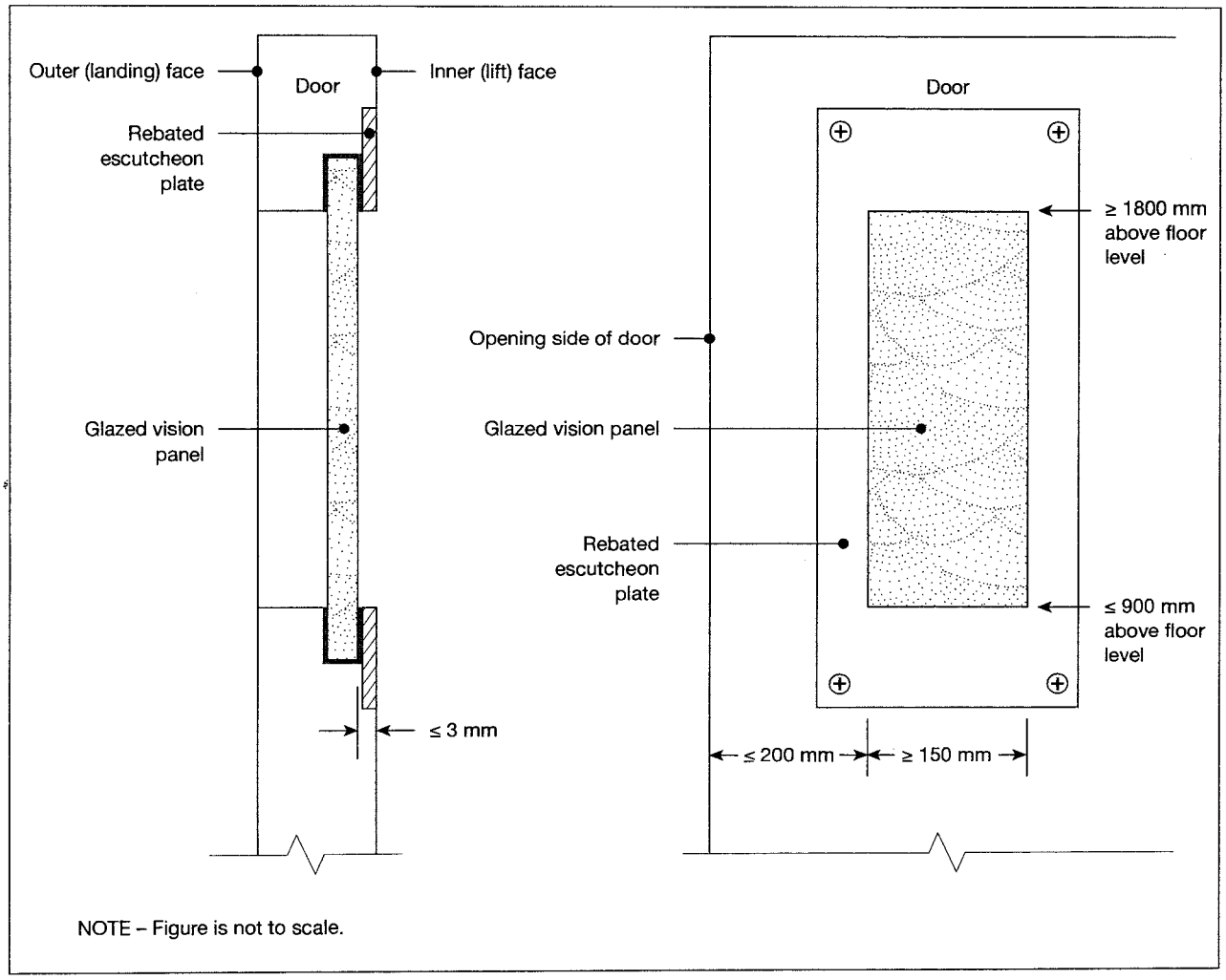

Figure 18 – Preferred arrangement for glazed vision panel, with glazing secured by rebated escutcheon plate

5.3.14 Automatic sliding doors

Automatic sliding doors shall meet the requirements of Appendix D.

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Construction - Key Points & Progress Confirmation

In order to meet your timetable **we must be kept informed regarding site works program and progress.** The following forms must be completed and sent back to us at the appropriate times. Failure to do so will lead to delays.
All trades people employed on lift related work must refer to Access Elevators drawings and Lift Shaft Construction instructions, page 2 of which contains information for related sub trades.

Forming Hole for Ram

Ground conditions will dictate the drilling method. The **datum** for measurements is the **lowest floor level** at which a lift door is fitted: the depth of this hole is equal to the total floor to floor (F/F) **travel** of the lift **plus** 500mm. e.g. F/F1 = 3m + F/F2 = 2.7m then the hole depth must be 3000 + 2700 + 500 = 6200mm from the **datum**. Hole to be minimum 250mm in diameter, plumb and centrally located in lift pit.

If the hole is to be left open and/or ground conditions are not stable it is necessary to use a caisson to prevent the hole from collapsing. Unless specified otherwise, leave the caisson open-ended and prevent rubbish, dirt slurry, or concrete wash down from entering the hole. PVC 250mm FARMTUFF is an economical caisson.

Hydraulic Rams

F/F less than 3400mm

Provided there is sufficient clear space in front of one of the lift doors the ram can be inserted through one of the shaft doorways. Onsite assistance is often required to manhandle the ram.

F/F greater than 3400mm

You may need to leave some nogs out to allow easier access. The ram may need to be craned in prior to the roof going on. Onsite assistance is required to manhandle the ram if not craned. Check wityh similar length of timber. Cranage is a chargeable extra.

Prewire (before lift shaft is lined on both sides of the framing)
The following must be completed before we can prewire:
1. All shaft framing from lowest level to at least 900mm above uppermost floor.
2. Continuous framing /joists/conduit from shaft to pump location.

Furthermore:
3. We prefer to have doors and jambs in place because wires are necessary between the landing call and the jamb mounted electric strike. Lift doors must be hung consistent with Access Elevators details. Do not pre-drill doors for lock hardware.

Completing & Commissioning of Lift

The following items must be in place and in accordance with Access Elevators' details:
1. Lift shaft framing plumb and parallel to +/- 3mm. Shaft variations greater than this are likely to incur additional costs to cover the fitting of guide wheels and guides etc. or may not obtain compliance.
2. Lift shaft lining is completed. Gib board is not a suitable shaft lining for Magic Carpet® type lifts.
3. Lift shaft painted/finished smoothly. (ie friction free)
4. 230V power live (not temporary) to lift pump and master box locations.
5. Mains pressure available at 15mm wingback connection within 400mm of lift pump location.
6. Carpet and underlay available on site, 200mm larger than the lift floor.
7. Door hardware (landing side) to be supplied for us to fit.
8. Shaft light is operational.

Failure to complete site works in accordance with Access Elevators' details and/or forwarding us incorrect advice regarding site progress may induce lost time for our installer and if so would incur extra costs to compensate for additional time and travel.

Thank you for your co-operation in this matter. **5a**

This Document must be passed on to the builder.

Lift Progress Confirmation Form Commercial
Stages 1 & 2

To ensure timely installation, at the completion of each stage please fill in relevant section and return to *reception@lifts.co.nz* or Access Elevators Ltd, PO Box 3141, Greerton, Tauranga

Lift # _____ **Job Name** _____

Site Address _____

Stage 1

Ram Production (Please fill in this section and return at least 3 weeks before you need the ram)

☐ **As built** floor to floor height: Total: _____ Name: _____ Signature: _____

Please note: Ram production will not commence until the as built floor to floor measurement is received.

Stage 2

Prewire Lift (Complete **ALL** boxes in this section to confirm readiness for prewire and ram installation)

- ☐ Shaft framing/structure completed at all levels and roof on
- ☐ Shaft plumb and parallel (to + / - 3mm)
- ☐ Concrete/block walls strapped
- ☐ Lift shaft NOT LINED
- ☐ All door returns framed (doors must be minimum 38mm thick and flush with the inside)
- ☐ Door swings confirmed
- ☐ Confirm lift shaft size Width ..... Depth .....
- ☐ Windows in shaft (Yes/No)

Ram Installation

- ☐ Ram hole has been dug to the correct depth
- ☐ Ram hole/caisson is free of rubbish, trade debris, sludge and water

or ☐ Access Elevators is boring the hole

- ☐ Lift pit formed with minimum 300mm clear void in centre, either a) 40mm drain or b) 300mm^3 sump pump depression & provision for 230v mains power and 32mm discharge pipe, 2 x 100mm conduits to machinery location
- ☐ Pit is free from rubbish & trade debris

Note: These must be confirmed with Access Elevators at time of prewire

Door Construction: ☐ Timber
☐ Timber with steel bracing (this will incur extra cost)
☐ Glass

If Glass: Glass Thickness ..... mm

Fire Doors: Yes / No **Auto Door Drivers:** Yes / No

Door Width and Height: Width ..... mm Height ..... mm

Jamb Construction: ☐ Timber, or ☐ Steel

24hr alarm monitoring connection and extra power point in machine room allowed for ☐

Print name: _____ Signature: _____

Date: _____ **Please return form when complete**.

Failure to construct any of the above or to our specifications will require the installer to halt progress on the job until remedied. This will incur extra cost.

Lift Progress Confirmation Form Commerical
Stage 3

To ensure timely installation, at the completion of each stage please fill in relevant section and return to *reception@lifts.co.nz* or Access Elevators Ltd, PO Box 3141, Greerton, Tauranga

Lift # _____ **Job Name**_____

Site Address _____

Stage 3

Commission Lift (Complete **ALL** boxes in this section to confirm readiness for completion of lift installation)

- ☐ Pit is free from rubbish and trade debris
- ☐ Liftshaft lined as per spec and parallel to + / - 3mm (**must not be Gib board**)
- ☐ Doors hung flush with shaft internal walls (as per spec) and with the required 3mm gap for the clashing strips
- ☐ Landing face door hardware available (supplied by you but fitted by us). Note: handle must be screwed from outside face of door
- ☐ Lift shaft painted or finished smoothly as per spec. (Gloss enamel or equivalent)
- ☐ Carpet (not foamback) and underlay available on site 200mm larger than lift floor size (If not carpet please advise asap)
- ☐ Power connected and live to: lift master box, pump, and lighting circuits (not temporary power)
- ☐ Lift pit light and 230v socket installed and connected
- ☐ Machine Room light and double 230v socket installed and connected
- ☐ Lift shaft light fitted and connected to isolator (two way switching is non compliant)
- ☐ Live water feed available from 15mm wingback & 40mm water waste at machinery location
- ☐ Vision panels fitted and flush with inside face of doors
- ☐ Machinery space is dedicated and lockable
- ☐ 24hr monitored alarm cable run and power point in lift machine room for GSM unit

IF OPTIONAL PARTS ARE BEING INSTALLED:

- ☐ Sump pump - 230v socket installed in lift pit
- ☐ Sump pump – 40mm pipe to suitable discharge point

Print name: _____ Signature: _____

Date: _____

Please return form when complete.

Failure to construct any of the above or to our specifications will require the installer to halt progress on the job until remedied. This will incur extra cost.

This Document must be passed on to the builder.

ACCESS ELEVATORS Ltd

HAZARD

WARNING

LIFT SHAFT UNDER CONSTRUCTION

PROCEED WITH EXTREME CAUTION

This sign must be displayed at all liftshaft openings