



Eclipse

RESIDENTIAL ELEVATOR

Planning Guide

Applicable Codes:

ASME A17.1/CSA-B44

Safety Code for Elevators and Escalators

Section 5.3 – Private Residential Elevators

Pn: 000623
21-m10-2011

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Purpose of this guide

This guide assists architects, contractors, and lift professionals to incorporate the Eclipse Residential Elevator into a residential building design. The design and manufacture of the Eclipse Residential Elevator meets the requirements of the ASME A17.1/CSA-B44–Safety Code for Elevators and Escalators – specifically Section 5.3–Private Residence Elevators.

We recommend that you contact your local authority having jurisdiction to ensure that you adhere to all local rules and regulations pertaining to residential elevators.

How to use this guide

- 1 Determine your client's intended use of the lift.
- 2 Determine the local code requirements.
- 3 Determine the site installation parameters.
- 4 Determine the cab type and hoistway size requirements.

NOTE: If the Eclipse has Auto Slim Doors, do not refer to the tables on pages 6 and 7; refer instead to Appendix A.
- 5 Plan for electrical requirements.

History

April 2, 2008 – Added rail forces

July 31, 2008 – Added rail forces diagram

January 8, 2009

- Added component weights to specifications
- Modified center of door for type 5 center

June 4, 2009 – Added WARNING on page 6 not to install pipes conveying steam, gas or liquid in the hoistway

June 23, 2009 – Added dimension to structural view drawing Figure 1-11 on page 8 (centerline to center of vertical support stack = 18.5")

September 25, 2009 – Corrected power supply and lighting supply specifications on pages 2, 12, 13 and 14

February 9, 2010 – Added recommended manufacturers for circuit breakers at the distribution panel on page 12

March 31, 2010

- Corrected Type 3 cab measurements on page 4
- Corrected Type 4 cab measurements on page 5

September 9, 2010

- Added note at bottom of tables on pages 4 and 5
- Corrected Type 5 cab measurements on page 5
- Corrected controller and brake resistor dimensions on page 13

February 23, 2011

- Added note to step 4 above under "How to use this guide"
- Reformatted specifications table on pages 4 and 5
- Added "Auto slim doors" to "Options" in specification table on page 5
- Updated IMPORTANT note at bottom of pages 6 and 7
- Added Appendix A with Auto Slim Doors planning information

April 25, 2011

- Updated standard features and options in specifications table on pages 4 and 5
- Updated Auto Slim Door entrance assembly and elevation drawings in Appendix A

July 20, 2011 – Updated to 6 stops in specifications table on page 4

August 12, 2011 – Revised Slim Door drawings on pages 18 and 19

August 24, 2011 – Removed 208V reference throughout manual

September 15, 2011 – Revised Slim Door drawings on pages 18 and 19

October 11, 2011 – Clarified the meaning of "centerline" in the drawings on pages 10 and 11

October 21, 2011 – Corrected the "Center of door B" dimensions in Tables for Type 3 and Type 4 cabs on pages 6 and 7

IMPORTANT NOTICE

This Planning Guide provides nominal dimensions and specifications useful for the initial planning of a project. Before beginning actual construction, make sure you have the installation (shop) drawings customized with specifications and dimensions for your specific project.

Lift configurations and dimensions are in accordance with our interpretation of the standards set forth by the codes listed on the front cover of this Planning Guide. Please consult Savaria or the authorized Savaria dealer in your area for more specific information pertaining to your project, including any discrepancy between referenced standards and those of any local codes or laws.

The dimensions and specifications in this Planning Guide are subject to change (without notice) due to product enhancements and continually evolving codes and product applications.

Visit our website www.savaria.com for the most current Eclipse drawings and dimensions.

Table 1-0: Eclipse specifications

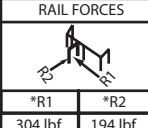
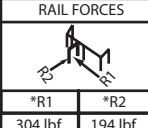
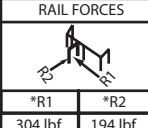
Specification type	Specification data														
Load capacity	750 lbs. (340 kg), 950 lbs. (431 kg), 1000 lbs. (454 kg)														
Component weights	367 lbs. - sling and base rail section 170 lbs. - middle rail Variable weight - top rail/bed plate 600 lbs. - control wall stack (variable) 440 to 660 lbs. cab (+ 263 lbs. speedy sling) 100 lbs. motor drive 50 lbs. controller 2 lbs. per foot chain (two runs)														
Rail forces	<table border="1"> <thead> <tr> <th colspan="2">RAIL FORCES</th> <th>R3 NOTE</th> </tr> </thead> <tbody> <tr> <td colspan="2">  </td> <td rowspan="2"> PIT FLOOR TO SUPPORT LOAD OF: 6400 .LBS * (INCLUDES IMPACT) 4 WALL ANCHOR POINTS MIN. PER BRACKET. 2 PER SIDE OF RAIL BRACKET CENTER LINE. PULL OUT FORCE PER FASTENER 152 .LBS. </td> </tr> <tr> <td>*R1</td> <td>*R2</td> </tr> <tr> <td>304 lbf</td> <td>194 lbf</td> <td></td> </tr> <tr> <td colspan="3">Rail Weight 6.0 lbs / ft</td> </tr> </tbody> </table>	RAIL FORCES		R3 NOTE			PIT FLOOR TO SUPPORT LOAD OF: 6400 .LBS * (INCLUDES IMPACT) 4 WALL ANCHOR POINTS MIN. PER BRACKET. 2 PER SIDE OF RAIL BRACKET CENTER LINE. PULL OUT FORCE PER FASTENER 152 .LBS.	*R1	*R2	304 lbf	194 lbf		Rail Weight 6.0 lbs / ft		
RAIL FORCES		R3 NOTE													
		PIT FLOOR TO SUPPORT LOAD OF: 6400 .LBS * (INCLUDES IMPACT) 4 WALL ANCHOR POINTS MIN. PER BRACKET. 2 PER SIDE OF RAIL BRACKET CENTER LINE. PULL OUT FORCE PER FASTENER 152 .LBS.													
*R1	*R2														
304 lbf	194 lbf														
Rail Weight 6.0 lbs / ft															
Rated speed	40 fpm (0.20 mps) standard.														
Power supply (circuit by others)	230 volt, single phase, 60 Hz, 20 amps (consumption)														
Lighting supply (circuit by others)	120 volt, 60 Hz, 2 amps (consumption)														
Drive system	Automatic 2HP-g geared roller chain variable frequency drive, complete with counterweight														
Temperature operating range	- 10°C to + 40°C / 14°F to 104°F														
Cab size	<ul style="list-style-type: none"> • W36" x L48" x H80" (914 mm x 1219 mm x 2032 mm), Type 1, 2, 3, 4, 5 • W36" x L54" x H80" (914 mm x 1371 mm x 2032 mm), Type 1, 2, 3, 4, 5 • W36" x L60" x H80" (914 mm x 1524 mm x 2032 mm), Type 1, 2, 3, 4, 5 • W40" x L54" x H80" (1067mm x 1371 mm x2032 mm), Type 1, 2, 3, 4, 5 														
Cab panel and finish	Solid melamine or MDF panels (standard), unfinished oak veneer panels (optional), finished recessed veneer panels (optional), solid hardwood raised panels (optional)														
Maximum travel	50 feet (12.24 m) - 60 feet (18.29 m) available where code permits														
Control system	Relay logic controller complete with diagnostic LEDs														
Levels and openings	Up to 6 stops / up to 2 cab openings														
Pit depth requirement	6" (152 mm) minimum up to 96" (2845 mm), 11" (279 mm) minimum with buffer springs														
Minimum overhead clearance	96" (2438 mm) for standard 80" cab, 114" (2896 mm) for 96" cab Units with auto slim doors: Minimum overhead is 100" (2540 mm) for doors with clear opening of 78-3/4" (2000 mm) or 104" (2642 mm) for doors with clear opening of 82-3/4" (2100 mm)														
Hall station and control panel finish	<ul style="list-style-type: none"> • Clear or bronze anodized aluminum (standard), or stainless steel (optional), or brass (optional) • Rectangular (standard) or oval (optional) hall stations, keyless (standard) or keyed (optional) 														
Standard features	<ul style="list-style-type: none"> • Automatic cab on/off lighting • Recessed gate pocket • Digital display in car operating panel • Clear or bronze anodized aluminum cab entrance trim and handrail • Data plates, capacity tags • Proximity floor selection, stopping and two-way levelling • Motor access cover (locked and switched) • Home landing feature • Plan drawings • Modular rail sections • Unfinished plywood sub-floor • White ceiling with four incandescent pot lights • MDF cab with or without finish, melamine cab in choice of finishes • Stainless steel, clear or bronze anodized aluminum cab operating panel and hall call stations 														

Table 1-0: Eclipse specifications

Specification type	Specification data
Safety features	<ul style="list-style-type: none"> • Cab gate safety switch • Pit run/stop switch and car top run/stop switch • Emergency stop and alarm buttons • Uninterruptible power supply (UPS)/battery back-up system for lowering, automatic gate operation (if equipped), and electrical interlock operation and lighting in the event of a power failure • Upper and lower terminal limits • Final limit switch • Mechanical rail shoring blocks • Sling: factory pre-assembled speedy sling c/w pre-set slack chain safety brake and switch
Options	<ul style="list-style-type: none"> • Custom cab size • 96" high cab • 84" high cab • Rated speed - (50 fpm (0.250 mps) available where code permits) • Accordion car gate (choice of style) • Stainless steel trim pack • Brass trim pack • Automatic gate operator (accordion gates only) • Automatic swing landing door operator • Buffer springs (11" pit depth minimum) • Interlocks for <i>doors by others</i> • Keyed on/off control panel and hall stations • Optional flooring: hardwood • Optional cab finishes: recessed hardwood, raised hardwood, finished or unfinished veneer • Optional fixture finishes: brass #4 finish (handrail, cab operating panel, hall call stations); hall call stations available in rectangular or oval • Telephone cabinet to match trim • Automatic slim doors

Eclipse cab types (without auto slim doors)

NOTE: For Eclipse with auto slim doors, refer to Appendix A.

Figure 1-1: Type 1 left hand

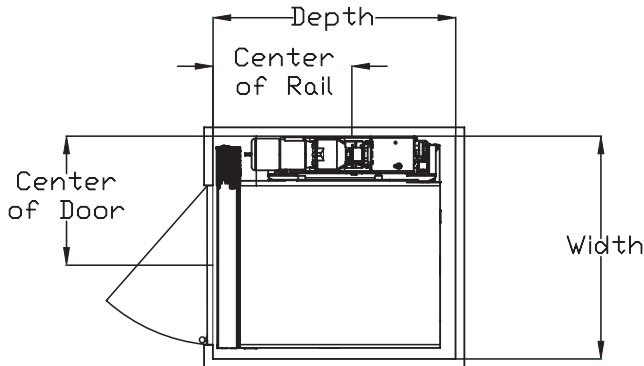


Table 1-1: Type 1 left hand

Cab size	Width	Depth	Center of rail	Center of door	Clear opening
36 x 48	50 $\frac{1}{2}$	55	31*	29 $\frac{1}{4}$	36
36 x 54	50 $\frac{1}{2}$	61	33	29 $\frac{1}{4}$	36
36 x 60	50 $\frac{1}{2}$	67	36	29 $\frac{1}{4}$	36
40 x 54	54 $\frac{1}{2}$	61	33	33 $\frac{1}{4}$	36

*Note: * 30" if right hand motor*

Figure 1-3: Type 2

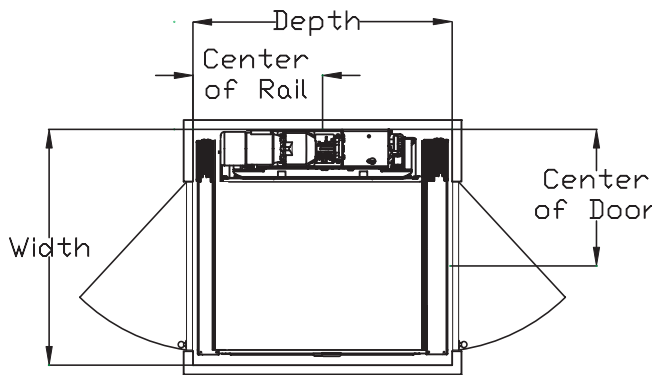


Table 1-3: Type 2

Cab size	Width	Depth	Center of rail	Center of door	Clear opening
36 x 48	50 $\frac{1}{2}$	55 $\frac{1}{2}$	27 $\frac{3}{4}$	29 $\frac{1}{4}$	36
36 x 54	50 $\frac{1}{2}$	61 $\frac{1}{2}$	30 $\frac{3}{4}$	29 $\frac{1}{4}$	36
36 x 60	50 $\frac{1}{2}$	67 $\frac{1}{2}$	33 $\frac{3}{4}$	29 $\frac{1}{4}$	36
40 x 54	54 $\frac{1}{2}$	61 $\frac{1}{2}$	30 $\frac{3}{4}$	33 $\frac{1}{4}$	36

Note: All measurements in inches (").

Figure 1-2: Type 1 right hand

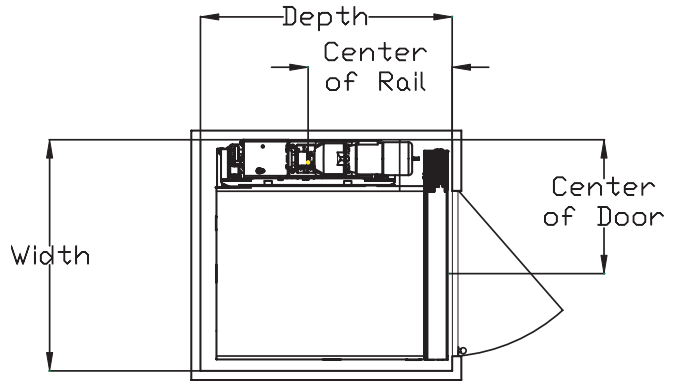


Table 1-2: Type 1 right hand

Cab size	Width	Depth	Center of rail	Center of door	Clear opening
36 x 48	50 $\frac{1}{2}$	55	31*	29 $\frac{1}{4}$	36
36 x 54	50 $\frac{1}{2}$	61	33	29 $\frac{1}{4}$	36
36 x 60	50 $\frac{1}{2}$	67	36	29 $\frac{1}{4}$	36
40 x 54	54 $\frac{1}{2}$	61	33	33 $\frac{1}{4}$	36

*Note: * 30" if left hand motor*

Figure 1-4: Type 3

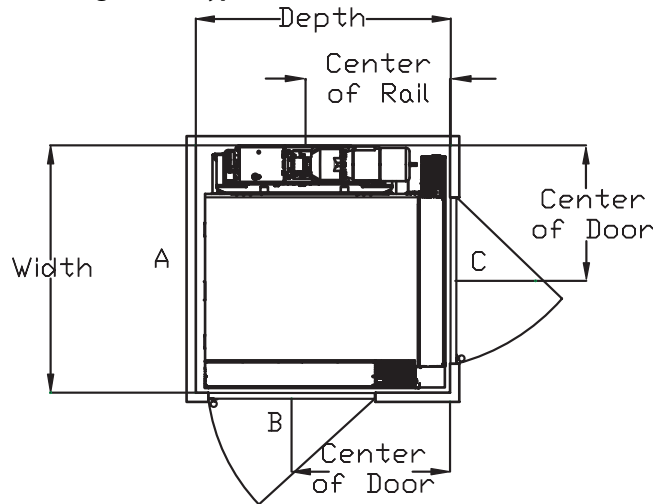


Table 1-4: Type 3

Cab size	Width	Depth	Center of rail	Center of door C	Center of door B	Clear opening C	Clear opening B
36 x 48	52 $\frac{1}{8}$	55	31	27 $\frac{7}{8}$	34 $\frac{1}{4}$	34 $\frac{5}{8}$	36
36 x 54	52 $\frac{1}{8}$	61	33	27 $\frac{7}{8}$	38 $\frac{3}{4}$	34 $\frac{5}{8}$	36
36 x 60	52 $\frac{1}{8}$	67	36	27 $\frac{7}{8}$	46 $\frac{1}{4}$	34 $\frac{5}{8}$	36
40 x 54	56 $\frac{1}{8}$	61	33	31 $\frac{7}{8}$	38 $\frac{3}{4}$	36	36

IMPORTANT: Measurements in the above tables are only valid for the cab and hoistway sizes listed. For non-standard cab and/or hoistway sizes, always refer to your plan drawings.

For Eclipse with Auto Slim Doors, DO NOT use the above tables; refer to Appendix A instead.

Figure 1-5: Type 4

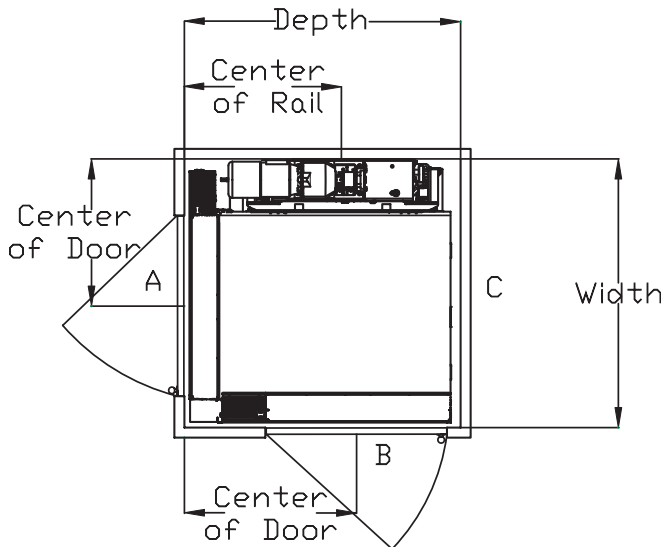


Table 1-5: Type 4

Cab size	Width	Depth	Center of rail	Center of door A	Center of door B	Clear opening A	Clear opening B
36 x 48	52 $\frac{1}{8}$	55	31	27 $\frac{7}{8}$	34 $\frac{1}{4}$	34 $\frac{5}{8}$	36
36 x 54	52 $\frac{1}{8}$	61	33	27 $\frac{7}{8}$	38 $\frac{3}{4}$	34 $\frac{5}{8}$	36
36 x 60	52 $\frac{1}{8}$	67	36	27 $\frac{7}{8}$	46 $\frac{1}{4}$	34 $\frac{5}{8}$	36
40 x 54	56 $\frac{1}{8}$	61	33	31 $\frac{7}{8}$	38 $\frac{3}{4}$	36	36

Figure 1-7: Type 5 left hand

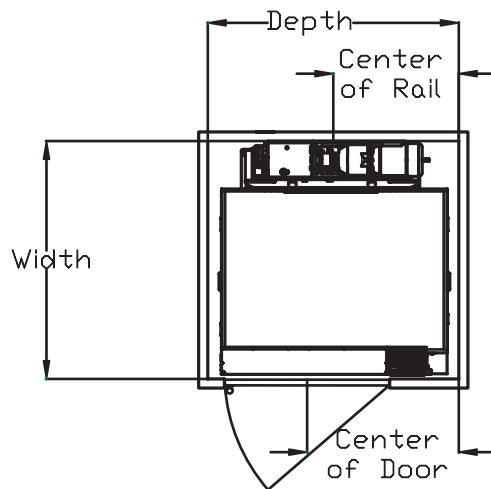


Table 1-7: Type 5: left hand

Cab size	Width	Depth	Center of rail	Center of door	Clear opening
36 x 48	52 $\frac{1}{8}$	55	27 $\frac{1}{2}$	33 $\frac{1}{4}$	36
36 x 54	52 $\frac{1}{8}$	61	30 $\frac{1}{2}$	39 $\frac{1}{4}$	36
36 x 60	52 $\frac{1}{8}$	67	33 $\frac{1}{2}$	45 $\frac{1}{4}$	36
40 x 54	56 $\frac{1}{8}$	61	30 $\frac{1}{2}$	39 $\frac{1}{4}$	36

Figure 1-6: Type 5 center

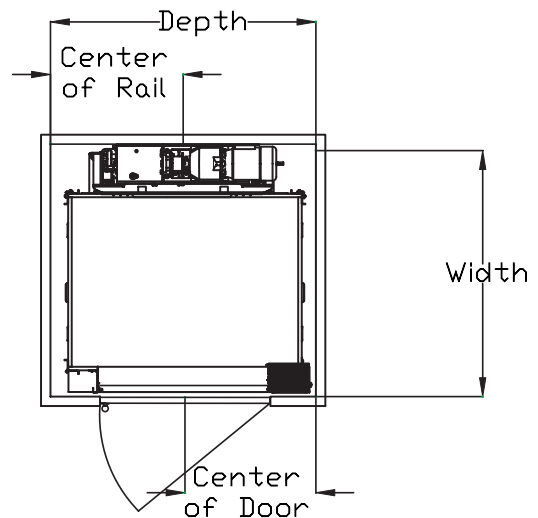


Table 1-6: Type 5 center

Cab size	Width	Depth	Center of rail	Center of door	Clear opening
36 x 48	52 $\frac{1}{8}$	56 $\frac{1}{4}$	28 $\frac{1}{8}$	29	36
36 x 54	52 $\frac{1}{8}$	62 $\frac{1}{4}$	31 $\frac{1}{8}$	29	36
36 x 60	52 $\frac{1}{8}$	68 $\frac{1}{4}$	34 $\frac{1}{8}$	34 $\frac{5}{8}$	36
40 x 54	56 $\frac{1}{8}$	62 $\frac{1}{4}$	31 $\frac{1}{8}$	29	36

Figure 1-8: Type 5 right hand

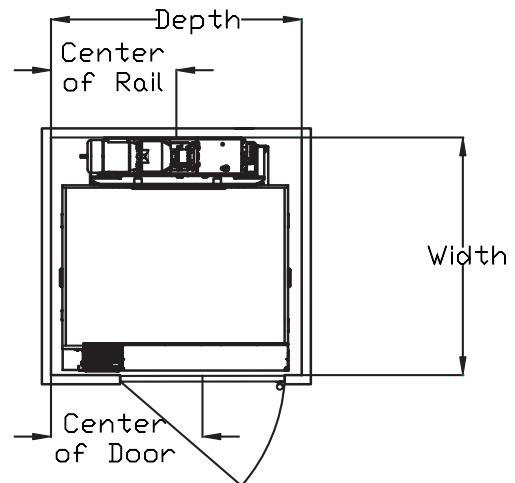


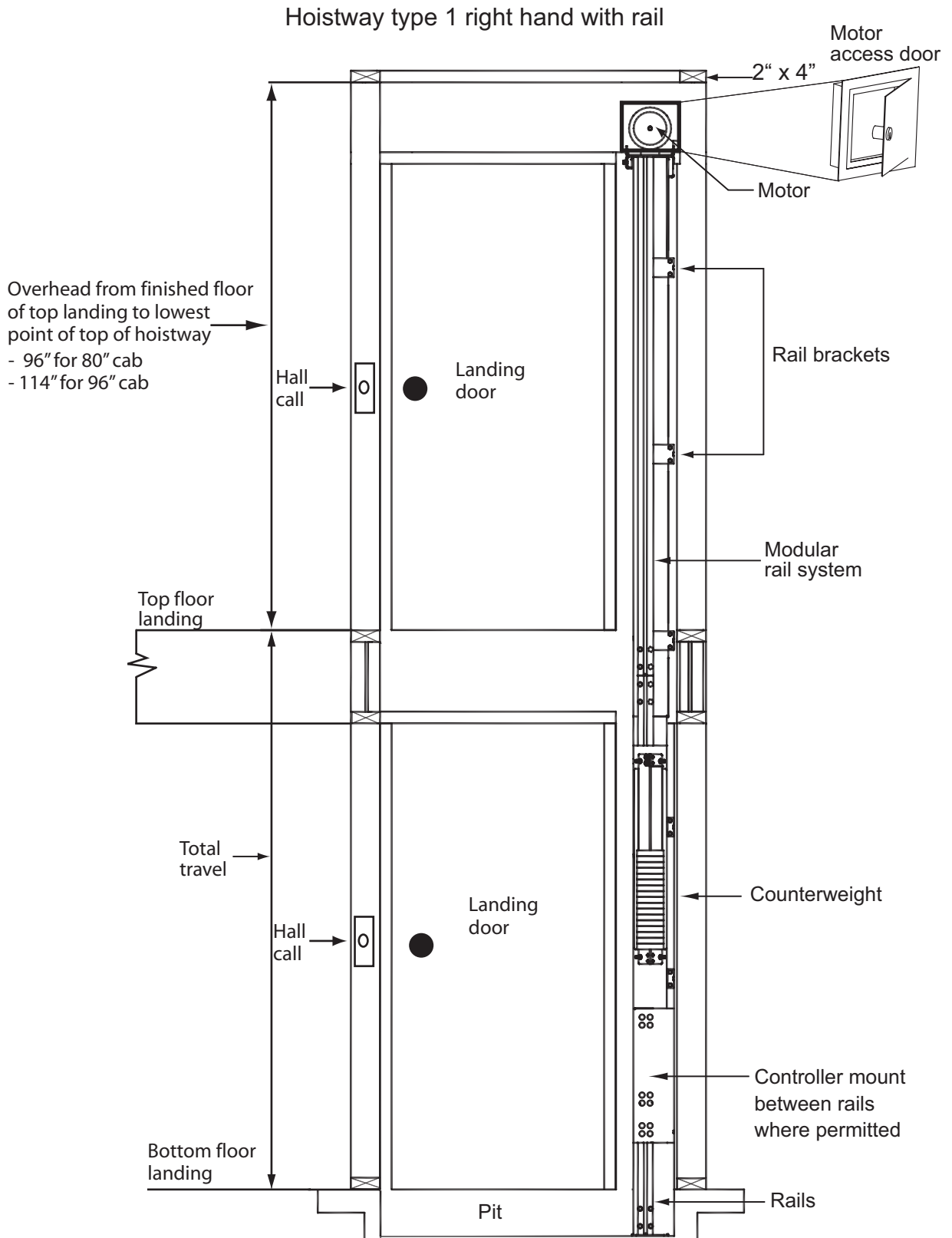
Table 1-8: Type 5: right hand

Cab size	Width	Depth	Center of rail	Center of door	Clear opening
36 x 48	52 $\frac{1}{8}$	55	27 $\frac{1}{2}$	33 $\frac{1}{4}$	36
36 x 54	52 $\frac{1}{8}$	61	30 $\frac{1}{2}$	39 $\frac{1}{4}$	36
36 x 60	52 $\frac{1}{8}$	67	33 $\frac{1}{2}$	45 $\frac{1}{4}$	36
40 x 54	56 $\frac{1}{8}$	61	30 $\frac{1}{2}$	39 $\frac{1}{4}$	36

IMPORTANT: Measurements in the above tables are only valid for the cab and hoistway sizes listed. For non-standard cab and/or hoistway sizes, always refer to your plan drawings.

For Eclipse with Auto Slim Doors, DO NOT use the above tables; refer to Appendix A instead.

Figure 1-9: Eclipse hoistway with rail



WARNING

Pipes conveying steam, gas or liquids, which, if discharged into the hoistway would endanger life, shall not be installed in the hoistway.

Figure 1-10: Eclipse hoistway mount

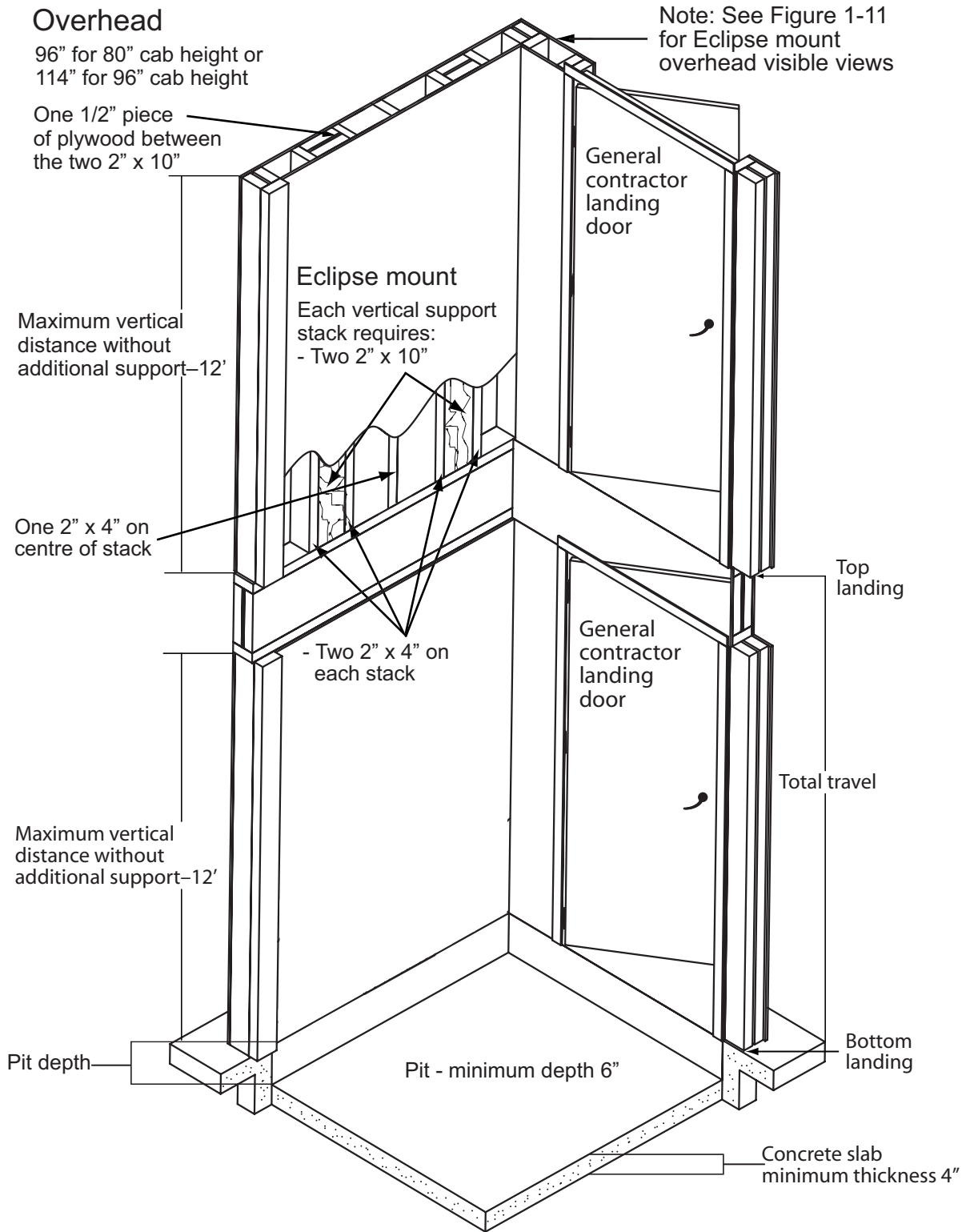


Figure 1-11: Eclipse top of hoistway view for wood construction

Structural views for elevator

Overhead view of Eclipse support wall

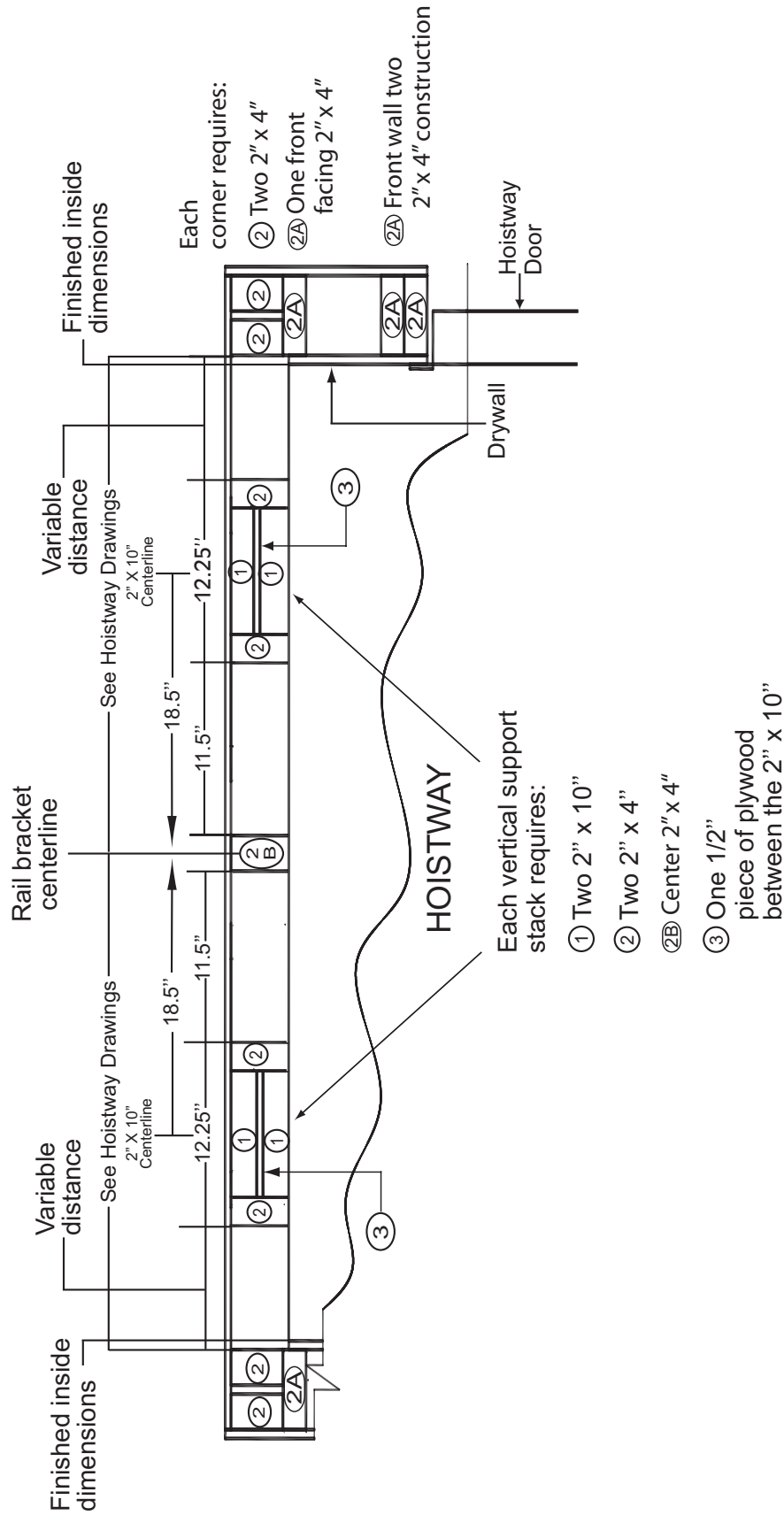


Figure 1-12: Wall configuration for wood construction (continued)

Structural views for elevator shaft (continued)

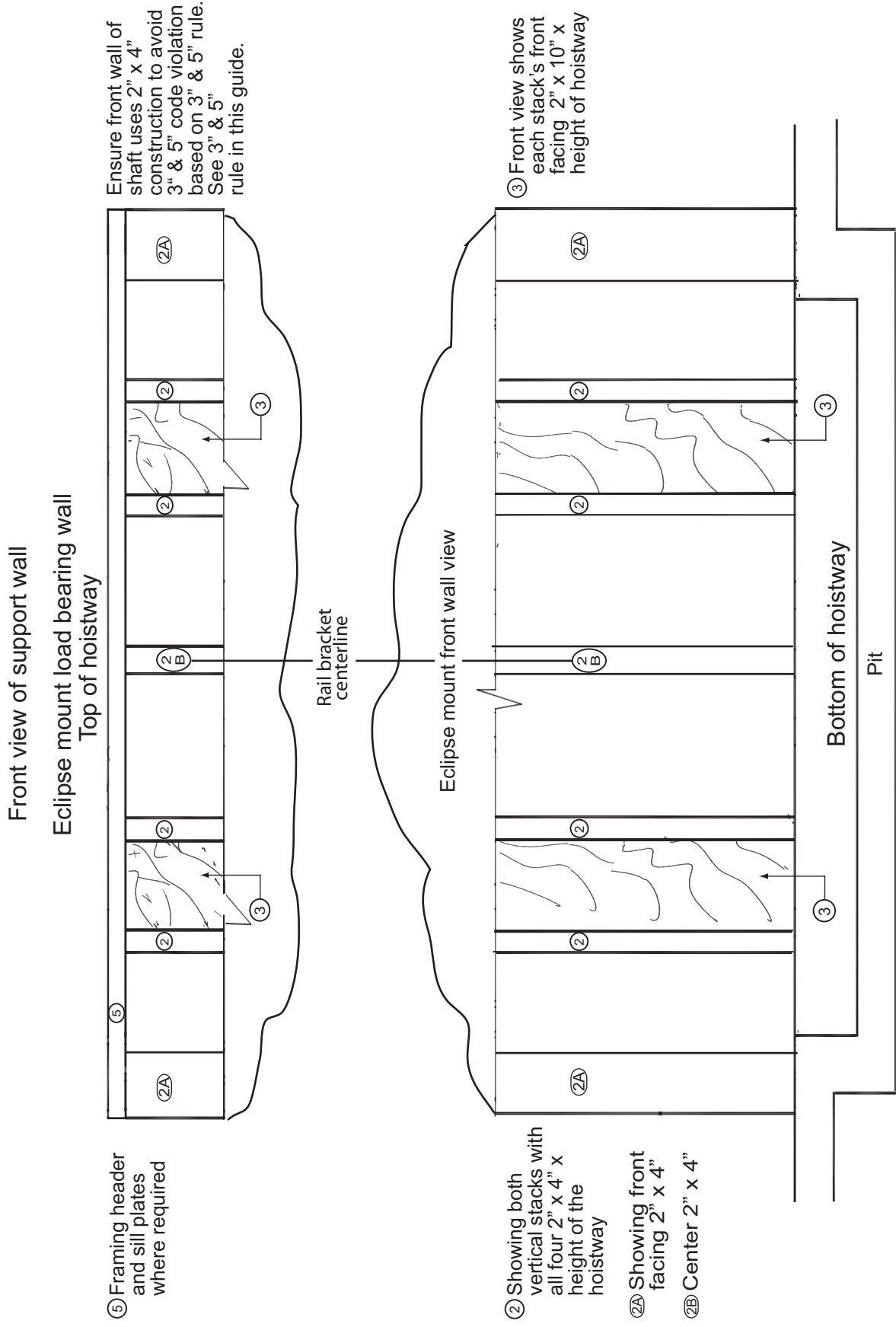



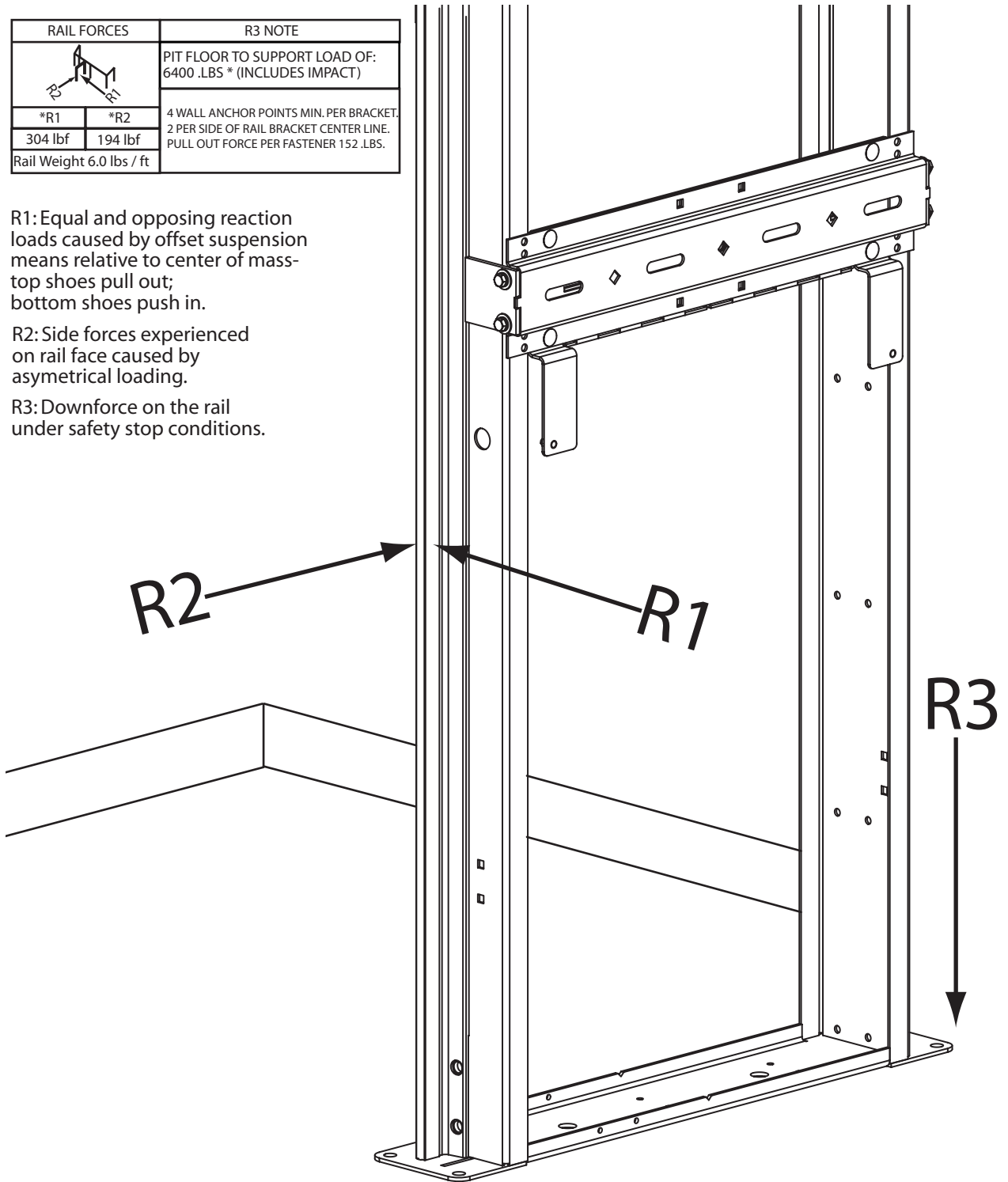
Figure 1-13: Loads on building and forces on rails

RAIL FORCES		R3 NOTE
		PIT FLOOR TO SUPPORT LOAD OF: 6400 .LBS * (INCLUDES IMPACT)
*R1	*R2	
304 lbf	194 lbf	4 WALL ANCHOR POINTS MIN. PER BRACKET. 2 PER SIDE OF RAIL BRACKET CENTER LINE. PULL OUT FORCE PER FASTENER 152 .LBS.
Rail Weight 6.0 lbs / ft		

R1: Equal and opposing reaction loads caused by offset suspension means relative to center of mass- top shoes pull out; bottom shoes push in.

R2: Side forces experienced on rail face caused by asymmetrical loading.

R3: Downforce on the rail under safety stop conditions.



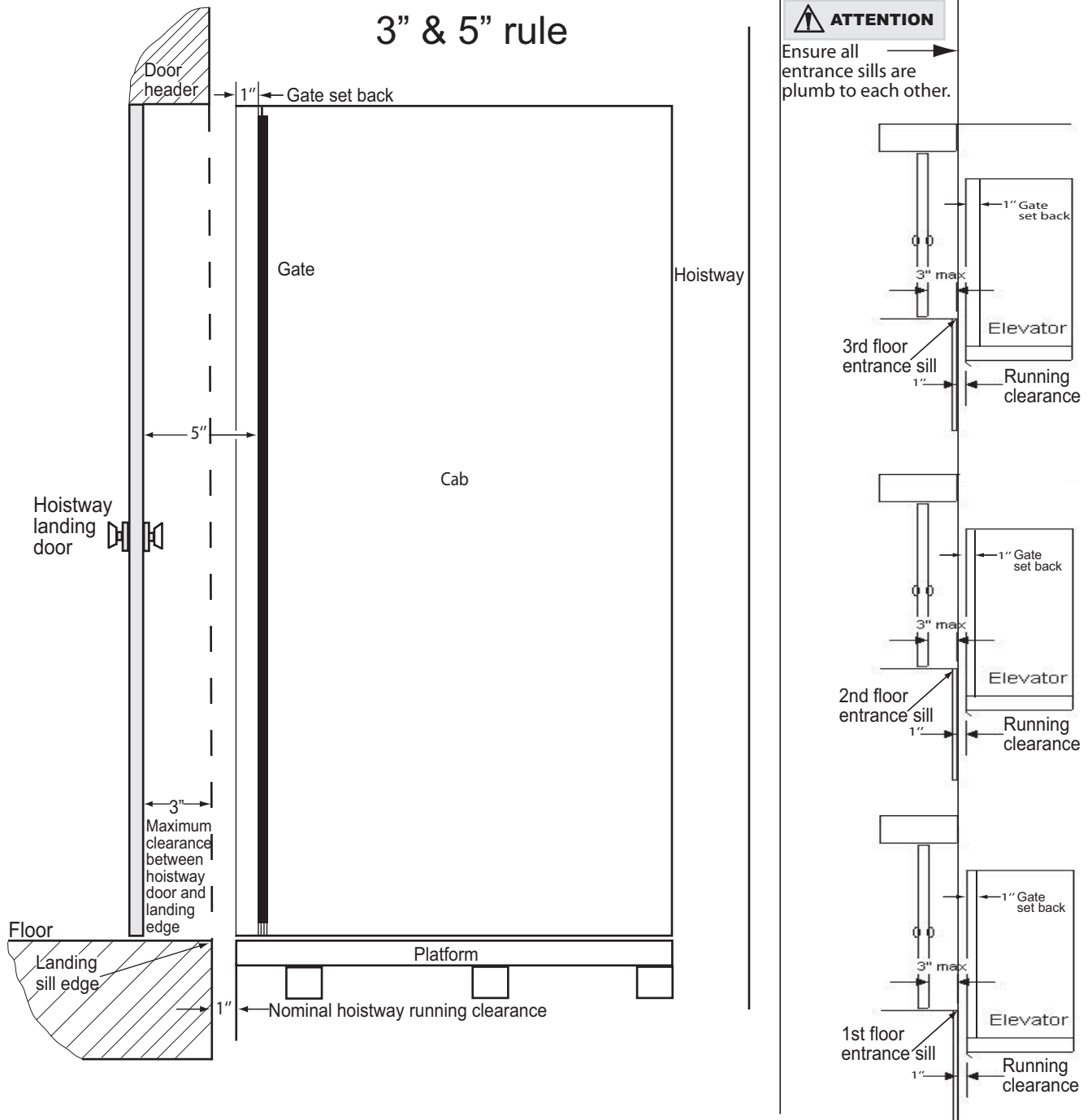
Safety first-3 & 5 rule

The ASME A17.1/CSA-B44-Safety Code for Elevators and Escalators mandates the following maximum hoistway door clearances:

- Clearance between the hoistway side of the landing door and the edge of the landing sill shall not exceed 3 in. (76 mm).
- Distance between the hoistway face of the landing door or gate and the car door or gate shall not exceed 5 in. (127 mm).
- Eclipse Residential Elevator design is with a 1 inch running clearance and a 1 inch gate set back on the car; thus the hoistway doors must maintain a maximum set back of 3 inches.

NOTE: Concrete block/masonry shafts and some commercial metal door frames often create 3 & 5 rule violations.

Figure 1-14: 3 & 5 rule



Eclipse electrical requirements

By General Contractor/Owner

Your electrician and phone installer supply the following connections:

- Main disconnect - One (1) 230V single-phase 30 Amp fused disconnect
- Lighting disconnect - One (1) 120V 15 Amp fused disconnect or circuit breaker for cab lighting
- Telephone line - One (1) telephone line jack in close proximity to the controller

NOTE: Savaria Corporation does not provide power cable to main disconnect.

Recommended manufacturers for fused disconnect

Square D

- Main disconnect: 230V single-phase disconnect model # H221N
- 240V - 30 Amp with Interlock Kit - ELK031 Aux Contacts (normally opened/normally closed)
- In addition, two each - 250V, 20 Amp, RK5 fuses
- Lighting disconnect: 120V 15 Amp fused disconnect or circuit breaker

Siemens

- Main disconnect: 230V single-phase disconnect model #HF221N
- 240V - 30 Amp with Interlock Kit-HA 161234 Aux Contacts (normally opened/normally closed)
- In addition, two each - 250V, 20 Amp, RK5 fuses
- Lighting disconnect: 120V 15 Amp fused disconnect or circuit breaker

G.E.

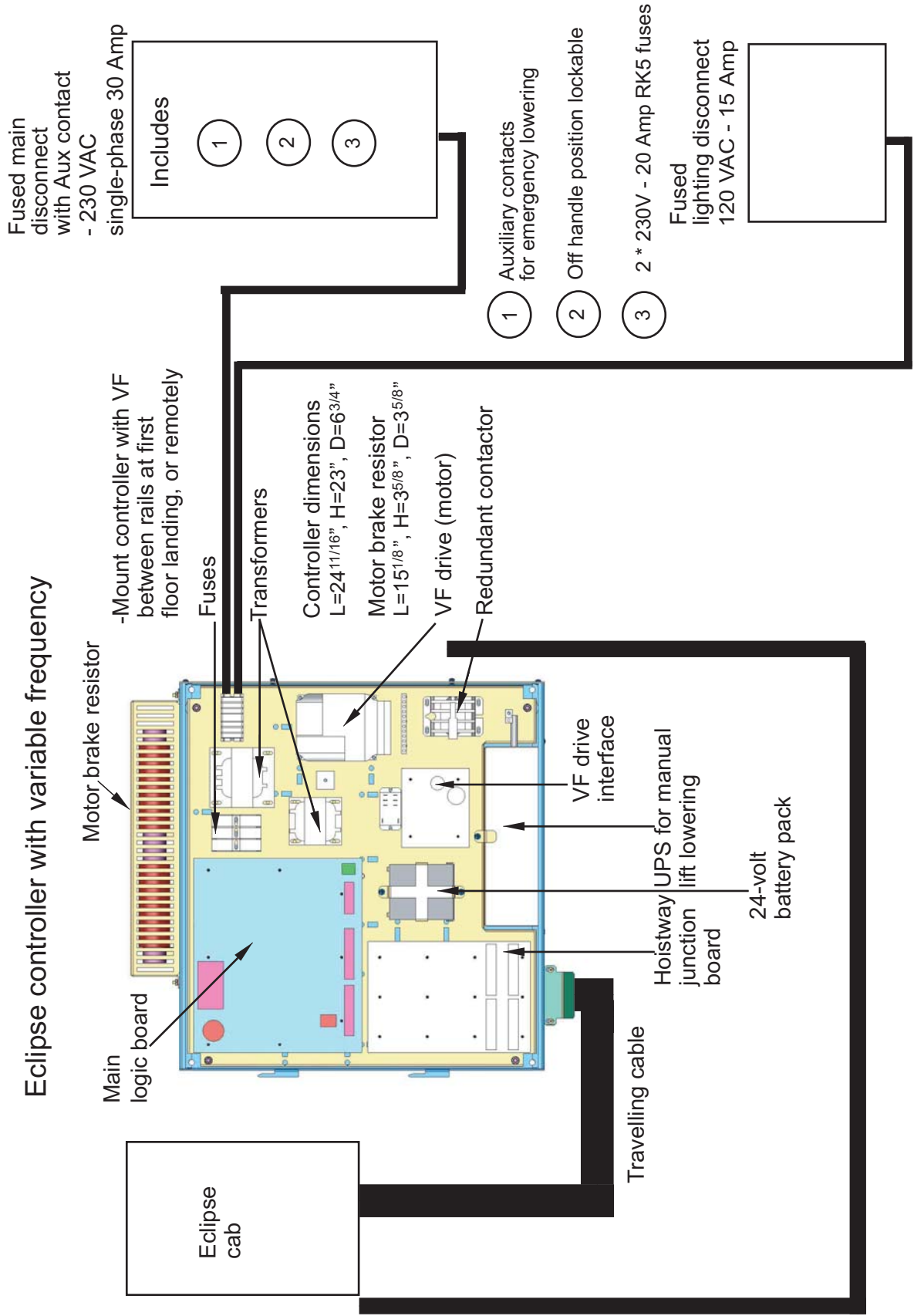
- Main disconnect: 230V single-phase disconnect model # TH3221
- 240V - 30 Amp with Interlock Kit - THAUX21D Aux Contacts (normally opened/normally closed)
- In addition, two each - 250V, 20 Amp, RK5 fuses
- Lighting disconnect - 120V 15 Amp fused disconnect or circuit breaker

Cutler Hammer

- Main disconnect: 230V single-phase disconnect model # DH221NGK
- 240V - 30 Amp with Interlock Kit - THAUX21D Aux Contacts (normally opened/normally closed)
- In addition, two each - 250V, 20 Amp, RK5 fuses
- Lighting disconnect: 120V 15 Amp fused disconnect or circuit breaker

Recommended manufacturers for circuit breakers at the distribution panel: Square D or Siemens only.

Eclipse electrical setup with controller mount between rails



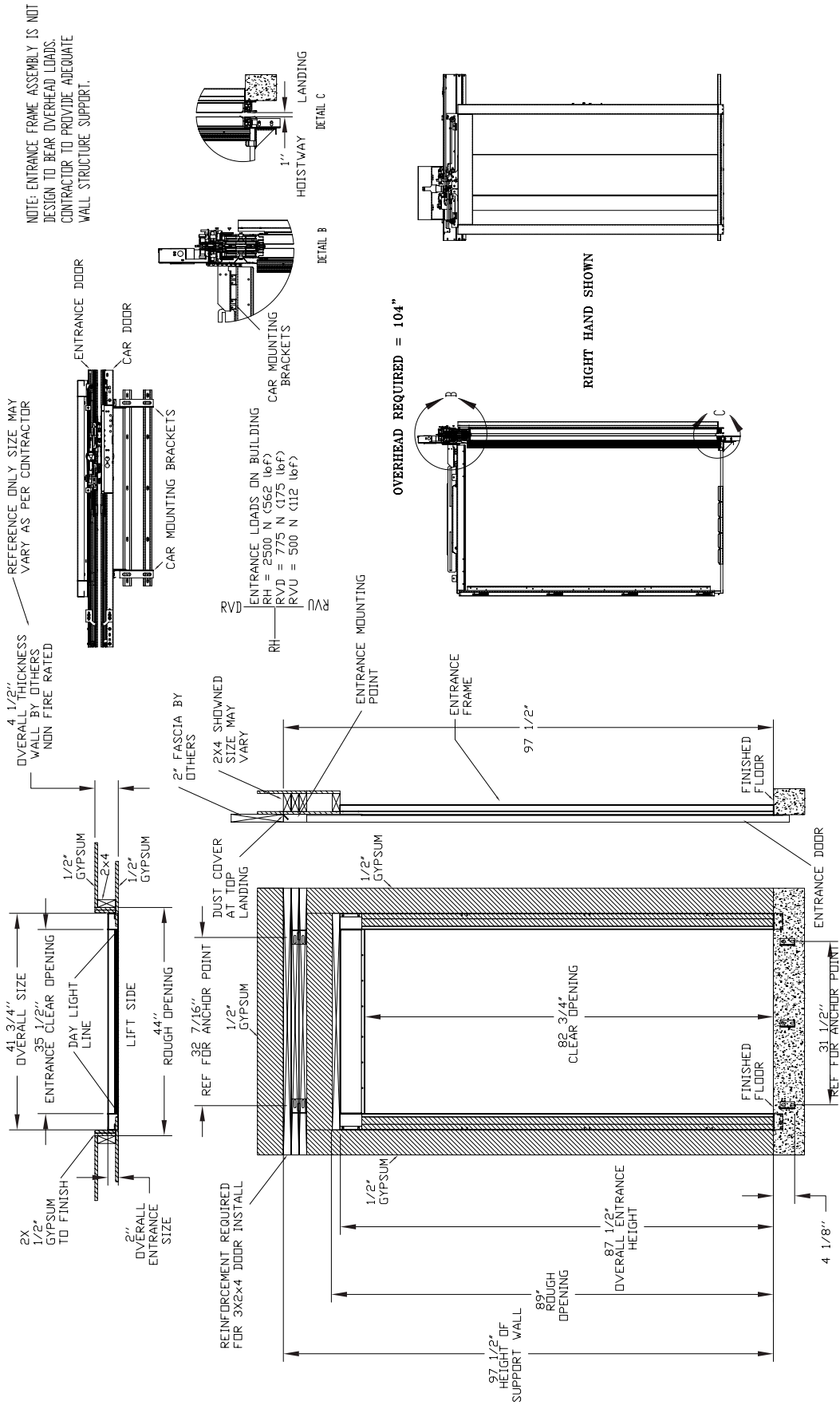
Appendix A

Eclipse with Auto Slim Doors

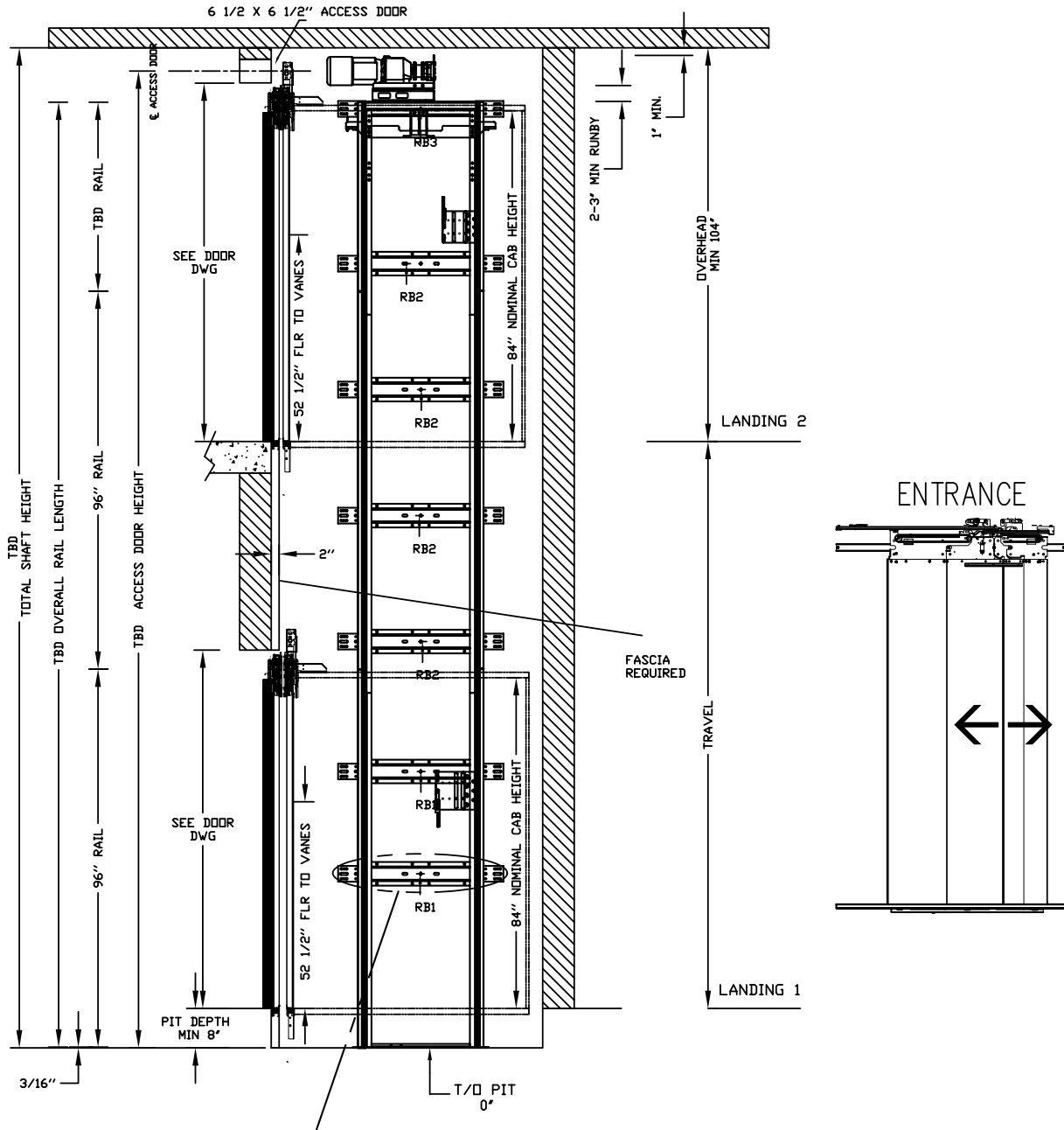
This appendix provides elevation and plan view drawings for the various Eclipse cab types with Auto Slim Doors.

Drawings for the auto slim doors entrance assembly are provided on the next two pages.

Auto slim doors entrance assembly, CO = 2100

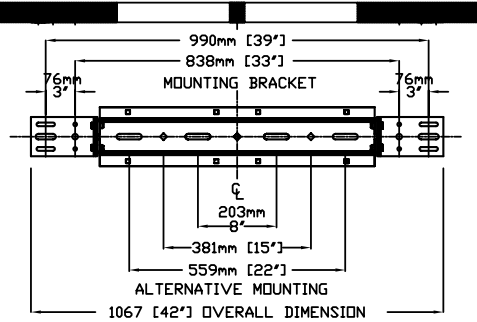


Elevation view – Type 1L with auto slim doors



LOAD BEARING WALL (SEE PLANNING GUIDE)

CANNOT HAVE HABITABLE SPACE BELOW PIT



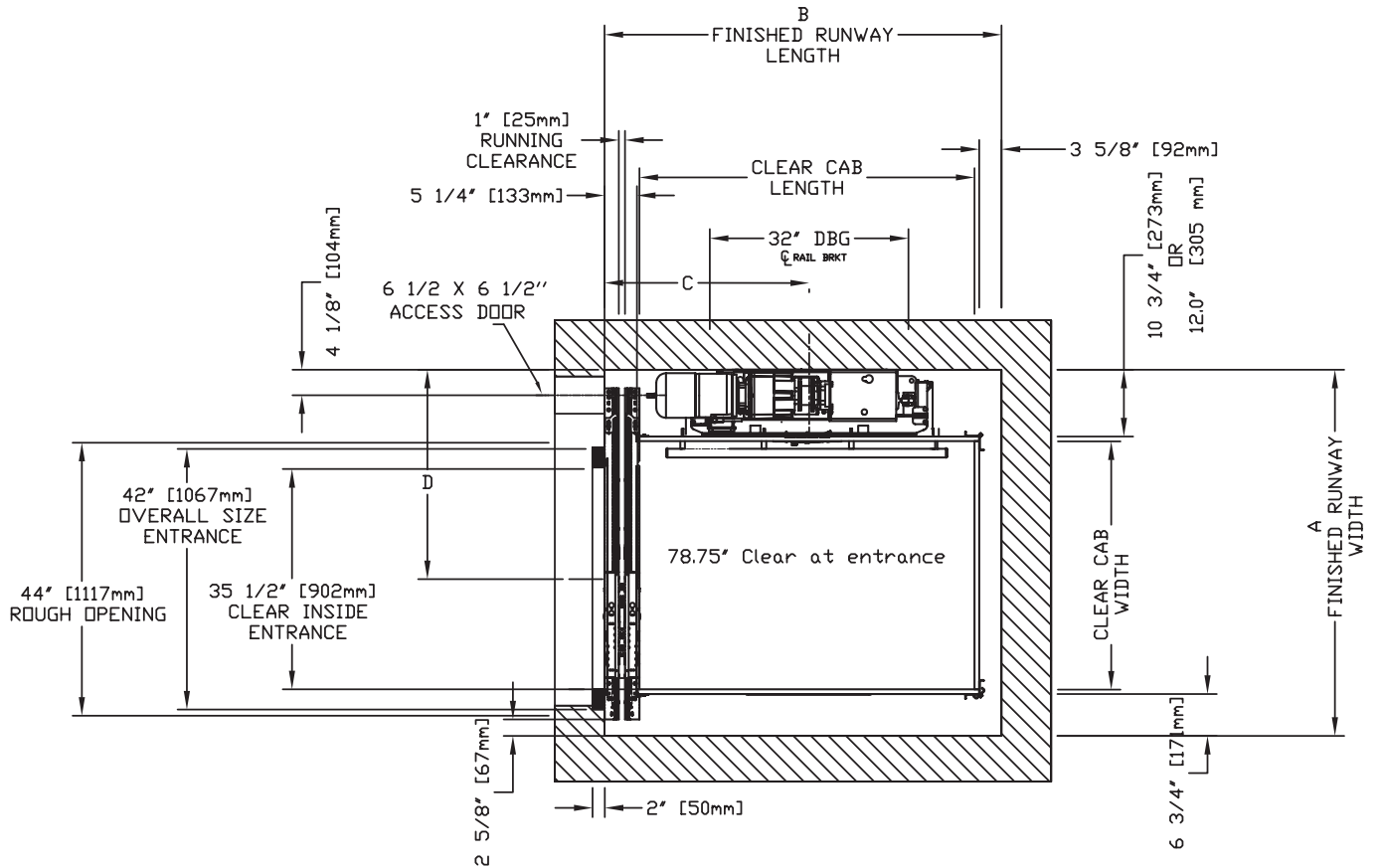
MOUNTING BRACKET

4 WALL ANCHOR POINTS MIN. PER BRACKET
 2 PER SIDE OF RAIL BRACKET CENTER LINE
 PULL OUT FORCE PER FASTENER 69 kg [152 LBS]

FINAL RAIL BRACKET RB3	BELOW THE MOTOR CONSULT YOUR CONCORD REPRESENTATIVE FOR EXACT LOCATION
INTERMEDIATE RAIL BRACKET RB2	32" [813mm] INTERVALS AFTER 2nd BOTTOM BRACKET
BOTTOM RAIL BRACKET RB1	44" [1118mm] & 71" [1804MM] ABOVE PIT FLOOR

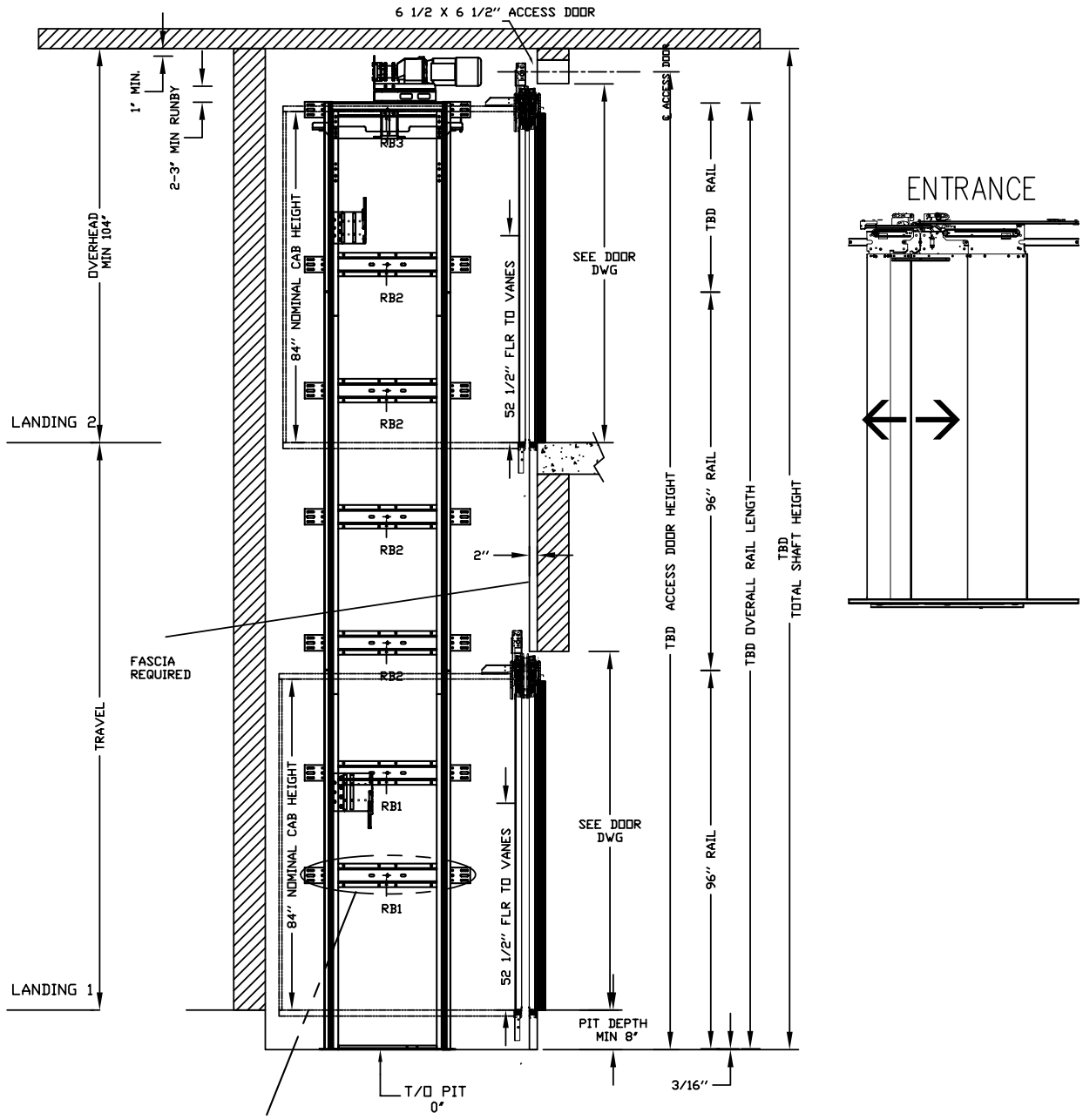
RAIL FORCES	
*R1	*R2
138.2 kg [304 lbf]	88.2 kg [194 lbf]
RAIL ASSY WEIGHT: 24.5 kg / m [18.0 lbs / ft]	
PIT FORCE: R3	
PIT FLOOR TO SUPPORT LOAD OF (INCLUDES IMPACT) 2909 kg [6400 lbs]	

Plan view – Type 1L with auto slim doors



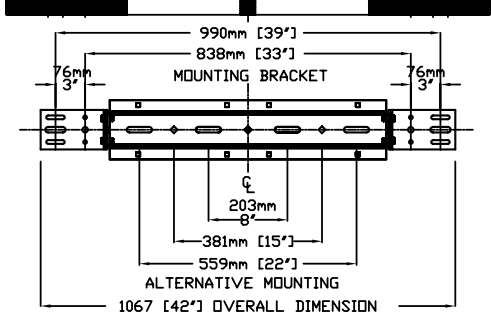
CLEAR INSIDE CAB WIDTH		CLEAR INSIDE CAB LENGTH		A FINISHED RUNWAY WIDTH		B FINISHED RUNWAY LENGTH		C RAIL CENTER LINE		D DOOR CENTER LINE	
mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches
914	36	1219	48	1448	57	1473	58	787	31	787	31
914	36	1372	54	1448	57	1626	64	838	33	787	31
914	36	1524	60	1448	57	1778	70	914	36	787	31
1016	40	1372	54	1499	59	1626	64	838	33	857	33.75

Elevation view - Type 1R with auto slim doors



LOAD BEARING WALL (SEE PLANNING GUIDE)

CANNOT HAVE HABITABLE SPACE BELOW PIT

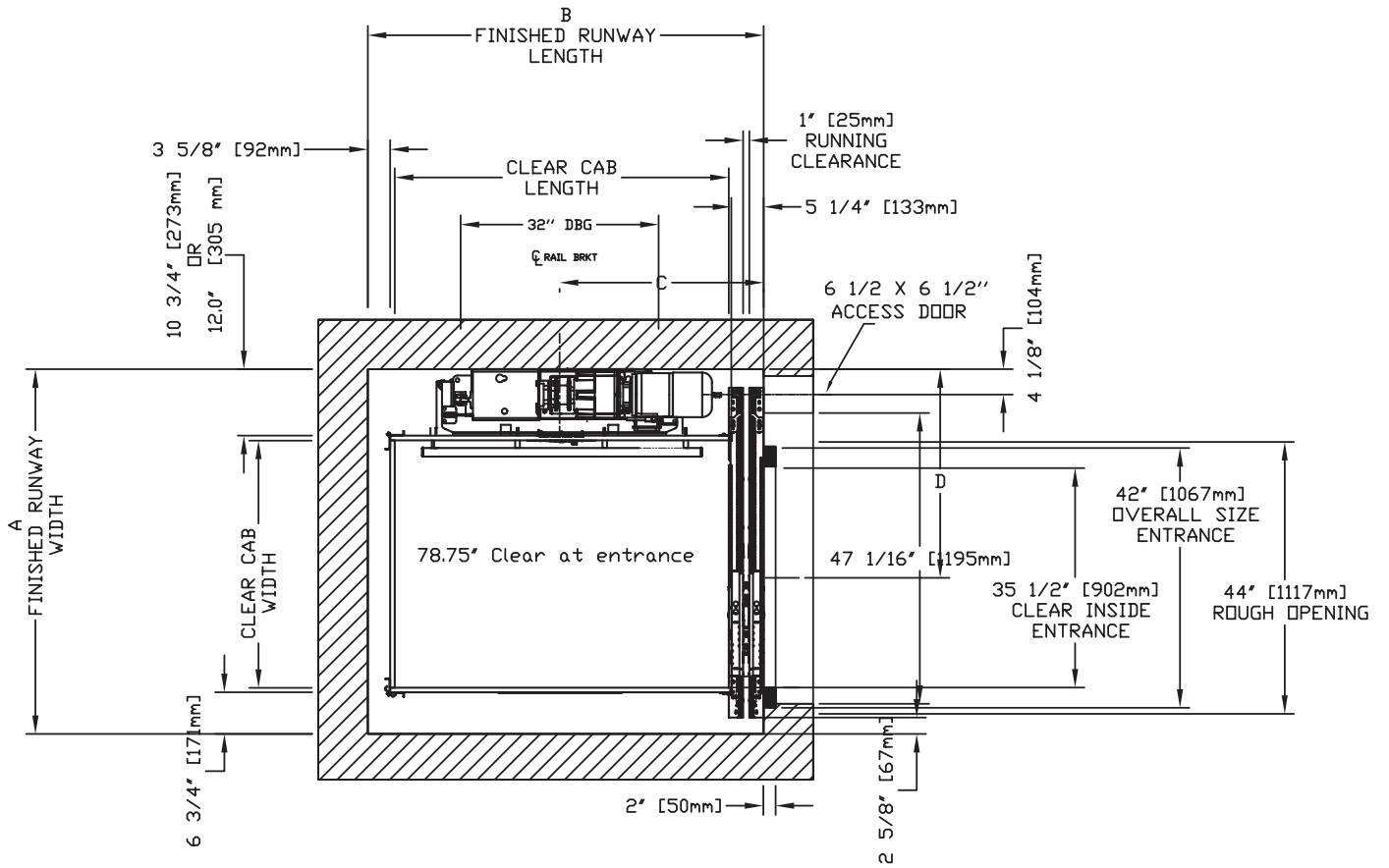


MOUNTING BRACKET
 4 WALL ANCHOR POINTS MIN. PER BRACKET
 2 PER SIDE OF RAIL BRACKET CENTER LINE
 PULL OUT FORCE PER FASTENER 69 kg [152 LBS]

FINAL RAIL BRACKET RB3	BELOW THE MOTOR CONSULT YOUR CONCORD REPRESENTATIVE FOR EXACT LOCATION
INTERMEDIATE RAIL BRACKET RB2	32" [813mm] INTERVALS AFTER 2nd BOTTOM BRACKET
BOTTOM RAIL BRACKET RB1	44" [1118mm] & 71" [1804mm] ABOVE PIT FLOOR

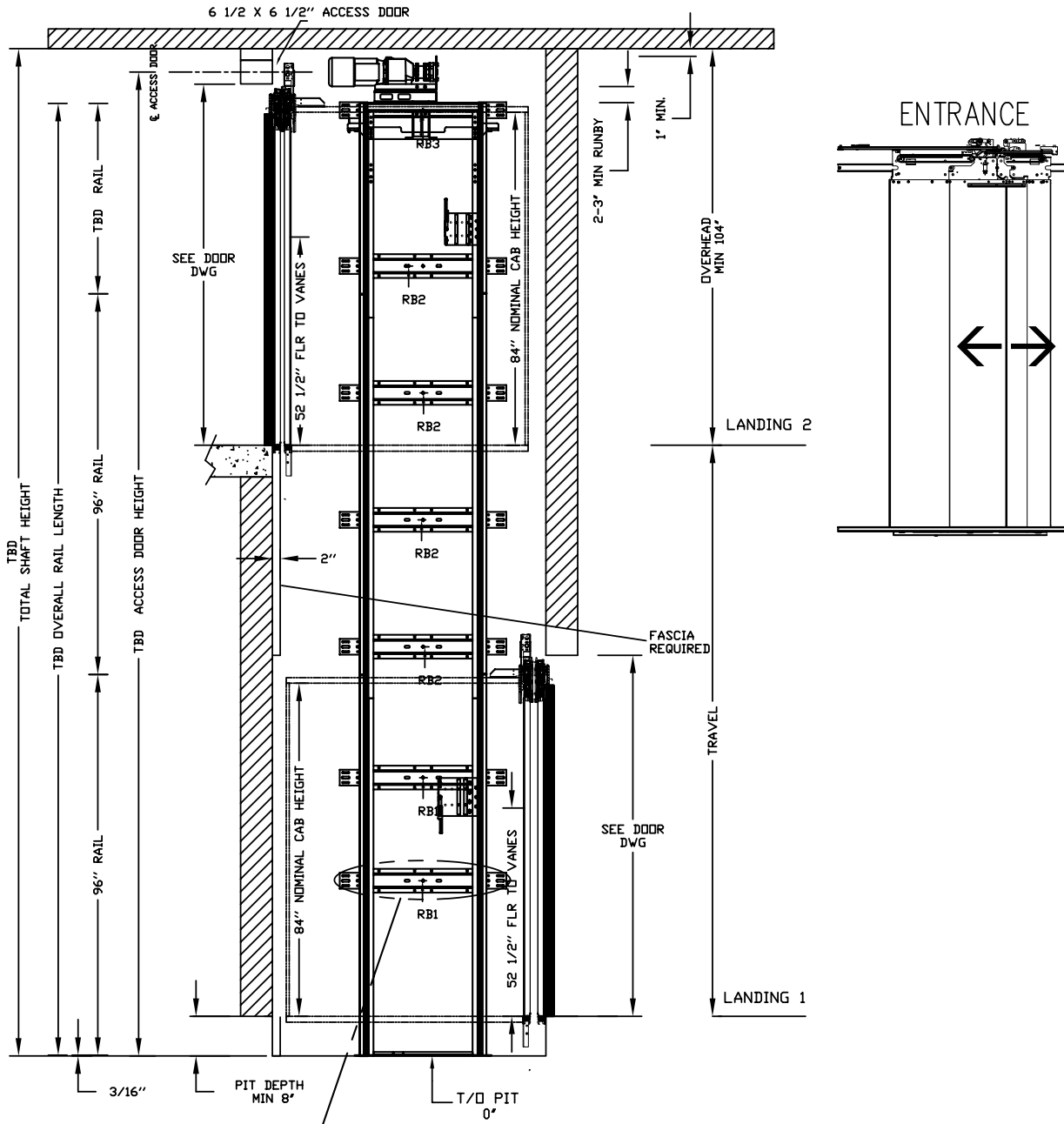
RAIL FORCES	
*R1	*R2
138.2 kg [304 lbf]	88.2 kg [194 lbf]
RAIL ASSY WEIGHT: 24.5 kg / m [18.0 lbs / ft]	
PIT FORCE: R3	
PIT FLOOR TO SUPPORT LOAD OF (INCLUDES IMPACT)	
2909 kg [6400 lbs]	

Plan view – Type 1R with auto slim doors



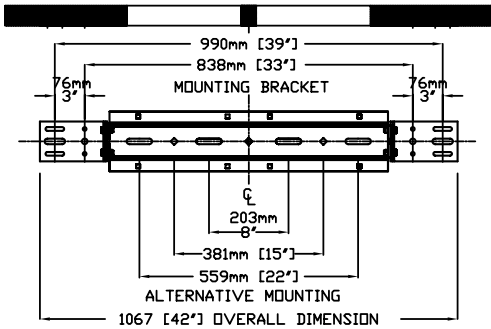
CLEAR INSIDE CAB WIDTH		CLEAR INSIDE CAB LENGTH		A FINISHED RUNWAY WIDTH		B FINISHED RUNWAY LENGTH		C RAIL CENTER LINE		D DOOR CENTER LINE	
mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches
914	36	1219	48	1448	57	1473	58	787	31	787	31
914	36	1372	54	1448	57	1626	64	838	33	787	31
914	36	1524	60	1448	57	1778	70	914	36	787	31
1016	40	1372	54	1499	59	1626	64	838	33	857	33.75

Elevation view – Type 2 with auto slim doors



LOAD BEARING WALL (SEE PLANNING GUIDE)

CANNOT HAVE HABITABLE SPACE BELOW PIT



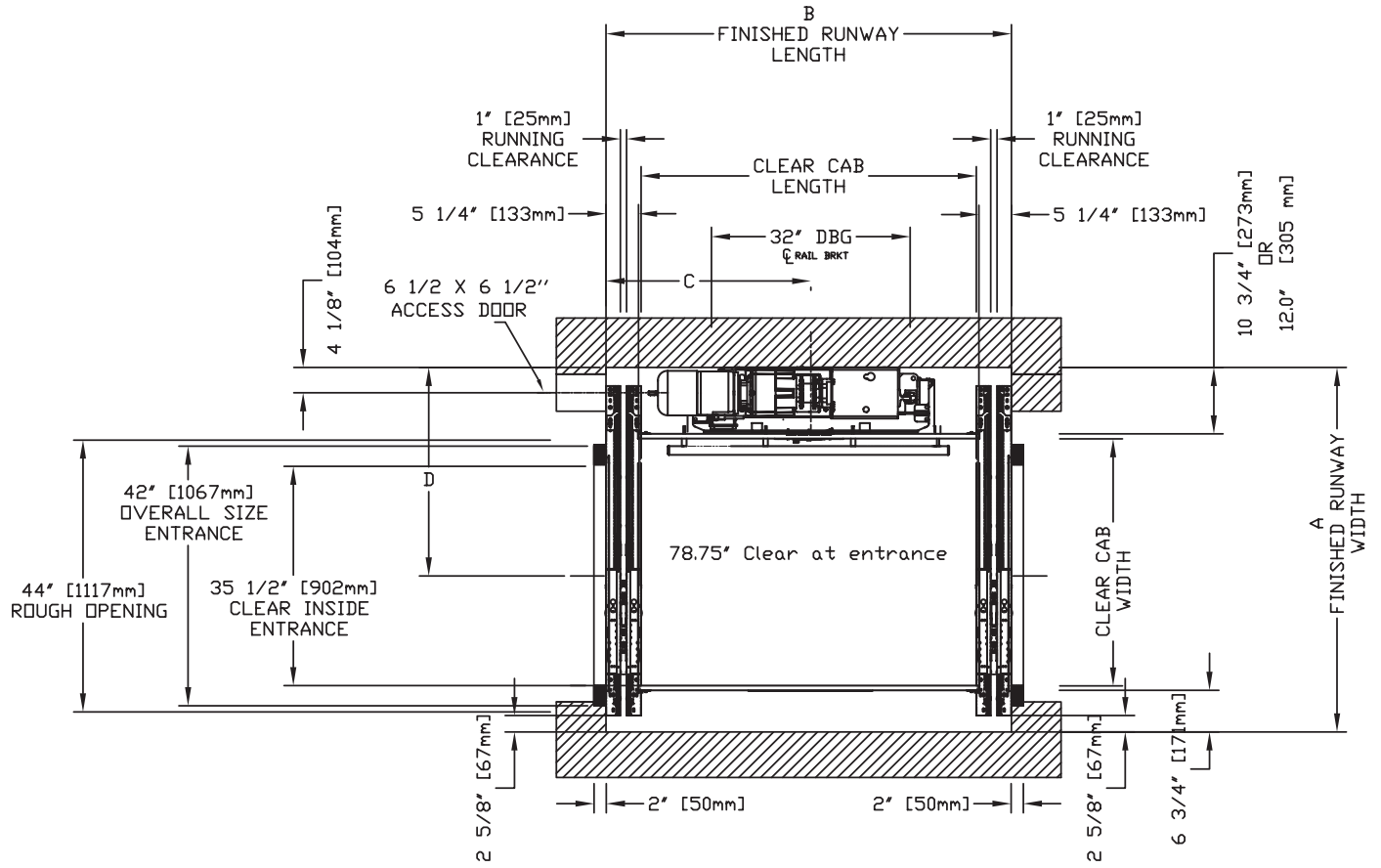
MOUNTING BRACKET

4 WALL ANCHOR POINTS MIN. PER BRACKET
 2 PER SIDE OF RAIL BRACKET CENTER LINE
 PULL OUT FORCE PER FASTENER 69 kg [152 LBS]

FINAL RAIL BRACKET RB3	BELOW THE MOTOR CONSULT YOUR CONCORD REPRESENTATIVE FOR EXACT LOCATION
INTERMEDIATE RAIL BRACKET RB2	32" [813mm] INTERVALS AFTER 2nd BOTTOM BRACKET
BOTTOM RAIL BRACKET RB1	44" [1118mm] & 71" [1804MM] ABOVE PIT FLOOR

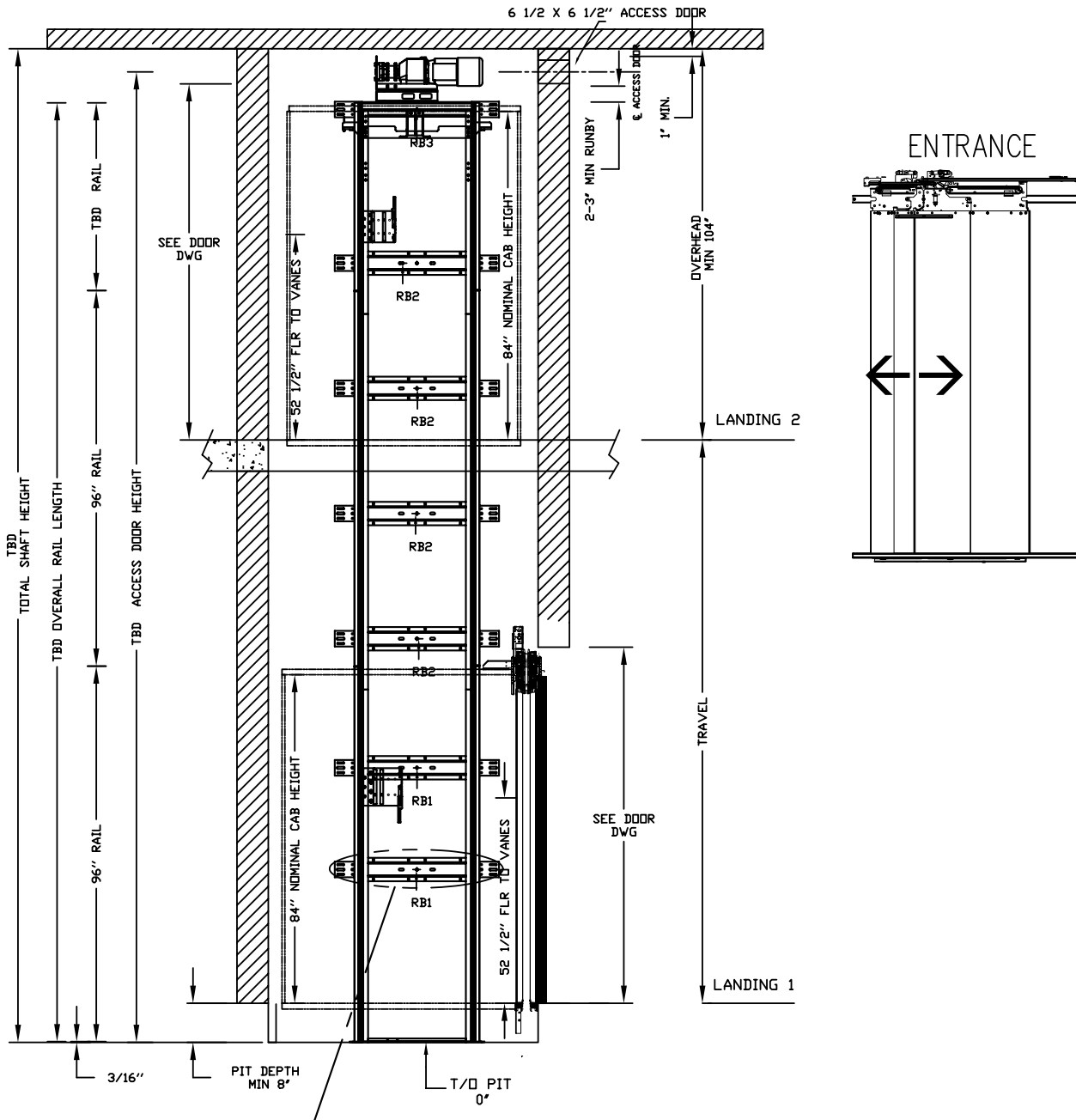
RAIL FORCES	
*R1	*R2
138.2 kg [304 lbf]	88.2 kg [194 lbf]
RAIL ASSY WEIGHT: 24.5 kg / m [18.0 lbs / ft]	
PIT FORCE: R3	
PIT FLOOR TO SUPPORT LOAD OF (INCLUDES IMPACT)	
2909 kg [6400 lbs]	

Plan view – Type 2 with auto slim doors



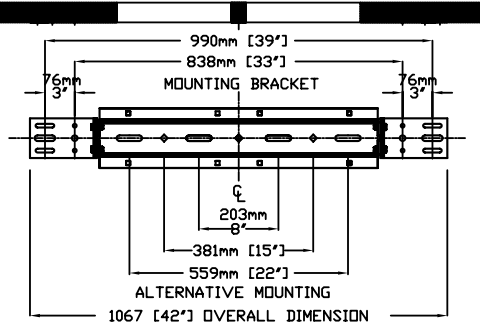
CLEAR INSIDE CAB WIDTH		CLEAR INSIDE CAB LENGTH		A FINISHED RUNWAY WIDTH		B FINISHED RUNWAY LENGTH		C RAIL CENTER LINE		D DOOR CENTER LINE	
mm	Inches	mm		mm	Inches	mm	Inches	mm	Inches	mm	Inches
914	36	1219	48	1448	57	1505	59 1/4	803	31 5/8	787	31
914	36	1372	54	1448	57	1657	65 1/4	829	32 5/8	787	31
914	36	1524	60	1448	57	1810	71 1/4	905	35 5/8	787	31
1016	40	1372	54	1499	59	1657	65 1/4	829	32 5/8	857	33.75

Elevation view – Type 3 with auto slim doors



LOAD BEARING WALL (SEE PLANNING GUIDE)

CANNOT HAVE HABITABLE SPACE BELOW PIT

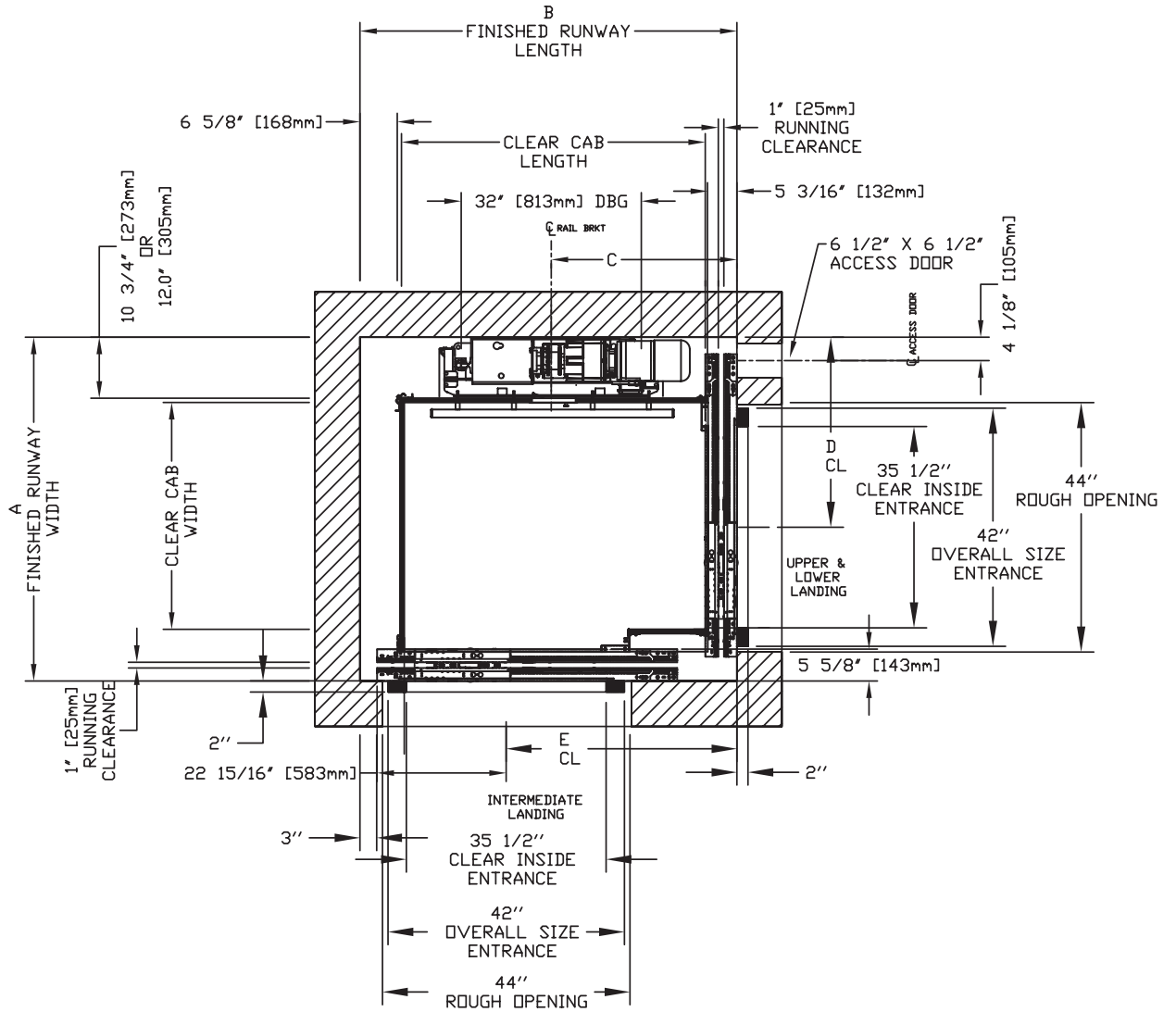


MOUNTING BRACKET
 4 WALL ANCHOR POINTS MIN. PER BRACKET
 2 PER SIDE OF RAIL BRACKET CENTER LINE
 PULL OUT FORCE PER FASTENER 69 kg [152 LBS]

FINAL RAIL BRACKET RB3	BELOW THE MOTOR CONSULT YOUR CONCORD REPRESENTATIVE FOR EXACT LOCATION
INTERMEDIATE RAIL BRACKET RB2	32" [813mm] INTERVALS AFTER 2nd BOTTOM BRACKET
BOTTOM RAIL BRACKET RB1	44" [1118mm] & 71" [1804mm] ABOVE PIT FLOOR

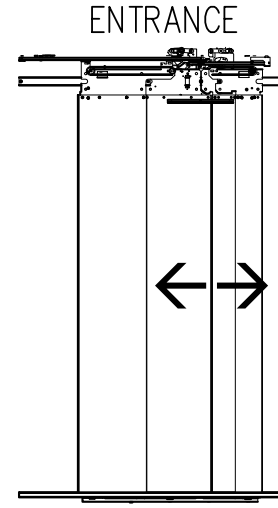
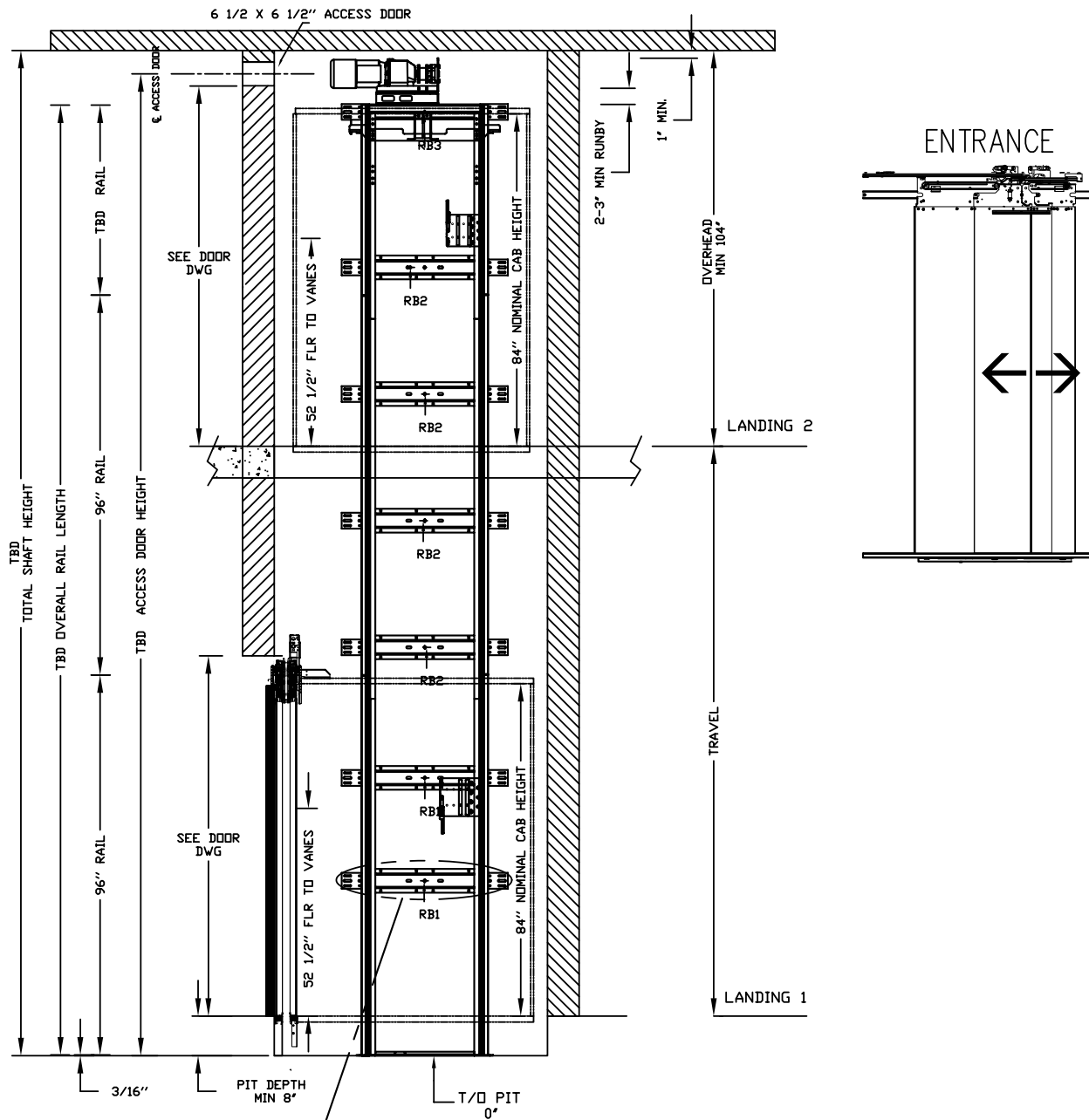
RAIL FORCES	
*R1	*R2
138.2 kg [304 lbf]	88.2 kg [194 lbf]
RAIL ASSY WEIGHT: 24.5 kg / m [18.0 lbs / ft]	
PIT FORCE: R3	
PIT FLOOR TO SUPPORT LOAD OF (INCLUDES IMPACT) 2909 kg [6400 lbs]	

Plan view – Type 3 with auto slim doors



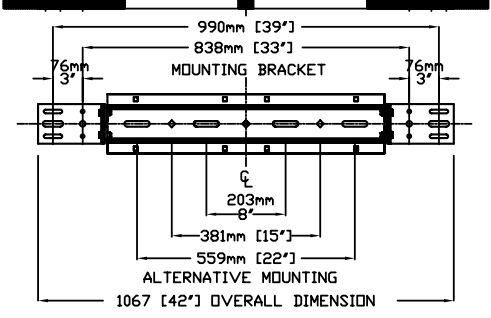
CLEAR INSIDE CAB WIDTH		CLEAR INSIDE CAB LENGTH		A FINISHED RUNWAY WIDTH		B FINISHED RUNWAY LENGTH		C RAIL CENTER LINE		D DOOR CENTER LINE		E DOOR CENTER LINE	
mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches
914	36	1372	54	1483	58 3/8	1702	67	838	33	787	31	1064	41 7/8
914	36	1524	60	1483	58 3/8	1854	73	914	36	787	31	1216	47 7/8
1016	40	1372	54	1549	61	1702	67	838	33	857	33.75	1064	41 7/8

Elevation view – Type 4 with auto slim doors



LOAD BEARING WALL (SEE PLANNING GUIDE)

CANNOT HAVE HABITABLE SPACE BELOW PIT

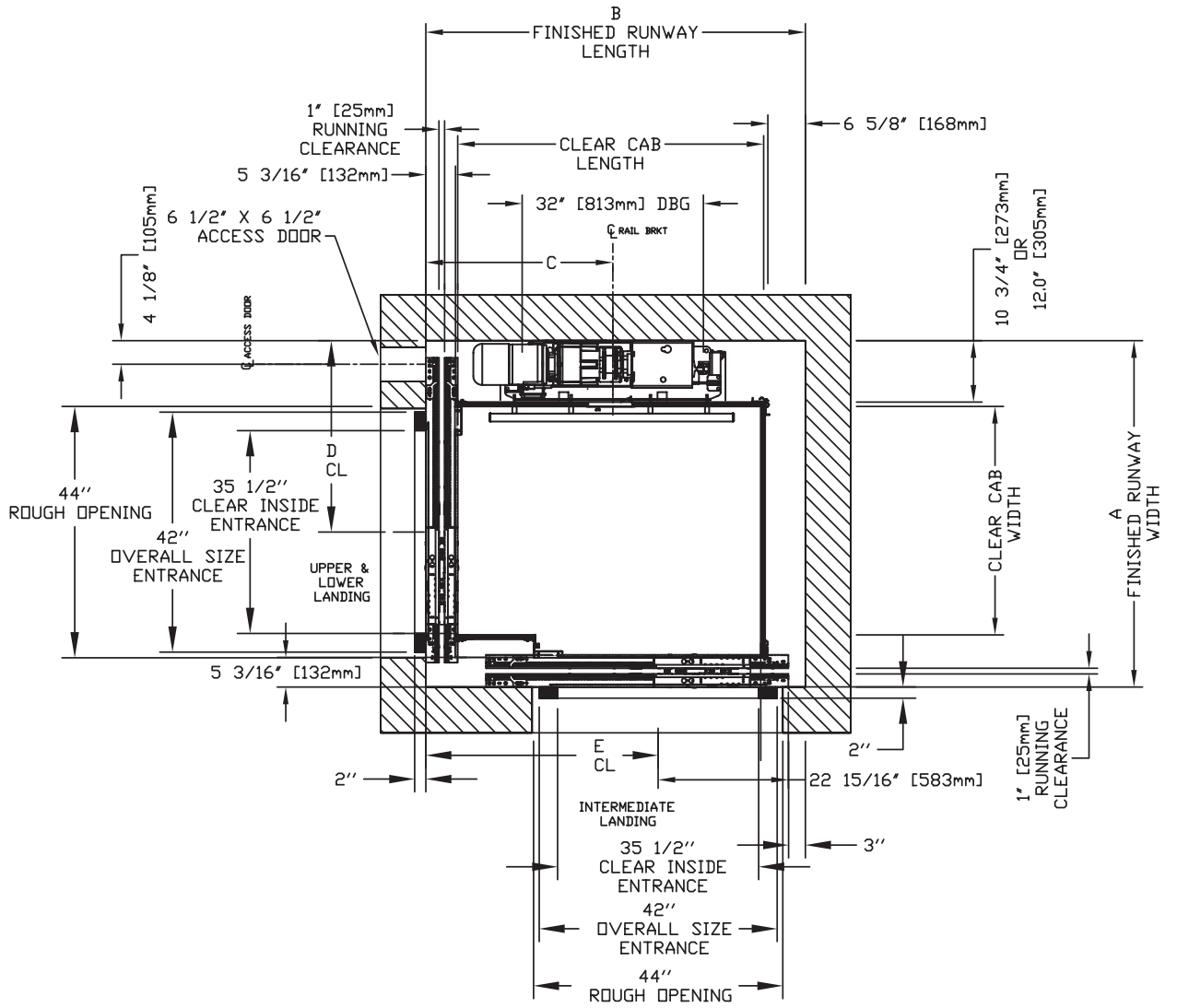


MOUNTING BRACKET
 4 WALL ANCHOR POINTS MIN. PER BRACKET
 2 PER SIDE OF RAIL BRACKET CENTER LINE
 PULL OUT FORCE PER FASTENER 69 kg [152 LBS]

FINAL RAIL BRACKET RB3	BELOW THE MOTOR CONSULT YOUR CONCORD REPRESENTATIVE FOR EXACT LOCATION
INTERMEDIATE RAIL BRACKET RB2	32" [813mm] INTERVALS AFTER 2nd BOTTOM BRACKET
BOTTOM RAIL BRACKET RB1	44" [1118mm] & 71" [1804mm] ABOVE PIT FLOOR

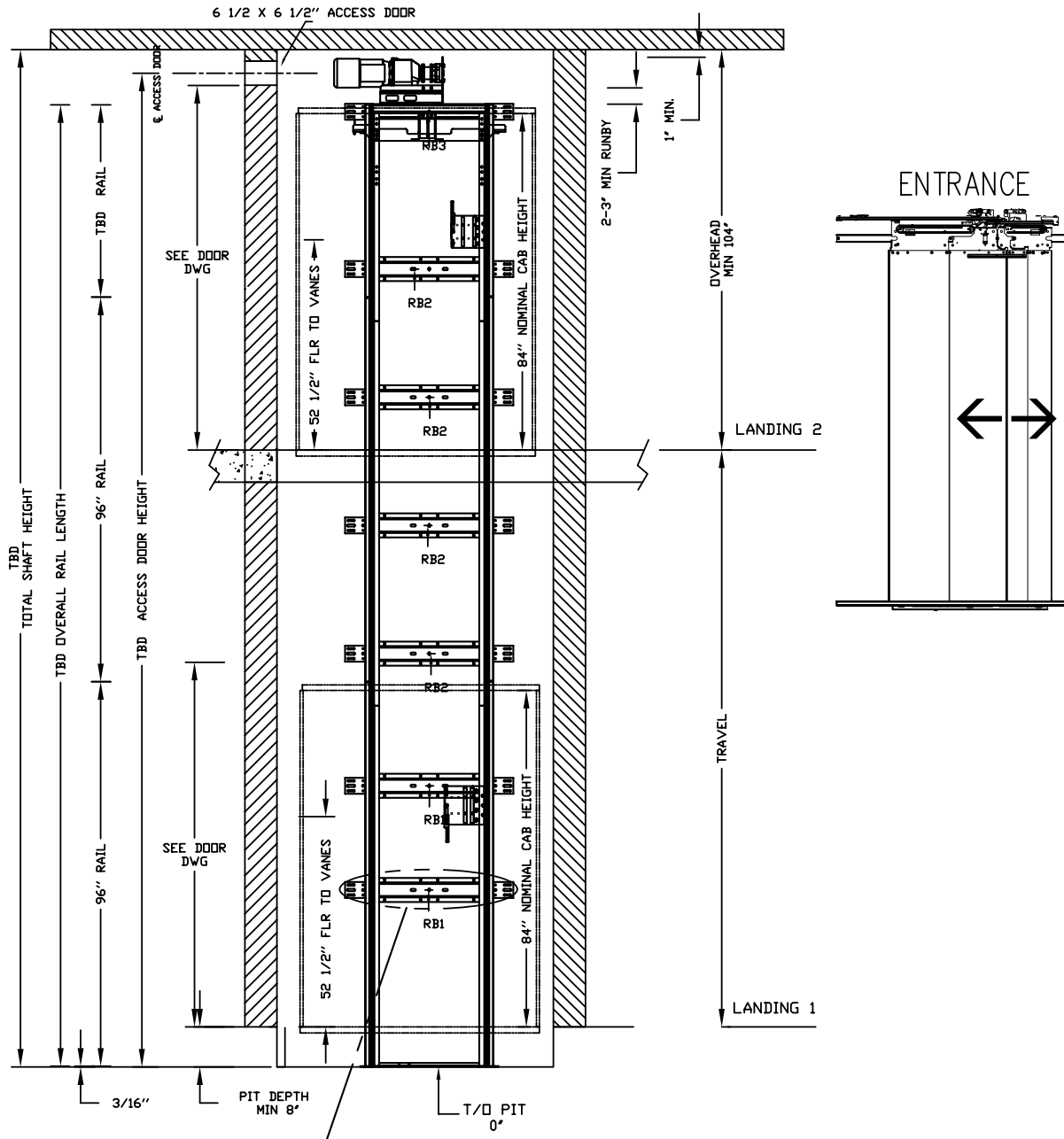
RAIL FORCES	
*R1	*R2
138.2 kg [304 lbf]	88.2 kg [194 lbf]
RAIL ASSY WEIGHT: 24.5 kg / m [18.0 lbs / ft]	
PIT FORCE: R3	
PIT FLOOR TO SUPPORT & LOAD OF (INCLUDES IMPACT) 2909 kg [6400 lbs]	

Plan view – Type 4 with auto slim doors



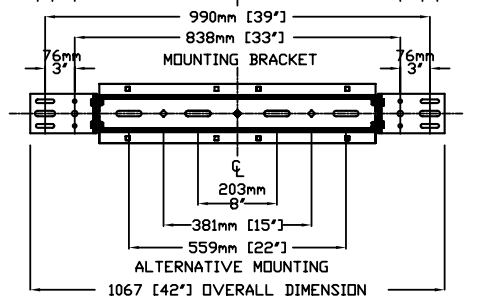
CLEAR INSIDE CAB WIDTH		CLEAR INSIDE CAB LENGTH		A FINISHED RUNWAY WIDTH		B FINISHED RUNWAY LENGTH		C RAIL CENTER LINE		D DOOR CENTER LINE		E DOOR CENTER LINE	
mm	Inches	mm		mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches
914	36	1372	54	1483	58 3/8	1702	67	838	33	787	31	1064	41 7/8
914	36	1524	60	1483	58 3/8	1854	73	914	36	787	31	1216	47 7/8
1016	40	1372	54	1549	61	1702	67	838	33	857	33.75	1064	41 7/8

Elevation view – Type 5 with auto slim doors



LOAD BEARING WALL (SEE PLANNING GUIDE)

CANNOT HAVE HABITABLE SPACE BELOW PIT

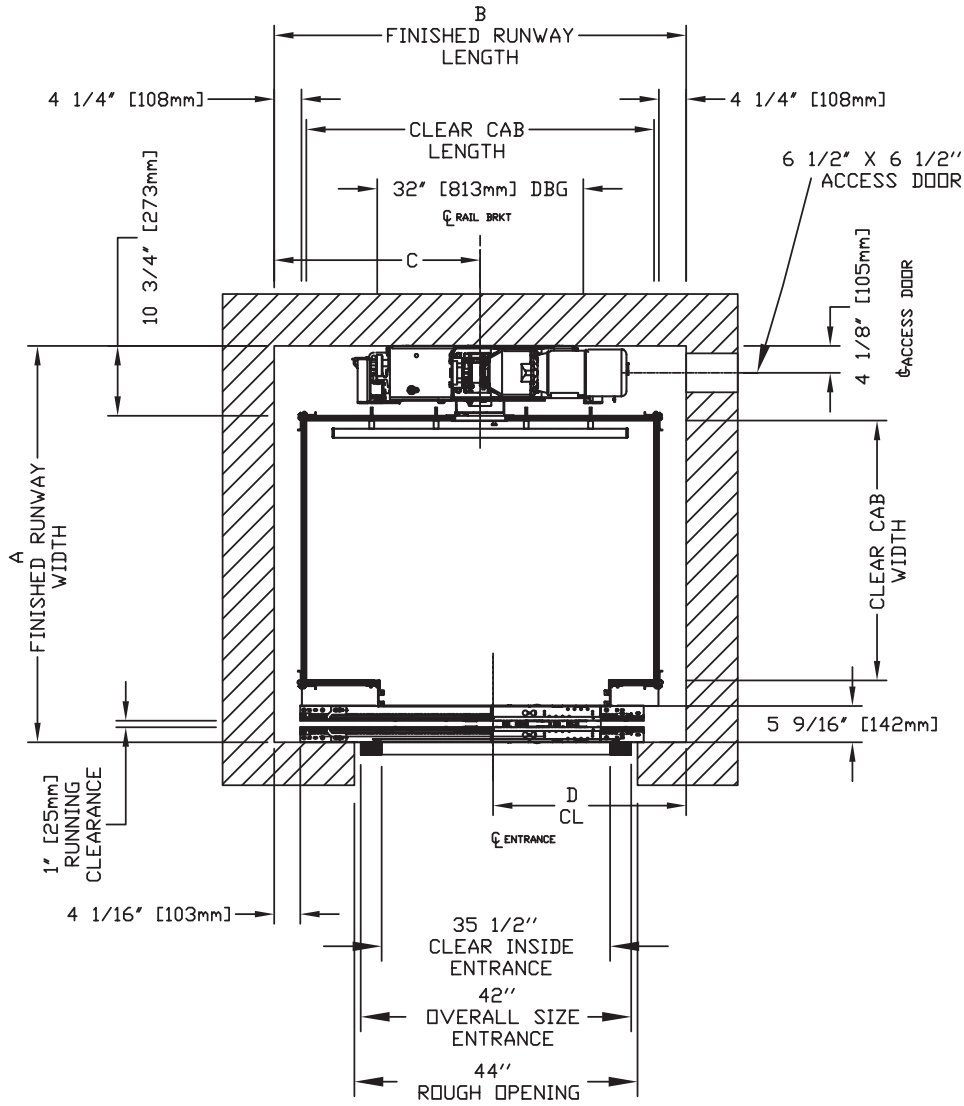


MOUNTING BRACKET
 4 WALL ANCHOR POINTS MIN. PER BRACKET
 2 PER SIDE OF RAIL BRACKET CENTER LINE
 PULL OUT FORCE PER FASTENER 69 kg [152 LBS]

FINAL RAIL BRACKET RB3	BELOW THE MOTOR CONSULT YOUR CONCORD REPRESENTATIVE FOR EXACT LOCATION
INTERMEDIATE RAIL BRACKET RB2	32" [813mm] INTERVALS AFTER 2nd BOTTOM BRACKET
BOTTOM RAIL BRACKET RB1	44" [1118mm] & 71" [1804MM] ABOVE PIT FLOOR

RAIL FORCES	
*R1	*R2
138.2 kg [304 lbf]	88.2 kg [194 lbf]
RAIL ASSY WEIGHT: 24.5 kg / m [18.0 lbs / ft]	
PIT FORCE: R3	
PIT FLOOR TO SUPPORT LOAD OF (INCLUDES IMPACT) 2909 kg [6400 lbs]	

Plan view – Type 5 with auto slim doors



CLEAR INSIDE CAB WIDTH		CLEAR INSIDE CAB LENGTH		A FINISHED RUNWAY WIDTH		B FINISHED RUNWAY LENGTH		C RAIL CENTER LINE		D DOOR CENTER LINE	
mm	Inches	mm		mm	Inches	mm	Inches	mm	Inches	mm	Inches
914	36	1372	54	1448	57	1626	64	813	32	762	30
914	36	1524	60	1448	57	1778	70	889	35	762	30
1016	40	1372	54	1549	61	1626	64	813	32	762	30



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