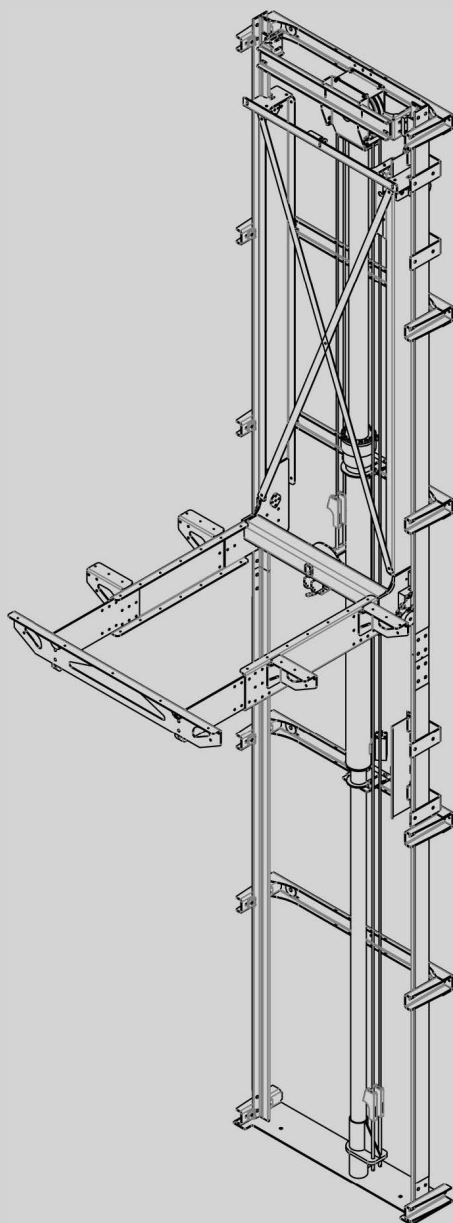




Limited Use/Limited Application Elevator

Design Guide

ASME A17.1, Part V, Section 5.2



SymmetryElevator.com
National Reach. Local Service.®

Symmetry LU/LA Elevator

Limited Use/Limited Application

Table of Contents

Component Identification	6
Equipment for Symmetry LU/LA	7
Typical Elevation Construction	8
Typical Right/Left Handed Entrance Construction.....	11
Typical Machine Room Layouts	13
Typical Rail Backing Layouts	14
Typical Rail Bracket Elevation	15
Typical Hoistway Options	16

About Symmetry Elevating Solutions

Beautifully Crafted, Expertly Engineered, Thoughtfully Constructed

Symmetry is committed to its quest to develop innovative accessibility products, rigorous in its commitment to beautiful craftsmanship, expert engineering, thoughtful construction, and affordability.

Symmetry is committed to being the leading provider of lift products in North America. We are focused on being your complete lift solutions provider.

Symmetry Elevating Solutions dealer network possesses over 120 combined years of hands-on, real-world elevator and lift equipment experience.

Symmetry is committed to an unwavering, relentless, honest pursuit of excellence. The result? A visionary product expertly installed, unrivaled in the accessibility industry.



Symmetry Elevating Solutions

National Reach. Local Service.®

Symmetry Elevating Solutions is your complete lift solutions provider!

Visit **SymmetryElevator.com** to see our full line of lift solutions.

- Residential Elevators
- Dumbwaiters
- Stairlifts
- Limited Use/Limited Access Elevators
- Vertical Wheelchair Lifts
- Auto Parking Solutions
- Vertical Reciprocating Conveyors
- Auto Gate Operators
- Material Handling Equipment
- Specialty Elevator Fixtures
- Planned Maintenance and Service

Elevation

A Symmetry Elevating Solutions Product

What is a Limited Use/Limited Application Elevator?

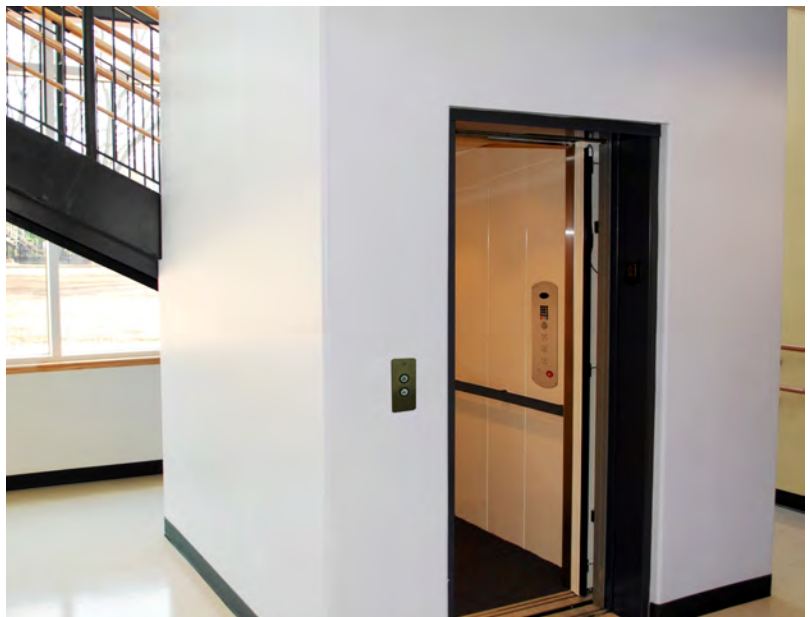
When only the highest level of safety is your standard, the Elevation LU/LA (Limited Use Limited Application) elevator is the select product for your project. Leading the industry in quality, style and design, the Elevation by Symmetry is engineered and designed for limited commercial as well as residential use.

The LU/LA elevator is designed to meet the requirements of the ADA and provide access for low occupancy / low rise commercial buildings where a traditional passenger elevator is not feasible or required by code. The Elevation is ideal for applications up to six stops and 50 feet of travel. The Elevation is designed for use in schools and other educational settings, churches, multi-family housing units, libraries and more.

The Symmetry Difference?

What makes the Symmetry Elevation better than other elevators available

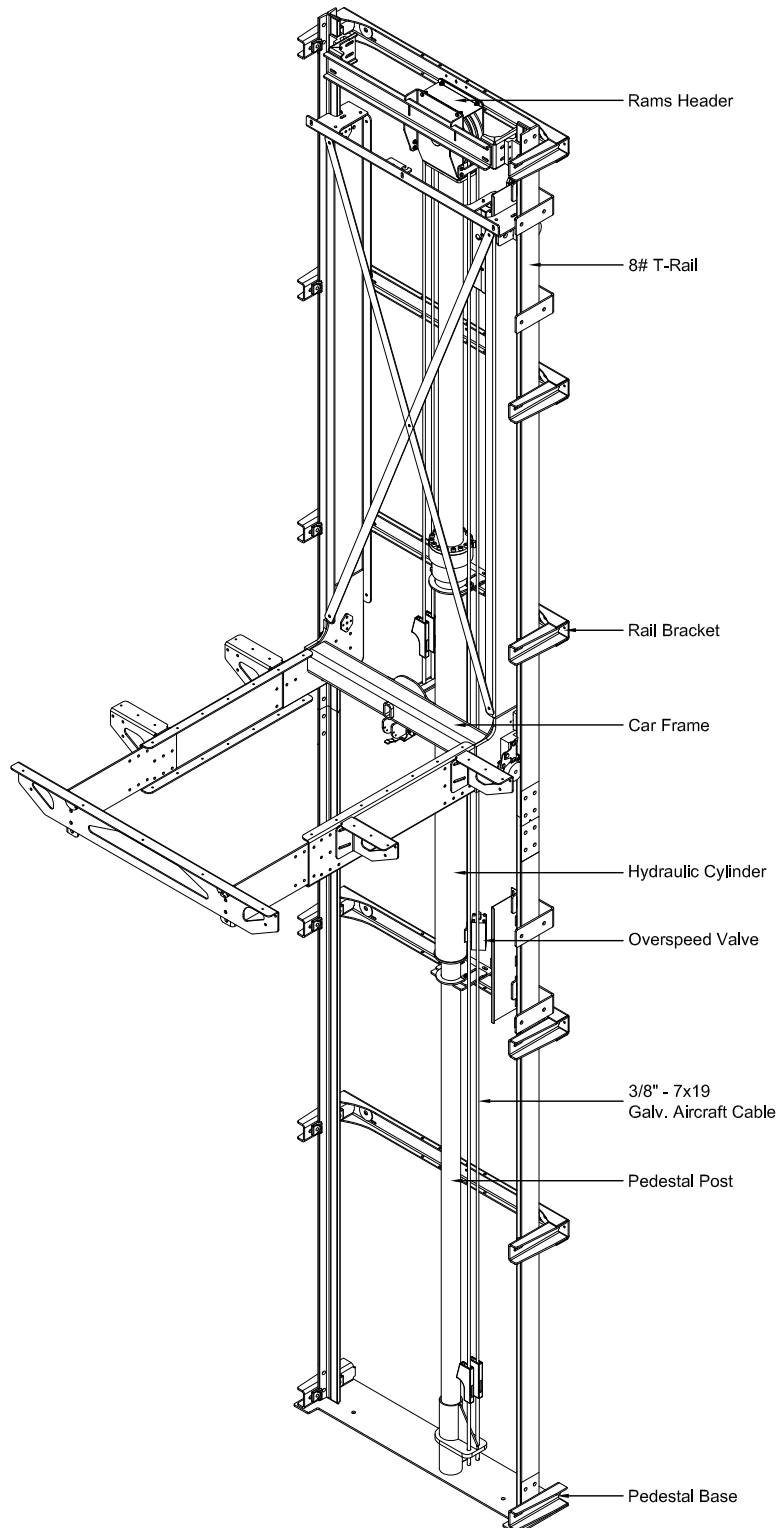
- * Shallowest pit depth required in the industry (13" pit).
- * Shortest overhead required in the industry (106").
- * All light sources (including COP, car lights and directional indicators) are powered by energy-efficient LED technology.





Component Identification

Limited Use/Limited Application (LU/LA)



Equipment for Symmetry LU/LA Elevator

Limited Use/Limited Application

Standard Features

- Automatic self-leveling
- 1:2 cable hydraulic drive system
- Smooth start and stop
- 2 stop operation which can be increased up to 6 stops
- 36" wide doors, automatic horizontally sliding, two speed hoistway and car door; full height electric screen
- Pit depth: standard 13" with alternative means (bottom of car clearance device)
- Overhead: 11' standard or 8'10" (106") with alternative means (top car clearance device)
- Selective collective Programmable Logic Controller (PLC)
- Homing Timer, car indicator lights with audible and visual signals
- 4 HP submersible pump and motor quiet operation
- 2 speed control valve
- Low oil protection
- Single stage hydraulic jack and two 3/8" aircraft ropes using wedge sockets
- Green drive system by adding environmentally biodegradable hydraulic oil
- 8# T-rail
- Heavy duty rollers and guides

Optional Features

- Custom wood cabs
- Stainless steel and colored laminate interior finishing
- Overspeed governor
- Speed: 40 FPM with variance
- 40' travel with variance and derated capacity
- 3 phase motor & Controller (208/230, 3 PH, 15 AMP)
- Phase 1 & Phase 2 Fire Service

Safety Features

- Keyed in car stop switch and alarm button
- Emergency lighting in cab interior
- Emergency lowering with battery back up system
- Emergency manual lowering
- Instantaneous safety brake system
- Automatic bidirectional floor leveling
- Slack/broken cable safety brake device
- Over speed valve
- ETL, UL or CSA certified components
- Emergency backup power supply for lights and door operators
- Tactile/Braille characters
- Bumpers

This brochure is intended for informational purposes only and should not be used for construction. Please contact your local Symmetry representative for a job specific drawing.

Platform Sizes

- 48"W x 54"D standard
- 42"W x 54"D standard
- 42"W x 60"D optional
- 51"W x 51"D / 90° optional

Specifications

- Power Supply: 208/230, 1 PH, 30 AMP, 60 HZ
- Power Supply: 208/230, 3 PH, 15 AMP, 60 HZ Optional
- Capacity: 1400# (635 kg)
- Speed 30 FPM (.15 m/s)
- Travel: 25' standard
- Three (3) year limited parts warranty

Warranty

- **Standard Warranty:** Provides a three (3) year or 36 month limited warranty covering replacement of defective parts and excluding labor. Preventative maintenance agreement required.
- **Extended Warranty:** Provides an additional five (5) year limited warranty covering replacement of defective parts and excluding labor, for a total of 8 years. Preventative maintenance agreement required.

Symmetry LU/LA elevators are designed to comply with ASME A17.1 Section 5.2 and the ADA (Americans with Disabilities Act).

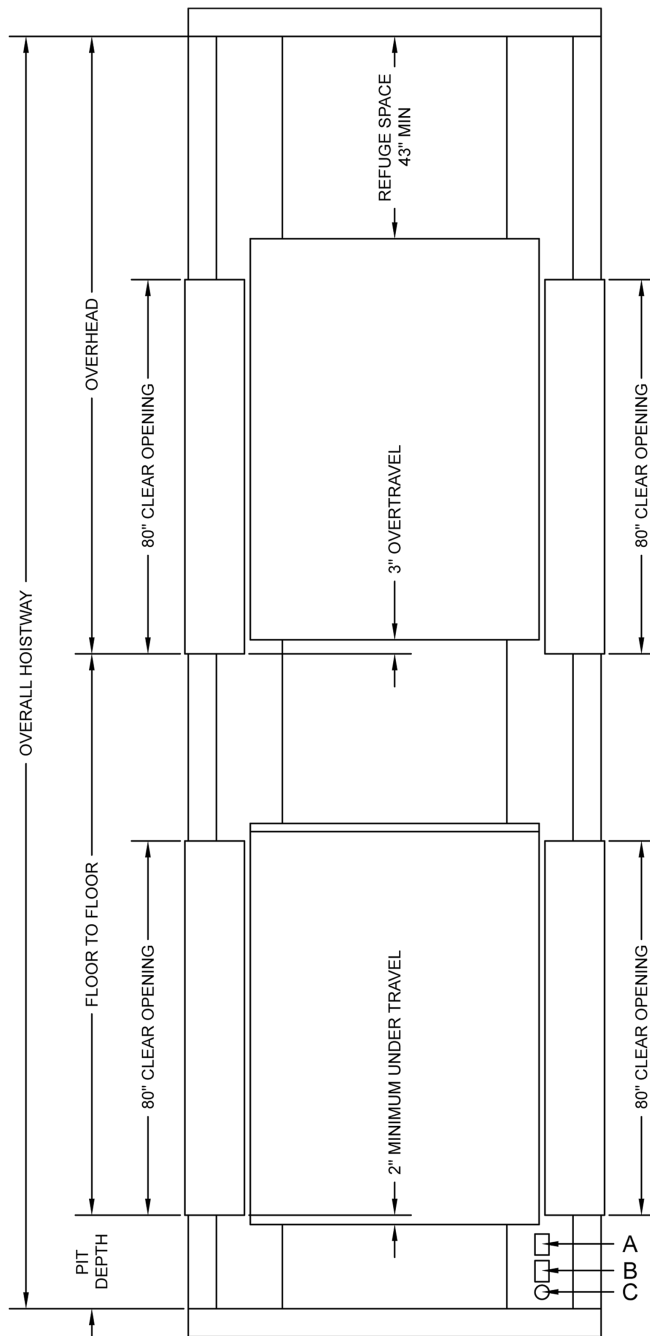
All LU/LA elevators are limited by speed, travel and capacity in order to comply with the code.

Your local authorities may have additional limits on these specifications. Please contact your Symmetry Elevating Solutions Dealer prior to starting your project.



2 Stop Elevation

Limited Use/Limited Application (LU/LA)



Notes:

1. Hoistway must be free of any obstructions unrelated to the elevator operation (i.e. pipes, ducts, etc.).
2. The minimum floor-to-floor between two entrances on the same wall is 98 1/2" (8'-2 1/2").

Hoistway Information

Overall Hoistway	266"
Overhead	132"
Floor to Floor Travel	120"
Pit Depth	14"

Floor to Floor Information

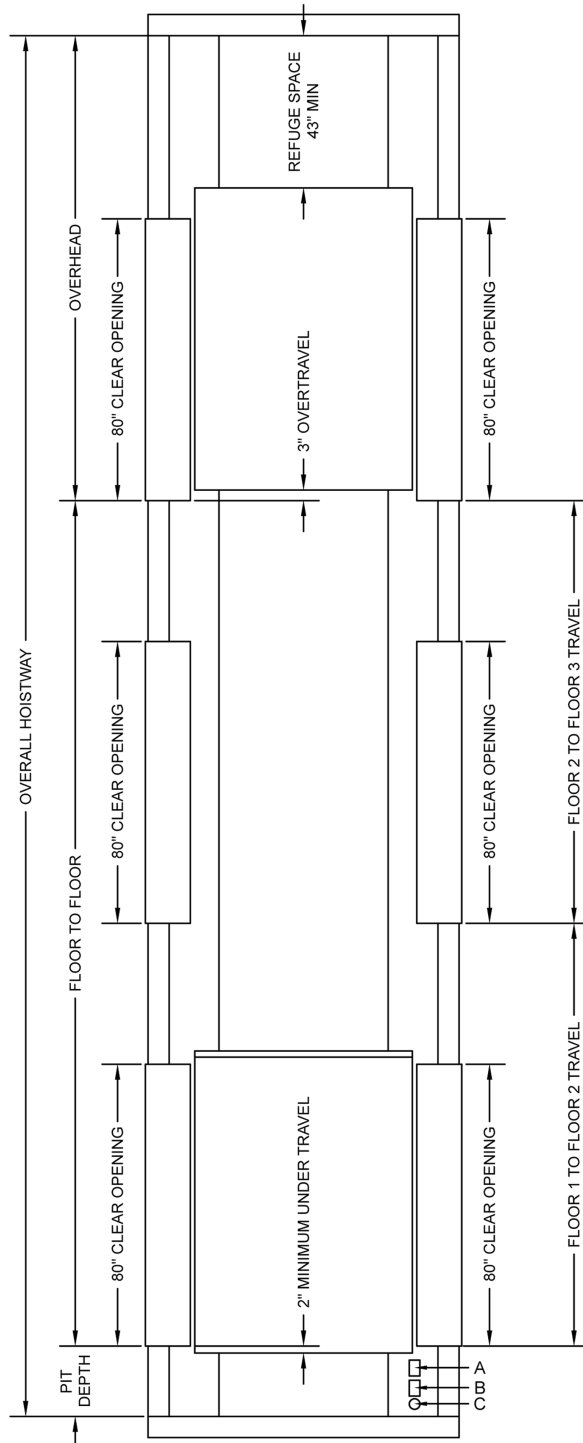
Floor 1 to Floor 2 Travel	120"
---------------------------	------

Work by GC:

- A. Pit Light switch installed 4'0" above the finished floor.
- B. Pit GFI duplex receptacle.
- C. Pit light.

3 Stop Elevation

Limited Use/Limited Application (LU/LA)



Notes:

1. Hoistway must be free of any obstructions unrelated to the elevator operation (i.e. pipes, ducts, etc.).
2. The minimum floor-to-floor between two entrances on the same wall is 98 1/2" (8'-2 1/2").

Hoistway Information	
Overall Hoistway	266"
Overhead	132"
Floor to Floor Travel	120"
Pit Depth	14"

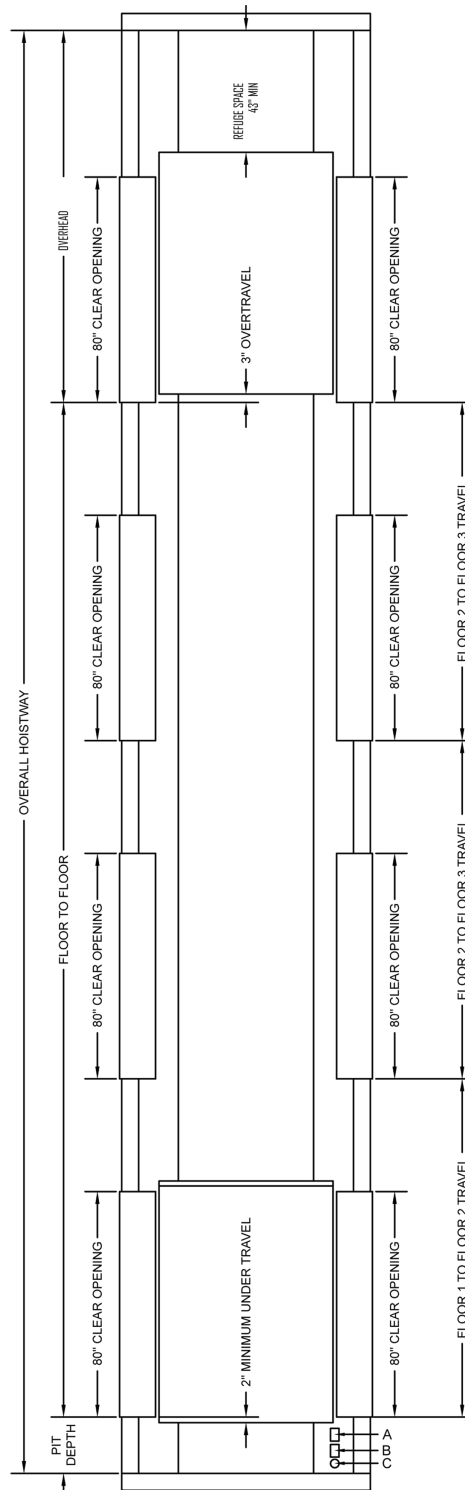
Floor to Floor Information	
Floor 1 to Floor 2 Travel	120"
Floor 2 to Floor 3 Travel	120"

Work by GC:

- A. Pit Light switch installed 4'0" above the finished floor.
- B. Pit GFI duplex receptacle.
- C. Pit light.

4 Stop Elevation

Limited Use/Limited Application (LU/LA)



Notes:

1. Hoistway must be free of any obstructions unrelated to the elevator operation (i.e. pipes, ducts, etc.).
2. The minimum floor-to-floor between two entrances on the same wall is 98 1/2" (8'-2 1/2").

Hoistway Information

Overall Hoistway	266"
Overhead	132"
Floor to Floor Travel	120"
Pit Depth	14"

Floor to Floor Information

Floor 1 to Floor 2 Travel	120"
Floor 2 to Floor 3 Travel	120"
Floor 3 to Floor 4 Travel	120"

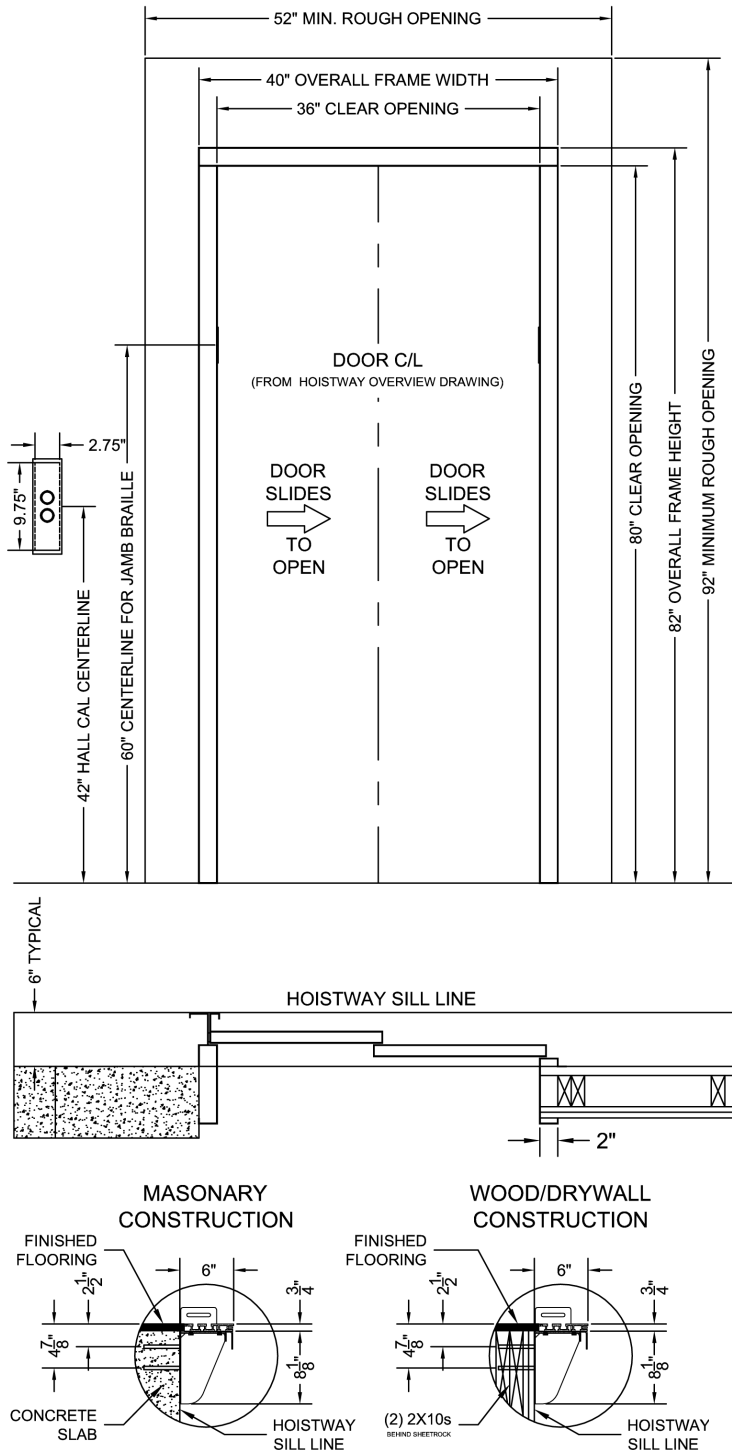
Work by GC:

- A. Pit Light switch installed 4'0" above the finished floor.
- B. Pit GFI duplex receptacle.
- C. Pit light.

Left Handed Entrance

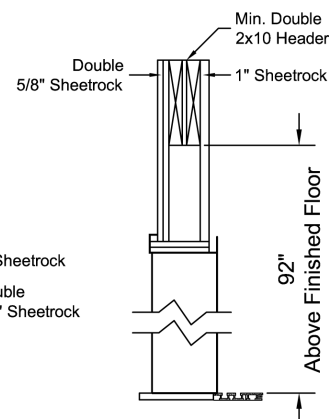
Limited Use/Limited Application (LU/LA)

RIGHT HAND ENTRANCE FRAME



Notes:

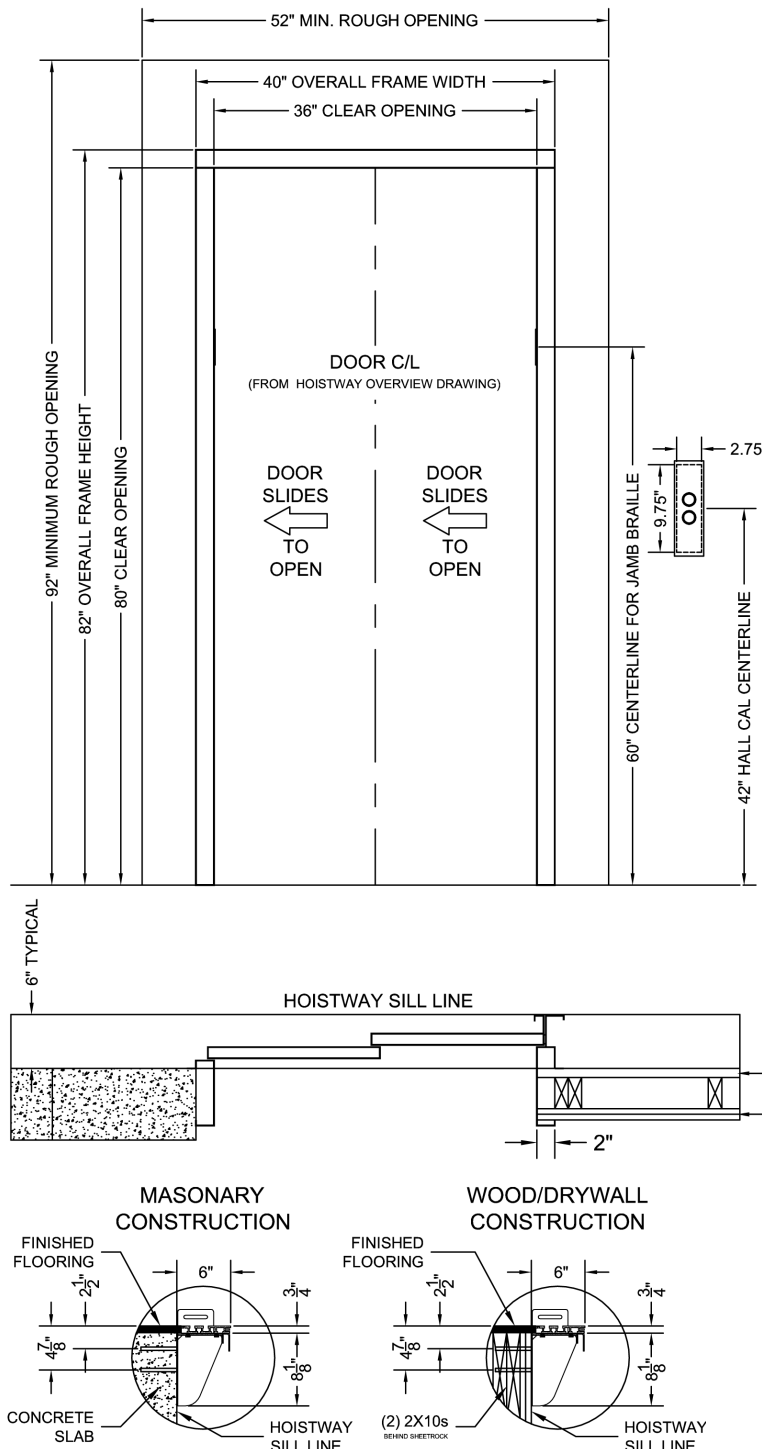
1. Hoistway entrances are manufactured in accordance with 1½ Hr. fire rated construction.
2. Hoistway walls to have a fire endurance rating not less than required by Section 110 (1996) or Section 2.1 (2000+) ASME A17.1 Elevator Safety Code.
3. Furnishing, installing, and maintaining the required fire rating of elevator hoistway walls, including the penetration of the fire wall by elevator fixture boxes, is not the responsibility of the elevator contractor or manufacturer.
4. The interface of the hoistway wall with the hoistway entrance shall be in strict compliance with the entrance manufacturer's requirements in order to retain fire rating and label validity of the elevator hoistway doors and frame.
5. Hoistway walls at entrances should be left open for the full width of the shaft until after door sills and frames are set in place. If this is not feasible, leave a 54"W x 92"H rough opening.
6. Filling and grouting by GC.



Right Handed Entrance

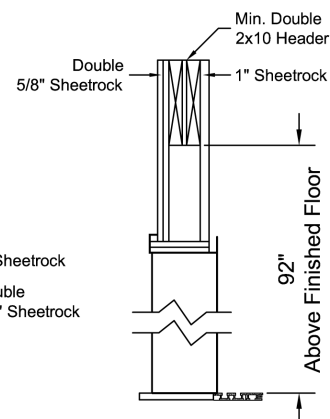
Limited Use/Limited Application (LU/LA)

RIGHT HAND ENTRANCE FRAME



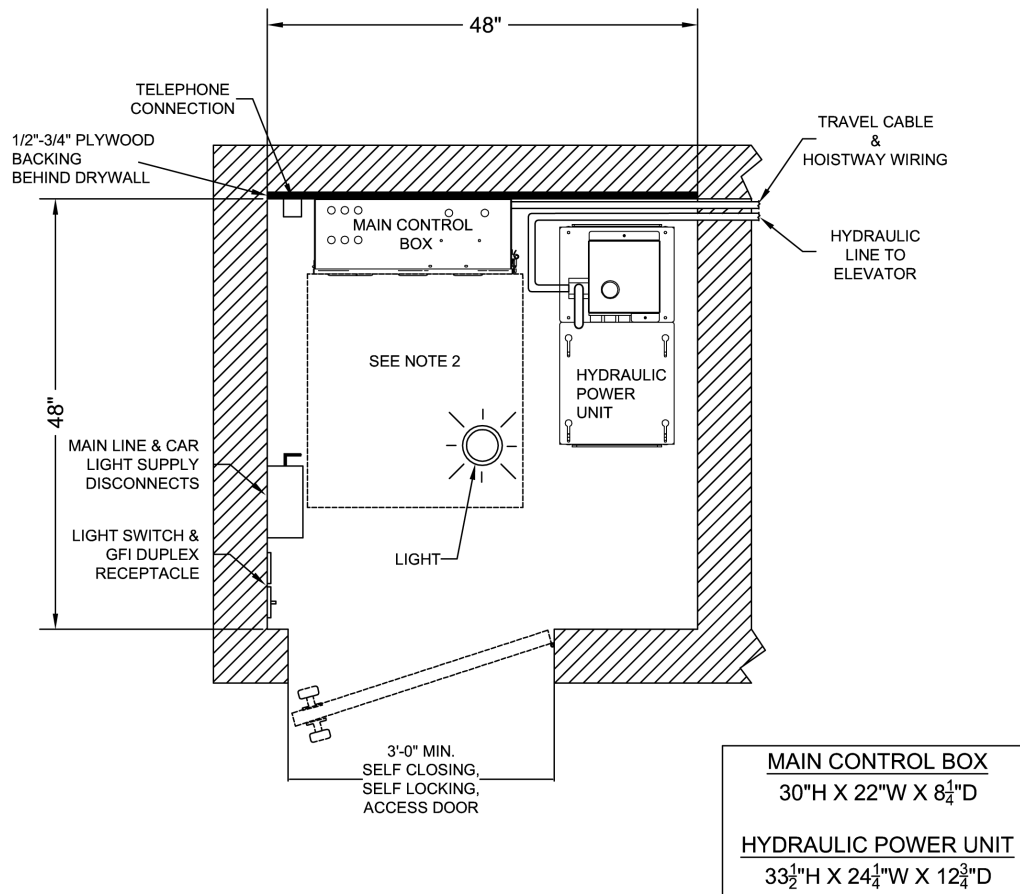
Notes:

1. Hoistway entrances are manufactured in accordance with 1½ Hr. fire rated construction.
2. Hoistway walls to have a fire endurance rating not less than required by Section 110 (1996) or Section 2.1 (2000+) ASME A17.1 Elevator Safety Code.
3. Furnishing, installing, and maintaining the required fire rating of elevator hoistway walls, including the penetration of the fire wall by elevator fixture boxes, is not the responsibility of the elevator contractor or manufacturer.
4. The interface of the hoistway wall with the hoistway entrance shall be in strict compliance with the entrance manufacturer's requirements in order to retain fire rating and label validity of the elevator hoistway doors and frame.
5. Hoistway walls at entrances should be left open for the full width of the shaft until after door sills and frames are set in place. If this is not feasible, leave a 54"W x 92"H rough opening.
6. Filling and grouting by GC.



Machine Room

Limited Use/Limited Application (LU/LA)



NOTES:

- 1) THE ELEVATOR MACHINE ROOM LOCATION AND LAYOUT MUST MEET CODE REQUIREMENTS DEFINED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
- 2) 30" WIDE x 36" DEEP CLEAR WORKING SPACE REQUIRED IN FRONT OF THE MAIN CONTROL BOX AND DISCONNECTS BY NEC.
- 3) DISCONNECTS TO BE LOCATED ON THE STRIKE SIDE OF THE MACHINE ROOM DOOR.
- 4) MAIN LINE DISCONNECT FUSIBLE AND CAPABLE OF BEING LOCKED IN THE OPEN POSITION.
- 4) LIGHT SWITCH TO BE LOCATED ON THE STRIKE SIDE OF THE MACHINE ROOM DOOR.
- 5) THE HYDRAULIC POWER UNIT SHOULD BE LOCATED WITHIN 40' FROM THE CYLINDER.
- 6) THE MINIMUM MACHINE ROOM HEADROOM IS 84".
- 7) MAINTAIN MACHINE ROOM FROM 50°F TO 90°F WITH HUMIDITY FROM 5 TO 95% NON-CONDENSING.

MAIN LINE DISCONNECT SINGLE PHASE

SQUARE D - H322N OR EQUIVALENT
2 POLE W/ AUX. CONTACT OR 3 POLE

THREE PHASE

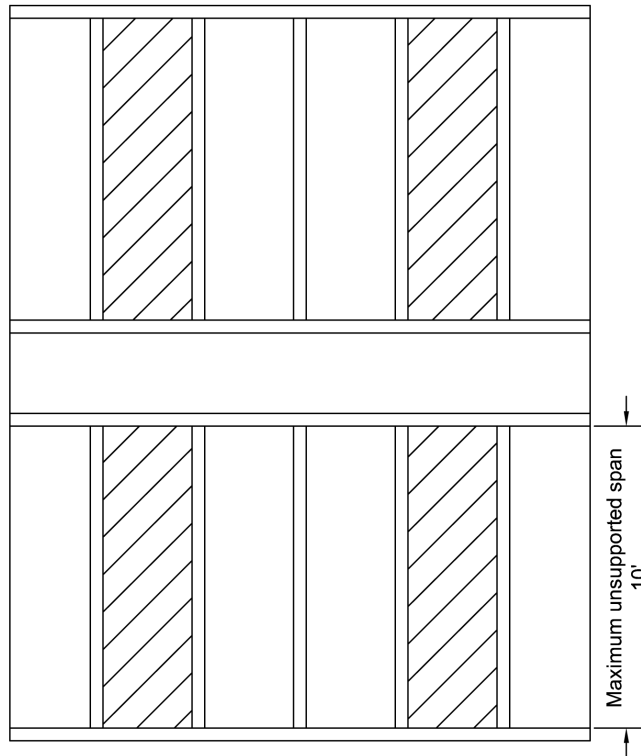
SQUARE D - H321N WITH AUXILLARY
CONTACT OR EQUIVALENT
3 POLE W/ AUX. CONTACT

CAR LIGHT DISCONNECT

SQUARE D - G221N OR EQUIVALENT.

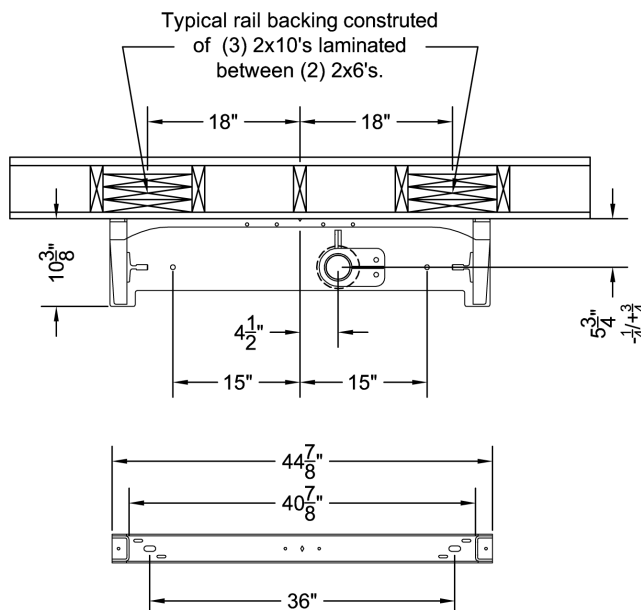
Rail Backing

Limited Use/Limited Application (LU/LA)

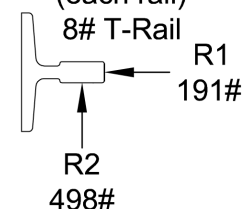


Notes:

1. The maximum rail bracket spacing is 6'.
2. The maximum vertical force imposed on the guide rails on application of the safety is 4,800 lbs.
3. The impact load imposed on the pit floor is 9,600 lbs.
4. The impact load imposed on the buffer/bumper is 665 lbs per buffer/bumper.
5. The net vertical load from the elevator system is 3,710 lbs.
6. The maximum working pressure of the hydraulic system is 750psi.
7. The hydraulic line shall be $\frac{3}{4}$ " hydraulic tubing with a .065 wall thickness or $\frac{3}{4}$ " schedule 80 seamless pipe.
8. The rated speed in the down direction is 30fpm.
9. Hoistway to be constructed plumb and vertical within $\frac{1}{4}$ " from top to bottom.

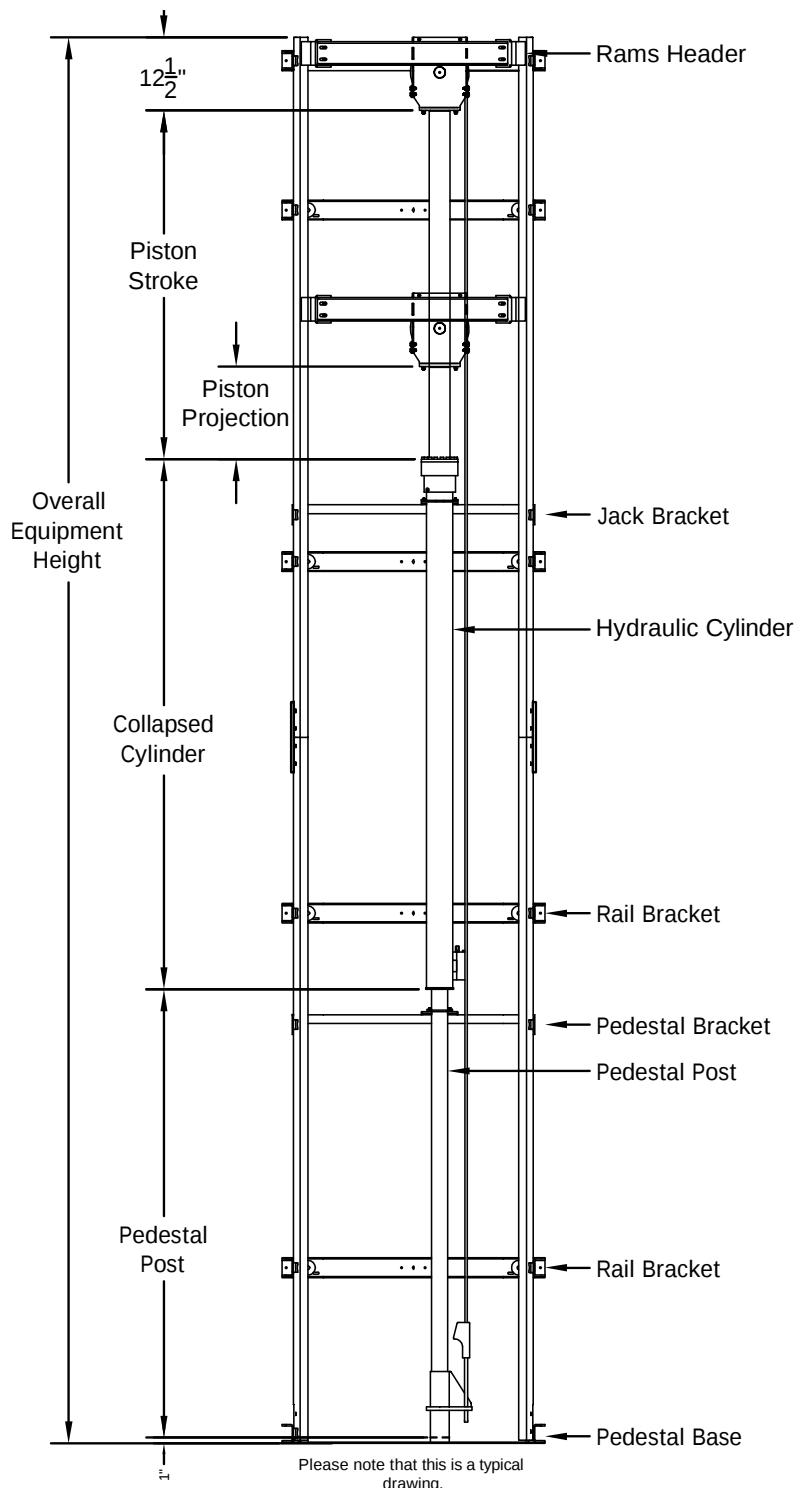


Rail Forces (each rail)



Rail Bracket Elevation

Limited Use/Limited Application (LU/LA)



Notes:

- 1) All bracket elevations are reference from the pit floor to the center of the bracket.
- 2) Each rail section shall have a minimum of one bracket.
- 3) The maximum rail section length is 10'-0"
- 4) The maximum space between brackets is 6'-0".

Hoistway Information

Pit Depth	
Floor To Floor Travel	
Overhead	
Overall Hoistway	

Equipment Information

Overall Equipment Height	
Pedestal Post Length	
Cylinder Length	
Piston Stroke	
Piston Projection	
Safety Bulkhead Clearance	1" Min.

Rail Information

Total Rail Height	
Top Rail Length	
Bottom Rail Length	

Cylinder Information

Cylinder Diameter	114mm 4.49"
Cylinder Wall Thickness	4mm .16"
Piston Diameter	90mm 3.54"
Piston Wall Thickness	7.5mm .30"

Rail Bracket Locations

#5	Rail Bracket	
#4	Rail Bracket	
#3	Rail Bracket	
#2	Rail Bracket	
#1	Rail Bracket	

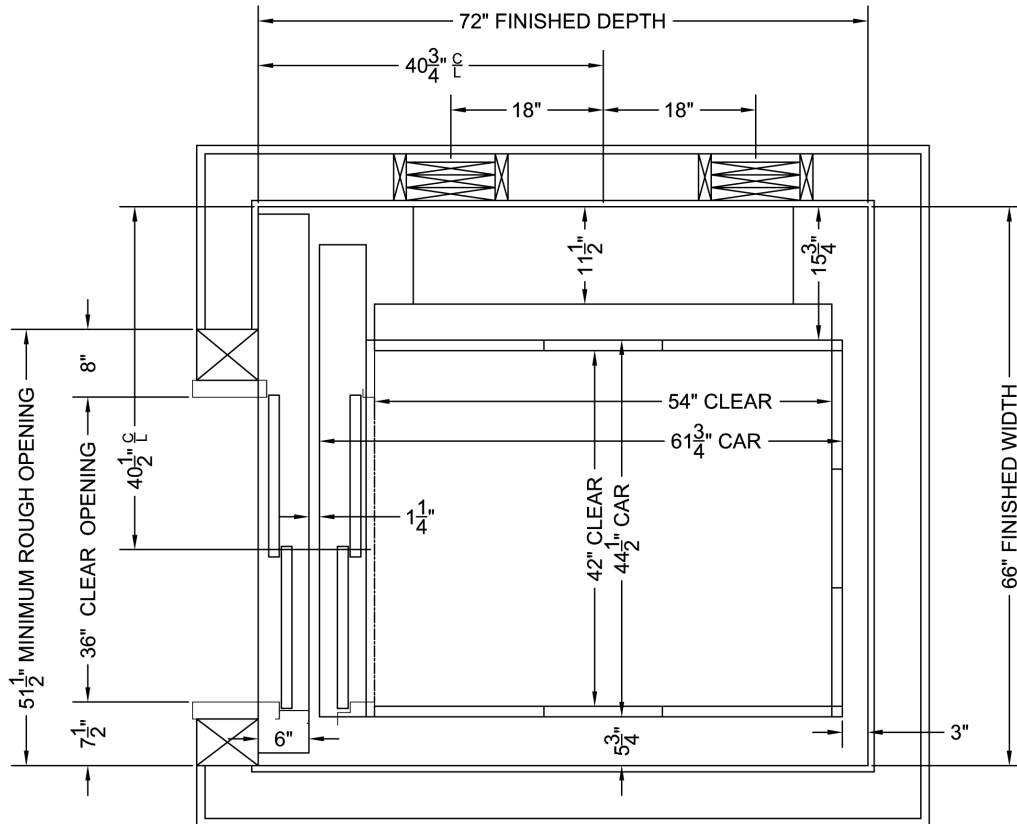
Special Bracket Locations

(Note: These brackets do not secure to the wall.)

Jack Bracket	
Mid Jack Bracket	
Pedestal Bracket	
Pit Prop Bracket	

42" x 54" Rail Left

Limited Use/Limited Application (LU/LA)

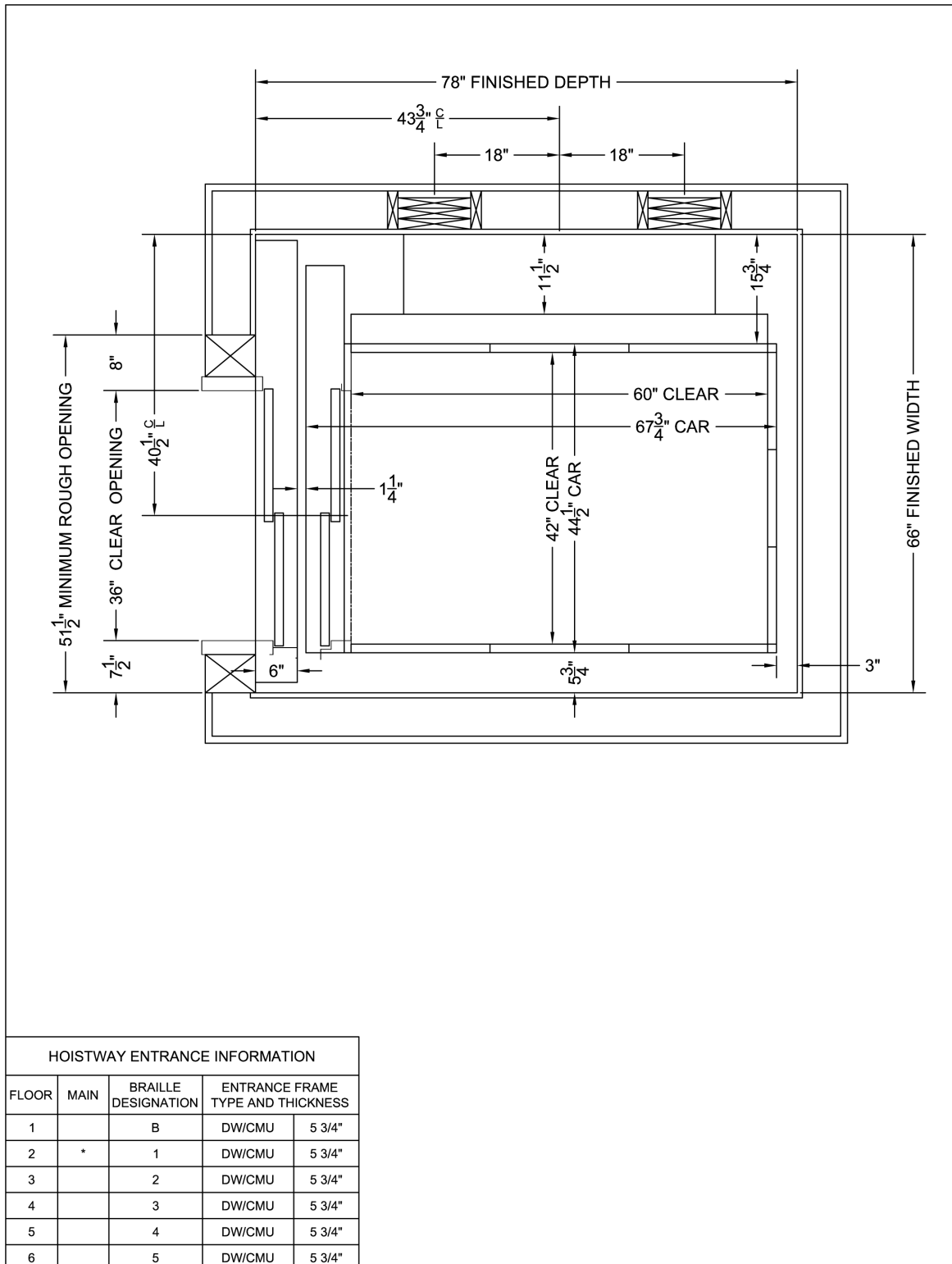


HOISTWAY ENTRANCE INFORMATION

FLOOR	MAIN	BRAILLE DESIGNATION	ENTRANCE FRAME TYPE AND THICKNESS	
1		B	DW/CMU	5 3/4"
2	*	1	DW/CMU	5 3/4"
3		2	DW/CMU	5 3/4"
4		3	DW/CMU	5 3/4"
5		4	DW/CMU	5 3/4"
6		5	DW/CMU	5 3/4"

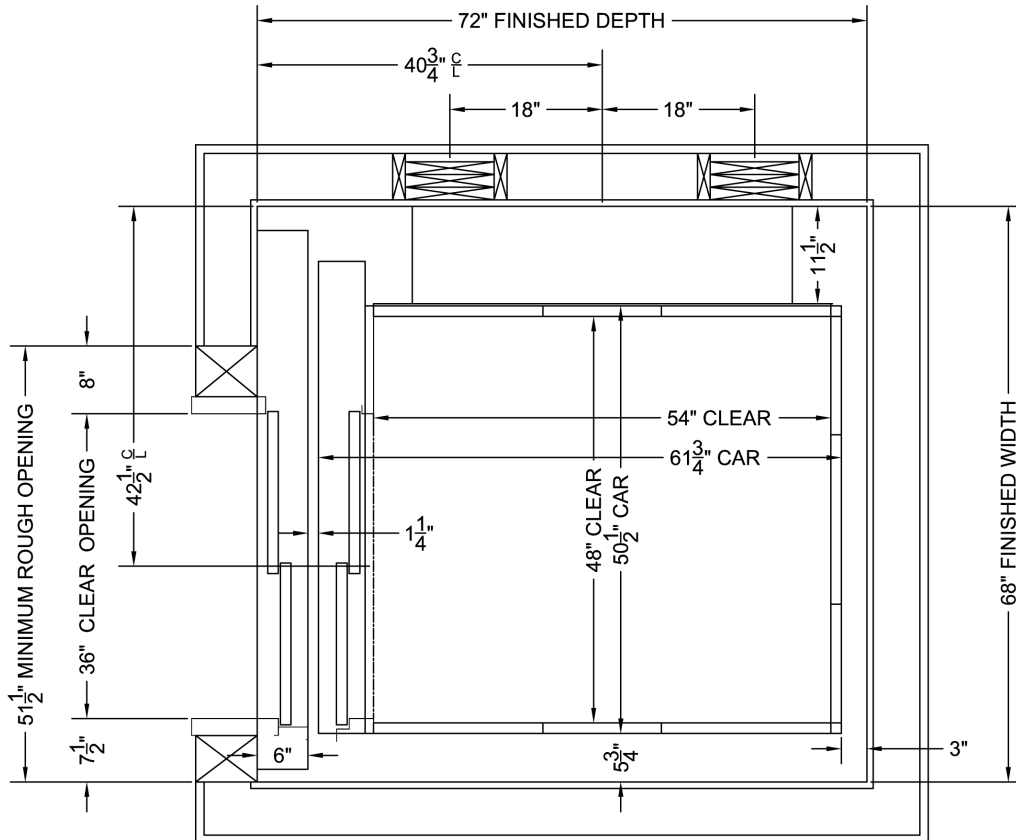
42" x 60" Rail Left

Limited Use/Limited Application (LU/LA)



48" x 54" Rail Left

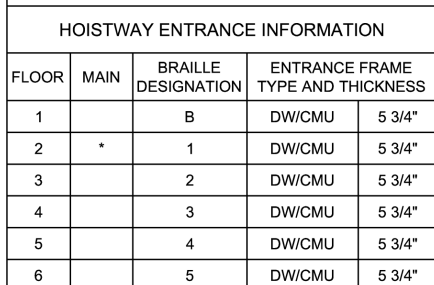
Limited Use/Limited Application (LU/LA)



HOISTWAY ENTRANCE INFORMATION

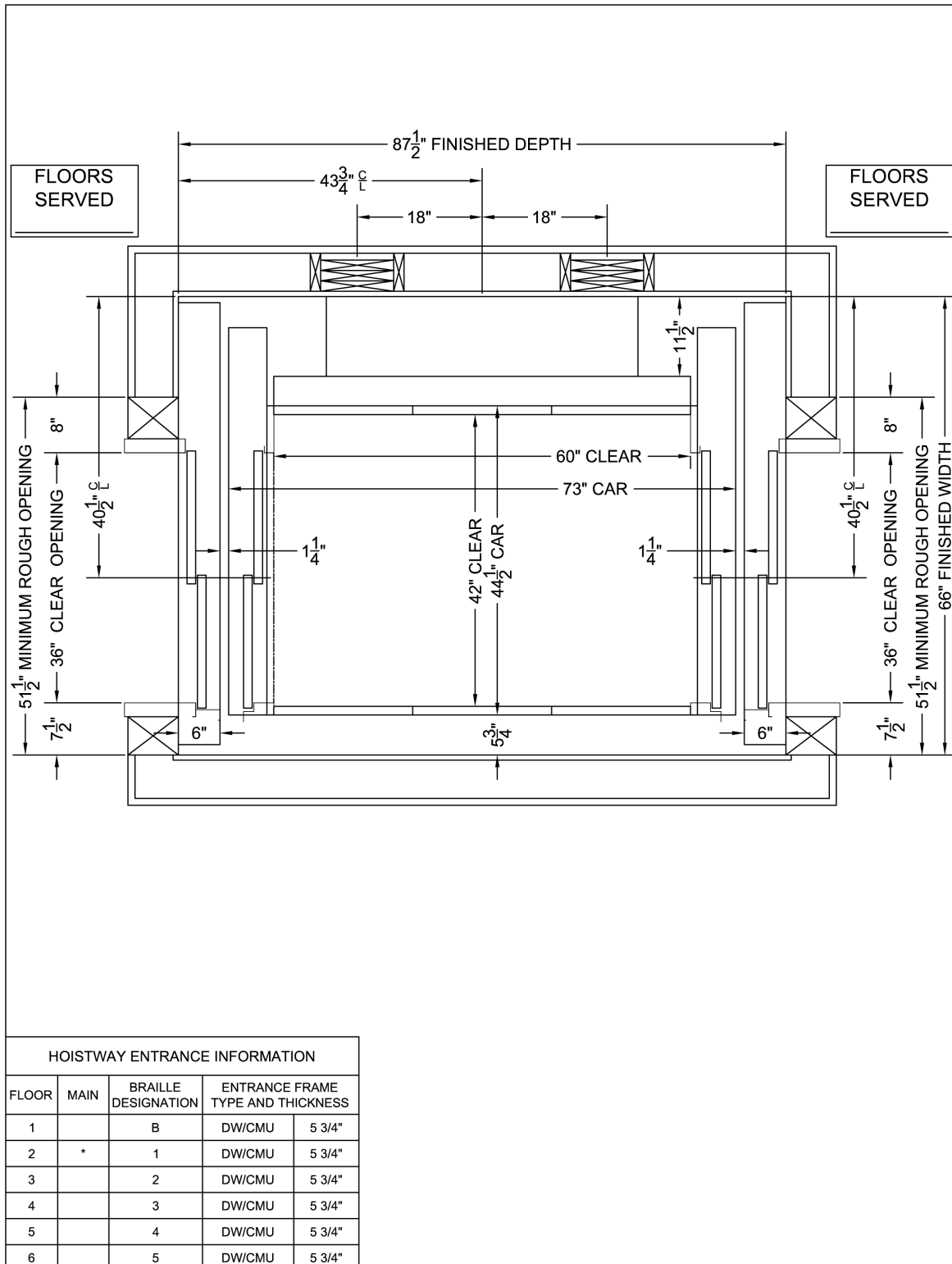
FLOOR	MAIN	BRAILLE DESIGNATION	ENTRANCE FRAME TYPE AND THICKNESS	
1		B	DW/CMU	5 3/4"
2	*	1	DW/CMU	5 3/4"
3		2	DW/CMU	5 3/4"
4		3	DW/CMU	5 3/4"
5		4	DW/CMU	5 3/4"
6		5	DW/CMU	5 3/4"

Limited Use/Limited Application (LU/LA)



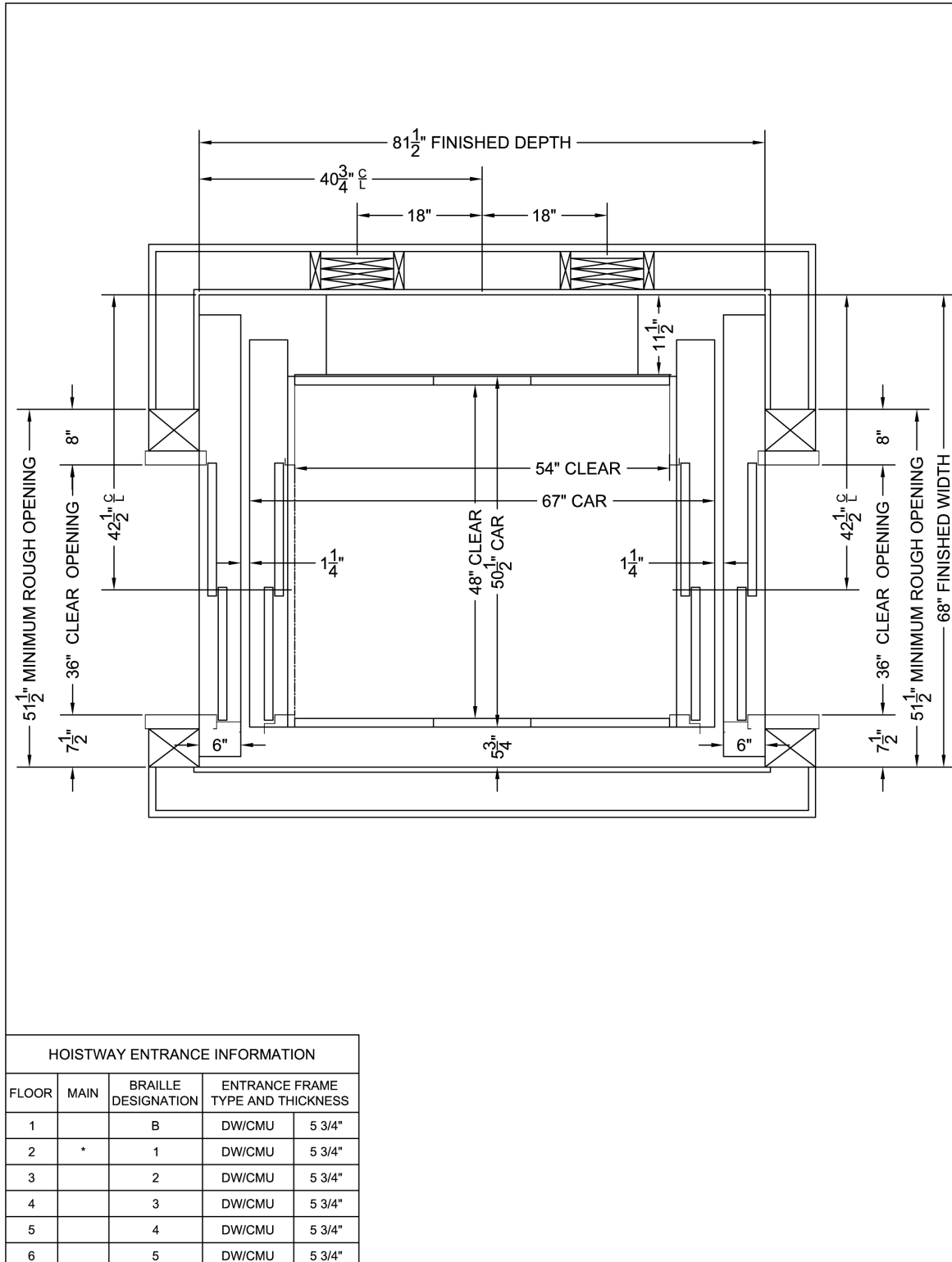
42" x 60" Forward Rail

Limited Use/Limited Application (LU/LA)



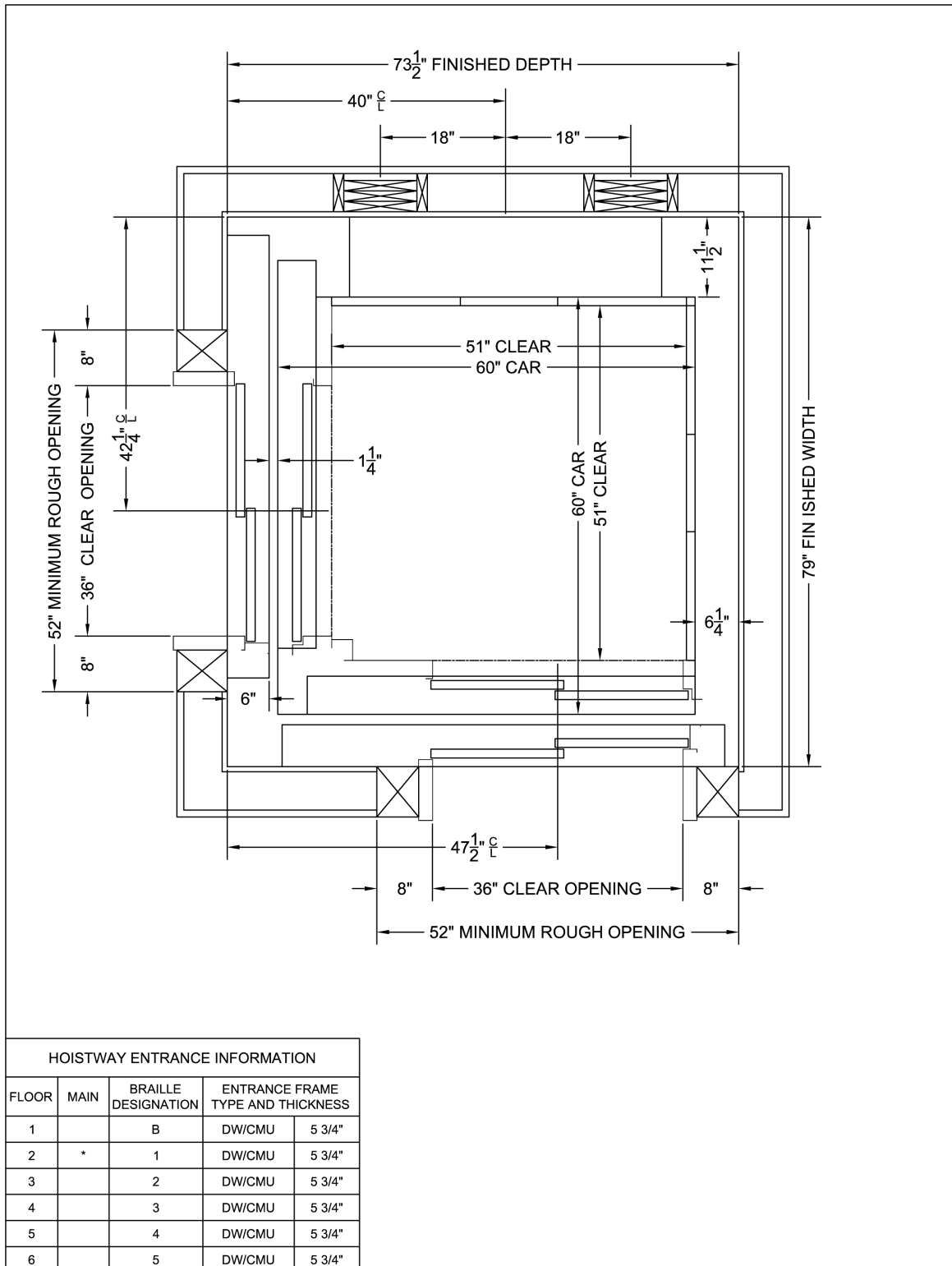
48" x 54" Forward Rail

Limited Use/Limited Application (LU/LA)

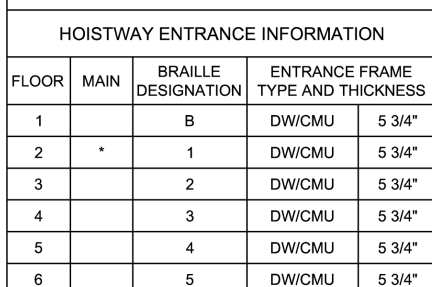


51" x 51" 90° Right

Limited Use/Limited Application (LU/LA)



Limited Use/Limited Application (LU/LA)



Section 14260 – Bid Specifications

Symmetry Elevation Roped Hydraulic Limited Use/Limited Application Elevator

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. The scope of this section of work is the provision and installation of a LU/LA Elevator, all the necessary equipment required to fully complete the installation, and coordinate between the other associated work required by other trades.

1.02 WORK INCLUDED

- A. Furnish all labor and materials, equipment and incidentals necessary to assemble and erect a Limited Use/ Limited Application elevator, complete with a remote power unit and all hoses, rails, brackets, connections and controls essential for proper operation.

1.03 WORK BY OTHERS

- A. Construct a hoistway of the size required by the manufacturer, complete with all demolition, additional framing, headers, and framing components necessary to prepare the existing building to receive the elevator. Provide patching as needed following installation.

1. If constructed of engineered lumber & drywall, the hoistway shall be vertically plumb & square to within 1/8" throughout the entire height. If constructed of concrete block, the block shall be core-filled as specified and the hoistway shall be vertically plumb & square to within 1/4" throughout the entire height.

2. Provide and fasten vertical support & structural members in hoistway, per manufacturer's shop drawings.

3. Pit requirements: Standard 13" with alternative means (bottom of car clearance device)

Install reinforcement and concrete as necessary. Floor must sustain load specified in job drawings.

4. Overhead requirements: 11' standard or 8'10" (106") with alternative means (top car clearance device) clear overhead inside of the shaft as measured at the top landing (existing construction only). Provide 132" clear overhead for new construction.

5. Provide switched, guarded service light(s) & GFCI receptacle within the hoistway on separate, dedicated 115 VAC 15 A supply. Must provide minimum illumination of 10 ft-candles at pit floor.

6. Provide OSHA-compliant hoistway barriers at landing openings until completion of elevator installation.

B. Construct a machine room:

1. Provide elevator motor circuit: single phase, 208/230 VAC 30A supply with ground (or 208/230, 3PH, 15A) – provide with fused AC disconnect with auxiliary contact.

2. Provide elevator car lighting electrical circuit: 115 VAC 15A supply with ground & neutral – provide with fused disconnect.

3. Provide switched, guarded machine room light & GFCI receptacle on a separate, dedicated 115 VAC 15 A supply. Must provide minimum illumination of 19 ft-candles at controller.

4. If machine room is of drywall construction, provide backing in wall to mount elevator electrical equipment.

5. Provide minimum 10 lb. Class ABC fire extinguisher.

6. Provide self-closing, self-locking machine room door with store room function latch set.

7. Provide machine room door signage reading "ELEVATOR EQUIPMENT ROOM."

8. Construct room to meet building code fire rating requirements (if applicable).

Section 14260 – Bid Specifications

Symmetry Elevation Roped Hydraulic Limited Use/Limited Application Elevator

- C. Provide system to provide natural or mechanical ventilation to ensure machine room temperature is maintained between 50-90 degrees Fahrenheit.
- D. Field locate electrical fixtures with electrician & Dealer.
- E. Provide trim carpentry as necessary to install hoistway doors & trim and trim elevator cab (as needed).
- F. Provide & install flooring in cab and at each landing.
- G. Paint or finish hoistway, machine room, & cab interior if needed.
- H. Provide a working, dedicated phone line to the elevator machine room.
- I. Provide a Staging Area for Elevator Equipment, Tools, & Provisions until completion of elevator installation.

1.04 REFERENCES:

- A. This elevator shall be designed and tested in accordance with ICC/ANSI 117.1, NEC and ASME A17.1 Guidelines.
- B. All designs, clearances, construction, workmanship and installation shall be in accordance with the requirements and code adopted by the authority having jurisdiction.
- C. This LU/LA elevator shall be subject to local, city and state approval prior to and following installation.

1.05 SYSTEM DESCRIPTION:

- A. Travel: NOT TO EXCEED 25'0"
- B. Stops: Up to 6 stops.
- C. Load Capacity: 1400 lb.
- D. Speed: 30 fpm

1.06 SUBMITTALS:

- A. Submittals shall be in accordance with Section 01300.
- B. Submit manufacturer's installation instructions including preparation, and equipment handling requirements.
- C. Shop Drawings:
 - 1. Show typical details of assembly, erection and anchorage.
 - 2. Include wiring diagrams for power, control, and signal systems.
 - 3. Show complete layout and location of equipment, including required clearances and coordination with shaftway.

1.07 QUALITY ASSURANCE

A. Qualifications:

Contractor Qualifications: The elevator shall be installed by a Symmetry Elevating Solutions Authorized Dealer. The installer shall hold an Elevator Contractor License which is recognized by the Authority Having Jurisdiction.

Manufacturer Qualifications: The manufacturer shall be a US owned & operated company specializing in the manufacture of custom & limited use elevators. Elevator shall be manufactured in the USA.

B. Regulatory Requirements:

- A. The complete manufacture, fabrication and erecting of the elevator shall be in compliance with ASME A17.1 (latest adopted edition) as well as any additional Federal, State and local codes and ordinances.

Section 14260 – Bid Specifications

Symmetry Elevation Roped Hydraulic Limited Use/Limited Application Elevator

- B. Dealer shall verify requirements of the local authority having jurisdiction and shall comply with all local codes and ordinances.

1.08 DELIVERY, HANDLING & STORAGE

Products stored in manufacturer's unopened packaging until ready for installation. Components stored off the ground in a dry covered space, protected from weather conditions.

1.09 WARRANTY

- A. Manufacturer shall furnish a three (3) year limited parts warranty.
- B. Dealer shall furnish a full one (1) year labor warranty covering all service performed during standard business hours.
- C. Five (5), Ten (10), and Lifetime Warranty available.

1.10 MAINTENANCE:

- A. Maintenance of the LU/LA elevator shall consist of regular cleaning and inspection at intervals not longer than every six (6) months.
- B. Annual Testing & Inspection as required by the AHJ shall be performed by Elevator Personnel contracted by Owner or Owner's Agent.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturer: US OWNED & OPERATED.

Acceptable Manufacturer: Symmetry Elevating Solutions

- B. Substitutions: No substitution shall be considered unless written request for approval has been submitted and received by the architect at least ten (10) days prior to the bid date. Substitutions must be accompanied by Specifications & include documentation of conformance to Qualifications, including US Ownership of Mfg.

2.02 COMPONENTS

- A. Car:

1. Car size: 42" W x 54" D clear inside and shall accommodate multi-speed sliding car doors at each opening.
2. Enclosure: Securely fastened to the car frame and platform. The car shall be constructed of minimum 1 ¼" wood or metal walls. Floorboard shall be constructed of 1" AC plywood.
3. Car Door(s): Two-speed, automatic sliding car doors shall be provided at each opening. ASME A17.1 Compliant Door Restrictor shall be provided at each Car Door.
4. Handrail: One, located on the car wall.
5. Telephone: ADA hands-free automatically dialing phone with call-back capability shall be integrated into Car Operating Panel.
6. Control panel: Provide one momentary pressure illuminated button for each landing, keyed in car emergency stop switch and alarm button, and a digital position indicator; all mounted in a control panel having a stainless steel cover.
7. Interior lighting: Provide overhead low power consumption LED light fixtures that automatically turn on when the car is in operation and turn off by means of a timer circuit.

Section 14260 – Bid Specifications

Symmetry Elevation Roped Hydraulic Limited Use/Limited Application Elevator

B. Hoistway door:

1. Size: Minimum Dimensions 3'0"W x 6'8"H Multi-Speed Elevator Doors.
2. Dealer shall furnish and install hoistway doors, frames, and sills at each landing. The type and installation of the doors and frames must comply with ASME A17.1, all local codes and manufacturer's layout drawings.
3. Locking Device: Door shall have a concealed locking device, interlocked with the car operation, to interrupt electrical power when the door is not securely closed and a car is not at the landing. The door shall be locked when car is not in the landing zone.

C. High Efficiency Hydraulic Power Unit:

1. The pump shall utilize a 5 HP on 3 phase high efficiency, low power consumption motor.
2. The pump, submerged motor and valve shall be pre-wired, ready for connection to the controller in the field.
3. Acceleration, deceleration, and leveling speed controls shall be provided in the Up and Down directions. Full speed adjustment shall be provided in the Down direction only.
4. Two speed operation shall be provided.
5. Adjustable pressure relief valves shall be provided.
6. Manual emergency lowering valve shall be provided.
7. Pressure gauges and pressure gauge isolation valves shall be provided.
8. Manual valve isolation between pump unit and jack shall be provided.
9. Negative pressure switch shall be provided.
10. Testing: Shall be factory tested prior to shipment.
11. Muffler shall be provided for vibration & noise damping during elevator operation.

D. Cylinder:

1. Construction: Steel pipe with cylinder head having an internal guide ring and self-adjusting & self-lubricating packing.
2. Safety valve: Cylinder shall be equipped with an overspeed safety valve to prevent uncontrolled car descent.

E. Plunger:

1. Construction: Shall be a machined steel shaft equipped with a stop, electrically welded to bottom end, to prevent plunger from leaving shaft cylinder.
2. Diameter: 90 mm

F. Suspension system: 1:2 system using (2) 3/8" – 7x19 aircraft cables integrated with rams header sheave mounted to the plunger.

G. Guide rail: Shall consist of two 8 lb. tee rails assembled and fastened. Provide brackets to hold rail assembly to walls. Rail shall be furnished with steel splice plates and hardware.

H. Car frame: Shall be equipped with non-metallic faced roller guide wheels.

Section 14260 – Bid Specifications

Symmetry Elevation Roped Hydraulic Limited Use/Limited Application Elevator

- I. Leveling device: Provide Hall-Effect Sensor based device integrated with tapeless Selector Package to maintain car within ¼" of the landing.
- J. Control systems: Non-Selective collective PLC-based controller (Programmable Logic Controller) with Hardware Circuit Monitoring. All Elevator Electrical Systems shall conform to ASME A17.5.
- K. Wiring:
 - 1. Provide flexible traveling cable for electrical lights and controls in car, installed in raceway into the shaft.
 - 2. All other electrical wiring shall be insulated, flame retardant and moisture proof, installed in metal raceway, flexible metal conduit, or electrical metal tubing.
- L. Safety Devices:
 - 1. Slack cable protection: Provide an electronically monitored and mechanically actuated hardened steel device that stops and sustains the car in the event of breakage or slackening of cables.
 - 2. Terminal stopping device: Shall be provided at the top and bottom of the car travel.
 - 3. Provide a platform toe guard at the car entrance.
- M. Battery powered emergency operation system:
 - 1. Powers a light in the car.
 - 2. Powers an emergency alarm system.
 - 3. Powers the system and stops at each lower floor cycling the doors.
 - 4. The batteries shall be a re-chargeable type complete with an automatic re-charging system.
- N. "Self Diagnostic System" utilizing diagnostic codes displayed in car to provide information in the event the elevator will not operate.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Dealer shall inspect the hoistway and determine if the hoistway meets the manufacturer's requirements for clearances and plumb. If hoistway does not conform to specifications, the non-conforming elements shall be rectified by Owner or Owner's Agent upon notification.
- B. All components shall be assembled and erected by Dealer in strict compliance with manufacturer's printed instructions and applicable codes.
- C. All wiring shall be in accordance with the wiring diagram furnished by the manufacturer and NEC.

3.01 FIELD QUALITY CONTROL

- A. Static/Running Load Test: All load rating and safety factors shall meet or exceed those specified in ASME A17.1
- B. Witnessed Safety Testing to conform to ASME A17.1 shall be performed by Dealer in coordination with the AHJ.

3.03 ADJUSTING

- A. Dealer shall test the elevator to assure proper operation. Make proper adjustments and review operating components for proper operation.

Elevation LU/LA Checklist

The following requirements must be completed prior to lift installation

Check the appropriate boxes to confirm that the required items are completed. This completed form must be faxed or e-mailed to your local Symmetry Elevating Solutions dealer to secure a place on the installation schedule.

YOUR LOCAL SYMMETRY ELEVATING SOLUTIONS DEALER WILL THEN SCHEDULE THE INSTALLATION AND ADVISE ON CURRENT PRODUCTION SCHEDULE.

Date: _____

General Contractor: _____

Project/Building Name: _____

Equipment Designation (i.e. Media Room #1): _____

HOISTWAY AND PIT

1. ☐ Hoistway must be smooth in construction with NO ledges or offsets.
2. ☐ Load-bearing wall must support imposing loads at ALL anchor locations.
 - ☐ a. Timber Construction according to Shop Drawings.
 - ☐ b. Block wall shall be filled with Compacted Concrete or Grout, NO MORTAR.
3. ☐ Load-bearing wall must be within a $1/4$ " of plumb throughout its entirety.
4. ☐ Rough openings must provide structural support throughout header (Double 2" x 10" or in filled concrete).
5. ☐ Hoistway entrance left open until Elevator Doors are installed.
6. ☐ Finished or unfinished floor must be flush with inside of hoistway.
7. ☐ Entrance Threshold Supports Sill (Double 2" or 10" or in-filled concrete).
8. ☐ Access provided between Machine Room and shaft when not adjacent (4" min.) - Sch 40 PVC (No Turns).

MACHINE ROOM

- | | |
|--|--|
| 1. ☐ Fire Extinguisher | 2. ☐ GFI |
| 3. ☐ Self Closing/Self Locking Door | 4. ☐ Disconnects Installed |
| 5. ☐ Lighting | 6. ☐ No Piping/Electrical not associated w/elevator |
| 7. ☐ Fire Louver (Where Required) | |

Elevation LU/LA Checklist

The following requirements must be completed prior to lift installation

ELECTRICAL

1. ☐ Main Disconnect Installed RH Swing (Elevation controller (24"h x 24" w x 8" d) .
 - ☐ a. 3 Pole disconnect on Single Phase (3rd leg is used for battery lowering).
 - ☐ b. 3 Phase interlock installed.
2. ☐ Lockable fused disconnect provided for main line and cab lights - per specs on drawings.
3. ☐ GFI service outlet and light with switch provided in Pit (Switch within reach of landing).
4. ☐ GFI service outlets provided in Machine Room.
5. ☐ Live dedicated phone line with number. **Phone#** _____ - _____ - _____
6. ☐ Smoke heads terminated in machine room if required (Fire Service not required on LU/LA).

MEASUREMENT

_____ Hoistway Width (Viewed from Bottom Floor)	_____ Hoistway Depth (Viewed from Bottom Floor)
_____ Top Finished Floor to Top of Hoistway (Overhead)	_____ Bottom Finished Floor to Top Finished FI
_____ Door Rough Opening Centerline (Measured from Load Wall)	_____ Pit Depth
_____ Door Rough Opening Width	_____ Door Rough Opening Height
_____ 1 st to 2 nd	_____ 2 nd to 3 rd
_____ 3 rd to 4 th	_____ 4 th to 5 th

ACCESSIBILITY

1. ☐ Rollable access must be provided from back of truck to elevator construction area.
2. ☐ Crane or forklift will be provided by contractor if required.
3. ☐ Clean, dry and secure area for state and assembly adjacent to hoistway.

Floor Designations: 1st _____ 2nd _____ 3rd _____ 4th _____ 5th _____ 6th _____

Other Notes:



symmetry

eLEVATING SOLUTIONS

Limited Use/Limited Application Elevator

SymmetryElevator.com