

**SECTION 14 20 20**  
**PATIENT-LIFT SYSTEM**

**Part 1 - General**

**1.1 Description**

- A. This section specifies patient lift systems along with hoist, rails, and slings. Provide and install Patient-Lift System in patient room 1E-123 (2-bed) and 1E-120 (4-bed). Lifts to accommodate all beds in patient rooms.

**1.2 Related work**

- A. These systems are to provide privacy issues with curtains and will charge at any point of the room within the rail itself.

**1.3 Quality Control**

- A. Use product of manufacturer who regularly makes ceiling mounted patient life systems as its standard products.
- B. Use equipment type that has been in successful operation for at least five years and is standard product currently manufactured.

**1.4 Submittals**

- A. Submit in accordance with Section 01340 Samples and Shop Drawings.
- B. Shop drawings will show room dimension per spec; showing hoist; rails; ceiling brackets; design and complete installation details as needed.
- C. Manufacturer literature and data for patient lift system.
- D. Samples: Trail system

**1.5 Maintenance and Callback Service**

- A. For a period of twelve (12) months after date of Substantial Performance, provide a service which must at least consist of examinations of the equipment, adjustments, lubrication, cleaning, supplies, and parts to keep the equipment in proper operation, except such adjustments, parts, or repairs made necessary by abuse, misuse, or any other causes beyond the control of the Lift Contractor.

**1.6 Product Delivery Storage Handling**

- A. Deliver materials to site in original sealed packages and containers which will be marked with name and brand of Manufacturer.

- B. Protect from damage and construction before, during, and after installations.
- C. All materials to be stored in a secured dry environment.  
Hoists and slings need to be stored in a dry area at a controlled climate until installation is complete.

#### **1.7 Applicable Publications**

- A. CE-marked according to:
  - 1. DS/EN 10535: Hoist for the transfer of disabled persons.
  - 2. EN 60601-1-2: Medical electrical equipment
  - 3. 93/42/EEC: Medical devices
- B. Classification according to:
  - 1. ISO 9999: 12 36 12
  - 2. Tightness Hoist: IP 34
  - 3. Tightness Hand Control: IP 67

#### **1.8 Warranty**

- A. Provide a written warranty signed and issued in the name of the Owner against defects in materials and workmanship, and correct any defect not due to ordinary wear or tear or improper use or care which may develop within one year from the date of Substantial Completion. Refer to maintenance and callback services.

### **Part 2 - Products**

#### **2.1 Design Criteria**

- A. Ceiling lift model: GH2-HD Motor and rail system by Guldmann, Inc. or equal.
  - b. Continuous charging DC power system.
- B. Loading capacity
  - 1. Maximum load capacity of 550 lbs. The lift system must be able to have an optional capacity of 1000 lbs.
- C. Power supply
  - 1. Batteries: 2 rechargeable, valve regulated lead/acid, 12 V 4.5 ah. Guldmann Inc.
  - 2. UL approved battery charger. Battery charger to be splash proof and double insulated. No power cords are allowed in or in close proximity of the lift rails. Charging unit is a 24v DC unit and can be mounted on the wall, desk top, or above ceiling grid. Charger specifications, input; 100-240 V AC ~ 50 - 60 Hz @ 0.80-0.35 a, Output; 29.4v DC @ 1.10

- a. Battery charger method: continuous charging or charging station. No charging through hand control is permitted.
- 3. Efficient battery charge cycle.
- B. Lift case:
  - 1. Fire retardant material - impact-proof recyclable plastic/VO fire-retardant.
- C. Hand control:
  - 1. The hand control is connected directly to the lift motor through a strain relief. Provide optional infrared hand control.
- D. Aluminum extruded rail:
  - 1. A natural aluminum anodized finish.
  - 2. Rail complete with necessary accessories and fixings.
  - 3. Maximum deflection of any rail must meet ISO 10535 standards for lifting.
  - 4. Above Ceiling Rail System: Provide / install all accessories required to attach rails to acoustic tile system.
- E. Emergency systems:
  - 1. The lift must have a 1 cord emergency stop and emergency lower method. The mechanical must function without any available electrical power source.
- F. Other requirements:
  - 1. Automatic lift shut down after 10 minutes to conserve battery power.
  - 2. Overspeed safety governor.
  - 3. Soft start/stop for comfort.
  - 4. Heavy-duty battery supply for more lifts.
  - 5. Visual/audible low battery indicator.
  - 6. Safety cut off for strap; 45 degree driving direction and 10 degree transverse direction.
  - 7. Battery protection: switches off automatically when voltage goes below 17 volts.
  - 8. Sound level max: 52dB(A)
- G. Safety
  - 1. The hanger attachment must be able to prevent the sling loops from coming loose from the hooks.

2. Ceiling attachments must have at least a four-fold safety margin at the highest static load capacity, which included maximum lift capacity plus the weight of the lift system. The method of installation must be a standard item and backed with engineer specifications.

H. Lifting Requirements:

1. Padded carry bar for safety.
2. Slings must be available in both a poly and mesh material.
3. Provide one #24 polyester high sling per bedroom.
4. Provide one standard lifting hanger per bedroom.
5. Provide one head support per bedroom.

**2.5 Electrical**

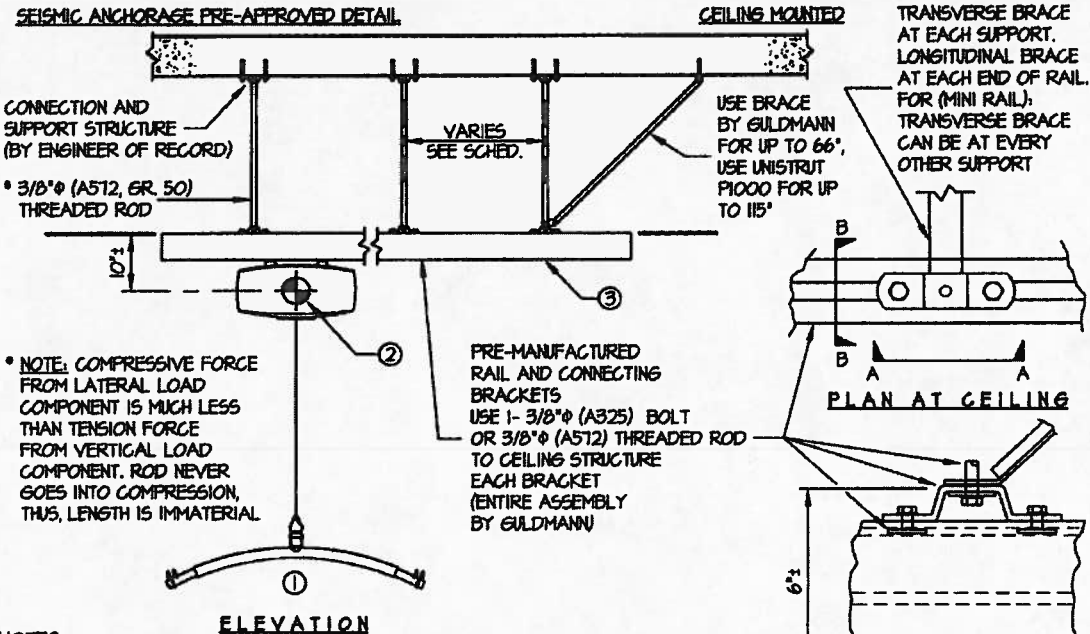
- A. In accordance with applicable portions of NEC (NFPA 70) NEMA ICS-1 and electrical.

**2.6 Special Features**

- A. The lift system must include an option to lift bariatric residents who weigh up to 1000 lbs. The system must be able to individually adjust the lifting position of the upper body and lower body with one hand control. Adjustment of the body position must be operated by the hand control and the lift. No manual adjustment is allowed.

- 2.7 Contractor responsible for coordinating installation with other trades.** Provide and install all necessary struts and supports to make system complete and functional. All struts and supports to be manufacturer engineered to accommodate lift system and existing conditions. All work and supports / bracing to meet all codes having jurisdiction. Coordinate with the ceilings and all other systems (i.e. electrical, mechanical, fire sprinkler, etc.).

<b>EASE EQUIPMENT ANCHORAGE &amp; SEISMIC ENGINEERING</b> www.equipmentanchorage.com		DESIGNER <b>R. LA BRIE</b>	SHEET <b>1</b> OF <b>2</b> SHEETS
<b>GULDMANN, INC.</b>		JOB NO. <b>II-0405</b>	
<b>CEILING HOIST SYSTEM</b>		DATE <b>9/10/04</b>	



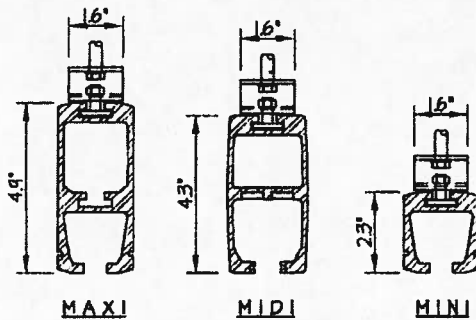
**NOTES:**

1. ANCHORAGE DESIGN PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A AND HAVE BEEN FACTORED TO REPRESENT WORKING DESIGN LOADS, NOT ULTIMATE.  
HORIZONTAL FORCE ( $V_H$ ) =  $0.94W - (C_a = .66, I_p = 1.5, a_p = 1.0, R_p = 3)$   
VERTICAL FORCE ( $V_V$ ) =  $0.33(V_H)$
2. SUSPENDED LIVE LOAD HAS NOT BEEN CONSIDERED FOR LATERAL FORCES DUE TO TYPE OF LOAD AND METHOD OF SUSPENSION. CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
3. ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN.

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<b>GULDMANN, INC.</b>	DES. <b>R. LA BRIE</b>	SHEET <b>2</b> OF <b>2</b> SHEETS
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SEISMIC ANCHORAGE PRE-APPROVED DETAIL

CEILING MOUNTED



SECTION "B"

RAIL TYPE	MAX. SPACING	WEIGHT (lbs/ft)
MINI	63"	2.5
MIDI	131"	3.25
MAXI	177"	4.8

- ① SUSPENDED WEIGHT (LIVE LOAD)  
WEIGHT = 550 LBS
- ② HOIST WEIGHT  
WEIGHT = 18 LBS
- ③ TRIBUTARY RAIL WEIGHT  
WEIGHT = 72 LBS

END OF SECTION