

d. The operation of the governor on overspeed shall open a switch disconnecting the power from the elevator, and shall trip the safety mechanism. The safety mechanism when tripped shall engage the rails with sufficient force to stop the car from governor tripping speed with full load in the car. The pressure of the two pairs of jaws on the rails shall be equalized.

e. The safety shall be designed so that the jaws will engage the rails in not more than 36" of car travel after governor jaws grip the governor rope.

f. The safety shall be of the flexible guide clamp type and shall not require the use of wrenches, levers or special tools to release the safety.

g. The use of combination instantaneous and oil buffer safety (Type C) is permitted in accordance with A.S.E. Code requirements.

28. COUNTERWEIGHTS

a. The elevator shall be suitably counterbalanced for smooth and economical operation. Cast iron weights shall be contained in a structural steel frame properly guided with suitable guide shoes. The counterweight shall be equal to the weight of complete elevator car and about 40% of the specified load.

29. COUNTERWEIGHT GUARDS

a. Furnish and install a substantial metal counterweight screen guard of required length at the bottom of the hoistway.

30. BUFFERS

a. Suitable oil buffers with the necessary blocking and supports shall be furnished.

b. Oil buffers shall have a sufficient stroke and be so designed that they will bring the car and counterweight to rest from governor tripping speed at an average rate of retardation not exceeding gravity. The moving portion of the buffer shall be designed so that it can be accelerated by the car without a noticeable peak retardation.

c. Oil buffers shall be of the spring return type except where the counterweight buffer is attached to the counterweight it may be of the gravity return type. Means shall be provided for checking the oil level.

d. The type of buffer used shall have been tested by a qualified testing laboratory and approved as complying with the A.S.E. Code.

31. ROPES

a. To be traction steel hoist ropes of size and number to give proper wear. As a minimum, the number of ropes shall comply with the factor of safety requirements of the American Standard Safety Code for Elevators. The hoisting ropes shall be 8x19 wire rope, uncoated, fibre core preformed construction.

b. The governor cables shall be not less than 3/8" iron especially designed for elevator service. The two ends shall be securely fastened together at the car and shall be attached to the safety operating mechanism. The governor cable is to pass over the governor sheave and over a tension device at the bottom of the hoistway.

32. AUTOMATIC TERMINAL STOPS

a. The elevator shall be equipped with an automatic stopping device, arranged to bring the car to a stop at the terminal landings independent of the regular operating device in the car. Final limit switches shall be provided in the hoistway, operated by the car and arranged to stop the car and prevent normal operation, should it travel beyond the zone of the normal stopping device.

33. AUTOMATIC SELF-LEVELING

a. The elevator shall be provided with a self-leveling feature that will automatically bring the car to the floor landings. This self-leveling shall, within its zone, be entirely automatic and independent of the operating device and shall correct for over-travel or under-travel and rope stretch. The car shall also be maintained approximately level with the landing irrespective of load.

34. DOOR CONTACTS

a. The car door shall be equipped with a contact which will prevent operation of the car unless the car door is closed. The contact shall be of an approved type and tested as required by Code.

35. INTERLOCKS

a. Each hoistway entrance shall be equipped with an approved type interlock tested as required by code. The interlock shall prevent operation of the car away from the landing until the doors are locked in the closed position as defined by the code and shall prevent opening the doors at any landing from the corridor side unless the car is at rest at that landing or is in the leveling zone and stopping at that landing.

36. INSPECTION OPERATION

a. An "inspection" key switch shall be provided in the car to make the normal operating devices ineffective and the top of car operating device effective.

b. There shall be located on top of the car between the car crosshead and hoistway door a single operating fixture containing the following: an emergency stop toggle switch, continuous pressure buttons for operating the car and a toggle switch for making the buttons on top of the car operative. Operation from top of the car shall be obtained by a simultaneous, continuous pressure of the appropriate direction button and a safety operating button after these buttons have been made effective.

c. Operation from top of the car shall not be possible unless all electric door contacts are closed.

37. HOISTWAY DOOR UNLOCKING DEVICES

a. Hoistway door unlocking devices conforming to the requirements of the A.S.E. Code shall be provided at each landing to permit authorized persons to gain access to hoistway when the elevator is away from the landing.

38. STOP SWITCHES

a. Emergency stop switches shall be provided in each car as part of the car operating device, on top of each car as part of the top-of-car operating device, and in each pit. When operated, these switches shall cause the electric power to be removed from the elevator driving machine motor and the brake shall apply.

b. In addition when the emergency stop switch in car is opened a bell mounted on the car shall be actuated.

39. ALARM BELL

a. For each elevator, an alarm bell shall be provided as directed so as to be audible outside the hoistway. The alarm bell shall be connected to a pushbutton in each car which will enable passengers to signal for aid.

40. STAINLESS STEEL

a. Where stainless steel is specified in this section it shall be 302-#4 of gauge as indicated or as required for its use and application.

41. HOISTWAY ENTRANCES

a. Each hoistway entrance shall be equipped with sliding doors having a clear opening as specified. The entrances shall include, frames, doors, sills, struts and closer angles; headers, hanger covers, fascia plates, dust covers, toe guards, hangers and tracks, and hardware as described below.

b. Unit Frames - The unit frames shall be made of #14 U.S. gauge best grade stainless steel and shall comprise head and jamb sections with integral casing or trim welded or bolted to form one-piece unit frames. Frames shall contain suitable material for effective sound deadening. All frames shall be securely fastened to sills and hanger supports and shall be returned on the hoistway side to present a neat appearance.

c. Frames shall be of size to fit entrances as indicated on Architectural drawings. Note that on the first floor the soffit of each entrance frame shall be accurately cut out to receive a recessed fluorescent troffer fixture. The fixture will be furnished under the electrical section for installation under this section. Electrical connections to fixture will be under the Electrical Section. Fixture will be Edwin F. Guth fixture PSG 4954/BT/1VT for lay in type mounting. Fixture will be 48" in length by 6" in width. The opening in the entrance soffit shall be cut to size of the hinged louver of the fixture and the opening suitably framed so that fixture may "lay in" place without movement. The front face (facing lobby) of first floor entrance frames shall be sufficiently wide to receive a flush mounted combination push button and position indicator fixture as specified later. Fixtures shall be mounted in the two inner faces of the entrance frame on facing the entrances.

d. Doors - Doors shall be of the center opening 4'-2"x 7'-0" hollow metal type flush door construction and shall be filled with cellular asbestos filler. All door panels shall comply with the 1-1/2 hour B.O.A.C. requirements and have approved labels. The door panels shall be at least 1-1/4" thick formed from not lighter than #16 gauge steel. The first floor doors shall be furnished in stainless steel and on other floors in baked enamel finish of color and design as selected and approved by the Architect. Bottom of doors shall be provided with removable laminated phenolic guides which run in sill slots with minimum clearance. All doors shall be reinforced and provided with hoistway door unlocking devices and service keys as required to conform to Code requirements.

e. Sills - The sills shall be extruded aluminum with approved non-slip wearing surface. The sills shall be supported on steel anchors securely fastened to the floor construction.

f. Struts and Closer Angles - Structural steel angles shall be furnished of sufficient size to accommodate the door closers. Angles to be continuous and securely bolted to the sills and building beams above.

g. Hanger Support or Headers - Hanger supports shall be 3/16" thick formed sections securely bolted to the strut angles or closer support angles.

h. Hanger Cover Plates - Hanger cover plates shall be made of #14 U.S. gauge steel and shall extend the full travel of the doors. Covers shall be made in sections for convenience access when servicing the hangers. The sections above the door openings shall be removable from within the elevator car.

i. Fascia Plates - Fascia plates shall be of #14 U.S. gauge steel reinforced to insure a flat even surface throughout and shall be securely fastened to hanger supports and sills above.

j. Dust Covers - Dust covers shall be of #14 U.S. gauge steel and extend over the hanger support the width of the jamb opening plus the jamb flanges at the top landing for which fascia plates are not supplied.

k. Toe Guards - Toe guards made of #14 U.S. gauge steel shall be supplied for the lowest landing and they shall extend to the wall on a gradual bevel from the sill nosing.

1. Sight Guards - All hoistway doors shall be equipped with approved sight guards finished to match the doors. They shall be installed in a manner to reduce to a minimum the clearance between the doors of the hoistway and car and conceal the hoistway and car beyond the door openings.

m. Hardware - Entrances shall include service or emergency keyways to meet local code requirements. All hardware shall be satin finish.

n. Stainless steel surfaces shall be cleaned to remove oil, grease, finger marks and other foreign substances, etc., using powdered pumice and oil, and finally gasoline or benzine. Scratches, pits or other blemishes shall be removed by polishing or grinding. Other sheet steel surfaces shall be cleaned and bonderized followed by baked primer or surfacer and baked enamel finish. All structural members shall receive a shop coat of black paint.

o. Installation - Sills, struts, hanger supports and unit frames shall be installed prior to the erection of rough walls and set in proper relation to the elevator car guides. Doors, hangers, hanger covers, fascias, toe guards and dust covers shall be installed after the walls are finished. Unit frames shall have a protective covering for finished surfaces.

When hoistway walls must be erected before elevator frames are set, rough masonry openings as shown on the elevator layout must be provided to permit the installation of bucks, sills, and frames; the surrounding walls must be built solidly into the frames, and the sills be thoroughly grouted under all conditions. After the frames are in position they must be protected from possible damage during the construction period.

p. Auxiliary Closing Devices - Each elevator entrance shall be equipped with an approved auxiliary mechanical closing device actuated by spring or gravity. This should insure closing of the hatchway doors in event of disengagement of the normal door operating device.

42. HOISTWAY DOOR HANGERS AND TRACKS:

a. Furnish and install for each hoistway entrance necessary hangers and tracks complete. Hangers shall be of sheave type arranged for two point suspension of the doors. Hanger brackets shall be integral with the door or applied. Sheaves and rollers shall be of steel and shall include ball bearings properly sealed to retain grease lubrication. Adjustable ball bearing rollers shall be provided to take the upthrust of the doors. Tracks shall be cold drawn or cold rolled steel of smooth surface and the working section shall be cleaned and oiled with wick type lubricators.

b. An air cord drive, or other suitable arrangement, shall be used to transmit motion from one door panel to the other. Air cord sheaves shall be of steel and shall have flanges and grease sealed ball bearings.

43. CAR DOOR HANGERS & TRACKS:

a. Furnish and install for each car door sheave type two point suspension hangers and tracks complete. Sheaves shall be steel with flanged groove in which a solid polyurethane tire shall be securely vulcanized. Sheaves shall include ball bearings sealed to retain grease lubrication and shall be mounted on steel housings arranged for attaching to the doors. Hangers shall be provided with ball bearing adjustable rollers to take the upthrust of the doors. Tracks shall be cold drawn steel with surfaces shaped to conform to the tread of the hanger sheaves and rollers.

b. An air cord drive, or other suitable arrangement, shall be used to transmit motion from one door panel to the other. Air cord sheaves shall be of steel and shall have flanges and grease sealed ball bearings.

44. CAR AND HOISTWAY DOOR OPERATOR:

a. A motor driven electric operator shall be provided to open and close the car and hoistway doors when the car is at a landing. The operator shall open the doors at a maximum speed of two feet per second and shall close at a speed of two feet per second on With Attendant operation and one foot per second on Without Attendant operation. The car and hoistway doors shall operate simultaneously and smoothly without slam in both the opening and closing directions. They shall be cushioned in their final movement. The door mechanism shall be so designed that in case of interruption or failure of the electric power from any cause, it shall instantly permit emergency manual operation of both the car door and the hoistway doors from the car.

b. The doors shall open automatically while the car is leveling at the respective landing. When the car is operating with an attendant, the operation of the normal operating device in the car shall close the doors. If this device is released before the doors are fully closed, the doors will reopen. When the car is operating automatically, the doors will close after a predetermined time. Under this condition, a door-open button shall be provided in the car to reopen the doors.

c. The pressing of a car button, once the doors are fully open, shall cause the doors to close immediately.

45. DOOR PROTECTIVE DEVICES:

a. Two horizontal light rays shall be projected across the elevator car entrance. The location of the rays shall be approximately 6" and 36", respectively, above the car threshold. In addition, a retractable safety shoe shall be placed on the leading edge of each car door. Shoe shall allow full width of entrance when doors are fully open.

b. After a stop is made, the doors shall remain open for a predetermined interval, unless closing is initiated sooner by the interruption and reestablishment of the light ray. The predetermined interval that the doors remain open will be less for a stop made in response to a car button call only than for a stop made in response to a landing button call. After the doors have reached their fully open position, they shall start to close within one-half second after the interruption and reestablishment of the light ray, except that the door open interval shall be a minimum of two seconds when the car is responding to a landing button call.

c. Pressure of the "Close Door" button provided in the car shall cancel or reduce the above-described timing, except that a minimum interval of two seconds shall be maintained when the car is responding to a landing button call.

d. The doors shall be prevented from closing as long as either light ray is interrupted or the retractable safety shoe is actuated, unless special conditions prevail as hereinafter described and the doors are caused to close.

e. If, while the doors are closing, either light ray is interrupted by a passenger entering or leaving the car or the retractable safety shoe is actuated, the doors will stop and reopen, after which the doors will again start to close.

f. If one or both light ray units should fail, door closing will be initiated after an interval of about fifteen seconds. A switch shall be provided in the car to cut out the light ray units and allow door closing to occur after the normal interval described above, but the operation of this switch will not affect the action of the safety shoe.

g. The light rays and safety shoe shall be inoperative when the elevator is being operated "With Attendant".

46. ELEVATOR CARS

a. The cars shall include the following design and construction features and the Contractor shall submit for approval design drawings and complete details.

(1) The car lighting shall be from fluorescent lamp fixtures mounted on the car ceiling over suspended light diffusing plastic louvers as specified hereinafter. The basic car ceiling shall be approximately 9'-2" above the car floor and the plastic louvers shall be approximately 7'-6" above car floor thereby providing a space of 20" between ceiling and louver to achieve as near uniform illumination of the louver as possible.

(2) The wainscoting on 3 sides shall be of the best grade furniture steel, #14 gauge. Car shall be provided with emergency exits as required by A.S.E. Code. No hinges or door hardware shall extend into car interior. Car shall be securely fastened to platform.

(3) The wainscoting shell on 3 sides shall be of panel construction with plywood panels faced with Formica or Micarta. The panels shall extend from top of car base to the plastic louvers. The car top shall be #12 gauge furniture steel reinforced to support a load required by A.S.E. Code.

(4) The front return panels, floor to ceiling including fascia with cutout for car position indicator shall be #14 gauge stainless steel. Entrance columns shall be stainless steel integral with return panels. The base, three sides shall be stainless steel. A stainless steel hand rail of approved design shall be furnished on side and rear panels of the car. Stainless steel pad buttons or hooks shall be provided at top of panels. One set of green dyed heavy quilted protective pads shall be provided for the ears.

(5) The car lighting shall be from three (3) rows of fluorescent strip fixtures installed across the width of the car (not front to back). Lamps shall be T-12 warm white rapid start lamps. Plastic louvers panels shall be Guth Presmoid M4708ACR accurately cut to size for easy removal. Louver panels shall be supported by perimeter frame and suspended frame of stainless steel or aluminum. Top and sides above the louvers shall be baked enamel finish white or of color selected.

(6) Car ventilation shall be from 2-speed exhaust blower selected and designed for quiet operation.

(7) The car entrance shall be provided with center opening horizontal sliding doors with flush surfaces. The car side surface of doors shall be finished in Formica or Micarta same color as car sides. Doors shall have stainless steel binding edges. Doors shall be guided at bottom by non-metallic shoes sliding in smooth threshold groove.

(8) Formica or Micarta color shall be as selected by Architect from plain or printed wood reproduction colors. All interior and exterior steel surfaces shall be Parkerized or given an approved rust-preventive process before finish is applied. Where baked on enamel finish is required, furnish three coats.

(9) A suitable certificate frame of stainless steel shall be mounted in car. Note that car operating panel, telephone cabinet and certificate frame shall be on same return panel.

(10) The car emergency exit shall be located in ceiling to rear and shall be held in place by suitable fastenings removable from inside and outside of ceiling. Access to the rear portion of the ceiling shall be by removal of the plastic louver section and support members to facilitate the carrying of objects up to 9'-0" in length.

(11) The car operating panel shall be located in the same return panel in each car.

47. TELEPHONE CABINET:

a. A recessed cabinet shall be provided in each car of approved design. Cabinet shall be of sufficient size to permit the installation of a telephone instrument. Cabinet shall be equipped with a hinged face plate of stainless steel. Include the necessary conductors in traveling cable as directed.

48. ELECTRIC WIRING:

a. Furnish and install complete, necessary insulated wiring to connect all parts of the equipment.

b. Insulated wiring shall have NEC 600 volt insulation, type THW for power items. Type TP may be used for pushbutton, hall lanterns and control items. Wiring shall be installed in metal galvanized conduit, metallic tubing or wire ducts.

REVISIONS			
NO.	DATE	ITEM	REF.

FIRM: H.A. INC.
DESIGNED BY: _____
DRAWN BY: _____
CHECKED BY: C.T.A.
APPROVED BY: C.T.A.

SEAL: H.A. JOB NO. 18
STATE OF MARYLAND
CARECE T. ADAMS
386
PROFESSIONAL ENGINEER
ELECTRICAL & MECHANICAL

STRUCTURAL ENGINEERING
VAN RENSSELAER P. SAXE
1701 ST. PAUL ST. BALTO, MD. 21202

MECHANICAL-ELECTRICAL ENGINEERING
HENRY ADAMS, INC.
2315 ST. PAUL ST. BALTO, MD. 21218

CHRISTIE, NILES & ANDREWS
22 A. PENNSYLVANIA AV.
TOWSON, MARYLAND 21204
1037 31st Street, N.W.
WASHINGTON, D.C. 20007

ARCHITECTS

OFFICE BUILDING
FOR
NOTTINGHAM FARMS INC.
102 W. PENNSYLVANIA AVE.
TOWSON, MARYLAND 21204

SPECIFICATIONS	
JOB NO.	6522
SCALE	
DATE	SEPT. 27, 1966
LAST REV.	
ME	12