(4) Type C - Semi-recessed incandescent down light having a cyllindrical phenolic concentric ring baffle and employing a 150 watt PAR-38 flood lamp. Provide Lightolier #7763 or approved equal recessed in 8" diameter hole cut in the cellular concrete plank above.

(5) Type D - Fully recessed incandescent down light employing 100 watt A-19 incandescent lamp. Provide Omega A141 or approved equal with proper accessories for mounting in the type ceiling in which it is installed.

(6) Type E - Recessed mounted incandescent fixture with frosted lens and 32 volt, 21 candle power double contact bayonet base lamp. Provide Dual-Lite #EXT-124R or approved equal mounted in the wall 7' above floor.

(7) Type F - Surface wall mounted (5' high) incandescent fixture with rectangular white opal glass diffuser and 40 watt bulb. Provide Prescolite #4013 or approved equal.

(8) Type G - Surface mounted enclosed and gasketed fluorescent fixture employing one 48" T12 tube and having ballast for operation down to 0°F. Provide Paramount Craft Lite #688LT or approved equal with all stainless steel outer body and end caps.

(9) Type H - Industrial fluorescent fixture employing 2-40 watt rapid start fluorescent tubes and suitable for surface or stem suspension. Provide Guth #M4192 or approved equal.

(10) Type K-1 - Two tube 6" wide fluorescent troffer with "Gratelite" louver diffuser employing 1-40 watt tube with rapid-start ballast. Provide Guth #GE 4954/FF or equal suitable for continuous row mounting as indicated with proper mounting accessories for ceiling in which it is mounted.

(11) Type K-2 - Same as type K-1 except to be for 1-20 watt rapid start tube. Provide Guth GE 4950/FF or approved equal.

(12) Type K-3 - This type shall be the same as K-1 except to be for lay-in installation and have "Prismoid Gratelite diffuser. Provide Guth #PSG 4954/BP/IVT or approved equal. Turn over to Elevator Supplier for building into soffit at door to elevator.

(13) Type L - Wall mounted fluorescent fixture with curved wooden baffle. Provide Lam # FA-206x12x12 with four 30 watt rapid start fluorescent tubes. Top of fixture shall be 7'0" above floor.

(14) Type M - Wall mounted fluorescent fixture with smooth white styrene diffuser accommodating one 40 watt rapid start tube. Provide Lightolier #10153 or approved equal.

(15) Type N - This type shall be an exterior wall bracket unit with 1' diameter "raindrop" glass globe. Provide Prescolite #5903 or approved equal with 150 watt clear "A" lamp. See drawings for installation details.

(16) Type O - Cast aluminum walk light with post and mounting base employing 150 watt lamp in opal glass diffuser. Provide Marco #C323B or approved equal.

(17) Type P - Recessed wall mounted incandescent unit with asymmetric prismatic lens. Provide McPhilben #93-16A with 60 watt bulb. Unit shall be mounted in the face of the convector unit below the heating element.

(18) Type X - Surface wall mounted Exit sign Guth B1412/FGB/FF/277 or approved equal with two F6T5/CW lamps.

(19) Type XE - Exit sign ceiling mounted on normal A.C. operation and emergency D.C. operation. Provide Dual-lite #X3002P with emergency lamps for 32 volt D.C. operation.

24. FIRE ALARM SYSTEM

a. General

The Contractor shall furnish and install a complete automatic and manual fire alarm system, as specified herein and indicated on the drawings. All equipment and devices shall be listed by U.L. and approved by Factory Mutual.

b. Fire Alarm Control Panel and System Operation

The Fire Alarm Control Panel shall detect the operation of a manual fire alarm station, or thermal detector and sound all audible alarm devices. Control Panel shall contain a green A.C. Pilot Lamp, Red trouble lamp, trouble buzzer and silencing switch.

All alarm audible devices, once operated, shall continue until silenced at the control panel by means of a self-restoring alarm silencing switch, or by restoring the operated station to its normal condition and resetting the panel. Alarm devices shall be arranged in circuits that will operate despite a break in one or both feed wires. The Control Panel shall include the necessary switches, relays, indicator lamps, wiring, terminals, etc., to provide complete operation supervising control, and testing facilities for the entire system. The Control Panel shall contain circuitry for automatic change-over to emergency power in the event of main line A.C. power failure. All relays shall be plug in type. Control Panel power supply shall have sufficient capacity to operate 13 alarm bells. Notifier Type NU-1.

c. Power Supply

The fire alarm system main power supply shall operate from 120 volts A.C. The 120 volt A.C. main power shall be converted to low voltage, 12 V. direct current for system operation. Transformer, rectifier, fuses and other power supply components shall be incorporated in the fire alarm control panel. Wet cell batteries shall be provided for emergency power.

d. Batteries

The Battery shall be 12 volts, 72 ampere hour capacity lead acid type, catalogue #3A-10, in wall mounted enclosure. Provide on the control panel a TCA Trickle charge with a normal charge current of 50MA, a switch shall be provided for a high charge rate of 1 Amp.

e. Manual Fire Alarm Stations

Manual Fire Alarm Stations shall be non-code, pull break glass type, equipped with key lock so that they may be operated for test purposes without breaking the glass, and designed so that once operated they cannot be restored to normal except by replacing the glass and turning the key lock. Manual stations shall be of cast aluminum finished in red baked enamel with operating directions in raised letters. They shall be suitable for semi-flush mounting on a single gang box, located as shown on the drawings. Notifier Type BG-1.

f. Automatic Heat Detectors

Automatic heat detectors, shall be combination Rate-of-Rise and Fixed Temperature type: Type 501, rated at 136 degrees fahrenheit.

g. Audible Alarm Signals

Evacuation signals shall be bells of the underdome vibrating type 8" in diameter and finished in red lacquer. Bells shall be mounted on any standard outlet box and shall be located as shown on the drawings. Notifier Model CMT-8. The bell in the Garage vestibule shall be 6".

h. Wiring

All wiring shall be in accordance with local and national codes and article 21 of the National Board of Fire Underwriters standard number 72. Unless otherwise specified, minimum wire size shall be 14 gauge for AC and power supply connections, 16 gauge for audible alarm circuits and 20 gauge for station circuits.

i. Guarantee and Service

The fire alarm system shall be free from defects in workmanship and material, under normal use and service, for a period of 12 months from the date of acceptance. Any equipment proven to be defective in workmanship or material shall be repaired, replaced or adjusted free of charge. Pluggable relays will be guaranteed for five years.

j. Permit

The fire alarm equipment furnished shall be on the approved list of the Baltimore County Fire Prevention Bureau. The Contractor shall obtain a separate permit for the Fire Alarm System.

k. For purposes of defining quality and functions catalogue numbers of the Notifier Co. have been used. Provide equipment by Notifier or approved equal.

25. TELEPHONE CONDUIT SYSTEM

a. Provide a system of empty feeder and branch conduits for the installation of the telephone system as indicated on the plans. All empty conduits shall be equipped with galvanized fish wires to facilitate future installation of cables.

b. Provide one 4" bushed conduit nipple through the floor in the two back corners of each telephone closet on the second through the sixth floor.

c. Provide plywood back boards in closets as indicated on the plans.

d. Entire telephone conduit installation shall be in accordance with the requirements of the C & P Telephone Co. and shall be approved by them.

26. SERVICE CHANGES TO EXISTING CAMPBELL BUILDING

a. The existing Campbell Building east of this property is presently served by two pad mounted transformers belonging to the Baltimore Gas and Electric Co. one transformer is for 480 volt 3 phase 3 wire service, the other for 120/240 volt single phase service.

b. Once the new substation for this building is in service a new 480 volt feeder shall be installed as shown to serve the Campbell Building and the present services abandoned. A transformer shall be provided in the main switch room of the building as shown to provide the 120/240 volt service.

c. Outages to this service shall be performed over a week-end to avoid interference to the operation of the building. Outages shall be scheduled in advance at a time agreeable to the Owner.

27. EMERGENCY LIGHTING SYSTEM

a. Provide an emergency lighting system consisting of a central battery and charging console, a D.C. lighting distribution panel and a battery-failure alarm panel. This equipment shall supply the 32 volt lights previously specified.

b. The central battery and charging console shall be a Dual Lite Model No. 32-ALA-760 or equal with built-in automatic high and low-rate charger with voltmeter and ammeter and pilot lights for high rate charge, also equipped with load contactor and single phase monitor in the same console.

c. The D.C. lighting distribution board shall be a Dual-Lite Model NO. FFA35 having three circuits and a fuse failure alarm.

d. The battery-failure alarm panel shall be designed to provide complete supervision of the battery and charger circuit. Unit shall be Dual-Lite XBFA-32S or approved equal.

e. Wiring to emergency lights shall be a minimum of #10 THW with lights connected as shown to the three circuits.

28. ELECTRICAL PROVISIONS FOR OFFICE SPACES

a. The Contractor shall include all labor and material required for the furnishing, installation and connection of the following additional work in the office areas:

(1) One hundred forty five (145) type "A" lighting fixtures for the first and sixth floors (each) and one hundred eighty (180) type "A" lighting fixtures per floor for the second through fifth floors, making a total of one thousand ten (1,010) lighting fixtures. Include branch circuits for this lighting on the basis of eight (8) circuits per floor.

(2) Twenty five (25) wall switches in movable partitions and associated wiring, per floor, for the control of the above lights, making a total of one hundred fifty (150) for the six floors.

(3) Thirty six (36) duplex receptacle units installed in the cellular floor of each floor, second through the sixth, making a total of one hundred eighty (180) outlets, and thirty duplex receptacle units installed in the underfloor duct system of the first floor. Receptacles shall be connected to the 208/120 volt panel on a floor through the underfloor raceway system with a maximum of six receptacles on one 120 volt branch circuit.

(4) Ten (10) telephone outlets equivalent to Walker #509 AL and fifteen (15) equivalent to Walker #508 AL for each of the six floors with proper accessories for the floor in which they are installed, making a total of one hundred fifty (150) outlets.

(5) All of the above work will be as directed or delineated on supplementary drawings issued during construction.

(6) See the bid form for unit prices on the above items.

29. MOTOR CONTROLS AND EQUIPMENT CONNECTIONS

a. Under this section include complete power connections to all items of equipment shown on the drawings and herein specified. Provide control items, aquastats, thermostats, push button stations, etc., only as shown on the drawings and herein specified. Control wiring not shown on the drawings or herein specified will be performed under another section of the specifications. Non-fused disconnect switches shall be provided for all motors remote from starters as shown and as required by the N.E.C.

b. Unless otherwise noted herein, furnish all motor starters under this section of the specification. Under this section all motor starters furnished under this section or other sections, shall be set in place and all power connections made.

c. For single phase motors, provide manual motor starting switches. These switches shall provide thermal overload protection and be Square D calss 2510 or equal by General Electric, with or without pilot light as indicated by symbol. Motor starting switches not in sight of motor controlled shall have handle guards which permit padlocking in the "off" position.

d. In general, three-phase motor starters shall be provided in the motor control centers and motor starter switchboards previously specified. Starters shown separately mounted, where motor and control are in sight of the branch circuit disconnecting device, shall be standard line starters, Square D class 8538 or equal by Westinghouse or Allen-Bradley. Where starter is not in sight of the branch circuit disconnecting device, provide a combination starter with non-fused disconnect switch, Square D 8538 or approved equal. Where two or more starters are supplied from the same branch circuit, they shall be circuit breaker combination starters, Square D class 8539 or approved equal. Provide each starter with three manual reset thermal overload relay units and fused 480/120 volt control transformer. Provide pushbutton stations, hand-off automatic switch, green pilot lights, in face of starters as hereinafter specified or indicated on the drawings.

e. Provide for approval a complete list of all motors including, for each, the nameplate full load current, actual tested full load amperes under normal operating conditions and make, catalogue number and rating of thermal overload device applied to each motor. Overload devices shall be installed in accordance with the list as approved.

All controls for the chiller and for the electric boiler will be furnished with the equipment under another section of the specification. Under this section make complete power connection to these items and mount the starter for the chiller, making complete power connections to it.

30. SNOW MELTING

a. Provide electrical snow melting for the ramp to the garage and the front entrance walk as indicated on the plans.

b. Garage ramp shall be heated by three sections of single conductor mineral insulated snow melting cable. Provide under the asphalt paving in the ramp two Easy-Heat #EZ-SMI-1051-4 heating cables or approved equal by Nelson for 480 volt operation, and in the concrete garage floor between the ramp and the drain provide one Easy Heat #EZ-SMI-185-7 heating cable or equal by Nelson for 277 volt operation.

c. The front walk shall be heated by two sections of single conductor mineral insulated snow melting cable. Provide one Easy Heat #SMI-382-7 and #SMI-482-7 or equal by Nelson for 277 volt operation.

d, All heating cables shall be installed in accordance with the recommendation of the manufacturers and shall be equipped with suitable length of cold lead.

e. Junction box in front sidewalk shall be OZ #YRO50 404 or equal mounted flush in sidewalk where shown. Junction boxes for ramp snow melting shall be "OZ" type "YU" of suitable size.

f. Snow melting distribution panel shall be a Square D NYB-04 panelboard with circuits indicated on the plans. Branch breakers in the panel shall be arranged to be connected to the phases indicated. Provide in the panel one A.S.C.O 3ul. 920 or equal 3 pole 100 ampere mechanically held contactor with auxiliary relay for 2-wire remote control and fused 480/120 volt control transformer by actuation of the auxiliary control relay.

g. Provide in the first floor electric closet a selector switch and pilot light consisting of a Square D Class 9001 TYL10 selector switch (on-off) and a class 9001-TP-1 pilot light mounted in a 9001 KY 2 enclosure with nameplate "Snow melting control". Provide in the garage where indicated a Honeywell Model T631C1103 thermostat. Connect this thermostat in series with the two-wire circuit to the selector switch so that as temperatures above 45° the snow melting will automatically turn off and cannot be turned on unless temperature is below this point.

31. ELECTRIC HEATERS

a. In the ground floor toilet provide one Chromalox #HVT 1251 or equal 500 watt wall mounted heater with integral thermostat. Unit for 277 volt operation.

b. In Janitor's locker room on ground floor provide one Chromalox #HVT 2411 or equal 1000 watt wall mounted heater with integral thermostat. Unit for 277 volt operation.

32. UNIT HEATERS

a. Provide the following electric unit heaters where indicated on the plans:

(1) Type A - Chromalox #CUC-STB-3566 modified with 43"x5" duct collar on inlet and outlet, with continuous fan operation and with integral circuit breaker. Provide externally adjustable thermostat to control heating elements located in return air duct.

(2) Type B - Chromalox #CUC-RFP-1666 (9½" recessing depth) with built-in circuit breaker. Provide wall mounted #MHT-473E-1033 or approved equal thermostat located where shown on plans.

(3) Type C - Chromalox #LUH-125 for 277 volt operation. Provide for each one #CR-350 contactor with 277 volt coil, #TA-42A thermostat, and #WUH2 mounting bracket or approved equal.

MICROFILMED

REVISIONS

| NO. | DATE | ITEM | REF. |
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| | | | |

FIRM H.A. INC.
DESIGNED BY —
DRAWN BY —
CHECKED BY R B
APPROVED BY R B

SEAL H.A. JOB NO. N-16

STATE OF MARYLAND — RICHARD BRADLEY ST — No. 3809 REGISTERED PROFESSIONAL ENGINEER

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

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ARCHITECTS

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

SPECIFICATIONS

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| JOB NO. | 6522 |
| SCALE | — |
| DATE | SEPT. 27, 1966 |
| LAST REV. | |

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