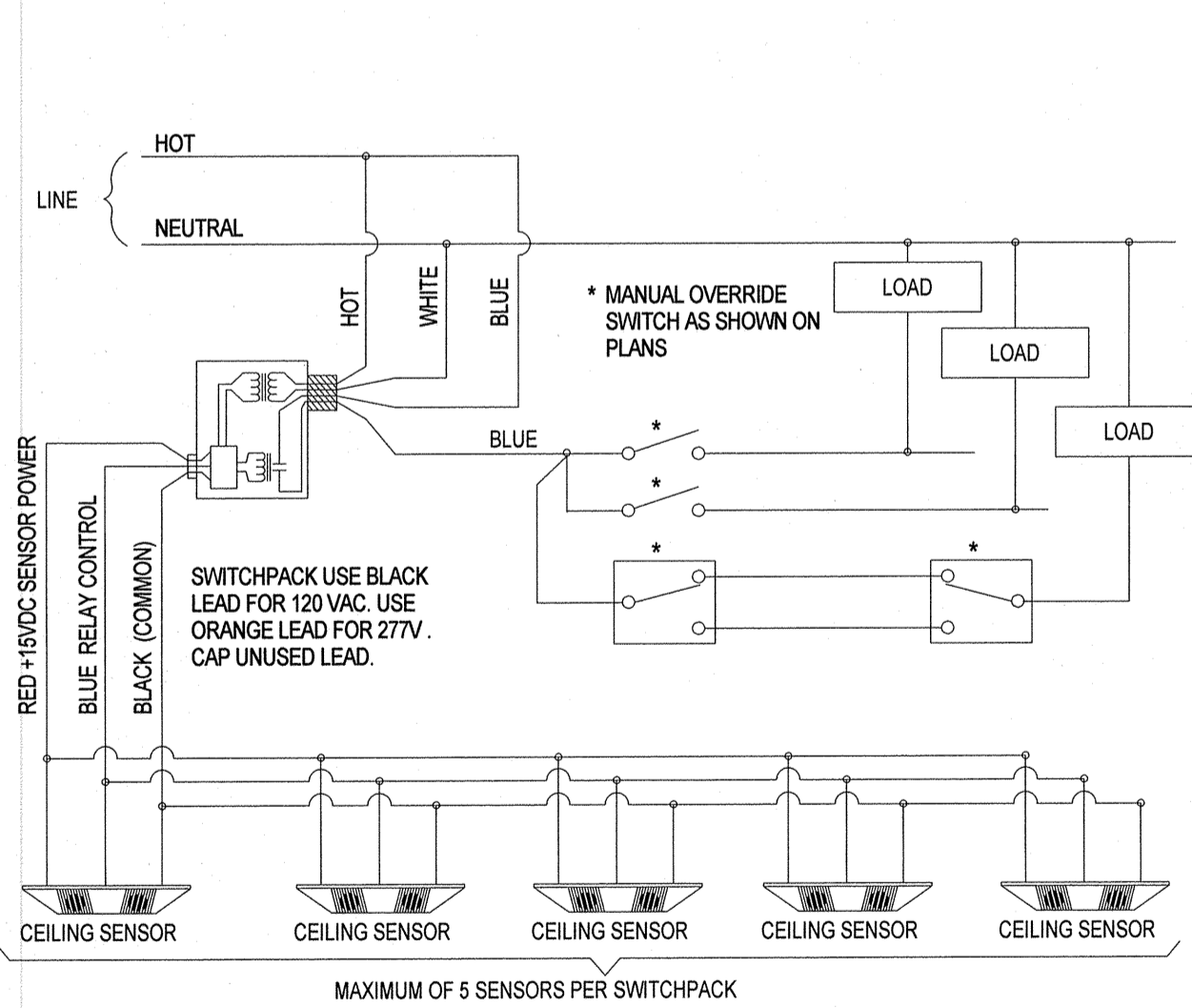
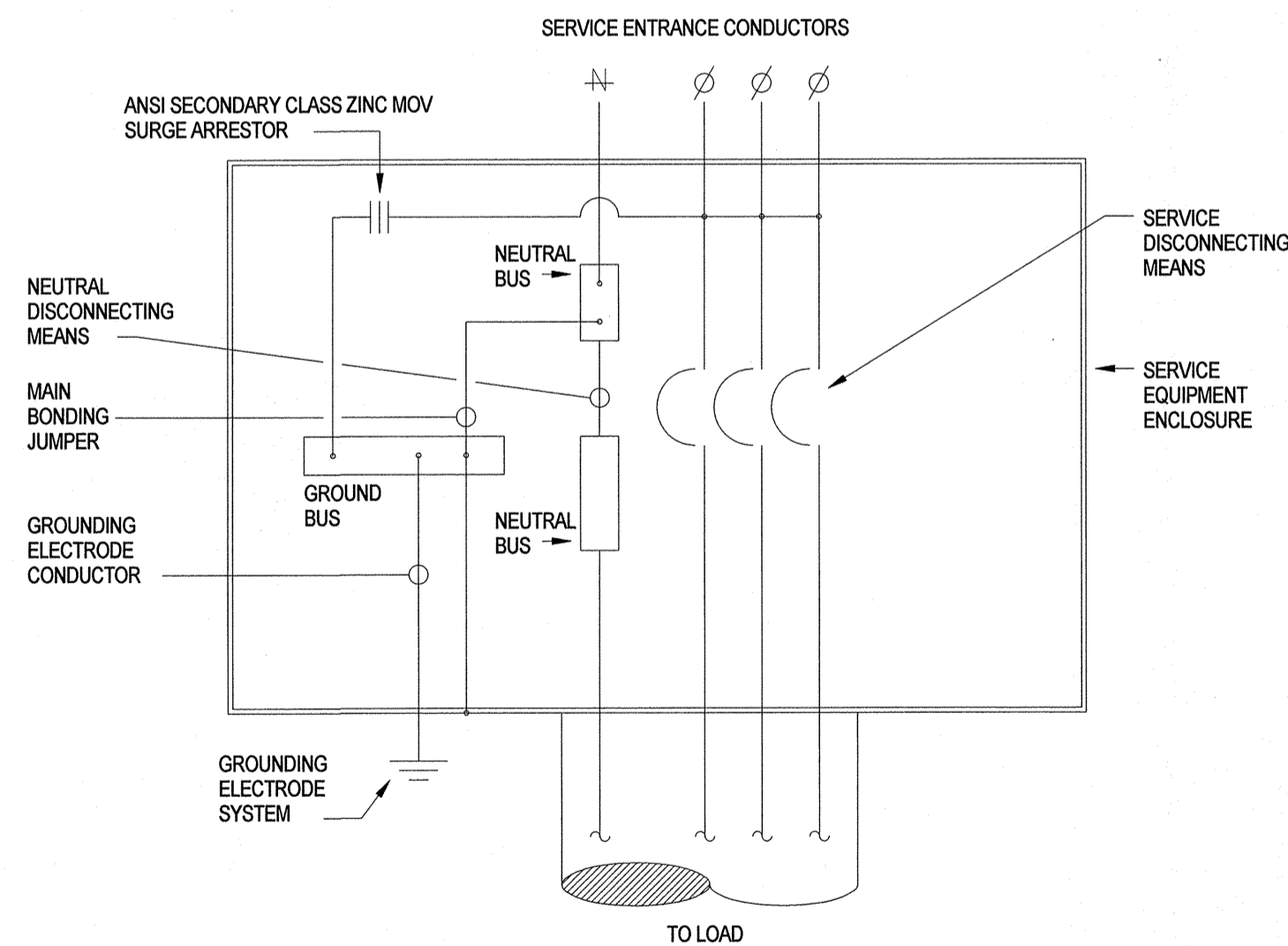


03 DIMMER, SWITCH AND FAN SPEED CONTROL SWITCHBANK
 SCALE: NO SCALE



02 CEILING SENSOR(S) WITH MANUAL OVERRIDE SWITCHES
 SCALE: NO SCALE



01 ELECTRIC SERVICE GROUNDING DETAIL
 SCALE: NO SCALE

| LEGEND | |
|--|--|
| <p>SWITCHING & LIGHTING CONTROL</p> <p> SINGLE POLE SWITCH (3 = 3 WAY SWITCH) (4 = 4 WAY SWITCH) (L = LOW VOLTAGE SWITCH) (M = MOTOR RATED SWITCH W/ THERMAL ELEMENT) (MC = MOMENTARY CONTACT W/ CENTER NEUTRAL) (K = KEYSwitch) (P = SWITCH W/ PILOT LIGHT) WHERE INDICATED ON JUNCTION BOX, SWITCH IS TO SERVE AS THE DISCONNECTING MEANS FOR THAT ITEM OF EQUIPMENT. SINGLE-POLE SWITCH DISCONNECTING MEANS TO BE HORSEPOWER RATED, HEAVY DUTY TYPE. TOGGLE. LABEL COVERPLATE, COORDINATE EXACT LOCATION OF DISCONNECTING MEANS WITH ARCHITECT PRIOR TO ROUGH-IN. </p> <p>LIGHTING FIXTURE</p> <p> LIGHTING FIXTURES: LETTER INDICATES FIXTURE TYPE; SEE FIXTURE SCHEDULE 2' x 4' FLUORESCENT LIGHTING FIXTURE FLUORESCENT LIGHTING FIXTURE W/ INBOARD AND OUTBOARD BALLAST CONNECTED TO EMERGENCY BALLASTS. CONNECT TO UN-SWITCHED POWER LEADS. PROVIDE BODINE #B50 (1100 LUMENS) U.N.O. PROVIDE 1 EMERGENCY BALLAST FOR 1 AND 2-LAMP FIXTURES. PROVIDE 2 EMERGENCY BALLASTS FOR 3 AND 4-LAMP FIXTURES. EXIT LIGHT. PROVIDE DIRECTIONAL CHEVRON(S) ARROW(S) AS INDICATED ON PLANS. CONNECT INTEGRAL BATTERY PACK TO UN-SWITCHED POWER LEADS. </p> <p>ONE-LINE & RISER DIAGRAM</p> <p> CIRCUIT BREAKER (AMP/PHASE) PANELBOARD, (DISTRIBUTION OR BRANCH CIRCUIT) OR RELAY PANEL FUSED SWITCH, AMPACITY INDICATED TRANSFORMER UTILITY METER CONTINUATION TO GROUNDING SYSTEM </p> | <p>GENERAL</p> <p> MATCHLINE OR PROPERTY LINE KEYED NOTE REVISION NOTE REVISION DEFINITION, AREA ENCLOSED CONTAINS DRAWING CHANGES MADE SUBSEQUENT TO PREVIOUS ISSUE HOMERUN TO ELECTRICAL PANELBOARDS PARTIAL HOMERUN TO ELECTRICAL PANELBOARDS </p> <p>RACEWAY</p> <p> CONDUIT RUN CONCEALED IN WALL OR CEILING CONDUIT RUN CONCEALED IN FLOOR CONDUIT RUN BELOW GRADE EMPTY RACEWAY STUBBED OUT WITH PULL STRING AND CAP BREAK LINE FOR DRAWING CLARITY </p> <p>POWER DEVICE & EQUIPMENT</p> <p> BACKBOX, CONDUIT AND PULL STRING FOR TELECOMM OUTLETS. (NET = DATA NETWORK) (PH = PHONE) (TV = CABLE TV OUTLET) CABLE FOR TELECOMM DEVICES AND TELECOMM HEAD END EQUIPMENT IS SPECIFIED UNDER ANOTHER DIVISION. DUPLEX RECEPTACLE: 20AMP, 125VOLT, 2POLE, 3WIRE, GROUNDING TYPE, NEMA 5-20R (IG = ISOLATED GROUND TYPE) (GFI = GROUND FAULT INTERRUPTER TYPE) (WP = WEATHERPROOF TYPE COVERPLATE) (D = DED. GRAY REC & W/ ENGRAVED COVER PLATE) (* = OUTLET NOT MOUNTED AT PROJECT STANDARD HEIGHT) DOUBLE (QUAD) DUPLEX RECEPTACLE WITH COMMON COVER PLATE; (2) EACH DUPLEX RECEPTACLES. EQUIPMENT POINT OF CONNECTION JUNCTION BOX FUSED OR NON-FUSED DISCONNECT SWITCH. ALL SWITCHES SHALL BE HEAVY DUTY TYPE. FRAME/POLES/FUSING/NEMA ENCLOSURE. "NF" IN THE FUSE SIZE INDICATES NON-FUSED TYPE. VOLTAGE OF SWITCH IS SAME RATINGS AS THE SYSTEM IT IS APPLIED ON. WP = NEMA 3R. COMBINATION DISCONNECT SWITCH AND MAGNETIC MOTOR STARTER. 30AMP SIZE 1 MINIMUM TYPICAL UNLESS NOTED OTHERWISE. PROVIDE CONTROL POWER TRANSFORMER, 2 N.O. AND 2 N.C. CONTACTS, HAND-OFF-AUTOMATIC SWITCH, RED PILOT LIGHTS ("RUN" LIGHT). PROVIDE OVERLOAD RELAYS MATCHING FLA OF EQUIPMENT. FRAME/POLES/FUSING/NEMA SIZE/NEMA ENCLOSURE. VOLTAGE OF SWITCH IS SAME RATING AS THE SYSTEM IT IS APPLIED ON. WP = NEMA 3R. CONTROL STATION ELECTRIC MOTOR CONNECTION. EQUIPMENT NAME INDICATED. REFER TO MECHANICAL SCHEDULE FOR ADDITIONAL INFORMATION. ELECTRICAL PANELBOARD, DISTRIBUTION PANEL, MOTOR CONTROL CENTER, OR SWITCHBOARD. REFER TO ONE-LINE AND PANEL SCHEDULES TRANSFORMER. REFER TO ONE-LINE AND PANEL SCHEDULES EQUIPMENT DESIGNATOR - SEE APPLICABLE SCHEDULE </p> <p>ONE-LINE & RISER DIAGRAM</p> <p> CIRCUIT BREAKER (AMP/PHASE) PANELBOARD, (DISTRIBUTION OR BRANCH CIRCUIT) OR RELAY PANEL FUSED SWITCH, AMPACITY INDICATED TRANSFORMER UTILITY METER CONTINUATION TO GROUNDING SYSTEM </p> |

OCCUPANCY SENSOR LEGEND

GREENGATE SUPERSWITCH MINI WALL SENSOR SWITCH. MODEL #OSW-U-0721-MV. OCCUPANCY SENSOR SWITCH PROVIDES UP TO 300 SQ. FT. OF COVERAGE. 3-WIRE DEVICE, BLACK (HOT), WHITE (NEUTRAL) AND RED (LOAD). MAXIMUM LOAD 800W @ 120V, 1200W @ 277V
 GREENGATE DESIGNER CEILING SENSOR. MODEL #ODC-U-2000. PROVIDE APPROPRIATE SWITCHPACK FROM GREENGATE. OCCUPANCY SENSOR PROVIDES 1,000-2,000 SQ. FT. OF COVERAGE. SWITCHPACK AS REQUIRED.

- NOTES:
- ALL OCCUPANCY SENSORS TO BE CALIBRATED AND SETTINGS ADJUSTED BY THE CONTRACTOR. ALL OCCUPANCY SENSORS TO HAVE THE TIME DELAY SET TO THE MAXIMUM SETTING.
 - ALL OCCUPANCY SENSORS TO BE TYPE THAT HAS PASSED NEMA WD7 TESTING.
 - ALL CEILING MOUNTED OCCUPANCY SENSORS SWITCHPACKS SHALL BE GREENGATE #SP20-MV.
 - IF BUILDING IS EQUIPPED WITH EMS/BAS, PROVIDE GREENGATE SWITCHPACK #SP05-SR FOR ALL CEILING MOUNTED OCCUPANCY SENSORS, UNLESS CIRCUIT IS LOCALLY CONTROLLED AND NOT WIRED THRU EMS CONTROL.
 - WHERE LIGHT SWITCHES AND/OR DIMMERS ARE SHOWN IN CONJUNCTION WITH CEILING MOUNTED OCCUPANCY SENSOR, CONTRACTOR SHALL WIRE THE LIGHT SWITCHES DOWNSTREAM OF THE SENSOR - I.E. ON THE LOAD SIDE OF SENSOR OR SWITCHPAK. ALL LIGHTING IN THE ROOM, INCLUDING UNDERCABINET LIGHTING SHALL BE CONTROLLED FROM THE OCCUPANCY SENSOR. PROVIDE ADDITIONAL RELAY PACKS AS REQUIRED FOR PROPER CONTROL.
 - PRODUCTS BY LEVITON AND/OR WATT-STOPPER THAT ARE EQUIVALENT TO GREENGATE ARE ACCEPTABLE.

LIGHTING DESIGN COMPLIES WITH ASHRAE 90.1 2007. LIGHTING ALLOWANCE SHOWN IN DETAIL IN SEPARATE ATTACHED ENERGY FORM.

APPLICABLE CODES: LATEST EDITION OF CODES ADOPTED BY LOCAL AUTHORITIES HAVING JURISDICTION, INCLUDING BUT NOT LIMITED TO

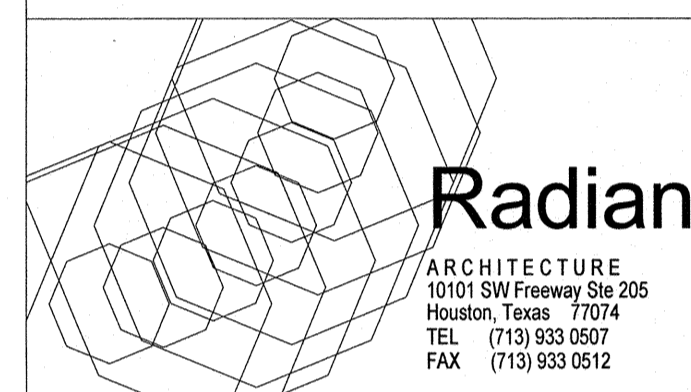
NFPA 72 NATIONAL FIRE ALARM CODE
 NFPA 101 LIFE SAFETY CODE
 2009 INTERNATIONAL BUILDING CODE WITH CITY OF SUGAR LAND AMENDMENTS

- Fire Alarm System shall be intelligent addressable analog type.
- Visual devices (strobes): Shall be multi-candela type with field selectable choice of 15, 30, 75 or 110 candela.
 - Unless otherwise noted all wiring shall be FPLP Fire Alarm cable, low smoke plenum rated type.
 - All strobe and horn circuits must be run in a supervised fashion. Branching or T-tapping of circuits is not permitted.
 - No AC wiring shall be run in the fire alarm conduit. Only fire alarm conductors shall be in the fire alarm conduit.
 - Observe polarity of devices to assure proper operation. Refer to device datasheets or details for wiring instructions for respective devices.
 - Provide a dedicated 120VAC circuit to the fire alarm control panel. Protect circuit with conduit.
 - Smoke detectors shall be ceiling mounted and installed no closer than three feet to a supply grille and a minimum of four inches from any wall. Where structure is exposed smoke detectors must be mounted at the highest point.
 - All devices and all pull box locations must be accessible for routine maintenance. Provide access doors, key tiles etc. as required.

- FIRE ALARM NOTES**
- OVERVIEW: PROVIDE A MANUAL FIRE ALARM SYSTEM WITH TONE GENERATOR (NOT VOICE ANNUNCIATION), VISUAL ANNUNCIATION AND AUTOMATIC DETECTION IN SPECIFIC AREAS INCLUDING ELEVATORS, COMPUTER ROOM AND AT THE FIRE ALARM CONTROL PANEL (FACP). PROVIDE ADDITIONAL AUTOMATIC DETECTION ALONG EGRESS CORRIDOR ROUTES AS REQUIRED BY COUNTY FIRE MARSHAL. PROVIDE TAMPER SWITCH AND FLOW SWITCH DETECTION IN FIRE ALARM RISER ROOM, PROVIDE POST INDICATOR VALVE DETECTION AT VALVE PIT NEAR THE EDGE OF THE PROPERTY. PROVIDE A TWO-LINE DISPLAY OF ALARM AND TROUBLE AT THE FACP. PROVIDE AN ADDITIONAL TWO-LINE DISPLAY (REMOTE DISPLAY) AT RECEPTION DESK IN SUITE 1500 AND THE RECEPTION DESK IN SUITE 200.
 - STROBES: PROVIDE A.D.A. STROBES MOUNTED ON WALLS AND ON CEILING AT LOCATIONS SHOWN AND CONNECT TO THE BUILDING FIRE ALARM SYSTEM. THE LAMP SHALL BE XENON STROBE TYPE OR EQUIVALENT. THE COLOR SHALL BE CLEAR OR NOMINAL WHITE. THE MAXIMUM PULSE DURATION SHALL BE 0.2 SECONDS WITH A MAXIMUM DUTY CYCLE OF 40%. THE PULSE DURATION IS DEFINED AS THE TIME INTERVAL BETWEEN INITIAL AND FINAL POINTS OF 10 PERCENT OF MAXIMUM SIGNAL. THE INTENSITY SHALL BE A MINIMUM OF 75 CANDELA. THE FLASH RATE SHALL BE A MINIMUM OF 1 Hz. AND A MAXIMUM OF 3 Hz.
 - AUDIBLE SOUND LEVELS: AUDIBLE ALARMS SHALL PRODUCE A SOUND THAT EXCEEDS THE PREVAILING EQUIVALENT SOUND LEVEL IN THE ROOM OR SPACE BY AT LEAST 15 dba OR EXCEEDS ANY MAX. SOUND LEVEL WITH A DURATION OF 60 SECONDS BY 5 dba, WHICHEVER IS LOUDER, BUT NOT MORE THAN 120 dba.
 - STROBE SYNCHRONIZATION: ALL STROBES IN COMMON AREAS SHALL BE SYNCHRONIZED. EXISTING STROBES THAT ARE NOT SYNCHRONIZABLE SHALL BE REPLACED WITH NEW. PROVIDE SYNC MODULE AND ACCESSORIES AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.

REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL PHASING INFORMATION.

OPTIMUM CARE
SUGAR LAND, TEXAS



| Revision Schedule | | |
|-------------------|------|-------------|
| # | Date | Description |
| | | |



REDDING LINDEN BARR
 CONSULTING ENGINEERS
 801 TRAVIS, SUITE 2000
 HOUSTON, TEXAS 77002
 PH: 713.237.9800
 FAX: 713.237.9801
 TEXAS REGISTERED ENGINEERING FIRM F-3113

Project No.
ELECTRICAL LEGENDS AND DETAILS
 Sheet No.

E4.01