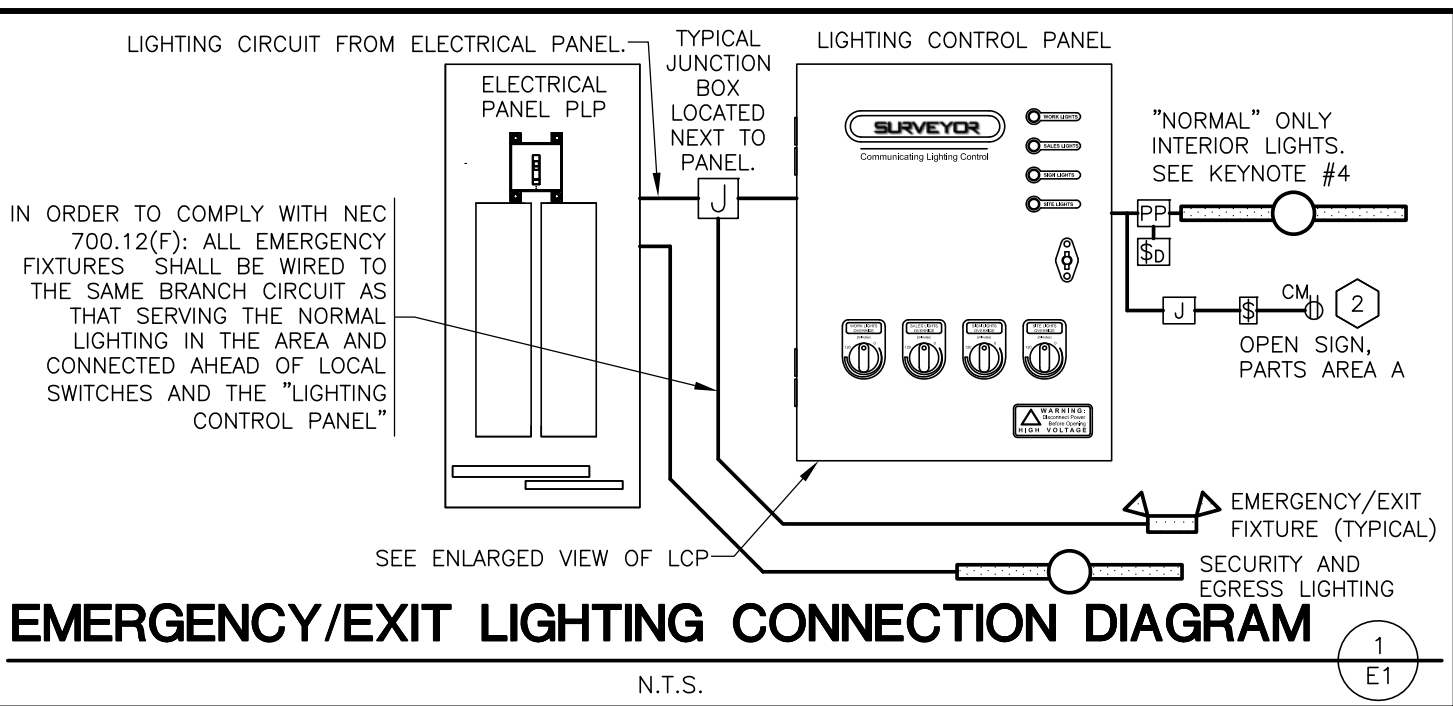
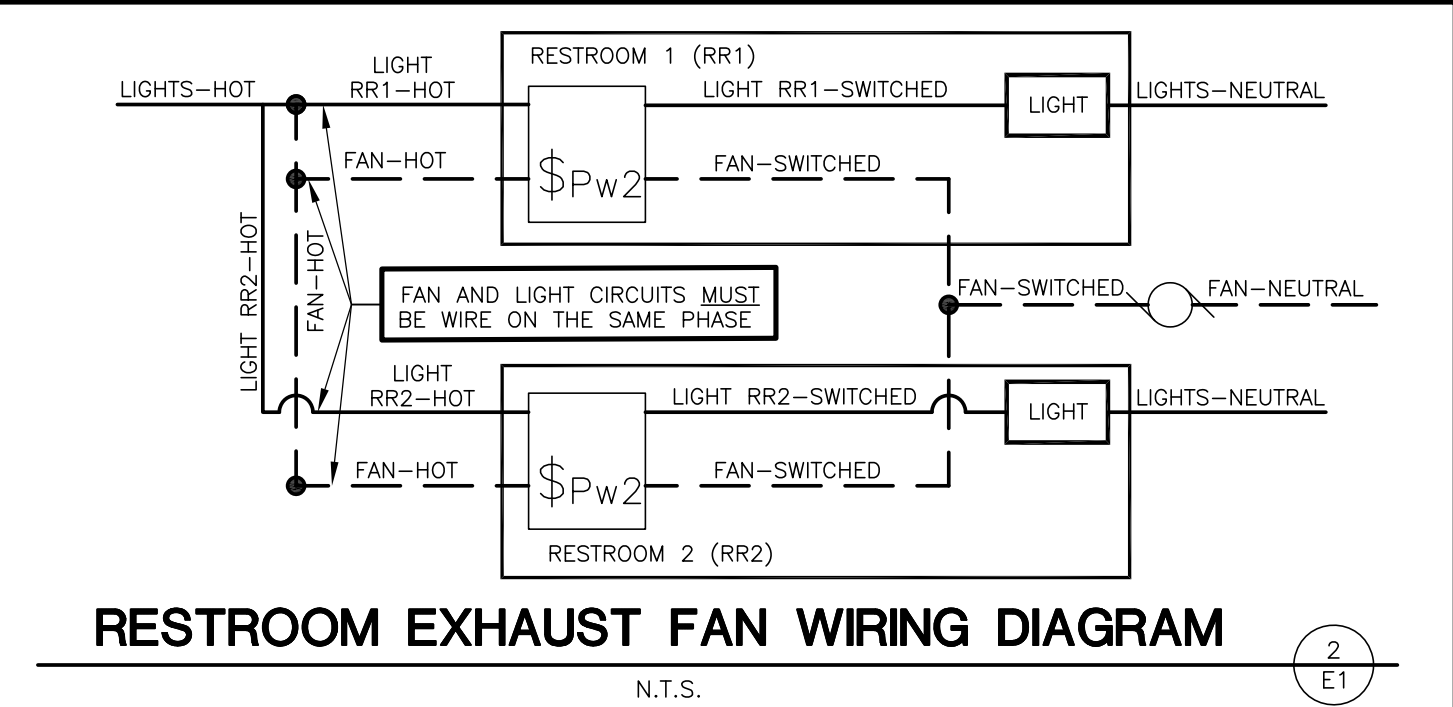
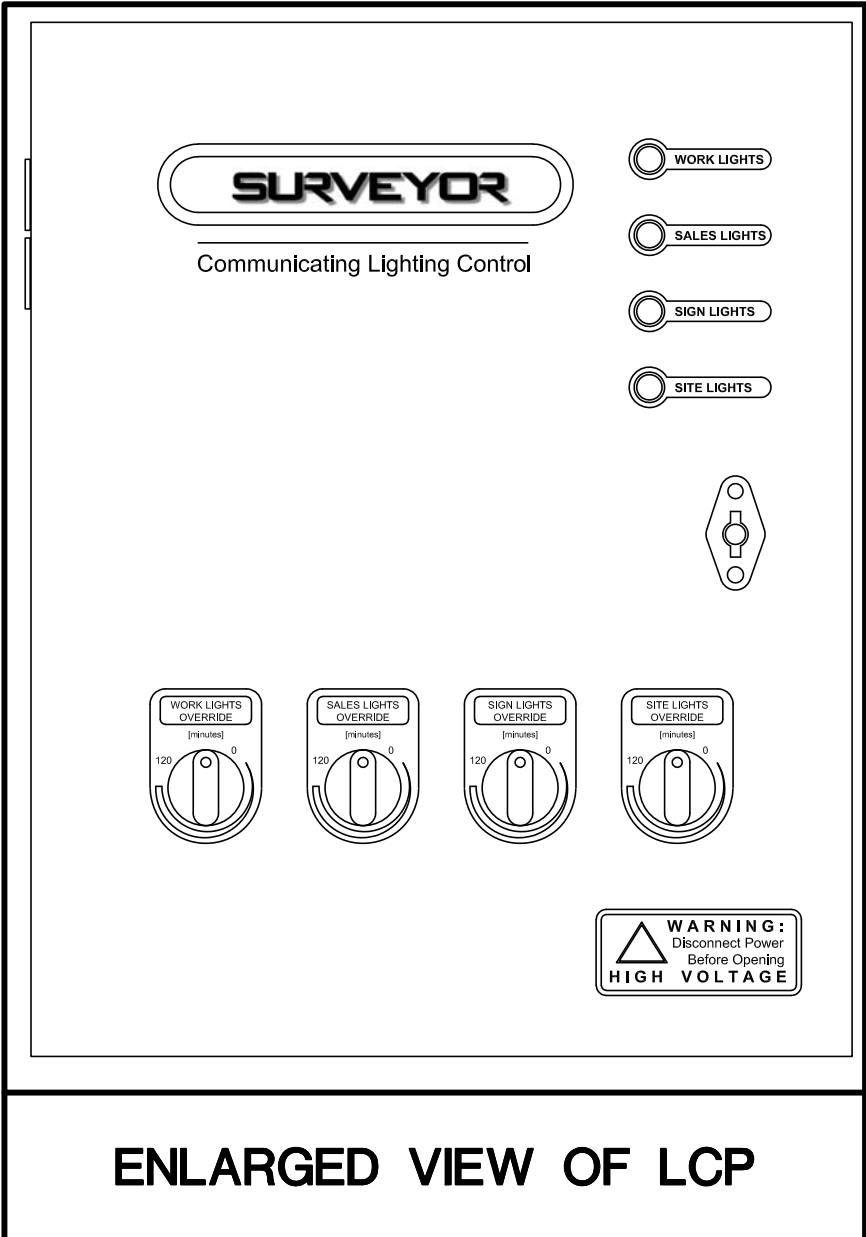
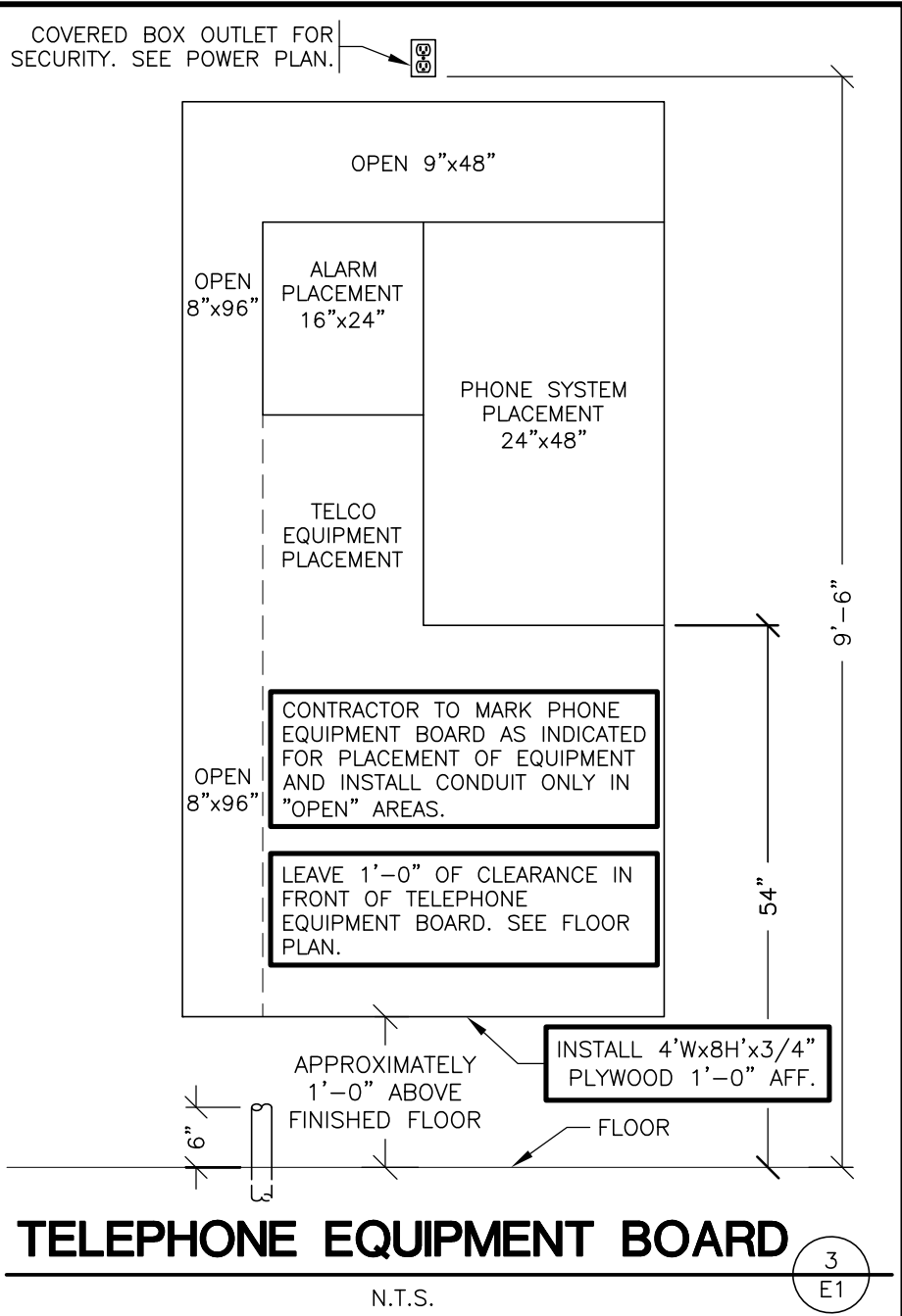
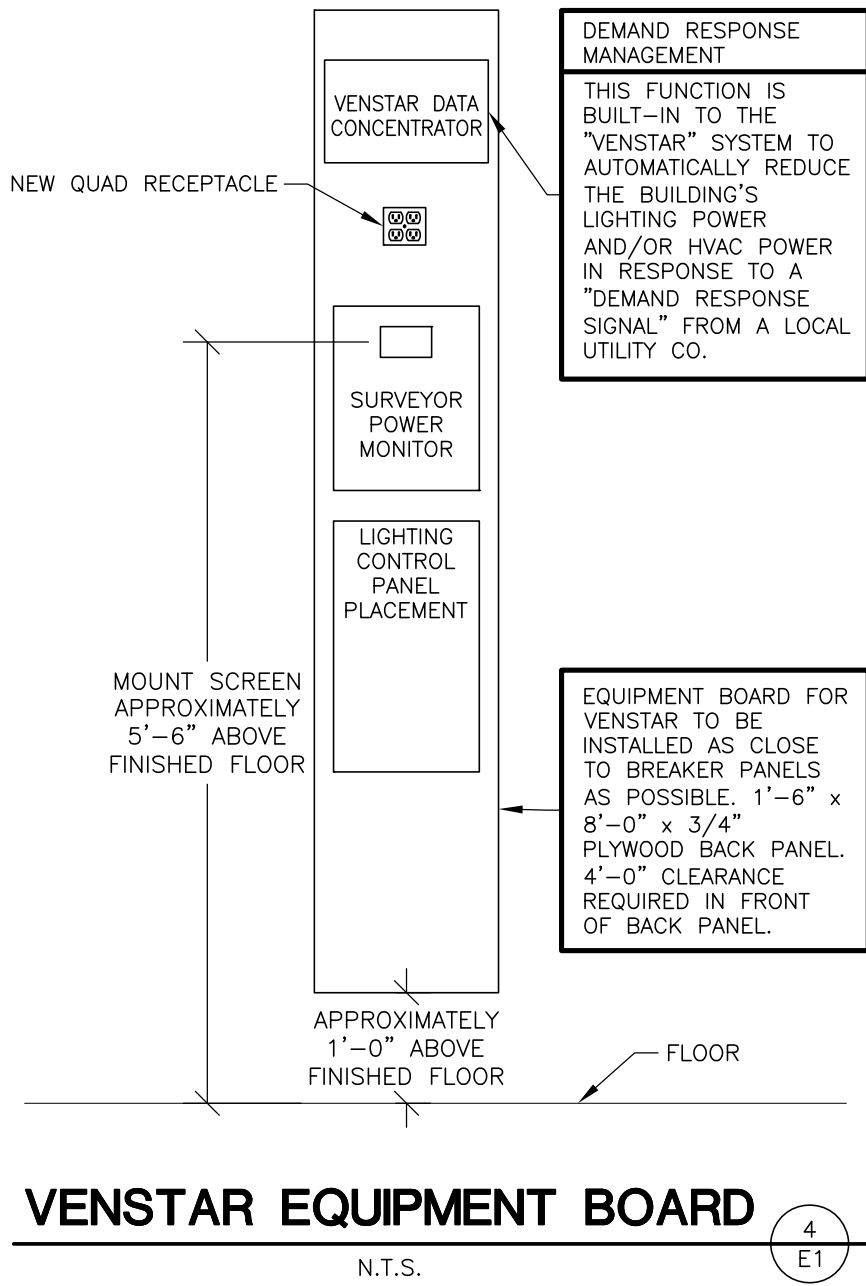
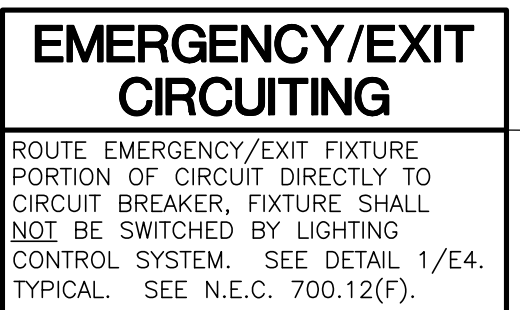


| LIGHT FIXTURE SCHEDULE | | | | | | | | | | | | | | | | |
|--|--|--|----------------|-------------|---|-----------------------|---------|-------|-------------|--|---------|----------------------------|--------------------------------------|---|--|---------------|
| ALL ITEMS LISTED ON THE "LIGHT FIXTURE SCHEDULE" WILL BE SUPPLIED BY THE OWNER (O'REILLY). ITEMS SHALL BE DIRECT ORDERED AND OR RELEASED FROM THE LISTED ELECTRICAL EQUIPMENT DISTRIBUTOR: | | | | | GRAYBAR ELECTRIC CO. INC. 11885 LACKLAND ROAD ST. LOUIS, MO 63146 | | | | | GRAYBAR O'REILLY TEAM EMAIL: oreilly@graybar.com TOLL FREE: (314) 573-2080 | | | | | | |
| MARK | MFR. | CATALOG NUMBER | SUPPLY VOLTAGE | FINISH | MOUNTING | | | LAMPS | | | WATTAGE | DESCRIPTION OF ACCESSORIES | NOTES | FIXTURE QUANTITY | | |
| | | | | | LAY-IN | RECESSED SURFACE WALL | CEILING | OTHER | FLUORESCENT | LED | | | | | OTHER | LAMP QUANTITY |
| LED DIMMABLE LIGHTS - ALL INDOOR LIGHT FIXTURES SHALL HAVE DISCONNECTING MEANS TO COMPLY WITH NEC 410.130(G) | | | | | | | | | | | | | | | | |
| A | LSI | SDL 8 LED 78 40 UE OR NO SUBSTITUTIONS | 120 | WHITE | | | X | | | X | | 67 | GRID HANGER (2 PER FIXTURE) | GRID HANGER (648480) (CEILING GRID ONLY). 0-10 VOLT DIMMING DRIVER STANDARD. | 46 | |
| B | LSI | SDL 4 LED 39 40 UE OR NO SUBSTITUTIONS | 120 | WHITE | | | X | | | X | | 34 | GRID HANGER (2 PER FIXTURE) | GRID HANGER (648480) (CEILING GRID ONLY). 0-10 VOLT DIMMING DRIVER STANDARD. OMIT GRID HANGER @ HARD CEILING | 10 | |
| C | LSI | SDL 8 LED 78 40 UE OR NO SUBSTITUTIONS | 120 | WHITE | | | | X | | X | | 67 | 3' CHAIN HANGING KIT (1 PER FIXTURE) | HANG TOP OF FIXTURES AT 12" A.F.F. WITH CHAIN HANGERS AND LENGTH OF CHAIN AS REQUIRED. 0-10 VOLT DIMMING, DRIVER STANDARD | 30 | |
| D | LSI | SDL 4 LED 39 40 UE OR NO SUBSTITUTIONS | 120 | WHITE | | | | X | | X | | 34 | 3' CHAIN HANGING KIT (1 PER FIXTURE) | HANG TOP OF FIXTURES AT 12" A.F.F. WITH CHAIN HANGERS AND LENGTH OF CHAIN AS REQUIRED. 0-10 VOLT DIMMING, DRIVER STANDARD | 9 | |
| COMBINATION EXIT/EMERGENCY LIGHTS, EMERGENCY LIGHTS & EXTERIOR EMERGENCY REMOTE HEADS | | | | | | | | | | | | | | | | |
| XR | COOPER | APCH7R (RED LETTERS) | 120 | WHITE | | | X | X | | X | 2 | LED EXIT + (2) 3.6V | 2.34 | UNIVERSAL (WALL/CLG.) SINGLE PR DOUBLE FACE | BACKUP BATTERIES SHALL MAINTAIN 100% ILLUMINATION FOR A MINIMUM OF 90 MINUTES TO COMPLY WITH ARTICLE 700.12(A) OF THE N.E.C. | 8 |
| EM | COOPER | APEL | 120 | WHITE | | | X | X | | X | 2 | 3.6V | 0.33 | UNIVERSAL (WALL/CLG.) | BACKUP BATTERIES SHALL MAINTAIN 100% ILLUMINATION FOR A MINIMUM OF 90 MINUTES TO COMPLY WITH ARTICLE 700.12(A) OF THE N.E.C. | 17 |
| RH2 | COOPER | APWR2 | 3.6V DC | WHITE | | | X | | | X | 2 | LED REMOTE HEAD | 0 | --- | POWERED BY EMERGENCY "XR" FIXTURE. | 3 |
| LED EXTERIOR LIGHTS | | | | | | | | | | | | | | | | |
| PC | INTERMATIC | PHOTOCELL -- #K4251 | 120 | DARK BRONZE | | | X | | | | | --- | - | --- | MOUNT ABOVE WALL PACK LOCATED NEAR FREIGHT DOOR. | 1 |
| L | LSI | LAD6 41 LED 40 75 UE TR6R SFHAZ | 120 | CLEAR | X | | | | | X | 1 | --- | 45 | --- | RECESSED CAN. | 1 |
| WSX | SEE "SP1" SHEET FOR EXTERIOR LIGHTING WALL SCONCE FIXTURE SCHEDULE | | | | | | | | | | | | | | | |
| PX | SEE "SP1" SHEET FOR EXTERIOR LIGHTING POLE LIGHT FIXTURE SCHEDULE | | | | | | | | | | | | | | | |
| FIXTURE QUANTITY TO BE VERIFIED WITH LIGHTING PLAN QUANTITY | | | | | | | | | | | | | | | | |



- ### LIGHTING - KEYNOTES
- 1 MOUNT J-BOX INSIDE BUILDING & FLEX CONDUIT THRU WALL FOR POWER SUPPLY TO ILLUMINATED SIGN. EXACT LOCATIONS OF PENETRATIONS SHALL BE COORDINATED WITH SIGN COMPANY. PENETRATIONS SHALL BE BEHIND SIGNAGE, WATERPROOF WITH ELASTOMERIC POLYURETHANE (NO EXCEPTIONS) EQUAL TO "VULKEN" 118. WIRE TO SIGN WITH 15' OF WIRING "WHIP" (SHALL BE FLEX OR TYPE MC CABLE). COIL AND "CABLE TIE" WIRING "WHIP" TO WALL ABOVE CEILING, TYPICAL.
 - 2 TO "OPEN" SIGN. SEE SHEET E2.
 - 3 SEE "E" PANEL TRANSFER SWITCH SCHEDULES FOR POSITION OF CIRCUIT WIRES THROUGH TRANSFER SWITCH.
 - 4 VIA VENSTAR SURVEYOR / LIGHTING CONTROL PANEL. SEE SHEET VS1 AND VENSTAR SCOPE OF WORK (S.O.W.).
 - 5 DIMMER LIGHTING CONTROL SWITCHES LOCATED ON OUTSIDE WALL OF OFFICE. SEE LIGHTING PLAN FOR QUANTITY. SEE DETAILS ON SHEET E4 FOR MORE INFORMATION.
 - 6 SUSPEND 8'-0" ABOVE FINISHED FLOOR. THIS FIXTURE ONLY.
 - 7 ROUTE THE OFFICE AND RESTROOM'S LIGHTING CIRCUIT THRU THE LOCAL OCCUPANCY SENSORS AND DIRECTLY TO THE CIRCUIT BREAKER. THESE FIXTURES SHALL NOT BE SWITCHED BY THE LIGHTING CONTROL PANEL. SEE "E" PANEL TRANSFER SWITCH SCHEDULE FOR POSITION OF CIRCUIT WIRES THROUGH TRANSFER SWITCH.
 - 8 REFER TO ARCHITECTURAL ELEVATIONS SHEETS SHOWING DIMENSIONED LOCATIONS. TYPICAL ALL WALL SCONCES.
 - 9 SECURITY AND EGRESS FIXTURE TO BE AS CLOSE AS POSSIBLE BUT NOT OVER THE OVERHEAD DOOR WHEN OPEN.
 - 10 ROUTE SECURITY AND EGRESS LIGHTING CIRCUIT DIRECTLY TO THE ELECTRICAL PANEL.



AUTOMATIC LIGHTING CONTROL

COMPLIANCE WITH ENERGY CODE IS ACHIEVED BY:

1. ONCE THE EMS HAS BEEN PROGRAMMED, THE INTERIOR AND EXTERIOR LIGHTS WILL TURN ON AND OFF USING THE FOLLOWING LOGIC: SEE SHEETS VS1, VS2 AND VS3

INTERIOR WORK LIGHTS WILL TURN ON WITH FIRST MOTION IN THE STORE AND WILL TURN OFF 15 MINUTES AFTER LAST MOTION ONCE THE STORE IS CLOSED.

INTERIOR SALES LIGHTS WILL TURN ON AT STORE OPENING AND TURN OFF 15 MINUTES AFTER STORE CLOSING.

EXTERIOR SIGN LIGHTS WILL TURN ON WHEN ITS DARK ENOUGH OUTSIDE ANYTIME DURING STORE HOURS, AND WILL TURN OFF AT STORE CLOSING.

EXTERIOR SITE LIGHTS WILL TURN ON WHEN IT IS DARK ENOUGH OUTSIDE AND IT IS WITHIN STORE HOURS OR THERE IS MOTION IN THE STORE. THEY WILL TURN OFF 30 MINUTES AFTER LAST MOTION ONCE THE STORE IS CLOSED.

FOR NEW CONSTRUCTION LOCATIONS ONLY, THERE IS A TEMPORARY PROGRAM TO KEEP SIGN AND SITE LIGHTS ON UNTIL MIDNIGHT RATHER THAN THE TIMES INDICATED ABOVE. O'REILLY WILL DISABLE THIS PROGRAM ONE YEAR AFTER STORE OPENING.

2. RESTROOMS AND OFFICES: ALL LIGHTING IN THESE AREAS ARE CONTROLLED BY OCCUPANT-SENSING DEVICES.

SEISMIC RESTRAINTS (ONLY REQUIRED FOR SEISMIC DESIGN CATEGORIES C,D,E,F)

CONTRACTOR TO REFER TO ARCHITECTURAL SHEET G1.1 FOR SEISMIC DESIGN CATEGORY.

IF REQUIRED SEE SEISMIC DETAILS SHEET ME1.

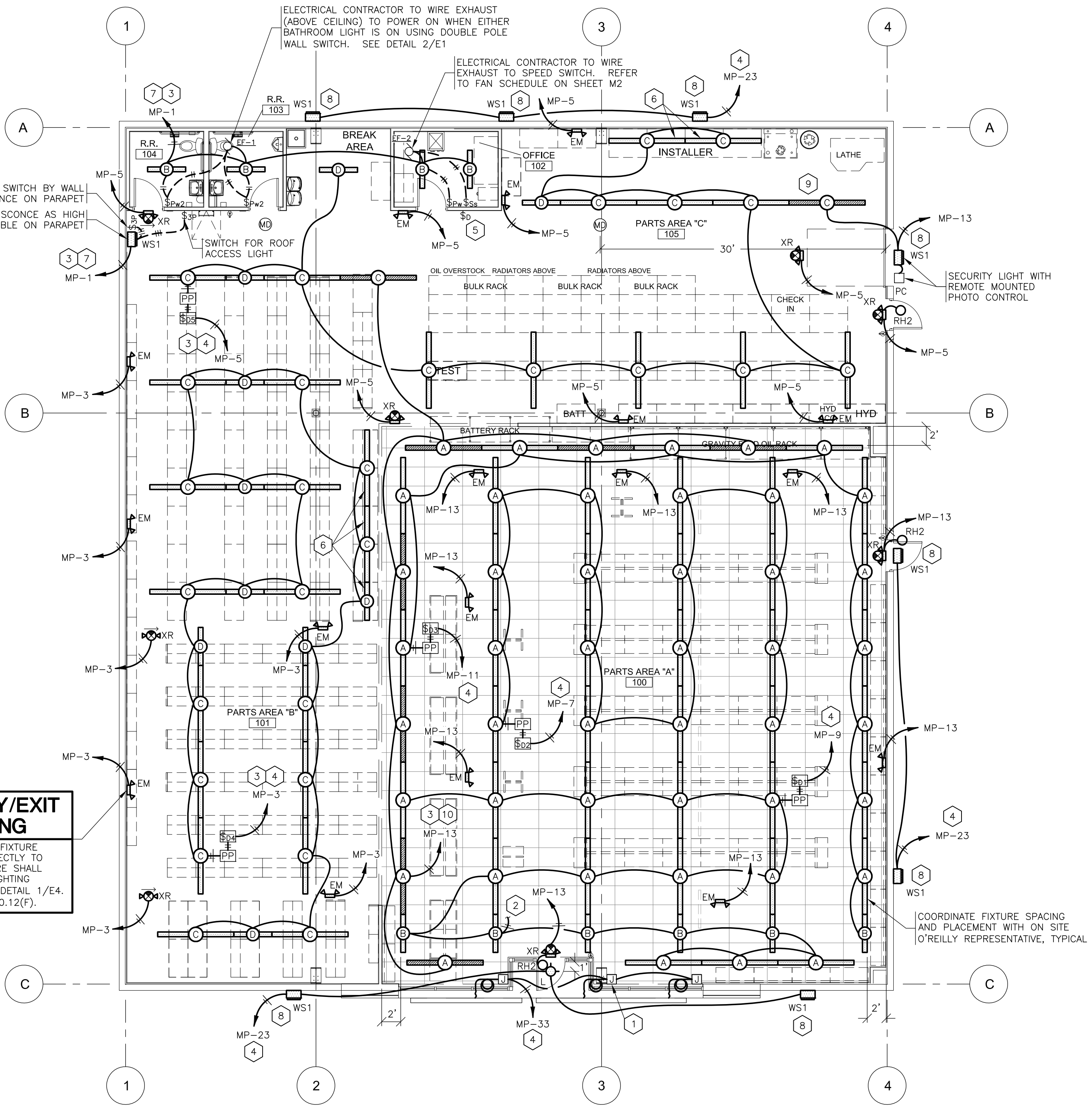
EMERGENCY/EXIT LIGHTING

PLACE EXIT SIGNS HIGH ENOUGH TO BE SEEN ABOVE ALL MERCHANDISE WITH THE FOLLOWING LIMITATION: THE MAXIMUM HEIGHT FOR AN EXIT LIGHT ASSOCIATED WITH A SPECIFIC OPENING (I.E. MOUNTED OVER A DOOR OR OPENING) SHALL BE NO GREATER THAN THE CODE ALLOWED 6'-8" ABOVE THE TOP EDGE OF THE DOOR OR OPENING.

INTERIOR LIGHTING ZONES

ALL INTERIOR LIGHTING WITHIN PARTS AREA "A" SHALL BE CONSIDERED "SALES" ZONE (ON ONLY WHEN STORE IS OPEN FOR BUSINESS).

ALL INTERIOR LIGHTING WITH PARTS AREA "B", PARTS AREA "C", RESTROOMS, OFFICE, AND BREAK AREA SHALL BE CONSIDERED "WORK" ZONES (ON WHENEVER THERE IS MOTION OR THE STORE IS OPEN).



LIGHTING PLAN

SCALE: 1/8" = 1'-0"

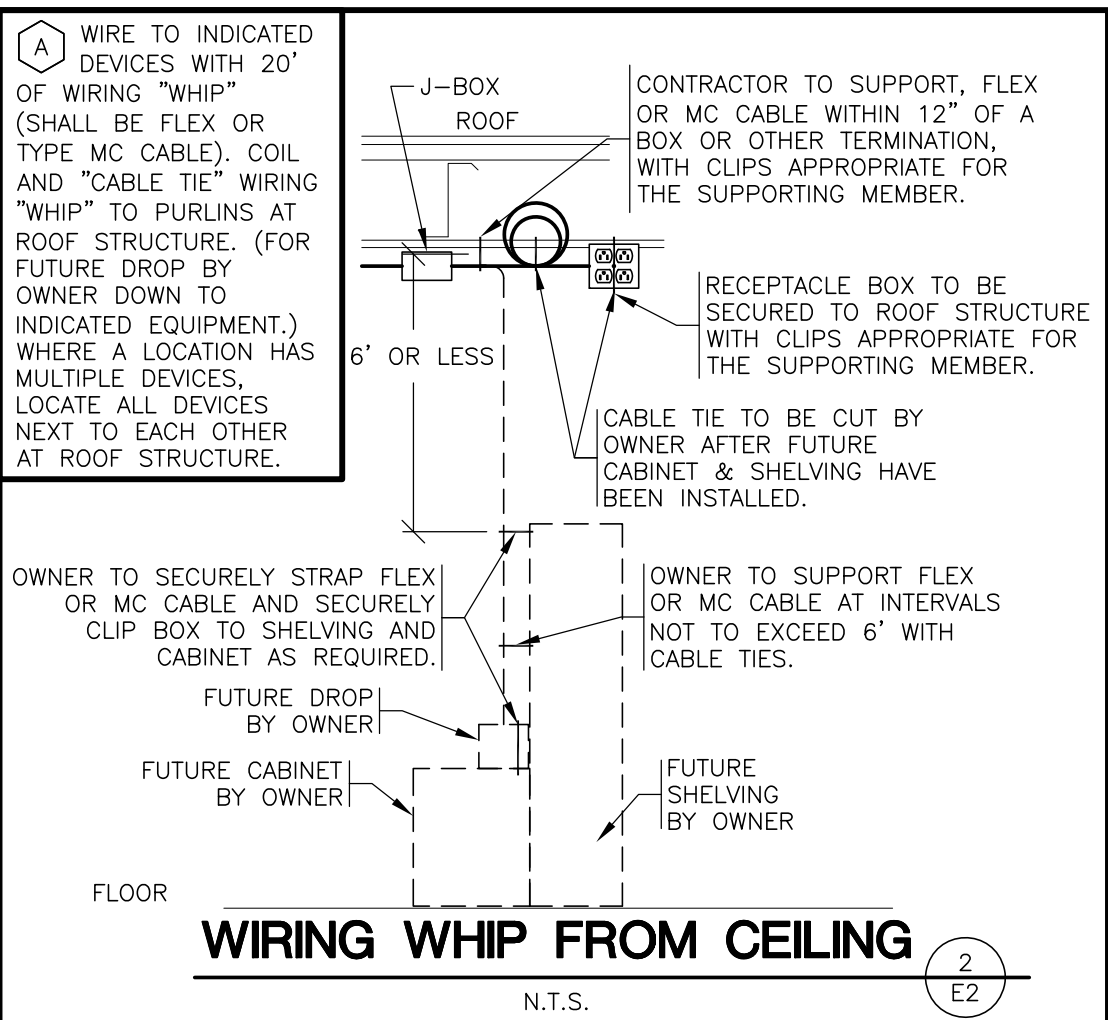
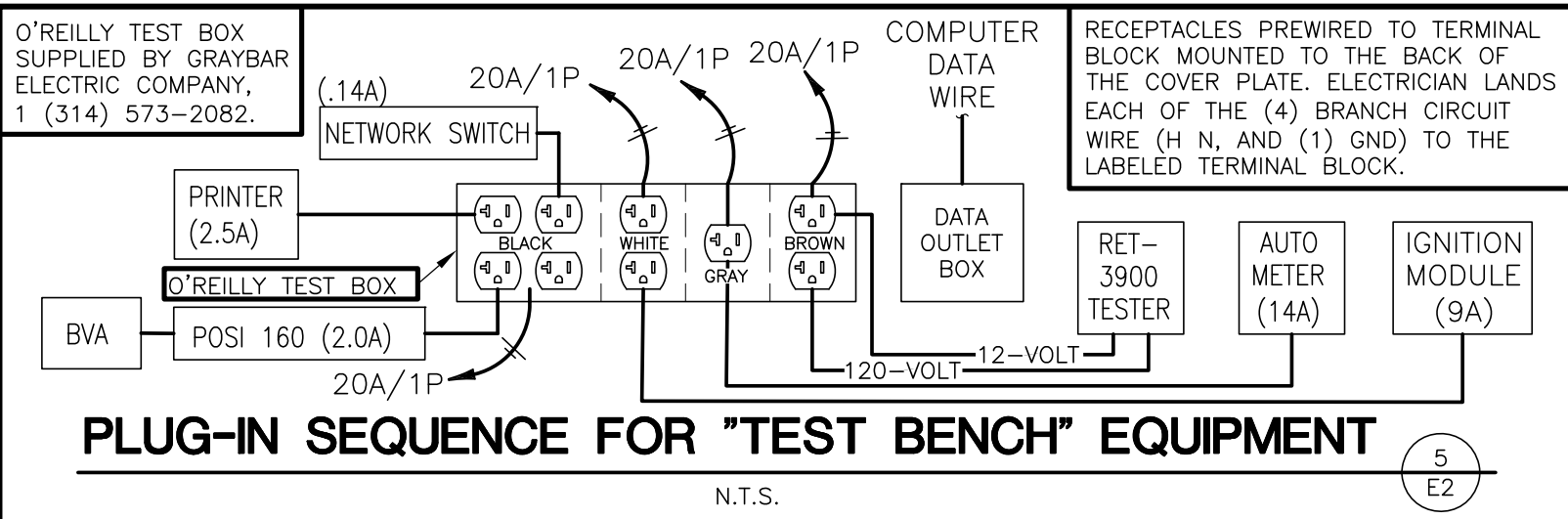
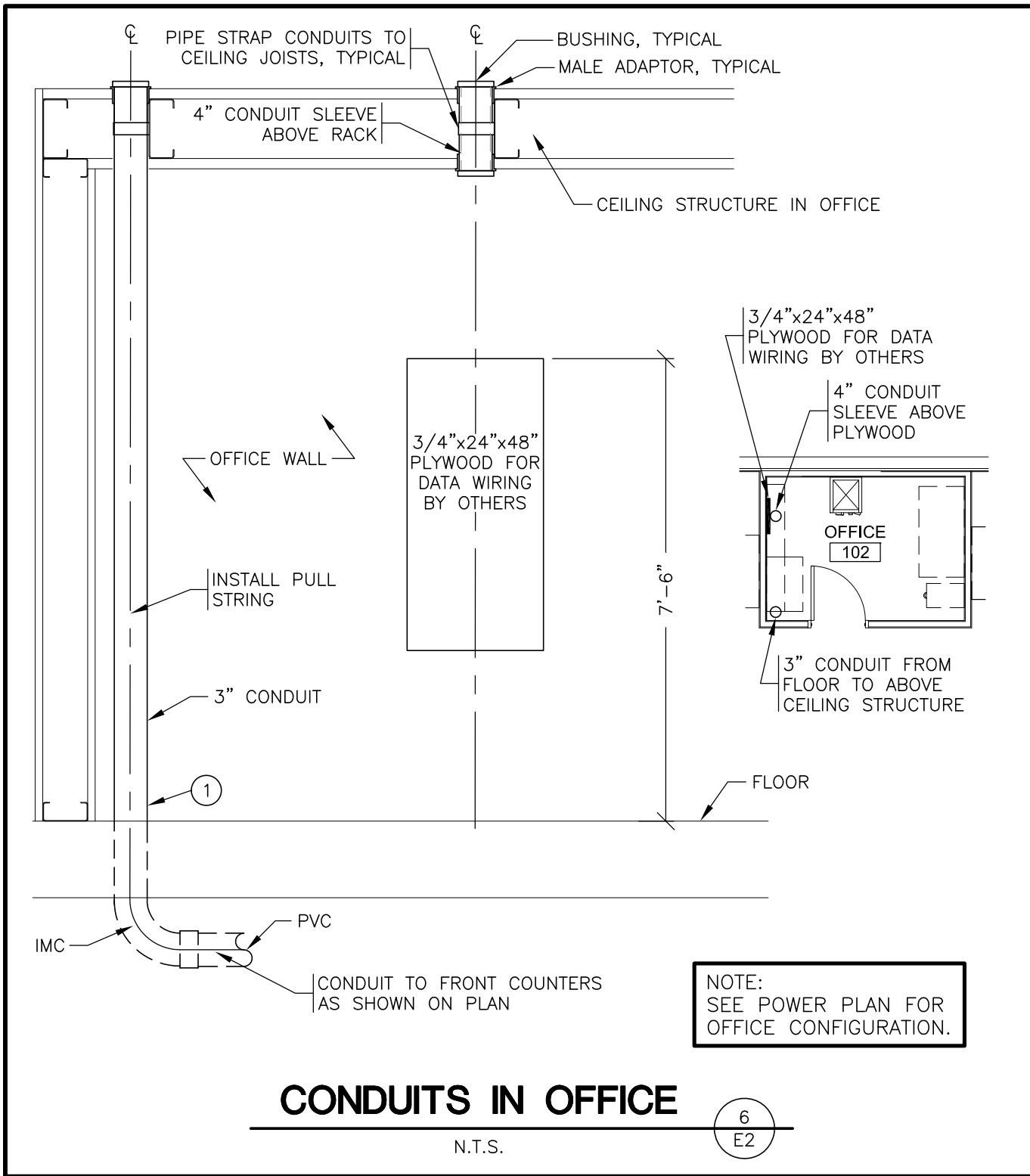
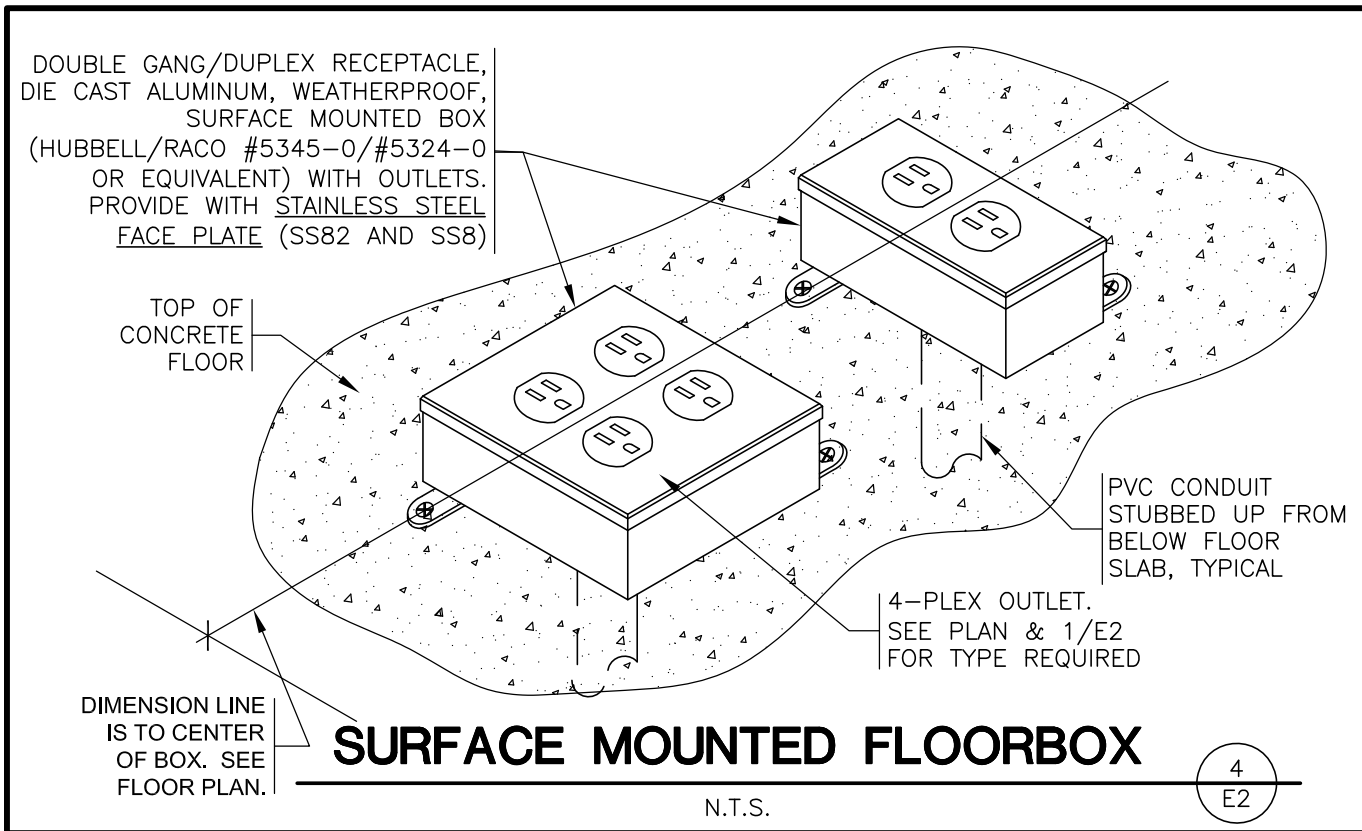
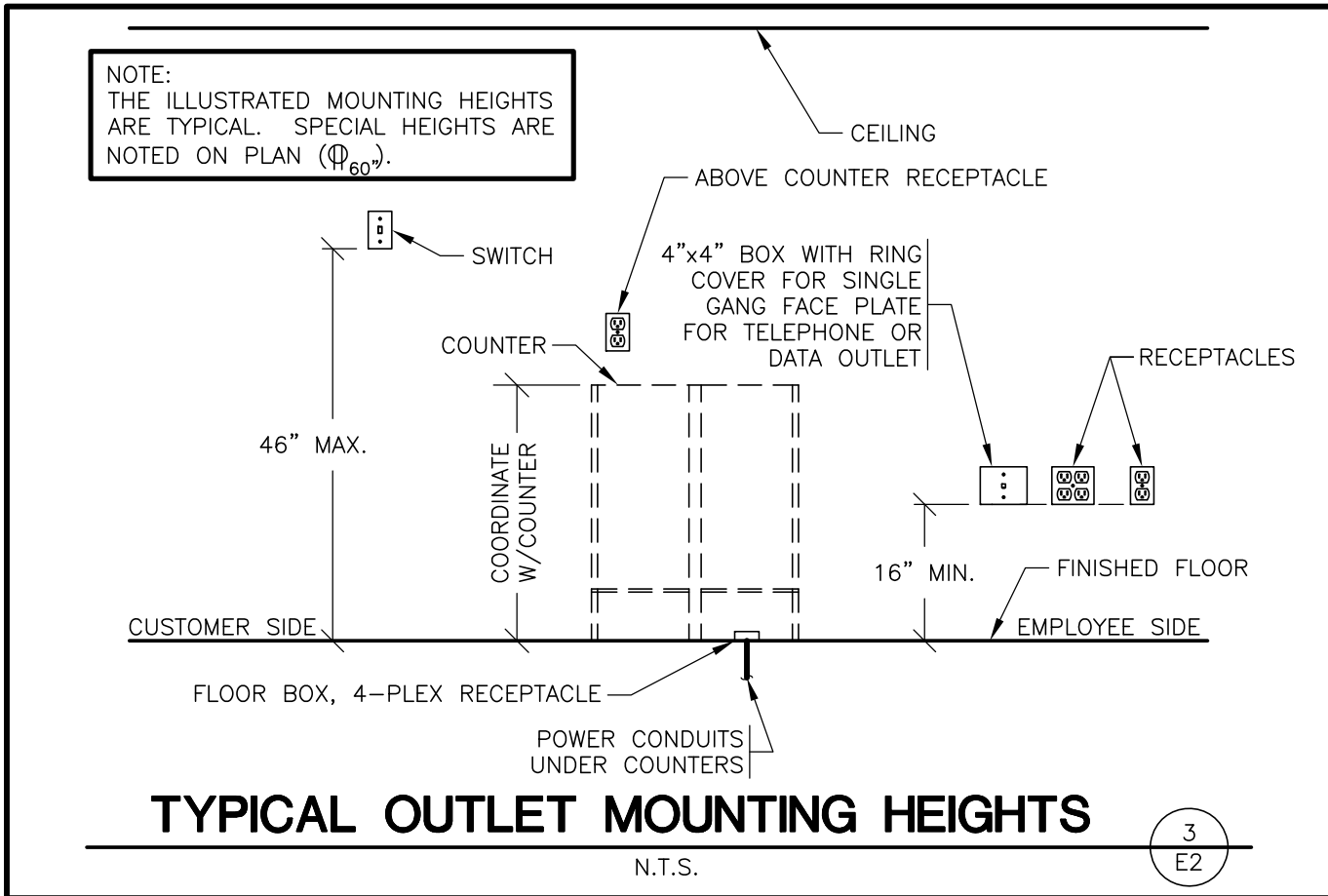
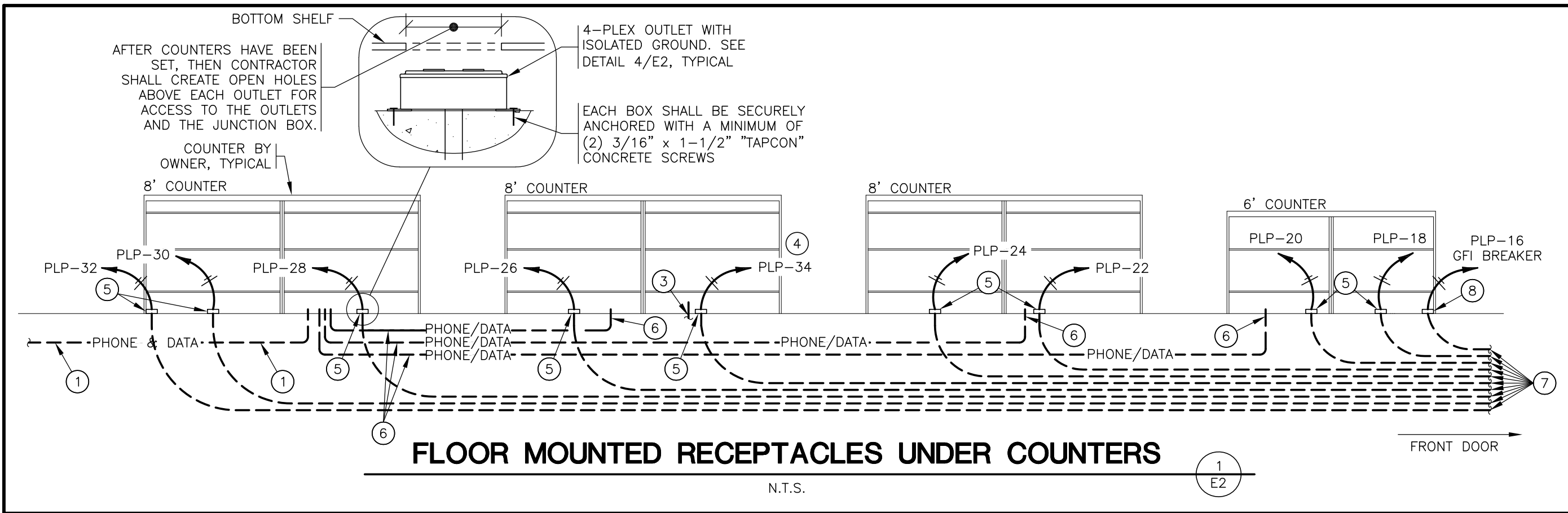
ENGINEER OF RECORD
NORMAN E. GOTH
FIRM LICENSE NUMBER: **27905**
ENGINEER LICENSE NUMBER: **57809**
SHEETS BEARING THIS SEAL ARE AUTHENTICATED. RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS OR INSTRUMENTS ARE DISCLAIMED.

SMITH-GOTH ENGINEERS, INC.
3855 S. JEFFERSON AVE.
SPRINGFIELD, MISSOURI 65802
P: 417-682-2200
F: 417-682-1188
WWW.SMGOTH.COM

PROJECT:
NEW O'REILLY AUTO PARTS STORE
6179 SW HWY 200
OCALA, FL 34476

O'Reilly AUTO PARTS
CORPORATE OFFICES
233 SOUTH PATTERSON
SPRINGFIELD, MISSOURI 65802
(417) 862-2674 TELEPHONE

DRAWN BY: **JJW** CHECKED BY: **BLC/ALT**
DATE: **06/15/2018**
REVISION:
PROJECT NUMBER: **18078-OF4**
SHEET NUMBER: **E1**



- ### POWER - KEYNOTES
- 3\"/>

NOTE:
ALL PANELBOARDS, TRANSFORMERS, TRANSFER SWITCH KIT AND DISCONNECTS WILL BE SUPPLIED BY THE OWNER (O'REILLY). ELECTRICAL GEAR SHALL BE DIRECT ORDERED AND/OR RELEASED FROM THE LISTED ELECTRICAL EQUIPMENT DISTRIBUTOR LISTED ON SHEET E3.

TELEPHONE & COMPUTER DATA SYSTEMS:

- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL TELEPHONE AND DATA CONDUITS.
- ELECTRICAL CONTRACTOR SHALL VACUUM OUT ALL CONDUITS TO REMOVE WATER.
- ELECTRICAL CONTRACTOR SHALL PROVIDE PULL-STRING IN EACH CONDUIT.
- OWNER SHALL PROVIDE AND INSTALL ALL TELEPHONE AND DATA WIRING.

FIRE ALARM NOTE:

IN THE EVENT A MONITORED FIRE ALARM SYSTEM IS REQUIRED BY THE AUTHORITY HAVING JURISDICTION, THE ALARM SYSTEM WILL BE CONTRACTED DIRECTLY BY THE ALARM SERVICES MANAGER, LEIGH SIDES, WITH THE O'REILLY AUTOMOTIVE CORPORATE OFFICE. THE GENERAL CONTRACTOR SHALL NOT PROCURE ANYONE TO INSTALL OR QUOTE THESE SYSTEMS UNLESS THEY HAVE BEEN ASKED TO DO SO BY LEIGH SIDES. PLEASE CONTACT LEIGH SIDES AT (417) 829-5712 IF A SYSTEM IS NEEDED OR IF THERE ARE ANY QUESTIONS.

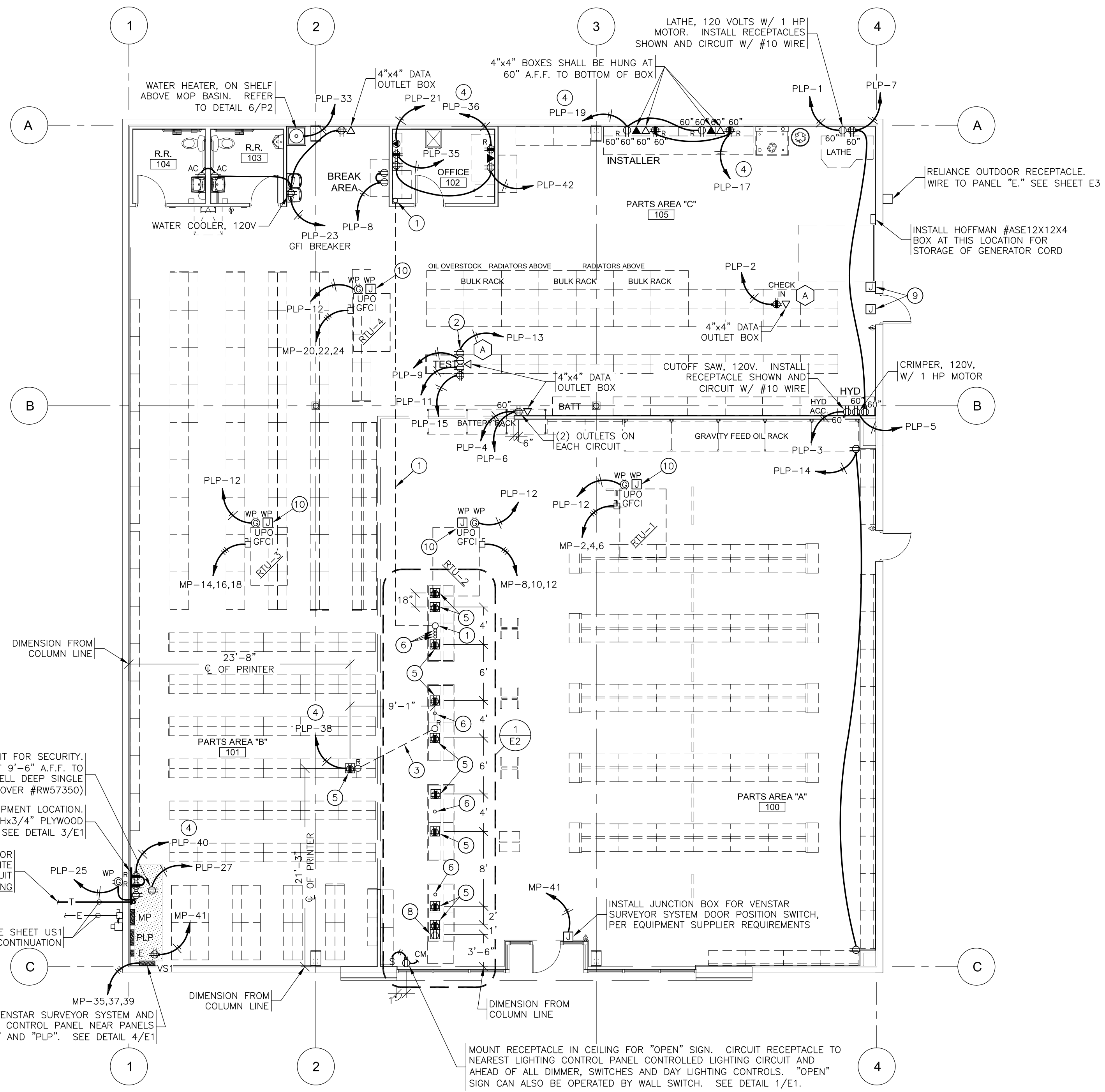
MARKING OF ELECTRICAL WORKING SPACE

IN FRONT OF ALL METER PANELS, SUB PANELS, TRANSFORMERS, AND DISCONNECTS, PROVIDE A WORKING SPACE IN FRONT, ON THE FLOOR. RECTANGLE, PAINT WITH CONTRASTING COLOR, 4-INCH BRUSH STROKES WITH DIAGONAL LINES INSIDE, WITH 6-INCH LETTERS, "NO STORAGE" BLOCKED IN, AND/OR LARGE STICKER SAYING THE SAME THING. 4'-0\"/>

SEISMIC RESTRAINTS (ONLY REQUIRED FOR SEISMIC DESIGN CATEGORIES C,D,E,F)

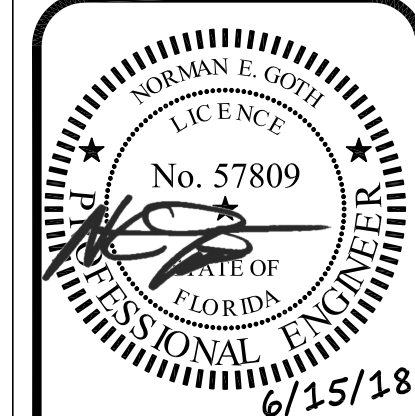
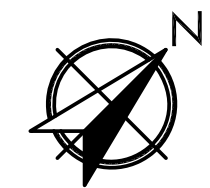
CONTRACTOR TO REFER TO ARCHITECTURAL SHEET G1.1 FOR SEISMIC DESIGN CATEGORY.

IF REQUIRED SEE SEISMIC DETAILS SHEET ME1.

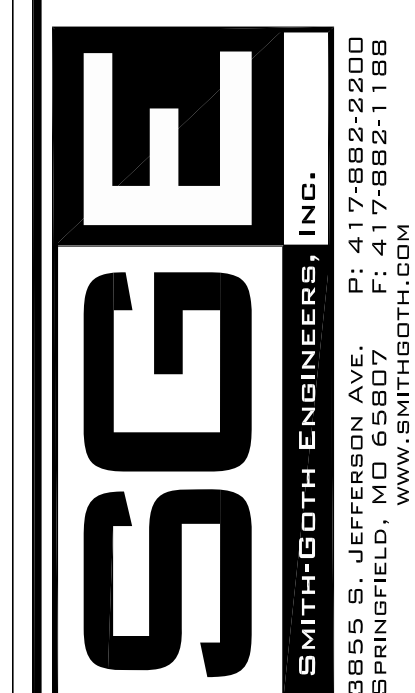


POWER PLAN

SCALE: 1/8\"/>



ENGINEER OF RECORD
NORMAN E. GOTH
FIRM LICENSE NUMBER: **27905**
ENGINEER LICENSE NUMBER: **57809**
SHEETS BEARING THIS SEAL ARE AUTHENTICATED. RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS OR INSTRUMENTS ARE DISCLAIMED.



PROJECT:
NEW O'REILLY AUTO PARTS STORE
6179 SW HWY 200
OCALA, FL 34476

POWER PLAN

O'Reilly AUTO PARTS
CORPORATE OFFICES
233 SOUTH PATTERSON
SPRINGFIELD, MISSOURI 65802
(417) 862-2674 TELEPHONE

DRAWN BY: **JJW** CHECKED BY: **BLC/ALT**
DATE: **06/15/2018**
REVISION:
PROJECT NUMBER: **18078-OF4**
SHEET NUMBER

E2

ALL PANELBOARDS, TRANSFORMERS, TRANSFER SWITCH KIT AND DISCONNECTS WILL BE SUPPLIED BY THE OWNER (O'REILLY). ELECTRICAL GEAR SHALL BE DIRECT ORDERED AND/OR RECEIVED FROM THE LISTED ELECTRICAL EQUIPMENT DISTRIBUTOR. SEE "ELECTRIC SERVICE RESPONSIBILITIES" FOR ADDITIONAL CLARIFICATION:

GRAYBAR ELECTRIC CO. INC.
11885 LACKLAND ROAD
ST. LOUIS, MO. 63146

GRAYBAR O'REILLY TEAM
EMAIL: oreilly@graybar.com
TOLL FREE: (314) 573-2080

| MP PANELBOARD SCHEDULE | | | | | | | | | |
|----------------------------|--|--|---------------|--|--|--|--|--|--|
| MAINS: 400A MAIN LUGS ONLY | | | VOLTAGE: 208 | | | ACCESSORIES: | | | |
| TYPE: SQUARE D, NQOD | | | PHASE: 3Ø, 4W | | | 1. EQUIPMENT GROUND BAR 2. ISOLATED GROUND BAR 3. * "SQ. D" #001PA - WITH LOCKABLE CLIPS 4. + MUST BE TYPE "HACR" BREAKER | | | |
| MOUNTING: SURFACE | | | WIDTH: 20 | | | | | | |
| SCCR: 65/10K AIC | | | SPACE(S): 42 | | | | | | |

| CKT | CKT BRK | WIRE | LOAD DESCRIPTION | (KVA) | A(KVA) | B(KVA) | C(KVA) | (KVA) | LOAD DESCRIPTION | WIRE | CKT BRK | CKT | | | | | | | | | | | | |
|---------------------|---------|------|-----------------------------------|-------|---------------------|--------|--------|-------|------------------|----------------|---------|---------------------|--|-------|------|-------|----------------------------|--|-------|-------------|-------|------------|--|-------|
| 1 | 20A/1P | #12s | LIGHTING/EXHAUST FAN | 0.50 | 4.43 | | | 3.93 | RTU-1 7.5-TON | #8s | +50A/3P | 2 | | | | | | | | | | | | |
| 3 | 20A/1P | #12s | LIGHTING | 1.40 | | 5.33 | | 3.93 | | | | 4 | | | | | | | | | | | | |
| 5 | 20A/1P | #12s | LIGHTING | 1.08 | | | 5.01 | 3.93 | | | | 6 | | | | | | | | | | | | |
| 7 | 20A/1P | #12s | LIGHTING | 1.07 | 5.00 | | | 3.93 | | | | 8 | | | | | | | | | | | | |
| 9 | 20A/1P | #12s | LIGHTING | 0.87 | | 4.80 | | 3.93 | RTU-2 7.5-TON | #8s | +50A/3P | 10 | | | | | | | | | | | | |
| 11 | 20A/1P | #12s | LIGHTING | 0.77 | | | 4.70 | 3.93 | | | | 12 | | | | | | | | | | | | |
| 13 | 20A/1P | #12s | LIGHTING | 0.75 | 3.53 | | | 2.78 | | | | 14 | | | | | | | | | | | | |
| 15 | . | . | SPACE | 0 | | 2.78 | | 2.78 | | | | 16 | | | | | | | | | | | | |
| 17 | . | . | SPACE | 0 | | | 2.78 | 2.78 | RTU-3 5-TON | #8s | +45A/3P | 18 | | | | | | | | | | | | |
| 19 | . | . | SPACE | 0 | 2.78 | | | 2.78 | | | | 20 | | | | | | | | | | | | |
| 21 | . | . | SPACE | 0 | | 2.78 | | 2.78 | | | | 22 | | | | | | | | | | | | |
| 23 | 20A/1P | #12s | BUILDING LIGHTING | 0.68 | | | 3.46 | 2.78 | | | | 24 | | | | | | | | | | | | |
| 25 | 20A/1P | #12s | SITE LIGHTING | 0.47 | 0.47 | | | 0 | SPACE | . | . | 26 | | | | | | | | | | | | |
| 27 | 20A/1P | #12s | SITE LIGHTING | 0.47 | | 0.47 | | 0 | SPACE | . | . | 28 | | | | | | | | | | | | |
| 29 | 20A/1P | #12s | SITE SIGN | 1.30 | | | 1.30 | 0 | SPACE | . | . | 30 | | | | | | | | | | | | |
| 31 | 20A/1P | #12s | SITE SIGN | 1.30 | 1.30 | | | 0 | SPACE | . | . | 32 | | | | | | | | | | | | |
| 33 | *20A/1P | #12s | LED SIGN BUILDING | 1.20 | | 1.20 | | 0 | SPACE | . | . | 34 | | | | | | | | | | | | |
| 35 | . | . | | 0.03 | | | 0.03 | 0 | SPACE | . | . | 36 | | | | | | | | | | | | |
| 37 | 15A/3P | #12s | VENSTAR SURVEYOR POWER MONITOR | 0.03 | 8.43 | | | 8.40 | PLP PANEL | - | 100A/3P | 38 | | | | | | | | | | | | |
| 39 | . | . | | 0.03 | | 12.68 | | 12.65 | | | . | 40 | | | | | | | | | | | | |
| 41 | 15A/1P | #12s | DATA CONCENTRATOR RECEPT. | 0.60 | | | 9.09 | 8.49 | | | | | | | | | | | | | | | | |
| TOTAL PHASE A (KVA) | | | | 25.94 | TOTAL PHASE B (KVA) | | | | | | 30.04 | TOTAL PHASE C (KVA) | | | | 26.37 | TOTAL CONNECTED LOAD (KVA) | | | | 82.35 | TOTAL AMPS | | |
| LIGHTING | | | | 7.34 | EXTERIOR LIGHTING | | | | 5.42 | TOTAL LIGHTING | | | | 12.76 | HVAC | | | | 40.26 | RECEPTACLES | | | | 12.67 |

Enclosed Safety Switches
General Duty Safety Switches

Table 9: Fusible Safety Switch Short Circuit Current Rating

| Fuse Class | UL Listed Short Circuit Rating |
|------------|--------------------------------|
| Plug | 10 kA |
| H, K | 10 kA |
| J 1, R | 100 kA |
| T 2 | 100 kA |

- 1 Only applicable to 200–600 A except D325NT, D325NTR, D326NT and D326NTR.
2 Only applicable to D325NT, D325NTR, D326NT, D326NTR, T327N and T327NR.

Table 10: Non-Fusible Safety Switch Short Circuit Current Rating

| Fuse Class or Circuit Breaker Type 1 | UL Listed Short Circuit Rating |
|--------------------------------------|--------------------------------|
| Any Brand Circuit Breaker | 10 kA |
| H or J PowerPact Circuit Breaker | Up to 65 kA 2 |
| H, K | 10 kA |
| J, R | 100 kA 3 |
| T | 100 kA 4 |

- 1 Ampere rating of fuse or circuit breaker not to exceed switch ampere ratings.
2 Only applicable to DU324 and DU324NRB. HD, JD = 25 kA maximum.
3 SCCR = 50 kA, applicable to DU222RB, DU322 and DU322RB.
4 Only applicable to DU323, DU323RB, DU325 and DU326.

Standards

General duty safety switches are manufactured in accordance with these standards:

- UL 985, Standard for Enclosed and Dead Front Switches. UL Listed File E2875
- NEMA Standards Publication KS1, Enclosed Switches
- Federal Specifications WS-865c for Type NDS (Type 1) and Type LD (Type 3R)

Table 11: Terminal Lug Data 1

| Ampere Rating | Conductors Per Phase | Wire Range Wire Bending Space Per NEC® Table 312.6 AWG/kcmil | Lug Wire Range AWG/kcmil |
|---------------|----------------------|--|--|
| 30 2 | 1 | 12–8 (Al) or 14–8 (Cu) | 12–8 (Al) or 14–8 (Cu) |
| 30 | | 12–6 (Al) or 14–6 (Cu) | 12–6 (Al) or 14–6 (Cu) |
| 60 | | 12–3 (Al) or 14–3 (Cu) | 12–2 (Al) or 14–2 (Cu) |
| 100 | 1 | 12–1 (Al) or 14–1 (Cu) | 12–1/0 (Al) or 14–1/0 (Cu) |
| 200 | 1 | 6–250 (Al/Cu) | 6–300 (Al/Cu) |
| 400 Type 1 | 1 or 2 | 1/0–600 (Al/Cu) or 1/0–300 (Al/Cu) | (1) 1/0–750 (Al/Cu) or (2) 1/0–300 (Al/Cu) |
| 400 Type 3R | 2 | 1/0–250 (Al/Cu) | (1) 1/0–800 (Al/Cu) or (2) 1/0–250 (Al/Cu) |
| 600 | 2 | 4–500 (Al/Cu) | 4–600 (Al/Cu) |
| 800 | 3 | 3/0–500 (Al/Cu) | 3/0–500 (Al/Cu) |

- 1 30–100 A switches suitable for 60°C (140 °F) or 75°C (167 °F) conductors. 200–800 A switches suitable for 75°C (167 °F) conductors.
2 Light duty switches only.

Heavy Duty
Enclosed Safety Switches
General Information

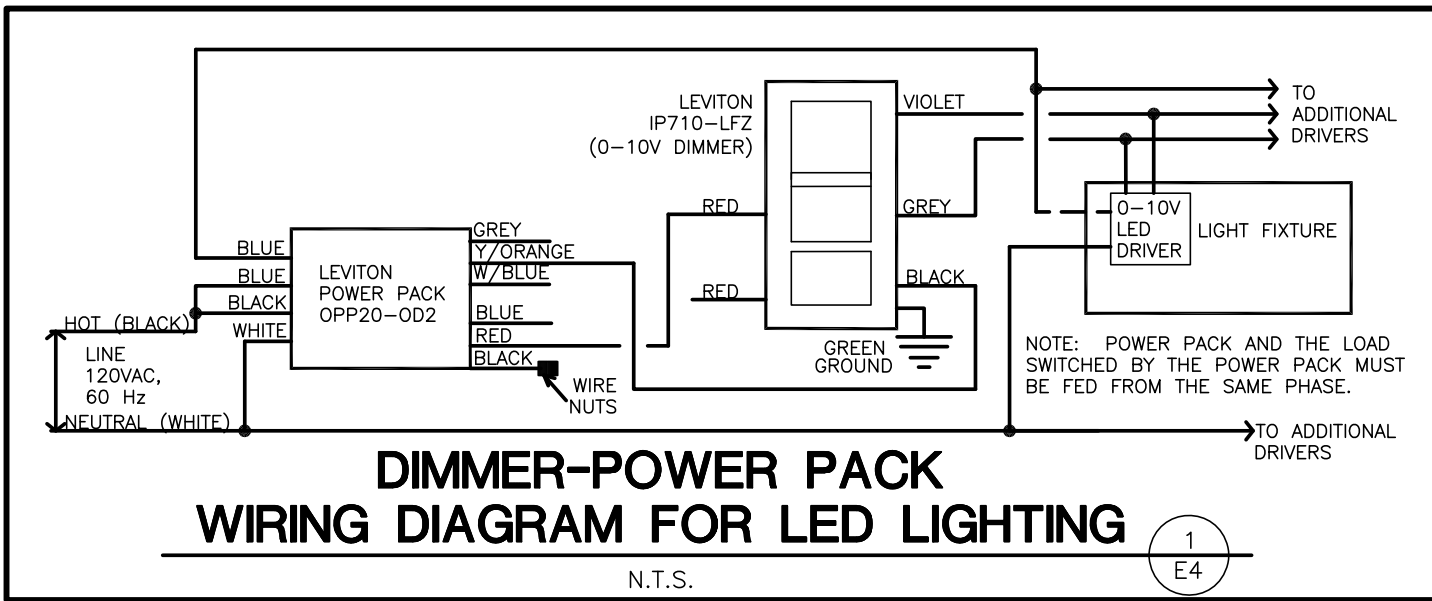
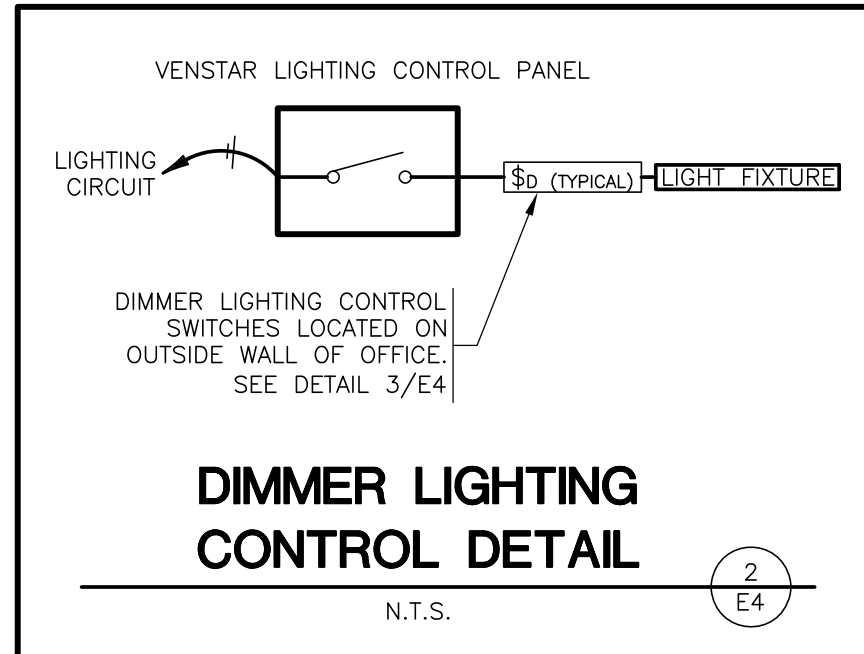
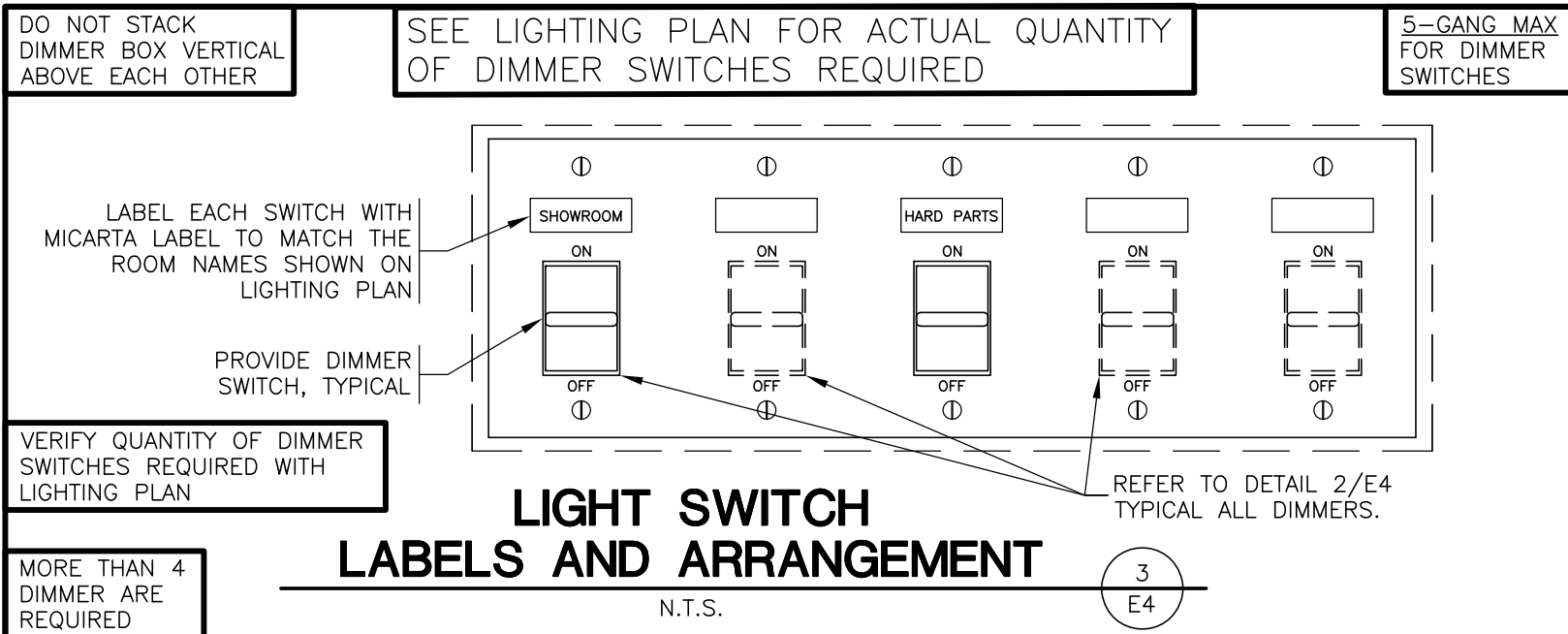
Table 44: Terminal Lug Data 1

| Rating (A) | Wires Per Phase and Neutral | Wire Range Wire Bending Space Per NEC Table 312.6 AWG/kcmil | Lug Wire Range AWG/kcmil | Optional 2™ Versa-Crimp™ Compression Lug Field-Installed | Optional Copper Only Versa-Crimp™ Compression Lug Field-Installed 2,3 |
|------------|-----------------------------|---|-------------------------------------|--|---|
| 30 | 1 | 12–6 (Al) or 14–6 (Cu) | 12–2 (Al) or 14–2 (Cu) | — | C10–14, D8–14, or E8–14 |
| | 2 | 12–10 (Al) or 14–10 (Cu) | | | |
| 60 5 | 1 | 12–3 (Al) or 14–3 (Cu) | 12–2 (Al) or 14–2 (Cu) | — | C10–14, D8–14, or E8–14 |
| | 1 | 12–10 (Al) or 14–10 (Cu) | | | |
| 100 6 | 1 | 12–1/0 (Al) or 14–1/0 (Cu) | 12–1/0 (Al) or 14–1/0 (Cu) | VCELO2114S1 | VCELO2114S1 |
| 200 7 | 1 | 6–250 (Al/Cu) | 6–300 (Al/Cu) | VCELO30516H1 | VCELO30516H1 |
| 400 8 | 1 or 2 | 1/0–750 (Al/Cu) or 1/0–300 (Al/Cu) | 1/0–750 (Al/Cu) and 1/0–300 (Al/Cu) | VCELO7512H1 or VCELO30516H1 9 and VCELO5012H1 | VCELO7512H1 or VCELO30516H1 10 and VCELO5012H1 |
| | 2 | 3/0–500 (Al/Cu) | 3/0–500 (Al/Cu) | VCELO5012H1 | VCELO5012H1 |
| 800 | 3 | 3/0–500 (Al/Cu) | 3/0–500 (Al/Cu) | HBLKE2 11 | — |
| 1200 | 4 | 3/0–750 (Al/Cu) | 3/0–750 (Al/Cu) | H12LKE2 12 | — |

- 1 30–100 A switches suitable for 60°C (140 °F) or 75°C (167 °F) conductors. 200–1200 A switches suitable for 75°C (167 °F) conductors.
2 Hubbell Versa-Crimp™ unless otherwise noted.
3 For Type 1, 12/3R, 12K and 44X/5 stainless steel switches only.
4 Order C10–14, D8–14 and E8–14 from Thomas and Betts.
5 H80XFA and H80XFA1212 — use 75°C (167 °F) copper wire only. #6 AWG copper wire required for 80 A rating.
6 H100XFA and H100XFA1212 — use 75°C (167 °F) copper wire only. #3 AWG copper wire required for 100 A rating.
7 H225XJG and H225XJGAA — use 75°C (167 °F) copper wire only. Lug wire range is #3 AWG – 350 kcmil. Not UL Listed due to inadequate wire bending space (5 in. (127 mm) on the ON end, 6 in. (152 mm) on the OFF end).
8 Maximum wire bending space allows for (1) 500 kcmil or (2) 300 kcmil Al/Cu on Type 44X/5 stainless steel and Type 12 switches.
9 For Type 1 and 3R only. For Type 44X/5 stainless steel and Type 12/3R, 12K use VCELO303038H1 (Al/Cu) or VCELO303038H1 (Cu only). Order two PK516N mounting kits when installing VCELO30516H1 lugs. Only one kit is required on two-pole switches. PK501N consists of four 5/16–18 (7 mm) Keps Nuts.
10 For Type 44X/5 stainless steel and Type 12/3R, 12K use VCELO303038H1 (Al/Cu) or VCELO303038H1 (Cu only). Order two PK516N mounting kits when installing VCELO30516H1 or VCELO303038H1 lugs. Only one kit is required on two-pole switches. PK501N consists of four 5/16–18 (7 mm) Keps Nuts.
11 For 800 and 1200 A compression lug kits, see Table 37 on page 34 for additional information.

GENERAL ELECTRICAL NOTES

- DRAWINGS ARE DIAGRAMMATIC & ARE NOT TO BE SCALED. SEE THE ARCHITECTURAL PLANS & FIELD VERIFY CONDITIONS FOR DIMENSIONS.
- ALL ELECTRICAL WORK SHALL COMPLY WITH THE EDITION OF NFPA 70–NATIONAL ELECTRIC CODE (NEC) AS NOTED ON THE CODE SUMMARY SHEET.
- ALL WIRING SHALL BE IN CONDUIT EXCEPT THAT MC-CABLE MAY BE SUBSTITUTED ONLY AS FOLLOWS:
 - MC-CABLE (MAXIMUM CABLE LENGTH OF 10'–0") MAY BE INSTALLED ONLY FOR BRANCH CIRCUIT WIRING TO LIGHT FIXTURES.
 - MC-CABLE (MAXIMUM CABLE LENGTHS SHOWN ON DETAIL 1/E2) MAY BE INSTALLED ONLY ABOVE SLAB AND INSIDE OF THE FRONT CHECKOUT COUNTERS.
- FEEDER CONDUIT SHALL BE IMC OR RGS ABOVE GRADE & PVC BELOW GRADE WITH IMC OR RGS ELLS & RISERS. INTERIOR BRANCH CIRCUIT CONDUIT SHALL BE ELECTRICAL METALLIC TUBING. EXTERIOR BRANCH CIRCUIT CONDUIT SHALL BE PVC BELOW GRADE WITH IMC OR RIGID GALVANIZED STEEL CONDUIT CONTINUING ABOVE GRADE. (SPEC 26 05 33)
- COORDINATE ALL WORK WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATION DOES NOT MEAN "I WAS HERE FIRST."
- ALL WIRING IN FINISHED SPACES SHALL BE CONCEALED, UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A COMPLETE & FUNCTIONAL SYSTEM IN ACCORDANCE WITH THE INTENT OF THE PLANS, WHETHER OR NOT EVERY ELEMENT THEREOF IS SPECIFICALLY CALLED OUT.
- COORDINATE ALL EQUIPMENT ROUGH-IN CONNECTION REQUIREMENTS.
- ALL OUTLET BOXES SHALL BE METALLIC. (SPEC 26 05 34)
- ALL CAULKING ON BUILDING PENETRATIONS SHALL BE ELASTOMERIC POLYURETHANE (NO EXCEPTIONS), EQUAL TO "VULKEM" 116. ANY CONTRACTOR WHO USES SILICONE OR ANY OTHER CAULKING WILL BE REQUIRED TO REMOVE & REPLACE WITH ELASTOMERIC POLYURETHANE.
- RECEPTACLES INSTALLED IN RESTROOMS SHALL BE GFCI TYPE OR SHALL BE PROTECTED BY A GFI DEVICE.
- ALL DEVICES SHALL BE IVORY & SHALL BE EQUAL TO THE FOLLOWING:
 - SINGLE POLE SWITCHES — —
 - THREE-WAY SWITCHES — —
 - DUPLEX RECEPTACLE — — (SPEC 26 27 26)
 - GFCI DUPLEX RECEPTACLE — —
 - ISO. GRD. RECEPTACLES — —
- USE DEVICE PLATES MANUFACTURED BY THE DEVICE MANUFACTURER. (SPEC 26 27 26)
- FEEDER & BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER, STRANDED, 600V THHN/THWN INSULATION. EXCEPTION: WIRE SIZES #10 AWG & SMALLER SHALL BE SOLID. (SPEC 26 05 19)
- CONTRACTOR SHALL PROVIDE A TYPED CIRCUIT DIRECTORY FOR ALL PANELS. (SPEC 26 05 53)
- CONTRACTOR SHALL PROVIDE A ONE(1) YEAR WARRANTY ON ALL WORK PERFORMED.
- CONTRACTOR SHALL PROVIDE NEW WORKING LAMPS IN ALL LIGHT FIXTURES AT JOB COMPLETION.
- CONTRACTOR SHALL COORDINATE WITH & SHALL INCLUDE ALL FEES FOR THE SERVING "ELECTRIC UTILITY CO." TO PROVIDE ELECTRIC SERVICE AS SHOWN. CONTRACTOR SHALL ALSO INCLUDE ALL FEES FOR THE "SERVING PHONE COMPANY" TO INSTALL NO LESS THAN 10 PAIR CABLE TO BUILDING.
- CONTRACTOR SHALL ARRANGE FOR & INCLUDE ALL PERMITS & FEES FOR HIS SCOPE OF WORK.
- CONTROL WIRING BY HVAC CONTRACTOR. FINAL CONNECTIONS BY HVAC CONTRACTOR. SEE SHEET M1.
- APPROVED MANUFACTURERS:
 - PANELBOARDS & SAFETY SWITCHES (DISCONNECTS):
 - "SQUARE D"
 - "G.E."
 - "SEIMENS"
 - DEVICES:
 - "HUBBELL"
 - "LEVITON"
 - "PASS & SEYMOUR"
 - FLOOR BOXES:
 - "STEEL CITY"
 - "APPLETON"
 - "HUBBELL"
- (SPEC 26 24 00) (SPEC 26 27 26) (SPEC 26 05 34)
- MULTIWIRED BRANCH CIRCUITS WITH A "SHARED NEUTRAL" ARE NOT ALLOWED FOR SINGLE PHASE CIRCUITS.



ELECTRICAL SYMBOL LEGEND & ABBREVIATIONS

| | |
|--|--|
| \$ | SINGLE POLE SWITCH |
| \$2 | TWO POLE SWITCH |
| \$3 | THREE-WAY SWITCH |
| \$MP | MOTOR STARTING SWITCH WITH PILOT LIGHT |
| \$x | CLASS 1, DIVISION 1 HAZARDOUS LOCATION RATED SWITCH ASSEMBLY |
| \$pw | WALL MOUNTED OCCUPANCY SENSOR EQUAL TO "LEVITON, ODS10–ID" |
| \$p2 | WALL MOUNTED OCCUPANCY SENSOR EQUAL TO "LEVITON, OSSMD–MD" |
| \$s | FAN SPEED SWITCH (SUPPLIED BY HVAC CONTRACTOR / INSTALLED BY ELECTRICAL CONTRACTOR) |
| \$o | 0–10V LED DIMMER SWITCH, EQUAL TO "LEVITON, IP710–LF2". SEE DETAILS THIS SHEET (5–GANG MAX) |
| PP | LEVITON POWER PACK OPP20–002 |
| ⊕ | SINGLE RECEPTACLE |
| ⊕ | DUPLEX RECEPTACLE |
| ⊕ | ISOLATED GROUND DUPLEX RECEPTACLE (ORANGE IN COLOR). SEE DETAIL 1/E3 |
| ⊕ | QUADPLEX RECEPTACLE (TWO DUPLEX RECEPTACLES IN ONE 2-GANG BOX UNDER A SINGLE COVERPLATE) |
| ⊕ | EXISTING UNPOWERED DUPLEX RECEPTACLE |
| ⊕ | ISOLATED GROUND QUADPLEX RECEPTACLE (TWO ISO. GRD. DUPLEX RECEPTACLES IN ONE 2-GANG BOX UNDER A SINGLE RED IN COLOR COVERPLATE) |
| ⊕ | QUADPLEX RECEPTACLE (CIRCUIT TO BE WIRED THRU OCCUPANCY SENSOR) INSTALL A PERMANENT LABEL ON EACH OUTLET STATING "SENSOR CONTROLLED OUTLET". SEE DETAIL ON SHEET E2 |
| AC | ABOVE COUNTER GFCI (GROUND FAULT CIRCUIT INTERRUPTING) DUPLEX RECEPTACLE |
| WP | WEATHER PROOF GFCI (GROUND FAULT CIRCUIT INTERRUPTING) DUPLEX RECEPTACLE. COVER TO PROVIDE WEATHER PROOF PROTECTION WITH CORD AND PLUG IN USE |
| ■ | TELE-POWER POLE |
| □ | JUNCTION BOX |
| □ | REMOTE PHOTO CONTROL |
| ▽ | COMPUTER DATA OUTLET BOX |
| ■ | 4" SQUARE STEEL BOX MOUNTED FLUSH ON FLOOR W/QUADPLEX RECEPTACLE (SEE ABOVE RECEPTACLE DESCRIPTION). SEE DETAIL 4/E2 FOR INSTALLATION OF BOX |
| ■ | 4" SQUARE STEEL BOX MOUNTED FLUSH ON FLOOR W/QUADPLEX ISOLATED GROUND RECEPTACLE (SEE ABOVE ISOLATED GROUND RECEPTACLE DESCRIPTION). SEE DETAIL 4/E2 FOR INSTALLATION OF BOX |
| ■ | 4" SQUARE STEEL BOX MOUNTED FLUSH ON FLOOR W/QUADPLEX ISOLATED GROUND RECEPTACLE (SEE ABOVE ISOLATED GROUND RECEPTACLE DESCRIPTION). SEE DETAIL 4/E2 FOR INSTALLATION OF BOX. OUTLET COVER SHALL BE RED IN COLOR |
| ■ | 2" x 4" RECTANGULAR STEEL BOX MOUNTED FLUSH ON FLOOR W/DUPLEX RECEPTACLE (SEE ABOVE RECEPTACLE DESCRIPTION). SEE DETAIL 4/E2 FOR INSTALLATION OF BOX |
| ⊕ | NEMA L5–30R – SPECIAL RECEPTACLE |
| ⊕ | MOTOR |
| ■ XX/XX | FUSED DISCONNECT (SAFETY) SWITCH W/ SWITCH AMPACITY / FUSE AMPACITY AS INDICATED |
| ⊕ | NON-FUSED DISCONNECT (SAFETY) SWITCH |
| — | POWER OR LIGHTING PANEL W/PANEL DESIGNATION SHOWN ON PLAN (SIZES & MOUNTING INDICATED ON PLANS) |
| ⊕ | 24 HOUR EGRESS & SECURITY LIGHT, WIRE DIRECT TO ELECTRIC PANEL AHEAD OF ANY LOCAL SWITCHES AND LIGHTING CONTROL PANEL |
| XR | WALL/CEILING MOUNTED COMBINATION "EXIT/EMERGENCY" SIGN W/SHADING INDICATING FACES |
| EM | EMERGENCY LIGHTING FIXTURE WITH BATTERY |
| FEEDING PANEL AND CIRCUIT NUMBER(S) | |
| NOTE: EQUIPMENT GROUND CONDUCTOR NOT SHOWN | |
| PLP–11,13 | CIRCUIT CONDUCTORS |
| — | GROUNDING CIRCUIT CONDUCTOR (OR NEUTRAL) |
| MD | MOTION DETECTOR – BY VENSTAR. SEE VS SHEETS FOR MORE INFORMATION |
| OS | OCCUPANCY SENSOR EQUAL TO "LEVITON, OSC20–MAM" WITH POWER PACK |
| AC | LOCATED ABOVE COUNTER |
| AF | ABOVE FINISHED FLOOR |
| BCU | BLOWER COIL UNIT |
| CDU | CONDENSING UNIT |
| EF | EXHAUST FAN |
| EFU | ELECTRIC FURNACE |
| FURN | FURN GAS FURNACE |
| AHU | AIR HANDLER |
| HP | HEAT PUMP UNIT |
| PP | POWER PACK |
| RTU | PACKAGED ROOFTOP UNIT |
| IMC | INTERMEDIATE METALLIC TUBING |
| LC | LIGHTING CONTRACTOR |
| MDU | MOTOR STARTING |
| M | RED IN COLOR COVERPLATE |
| MP | MOTOR STARTING W/PILOT LIGHT |
| NL | NIGHT LIGHT |
| PEC | PHOTOELECTRIC CONTROL |
| RGS | RIGID GALVANIZED STEEL |
| UPO | UN–POWERED OUTLET |
| TS | TIME SWITCH |
| W | WALL OUTLET (46" AFF SEE MOUNTING HEIGHTS) |
| WE | WEATHERPROOF (ENCLOSURE) |
| WP | EXPLOSION PROOF ASSEMBLY |
| X | GRD./FAULT CIRCUIT INTERRUPT |
| GFCI | ELECTRICAL METALLIC TUBING |
| EMT | CEILING MOUNTED |
| CM | |

SQUARE D
by Schneider Electric
Modifications For Factory Assembled Panelboards
Class 1640, 1670, 2110, 4620, 6550 / Refer to 2110CT9701, 1640CT0701, 1640CT0801, 4620CT9601

Main Circuit Breaker Without Overload Trip
(Automatic Molded Case Switch)

- (Not UL Listed)
- Shunt Trip Circuit Breakers
- NOTE: For molded case switch and automatic molded case switch short circuit current ratings, see Short Circuit Current Ratings (SCCR), page 7–41.

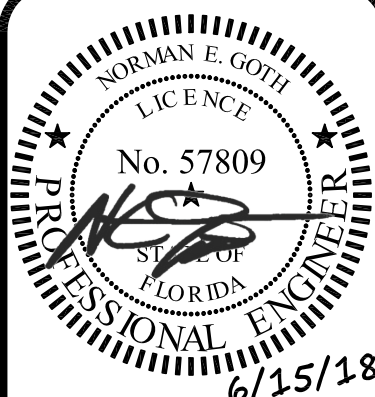
Special Features
For information on the following special features, please see the Supplemental and Obsolescence Digest.

- PowerLogic™ metering (1)
- Customer equipment space (NQ and NF) (1)
- Increased box depth (1)
- Increased gutters–top, bottom, and sides (1)
- Non-standard paint (1)
- Welded base channel (1)
- Type 1 gasketed (1)
- Type 2 drip hood (1)
- Type 3R/4X/5/12 stainless steel enclosure (1)
- Type 4X fiberglass enclosure (1)
- Stainless steel trim front (1)
- Predictable hump (1)
- Special locks (Corbin, Yale, Best) (1)
- Equal height boxes (1)
- Common trim to cover two equal height boxes (1)
- Panelboard skirt—hides conduits feeding a panelboard (1)
- Panelboard wireway—for terminating conduit in wireway endwall (1)
- Keyed mechanical interlocking of two or more circuit breakers (1-Line and QMB) (1)
- Motor operators (1-Line only)
- Panelboard interiors and special fronts to fit existing boxes
- A standard panelboard box has one blank endwall and one with knockouts. Blank endwalls or knockouts in both endwalls are also available (1)

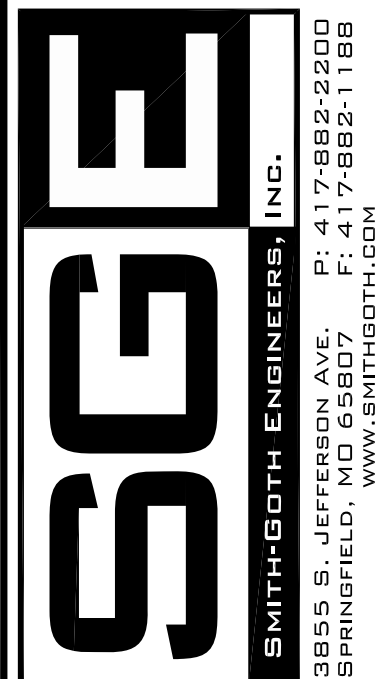
NQ and NF Terminal Data

| Panel Type | Ampere Rating | Wire Range | Lug Wire Range |
|------------|---------------|---|----------------------|
| NQ | 100 A | one #6–2/0 Al or Cu | one #14–#10 Al or Cu |
| | 250 A | one #6–3/0 kcmil Al or Cu | one #14–#10 Al or Cu |
| | 400 A | one #10–2/0 kcmil or two #10–3/0 kcmil Al or Cu | one #14–#10 Al or Cu |
| | 600 A | one #10–2/0 kcmil or two #10–3/0 kcmil Al or Cu | one #14–#10 Al or Cu |
| NF | 125 A | one #6–2/0 Al or Cu | one #14–#10 Al or Cu |
| | 250 A | one #6–3/0 kcmil Al or Cu | one #14–#10 Al or Cu |
| | 400 A | one #10–2/0 kcmil or two #10–3/0 kcmil Al or Cu | one #14–#10 Al or Cu |
| | 600 A | one #10–2/0 kcmil or two #10–3/0 kcmil Al or Cu | one #14–#10 Al or Cu |

17 Supported by the Panelboard Product Selector.
18 The lug range shown is for the largest ampere of the circuit breaker frame shown in the table.
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NORMAN E. GOTH
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ENGINEER LICENSE NUMBER: **57809**
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DATE: **06/15/2018**
REVISION:
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