

ELECTRICAL NOTES

GENERAL CONDITIONS

- A. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE NEW YORK CITY ELECTRIC CODE, THE BUILDING CODE OF THE CITY OF NEW YORK AND ALL LOCAL CODES AND ORDINANCES THAT MAY APPLY, INCLUDING ANY RULES AND REGULATIONS ESTABLISHED BY THE UTILITY COMPANY.
- B. THE CONTRACTOR SHALL SUPPLY ALL EQUIPMENT, LABOR, SERVICES AND MATERIALS REQUIRED FOR THE COMPLETE INSTALLATION OF THE ELECTRICAL SYSTEMS SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED.
- C. MATERIALS: NEW, UNUSED, BEST OF THEIR RESPECTIVE KIND AND FREE FROM DEFECTS AS INDICATED ON THE DRAWINGS. BASIS OF QUALITY SHALL BE LATEST STANDARDS OF ASTM, ASA, FEDERAL SPECIFICATIONS OR OTHER ACCEPTABLE STANDARDS. MATERIALS SHALL BEAR THE UNDERWRITERS LABORATORY LABEL WHEREVER SUCH A LISTING APPLIES. MATERIALS SHALL BE APPROVED FOR USE IN NEW YORK CITY.
- D. ALL WORK SHALL BE INSTALLED READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIRS.
- E. ALL CUTTING AND PATCHING SHALL BE DONE BY THIS CONTRACTOR, WHERE NECESSARY TO MODIFY ROUGH AND FINISH WORK DUE TO ERROR OR OMISSIONS, THE CONTRACTOR SHALL BEAR THE COST.
- F. THIS CONTRACTOR SHALL PAY ALL FEES, GIVE ALL NOTICES, FILE ALL NECESSARY DRAWINGS AND OBTAIN ALL PERMITS AND CERTIFICATES OF APPROVAL REQUIRED IN CONNECTION WITH ALL WORK UNDER THIS CONTRACT.
- G. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TOTAL COORDINATION BETWEEN THE DIFFERENT DIVISIONS OF THE CONTRACT. ITEMS FURNISHED UNDER ONE DIVISION AND REQUIRING WORK UNDER ANOTHER DIVISION IS A PART OF THE CONTRACT AND NO ALLOWANCE WILL BE GIVEN TO CONTRACTOR'S CLAIMS FOR EXTRA WORK.
- H. BEFORE SUBMITTING A PROPOSAL, THE CONTRACTOR SHALL VISIT THE SITE OF THE WORK AND BECOME THOROUGHLY FAMILIAR WITH ALL CONDITIONS AND LIMITATIONS. THE SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE, AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED OR FOR DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE, WILL NOT BE RECOGNIZED.
- I. CONTRACTOR SHALL VERIFY ALL MEASUREMENTS AT THE SITE AND BE RESPONSIBLE FOR CORRECTNESS OF SAME.

SHOP DRAWINGS

- A. PRIOR TO ASSEMBLING OR INSTALLING THE WORK, THE FOLLOWING SHALL BE SUBMITTED FOR APPROVAL:
- CATALOG INFORMATION AND CUT SHEETS, FACTORY ASSEMBLY DRAWINGS, AND DATA REQUIRED FOR A COMPLETE EXPLANATION AND DESCRIPTION OF ALL PANELS, TRANSFORMERS, FIXTURES, DEVICES AND ITEMS OF EQUIPMENT.
 - LAYOUT DRAWINGS FOR MAIN ELECTRICAL EQUIPMENT SUCH AS SWITCHBOARD ROOMS, ELECTRIC CLOSETS, MAJOR CONDUIT BANK RUNS, ETC.
- B. SHOP DRAWINGS SHALL CLEARLY AND SPECIFICALLY DELINEATE, ON BOTH DRAWINGS, CATALOG CUTS AND ACCOMPANYING TRANSMITTAL SHEETS, ANY ITEMS OF WORK THAT DIFFER FROM THE CONTRACT DOCUMENTS AND ANY CLAIMED CHANGES IN THE CONTRACT COST DUE TO THESE DIFFERENCES. NO CONSIDERATION WILL BE GIVEN TO ANY CLAIMS FOR EXTRA COMPENSATION DUE TO APPROVED ITEMS WHERE SUCH CLAIMS WERE NOT MADE PRIOR TO APPROVALS.
- C. CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING SHOP DRAWINGS' REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THE SHOP DRAWINGS' CHECK IS ONLY FOR REVIEW OF GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CORRELATING ALL QUANTITIES AND DIMENSIONS; SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATING HIS WORK WITH THAT OF ALL OTHER TRADES; AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

INTERPRETATION OF DRAWINGS

- A. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF WORK. CERTAIN DETAILS APPEAR ON THE DRAWINGS FOR ELECTRICAL WORK WHICH ARE SPECIFIC WITH REGARD TO THE DIMENSIONING AND POSITIONING OF THE WORK. THESE ARE INTENDED ONLY FOR GENERAL INFORMATION PURPOSES. THEY DO NOT OBTAIN FIELD COORDINATION FOR INDIVIDUAL ITEMS OF THE INDICATED WORK.
- B. LOCATION OF LIGHTING FIXTURES ARE DIAGRAMMATIC. COORDINATE EXACT LOCATIONS AND DIMENSIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS/ELECTRICAL AND MECHANICAL EQUIPMENT.
- C. INFORMATION AS TO GENERAL CONSTRUCTION AND ARCHITECTURAL FEATURES AND FINISHES SHALL BE DERIVED FROM ARCHITECTURAL DRAWINGS AND SPECIFICATIONS ONLY.
- D. THE USE OF WORDS IN THE SINGULAR SHALL NOT BE CONSIDERED AS LIMITING WHERE OTHER INDICATIONS DENOTE THAT MORE THAN ONE ITEM IS REQUIRED.
- E. RATINGS OF DEVICES, MATERIALS AND EQUIPMENT SPECIFIED WITHOUT REFERENCE TO SPECIFIC PERFORMANCE CRITERIA SHALL BE UNDERSTOOD TO BE NOMINAL OR NAMEPLATE RATINGS ESTABLISHED BY MEANS OF INDUSTRY STANDARD PROCEDURES.

GUARANTEES AND CERTIFICATIONS

- A. ALL WORK SHALL BE GUARANTEED TO BE FREE FROM DEFECTS, ANY DEFECTIVE MATERIALS OR WORKMANSHIP, AS WELL AS DAMAGE TO THE WORK OF ALL TRADES RESULTING FROM SAME, SHALL BE REPLACED OR REPAIRED AS DIRECTED FOR THE DURATION OF STIPULATED GUARANTEE PERIODS.
- B. THE DURATION OF GUARANTEE PERIODS FOLLOWING THE DATE OF ACCEPTANCE OF THE WORK SHALL BE, FOR WORK NOT OTHERWISE SPECIFIED, ONE YEAR.
- C. THE DATE OF ACCEPTANCE SHALL BE THE DATE OF THE FINAL PAYMENT FOR THE WORK OR THE DATE OF A FORMAL NOTICE OF ACCEPTANCE, WHICHEVER IS EARLIER.

PROTECTIVE PAINTING

- A. AFTER INSTALLATION OF EQUIPMENT UNDER THIS SECTION, CLEAN AND REPAINT ALL SURFACES AS REQUIRED WHERE DAMAGES ARE DUE TO SHIPMENT AND/OR INSTALLATION. USE MANUFACTURER'S STANDARD COLOR.

CLEANING

- A. REMOVE FROM ENTIRE INSTALLATION OR WORK OF THIS SECTION ALL PROTECTIVE MATERIALS AND ALL DIRT, DUST, SMEARS, STAINS, PAINT SPOTS, AND THE LIKE AND LEAVE IN A CLEAN CONDITION. CLEAN AND REMOVE ALL SMUDGES, FINGERPRINTS, ETC., FROM LIGHTING FIXTURES, SWITCHES, RECEPTACLES, ETC. AFTER INSTALLATION.

RUBBISH REMOVAL

- A. THE ELECTRICAL CONTRACTOR SHALL, AT THE CONCLUSION OF EACH DAY'S WORK, CLEAN UP AND STOCKPILE ON THE SITE, AT LOCATIONS DESIGNATED BY THE OWNER/CONSTRUCTION/BUILDING MANAGER, ALL RUBBISH, DEBRIS AND TRASH, WHICH MAY HAVE ACCUMULATED DURING THE DAY AS A RESULT OF WORK OF THE ELECTRICAL CONTRACTOR AND OF HIS PRESENCE ON THE JOB. PERIODICALLY, THE CONTRACTOR SHALL REMOVE ALL ACCUMULATED DEBRIS FROM THE SITE.

INDEMNIFICATION

- A. THE ELECTRICAL CONTRACTOR SHALL AGREE TO INDEMNIFY AND SAVE HARMLESS THE PARTY CONTRACTING FOR HIS SERVICES AND THE ENGINEER AGAINST LOSS OR EXPENSE BY REASON FOR THE LIABILITY IMPOSED BY LAW UPON SUCH PARTY FOR DAMAGES, INJURIES, OR OTHER INJURIES, INCLUDING DEATH AT ANY TIME RESULTING THEREFROM, ACCIDENTALLY SUSTAINED BY ANY PERSON OR PERSONS OR ON ACCOUNT OF DAMAGE TO PROPERTY ARISING OUT OF OR IN CONSEQUENCE OF THE PERFORMANCE OF THIS CONTRACT, WHETHER SUCH INJURIES TO PERSONS OR DAMAGE TO PROPERTY ARE DUE OR CLAIMED TO BE DUE TO ANY NEGLIGENCE OF THE ELECTRICAL CONTRACTOR, THE PARTY CONTRACTING FOR HIS SERVICES, HIS OR THEIR EMPLOYEES OR AGENTS, OR ANY OTHER PERSON.
- B. THE ELECTRICAL CONTRACTOR SHALL CARRY ALL THE INSURANCE NECESSARY TO SUPPORT THE ABOVE AGREEMENT, AND SHALL SUBMIT COPIES OF THE INSURANCE CERTIFICATES ATTESTING TO THE FACT HE IS PROPERLY COVERED.

TEMPORARY LIGHTING AND POWER

- A. PROVIDE AND FULLY MAINTAIN ALL FACILITIES FOR TEMPORARY LIGHT AND POWER WITHIN THE CONSTRUCTION AREA DURING THE ENTIRE BUILDING PERIOD, FOR ALL WORKING PURPOSES AND SAFETY OF PERSONNEL, UTILIZING THE EXISTING ELECTRIC SERVICE IN THE AREA AS ARRANGED WITH THE OWNER BY THE ELECTRICAL CONTRACTOR. COST OF ENERGY CONSUMED SHALL BE PAID FOR BY THE OWNER. TEMPORARY SYSTEM TO BE KEPT ENERGIZED DURING STANDARD WORKING DAY OF ALL TRADES PLUS 15 MINUTES BEFORE AND AFTER WORKING PERIOD.
- ALL MATERIALS AND EQUIPMENT OF THE TEMPORARY POWER AND LIGHT SYSTEMS SHALL BE REMOVED FROM THE PREMISES PROGRESSIVELY AS THEY ARE NO LONGER NEEDED OR AS THEIR FUNCTION IS TAKEN OVER BY PERMANENT FACILITIES.

BRANCH CIRCUITING AND RACEWAYS

- A. IN GENERAL ALL INTERIOR CONCEALED BRANCH CIRCUITING SHALL CONSIST OF ARMORED CABLE/WIRING ENCLOSED IN EMT/WIRING ENCLOSED IN FLEXIBLE STEEL CONDUIT EXPOSED INTERIOR BRANCH CIRCUITING SHALL CONSIST OF WIRING ENCLOSED IN EMT, RIGID STEEL CONDUIT OR WIREMOLD RACEWAYS AS SHOWN ON THE DRAWINGS.
- B. ALL EXTERIOR ABOVE GRADE RACEWAYS SHALL BE RIGID STEEL RACEWAYS INSTALLED IN EARTH SHALL BE RIGID GALVANIZED STEEL/PLASTIC COATED RIGID STEEL/HEAVY DUTY PVC. RACEWAYS INSTALLED IN & PASSING THROUGH MASONRY WALLS AND CONCRETE FLOOR SLABS SHALL BE RIGID STEEL.
- C. FLEXIBLE STEEL CONDUIT SHALL BE USED FOR FINAL CONNECTIONS TO RECESSED LIGHTING FIXTURES, TO INTERIOR MECHANICAL EQUIPMENT AND WHERE PERMITTED BY CODE. LIQUID TIGHT FLEXIBLE STEEL CONDUIT SHALL BE USED FOR FINAL CONNECTIONS TO EXTERIOR MOUNTED A/C EQUIPMENT, SUPPLY AND EXHAUST FANS.

BOXES

- A. OUTLET BOXES IN DRY INDOOR LOCATIONS SHALL BE GALVANIZED STAMPED STEEL TYPE: 4" SQUARE IN PARTITIONS & 4" OCTAGONAL IN HUNG CEILINGS. BOXES IN DRY WALL PARTITIONS SHALL HAVE PLASTER RING COVER WITH ONE OR TWO GANG OPENING AS REQUIRED. OUTLET BOXES IN DAMP & WET LOCATIONS SHALL BE NEMA 3R CAST ALUMINUM TYPE WITH GASKETTED COVERS & THREADED HUBS. EACH BOX SHALL BE OF THE SIZE AND STYLE REQUIRED FOR THE NUMBER OF WIRES AND THE DEVICE TO BE CONTAINED WITHIN.
- B. OUTLET LOCATIONS ARE DIAGRAMMATIC, EXACT LOCATIONS & MOUNTING HEIGHTS SHALL BE COORDINATED WITH ENGINEER/ARCHITECT.

CONDUCTORS

- A. BRANCH CIRCUIT AND FEEDER WIRES IN CONDUIT SHALL BE TYPE THWN, COPPER AND TYPE THHN, COPPER IN ARMORED CABLE EXCEPT WHERE NOTED ON PLANS. MINIMUM WIRE SIZE SHALL BE #12 AWG. WIRING FOR FINAL CONNECTIONS TO ALL LIGHTING FIXTURES AND FOR BRANCH CIRCUIT WIRING RUNNING THROUGH FIXTURE HOUSINGS SHALL BE TYPE THHN, 90 DEGREES C. COPPER (MINIMUM SIZE #14 AWG).
- B. WIRING FOR FIRE ALARM SYSTEMS SHALL BE NOTED ON THE FIRE ALARM DRAWINGS.

WIRING DEVICES

- A. ALL WIRING DEVICES (SWITCHES AND RECEPTACLES) SHALL BE PROVIDED AS INDICATED ON THE PLANS AND AS IDENTIFIED IN THE SYMBOL LIST. ALL DEVICES SHALL BE RESIDENTIAL GRADE, BACK AND SIDE WIRED, AS MANUFACTURED BY HUBBELL, ARROW HART, G.E., LEVITON, LUTRON OR BRYANT. RECEPTACLES SHALL HAVE SEPARATE GREEN GROUNDING SCREWS. DEVICES IN FINISHED AREAS ALL AREAS SHALL BE DECORATOR STYLE WITH ROCKER TYPE SWITCHES AND SHALL BE AS SPECIFIED BY THE ARCHITECT. DEVICE COVER PLATES SHALL BE AS SPECIFIED BY THE ARCHITECT AS TO TYPE & COLOR. DEVICE COVER PLATES IN DRY UNFINISHED AREAS SHALL BE RAISED, STAMPED GALVANIZED STEEL TYPE. COVER PLATES IN DAMP OR WET LOCATIONS SHALL BE CAST ALUMINUM WITH GASKETING.

SERVICE & DISTRIBUTION

- A. THE CONTRACTOR SHALL MAKE ALL NECESSARY PROVISIONS TO BRING THE ELECTRICAL SERVICE INTO THE SPACE. HE SHALL COORDINATE ALL SERVICE WORK WITH THE UTILITY COMPANY/CON EDISON INCLUDING APPLICATIONS FOR METER AND CURRENT TRANSFORMERS AND FOR INSPECTION OF FINISHED SERVICE WORK. HE SHALL ARRANGE FOR PICK-UP OF METERING EQUIPMENT TO BE FURNISHED BY THE UTILITY COMPANY/CON EDISON. HE SHALL INSTALL ALL METERING DEVICES AND EQUIPMENT IN THE SERVICE EQUIPMENT. WHEN REQUIRED, HE SHALL SUBMIT ALL DRAWINGS & INFORMATION REQUIRED TO LOCAL REVIEWING AGENCIES & OBTAIN ALL APPROVALS REQUIRED PRIOR TO FABRICATION OF SERVICE EQUIPMENT.
- B. THE CONTRACTOR SHALL PROVIDE 240 AND 480 VOLT, NEMA 1, HEAVY DUTY DISCONNECT SWITCHES AS REQUIRED WHERE INDICATED ON THE DRAWINGS. SWITCHES SHALL BE FUSIBLE UNLESS OTHERWISE NOTED. SWITCHES SHALL HAVE FRONT OPERABLE HANDLES, REJECTION TYPE FUSE HOLDERS (UNLESS OTHERWISE NOTED), ARC CHUTES AND PADLOCKING PROVISION FOR THE HANDLE AND COVER. PROVIDE ONE SET OF FUSES AS REQUIRED WITH EACH SWITCH. SWITCHES SHALL BE AS MANUFACTURED BY SQUARE-D COMPANY OR APPROVED EQUAL.
- C. SERVICE SWITCHES SHALL BE OF THE FUSIBLE TYPE UNLESS OTHERWISE NOTED. SWITCHES SIZED 800 AMPS AND LESS SHALL BE OF THE HEAVY DUTY TYPE AS DESCRIBED ABOVE. SWITCHES SIZED 1200 AMPS AND LARGER SHALL BE OF THE BOLTED PRESSURE TYPE WITH A STORED ENERGY MECHANISM FOR FAST-MAKE, FAST-BREAK SWITCHING ACTION. PROVIDE ONE SET OF FUSES AS REQUIRED WITH EACH SWITCH. ALL SWITCHES SHALL BE APPROVED FOR USE AS SERVICE EQUIPMENT.
- D. FUSES SHALL BE CURRENT LIMITING, TIME DELAY TYPE AS FOLLOWS:
- 0 TO 600 AMPS: (U.L. CLASS RK1 BUSSMAN TYPE LPN-RK OR LPS-RK).
 - 601 AMPS & LARGER: (U.L. CLASS L BUSSMAN TYPE KRP-C).
- E. THE MAIN DISTRIBUTION PANEL SHALL BE OF THE FUSIBLE SWITCH TYPE. SWITCHING UNITS SHALL BE OF THE QUICK-MAKE, QUICK-BREAK TYPE. THE FUSEHOLDERS SHALL BE REJECTION TYPE NOTED ON THE DRAWINGS. PANEL BUSES SHALL BE COPPER SIZED FOR 1000 AMPS/SQ. IN. OF CROSS SECTIONAL AREA. PROVIDE A SEPARATE GROUND BUS.
- F. BRANCH CIRCUIT PANELS SHALL BE SURFACE OR RECESSED MOUNTED, AS NOTED ON THE DRAWINGS. PANELS SHALL BE FACTORY PAINTED WITH COPPER BUSSES, HINGED DOOR, COMBINATION LATCH AND LOCK, AND DIRECTORY CARD MOUNTED UNDER HEAVY DUTY NON-YELLOWING PLASTIC. CIRCUIT BREAKERS SHALL BE THERMAL-MAGNETIC, STATE-ON TYPE, OF THE SIZE AND KINDS NOTED IN THE SCHEDULES. BREAKERS OF TWO AND THREE POLES SHALL HAVE A COMMON TRIP-HANDLE (NO-TIE HANDLES PERMITTED). MINIMUM BREAKER INTERRUPTING RATINGS SHALL BE 22,000 AMPERES FOR 120/208 VOLT BREAKERS. PANELS SHALL BE

PROVIDED WITH SEPARATE GROUND BUSES WHERE SHOWN ON THE DRAWINGS. WHERE CIRCUIT BREAKERS ARE TO BE USED AS SWITCHES FOR LIGHTING CIRCUITS, BREAKERS SHALL BE U.L. APPROVED FOR SUCH SWITCHING DUTY AND SHALL BE MARKED "SWD". APPROVED MANUFACTURERS ARE SQUARE D, WESTINGHOUSE, G.E., AND TIE.

- G. ALL CIRCUIT NUMBERS SHOWN ON THE PLANS ARE FOR INDICATION PURPOSES ONLY. THE CONTRACTOR SHALL ARRANGE ALL THE CIRCUITS ON THE PANELS SO AS TO BALANCE ALL THE LOADS ON ALL PHASES. A TYPED DIRECTORY CARD SHALL BE PROVIDED IN EACH PANEL TO INDICATE THE LOADS AS ACTUALLY INSTALLED.

- H. THE CONTRACTOR SHALL MAKE ALL THE FINAL CONNECTIONS TO THE EQUIPMENT PROVIDED BY OTHERS, AND SHALL SUPPLY AND INSTALL ANY REQUIRED SAFETY DISCONNECT SWITCHES WHEN NOT PROVIDED WITH THE EQUIPMENT.

LIGHTING FIXTURES

- A. ALL NEW LIGHTING FIXTURES SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. EXACT FIXTURE LOCATIONS ARE INDICATED ON THE ARCHITECTURAL REFLECTED CEILING PLANS. FIXTURES SHALL BE AS SPECIFIED ON THE ARCHITECTURAL PLANS. INSTALLATION SHALL INCLUDE PROVIDING ALL BALLASTS, LAMPS, STEMS AND MISCELLANEOUS HARDWARE THAT MAY BE REQUIRED. ALL RAPID START FLUORESCENT BALLASTS SHALL BE FULL LIGHT OUTPUT ENERGY SAVING ELECTRONIC TYPE AND SHALL COMPLY WITH LOCAL, STATE & FEDERAL ENERGY CODES. BALLASTS SHALL BE RAPID START, CLASS "A" FOR THREE AND FOUR FOOT LAMPS AND TRIGGER START FOR TWO FOOT LAMPS. FOUR FOOT LAMPS SHALL BE ENERGY SAVING TYPE 32 WATT, F32T8, LAMP COLOR SHALL BE WARM WHITE OR SPECIALTY TYPE AS INDICATED ON THE DRAWINGS. LAMPS USED WITH ELECTRONIC BALLASTS SHALL BE FROM A MANUFACTURER APPROVING THEM FOR INSTANT START. APPROVED BALLAST MANUFACTURERS ARE G.E., ADVANCE, JEFFERSON ELECTRIC AND MADAX-TIK. APPROVED LAMP MANUFACTURERS ARE G.E., PHILLIPS AND SYLVANIA. THE EXACT LOCATION OF ALL FIXTURES AND THEIR METHODS OF MOUNTING SHALL BE COORDINATED WITH THE CEILING CONSTRUCTION.

EMERGENCY LIGHTING:

- A. FLUORESCENT POWER PACKS.

- WHERE NOTED ON THE DRAWINGS PROVIDE EMERGENCY LIGHTING POWER PACKS IN BALLAST CHANNELS OF FLUORESCENT FIXTURES. PROVIDE PILOT LIGHT & TEST SWITCH. POWER PACKS AND ACCESSORIES SHALL BE FACTORY INSTALLED/RETROFIT INSTALLED IN FIELD. EMERGENCY POWER PACKS SHALL BE CHLORIDE "CFP" SERIES OR APPROVED EQUAL. POWER PACKS SHALL BE ABLE TO SERVE STRAIGHT LAMPS, U-SHAPED LAMPS & ENERGY SAVING TYPE LAMPS. BALLASTS SHALL BE CAPABLE OF PRODUCING 1200 LUMENS OF LIGHT FOR 90 MINUTES WHEN CONNECTED TO ONE LAMP (2" THROUGH 4").
- INPUT LEADS TO POWER PACKS SHALL BE CONNECTED TO SEPARATE UNSWITCHED LEG OF BRANCH CIRCUIT WIRING SERVING AFFECTED FIXTURES, PROVIDED BY CONTRACTOR.

- B. INCANDESCENT LIGHTING UNITS.

- INCANDESCENT LIGHTING UNITS SHALL BE SELF-CONTAINED TYPE WITH LONG LIFE, LEAD CALCIUM BATTERIES, CHARGER, PILOT LIGHT, TEST SWITCH AND 20 GAUGE STEEL HOUSING. UNITS SHALL BE SURFACE OR FLUSH WALL OR CEILING MOUNTED AS NOTED ON THE DRAWINGS. UNITS SHALL BE PROVIDED WITH NUMBER OF LAMPS AND/OR ADJUSTABLE LAMPHEADS AS NOTED HEREIN.
- UNITS SHALL BE AS MANUFACTURED BY LIGHT ALARMS OR APPROVED EQUAL. UNIT WATTAGES AND CATALOG NUMBERS SHALL BE AS NOTED BELOW.
- FLUSH WALL OR CEILING MOUNTED UNIT WITH 11 1/2" X 6 1/2" FACEPLATE WITH TWO ADJUSTABLE 6 WATT, 6 VOLT DC LAMPHEADS: LIGHT ALARMS # 2RC1/LH4.
- FLUSH CEILING MOUNTED 8" DIAMETER FIXTURE WITH ONE 8 WATT, 6 VOLT DC ADJUSTABLE DOWNLIGHT: LIGHT ALARMS # 60SP1/LHS
- FLUSH CEILING MOUNTED 10 1/2" SQUARE FIXTURE WITH ACRYLIC PRISMATIC LENS AND ONE 10 WATT, 6 VOLT DC LAMP: LIGHT ALARMS # RS0G/LH7.

- C. ALL EMERGENCY LIGHTING FIXTURES SHALL BE APPROVED FOR USE IN N.Y. CITY.

TIME SWITCHES, LIGHTING CONTACTORS & PHOTO CELLS

- A. PROVIDE TORK 73002L (3PST), ASTRONOMIC TIME SWITCHES, 40 AMPS PER POLE, WITH DAY DMITTING DEVICE, HEAVY DUTY 120 VOLT SYNCHRONOUS MOTOR AND RESERVE POWER.
- B. PROVIDE TORK MODEL 2101 PHOTOCELL, 120 VOLT, SPST WITH ADJUSTABLE TURN-ON LEVEL OF TWO FOOTCANDLES TO FIFTY FOOTCANDLES.
- C. PROVIDE SQUARE-D CO. CLASS 8903, TYPE 1/L/L/S ELECTRICALLY/MECHANICALLY HELD LIGHTING CONTACTORS IN NEMA 1 ENCLOSURES. CONTACTORS SHALL HAVE 20/30 AMP RATED POLES, NUMBER IN EACH AS INDICATED ON THE DRAWINGS.

REMOVAL AND RESTORATION OF EXISTING WORK

- A. IN GENERAL, REMOVE ALL ELECTRICAL EQUIPMENT, WIRING AND OTHER ELECTRICAL WORK ON FLOORS 2 AND ABOVE, EXCEPT ELECTRICAL WORK SERVING THE EXISTING TENANTS. REMOVE ELECTRICAL WORK NO LONGER IN USE. CUT AND CAP ABANDONED CONDUITS AND/OR OUTLET BOXES FLUSH WITH FLOOR OR WALL. REMOVE EXPOSED ABANDONED CIRCUITS. REMOVE MATERIAL AND EQUIPMENT AND DISPOSE OF AS DIRECTED.
- B. REMOVE ALL LIGHTING FIXTURE, EXIT SIGNS, EMERGENCY LIGHTING FIXTURES, ETC. AND ALL ASSOCIATED OUTLET BOXES, CONDUITS, RACEWAYS, WIRING, FITTINGS, SWITCHES & SUPPORTS. REMOVE ALL RECEPTACLES AND ALL ASSOCIATED OUTLET BOXES, CONDUIT, WIRING & FITTINGS IN THE AREAS NOTED ABOVE.
- C. REMOVE ALL BRANCH CIRCUIT & FEEDER RACEWAYS, CONDUITS, TROUGHS, WIREWAYS, DUCTS, HANGERS, ROOS & OTHER SUPPORTS AND ALL ASSOCIATED BOXES & FITTINGS.
- D. REMOVE ALL BRANCH CIRCUIT & FEEDER WIRING AND CABLES. REMOVE ALL ARMORED CABLES. REMOVE ALL TELEPHONE AND SIGNAL CABLES & WIRING.
- E. REMOVE ALL PANELBOARDS, DISCONNECT SWITCHES, STARTERS, ENCLOSED CIRCUIT BREAKERS AND ALL OTHER SIMILAR DISTRIBUTION EQUIPMENT.
- F. WHERE ITEMS TO BE REMOVED ARE SHOWN ON WALLS BEING DEMOLISHED BY G.C., DISCONNECT POWER CIRCUITING TO SAME ITEMS TO PERMIT SAFE DEMOLITION OF WALL & ELECTRICAL ITEMS BY G.C.
- G. WHERE ITEMS TO BE REMOVED ARE SHOWN ON EXISTING WALLS TO REMAIN, REMOVE ITEM AND ASSOCIATED WIRING & ABANDON CONDUIT IN EXISTING WALL. PROVIDE BLANK COVER PLATE OVER EXISTING OUTLET BOX.
- H. TO INSURE CONTINUOUS OPERATION, MAKE NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK WHERE EXISTING WORK IS DISTURBED, RESTORE SAME TO ORIGINAL CONDITION. ALL EXISTING CIRCUITS OR PARTS OF EXISTING CIRCUITS WHICH REMAIN ARE TO BE RESTORED TO WORKING ORDER.

TELEPHONE/DATA SYSTEMS

- A. WALL OUTLETS FOR TELEPHONE & DATA SYSTEMS SHALL CONSIST OF FLUSH MOUNTED 4" SQUARE, PRESSED GALVANIZED STEEL BOXES WITH PLASTER RING COVER WITH ONE OR TWO GANG OPENING AS REQUIRED. FROM EACH OUTLET, RUN ONE CATEGORY CABLE TO A JUNCTION BOX IN THE CLOSET NEAREST THE APARTMENT ENTRANCE. CONDUIT OR CONDUIT THROUGH PARTITION INTO THE MAIN TELEPHONE EQUIPMENT AT THE FLOOR. PROVIDE A PLASTIC BUSHING OVER OPEN END OF CONDUIT IN HUNG CEILING.

- B. WALL TELEPHONE AND DATA SYSTEMS OUTLETS SHALL BE PROVIDED WITH A ONE GANG COVER PLATE WITH 1-1/4" BUSHED OPENING WITH TELEPHONE CABLENG & CONNECTORS.

- C. FURNISH AND INSTALL CONDUIT RUNS, STUB-UPS, OUTLETS & SLEEVES AS SHOWN ON THE DRAWINGS. PROVIDE 2 3" SLEEVES AT EACH FLOOR TO PERMIT PULLING OF TELEPHONE AND CABLE TV.

- D. PROVIDE 3/4" THICK PAINTED, FIRE RESISTANT PLYWOOD BACKBOARD, PAINTED WHITE, OF DIMENSIONS AS INDICATED ON THE PLANS, FOR USE BY THE TELEPHONE COMPANY FOR THEIR TERMINAL STRIPS & EQUIPMENT. PROVIDE RECEPTACLES FOR TELEPHONE AND CABLE EQUIPMENT.

- E. LEAVE A NYLON PULL STRING IN EACH CONDUIT.

- F. OUTLETS SHALL BE MOUNTED AS DIRECTED BY THE ARCHITECT.

- G. PROVIDE A PULL BOX AT THE POINT OF SERVICE ENTRY FOR PULLING & ACCESS. BOX SIZE & TYPE SHALL BE AS REQUIRED BY THE TELEPHONE COMPANY.

SINGLE STATION PHOTOELECTRIC SMOKE DETECTORS:

- A. SHALL BE SIMPLEX TYPE 2098 - 9673 120 VAC, 60 HZ, BASIC WALL OR CEILING MOUNT, QUICK DISCONNECT, 900B PULSATING HORN, ONE FORM "A" AND ONE FORM "C" AUXILIARY CONTACT, HIGH INTENSITY STROBE WITH WHITE LENS & RED "FIRE" LETTERING FOR VISUAL ALARM.

HOLES AND SLEEVES

- A. PROVIDE HOLES AND SLEEVES THROUGH FLOORS AND WALLS AS NECESSARY FOR CONDUIT RUNS.
- B. INSTALL SLEEVES OR FORMS FOR ALL OPENINGS IN NEW WORK.
- C. CORE-DRILL ALL HOLES REQUIRED IN EXISTING BUILDING WORK USING A DUSTLESS METHOD.
- D. PLACE NON-SHRINKING GROUT IN ALL HOLES IN CONCRETE, WALLS, AND FLOORS AFTER INSTALLATION OF CONDUIT.

MAINTAINING FIRE RESISTANCE

- A. NEW CONSTRUCTION: CONDUIT AND EQUIPMENT SHALL BE FIRE-STOPPED TO PREVENT THE PASSAGE OF FLAME, SMOKE, FUMES AND HOT GASES.
- B. EXISTING CONSTRUCTION: THE FIRE RESISTANCE CAPABILITY OF ALL FLOORS, WALLS, PARTITIONS, AND CEILINGS MUST BE SUBSTANTIALLY EQUIVALENT TO ITS ORIGINAL CAPABILITY AFTER INSTALLATION OF CONDUIT OR OTHER EQUIPMENT REQUIRING PENETRATION OF THESE AREAS.
- C. USE APPROVED METHODS OF FIRESTOPPING TO SUIT JOB CONDITIONS.

SHUTDOWNS

- A. INTERRUPTION OF POWER AND AUXILIARY SYSTEMS SHALL BE COORDINATED WITH THE BUILDING AUTHORITIES AND SUCH OUTAGES SHALL OCCUR ONLY DURING PREARRANGED ACCEPTABLE TIME. THE EXISTING BUILDING SHALL NOT BE LEFT WITHOUT USE OF LIGHTING, POWER, ETC., EXCEPT FOR FINAL CONNECTIONS, WHICH SHALL BE PERFORMED AT A TIME CONVENIENT TO THE OWNER. ANY INTERRUPTION OF SERVICE SHALL BE DONE AT A TIME DESIGNATED BY THE BUILDING REPRESENTATIVE AND SHALL BE DONE AT NO ADDITIONAL COST TO THE CONTRACT PRICE.

FINAL CLEANUP AND FIELD TESTS

AFTER COMPLETION OF THE ENTIRE ELECTRICAL INSTALLATION:

- A. BEFORE FINAL ACCEPTANCE WILL BE GRANTED, THE CONTRACTOR SHALL CLEAN ALL LIGHTING FIXTURES, GLASSWARE, PANELBOARDS, CABINETS, DEVICE PLATES, SERVICE FITTINGS AND OTHER ITEMS FURNISHED UNDER THIS CONTRACT, AND SHALL INSURE THAT ALL DIRECTORIES ARE IN PLACE WITH COMPLETED OR REVISED SCHEDULES AND ALL IDENTIFICATIONS AND MARKINGS OF EQUIPMENT, CABLES, AND OTHER ITEMS, ARE COMPLETED.
- B. THE CONTRACTOR SHALL REPAIR OR REPLACE, AS DIRECTED BY THE ENGINEER, AT NO ADDITIONAL COST, ANY ITEM DAMAGED DUE TO INSTALLATION, RELOCATION OR REINSTALLATION.
- C. IN ADDITION TO OTHER TESTS WHICH MAY BE REQUIRED IN THE VARIOUS OTHER DISCIPLINES, PERFORM FIELD TESTS IN THE PRESENCE OF THE ENGINEER, TO DEMONSTRATE THE RELIABILITY OF THE ELECTRICAL INSTALLATION. GIVE THE ENGINEER 48 HOURS ADVANCE NOTICE OF SUCH TESTS. THE FOLLOWING FIELD TESTS SHALL BE PERFORMED BY THE CONTRACTOR.

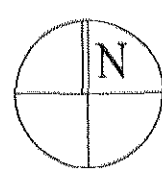
- OPERATE ALL ELECTRICAL EQUIPMENT FOR A PERIOD OF 24 HOURS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- TEST ALL WIRES AND CABLES INSTALLED UNDER THIS CONTRACT WITH A 1000 VOLT MEGOHMMETER. FURNISH THE ENGINEER A COPY OF THE RESULTS TOGETHER WITH AN OUTLINE OF THE METHOD USED. IF IN THE OPINION OF THE ENGINEER, ANY READINGS ARE LOWER THAN REQUIRED BY GOOD PRACTICE OR APPLICABLE CODES, PROMPTLY REPLACE THE MATERIALS OR EQUIPMENT INVOLVED.
- SHOULD THE FOREGOING TEST REVEAL ANY DEFECTS, PROMPTLY CORRECT SUCH DEFECTS AND RE-RUN THE TESTS UNTIL THE ENTIRE INSTALLATION IS SATISFACTORY IN ALL RESPECTS.

RECORD DRAWINGS

- A. THE CONTRACTOR SHALL KEEP CAREFUL RECORD OF ANY AND ALL CHANGES MADE DURING THE PROGRESS OF THE INSTALLATION, AND AT THE CONCLUSION THEREOF SHALL PREPARE A SET OF RECORD REPRODUCIBLE DRAWINGS INDICATING THE "AS-BUILT" MANNER OF INSTALLATION OF ALL ELECTRICAL WORK, WHICH SHALL BE TURNED OVER TO THE OWNER.

FASTENERS

- A. PROVIDE INSERTS, EXPANSION SHIELDS LUGS, ANCHORS, BOLTS WITH NUTS AND WASHERS, SHIMS OR ANY OTHER TYPE OF FASTENING DEVICES REQUIRED TO FASTEN PANELS OR OTHER EQUIPMENT TO FOUNDATIONS, FLOORS, WALLS OR CEILING. UNLESS OTHERWISE SPECIFIED HEREIN OR SHOWN ON THE CONTRACT DRAWINGS, ALL FASTENERS SHALL BE HOT-DIPPED GALVANIZED AND OF SIZES AND TYPES RECOMMENDED BY THE EQUIPMENT MANUFACTURER AND AS APPROVED BY THE ENGINEER.



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General Notes

NOTE:



GENERAL REVISION

10.18.06

3	CONSTRUCTION SET	10.18.06
2	BID SET	06.01.06
1	ISSUED	03.20.06

No.	Revision/Issue	Date
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The Deuce

534 West 42nd Street
New York NY 10036

ELECTRICAL
SPECIFICATIONS

Scale	N/A	Sheet No.
Date	10-10-2006	E-103
Drawn By	REM	

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