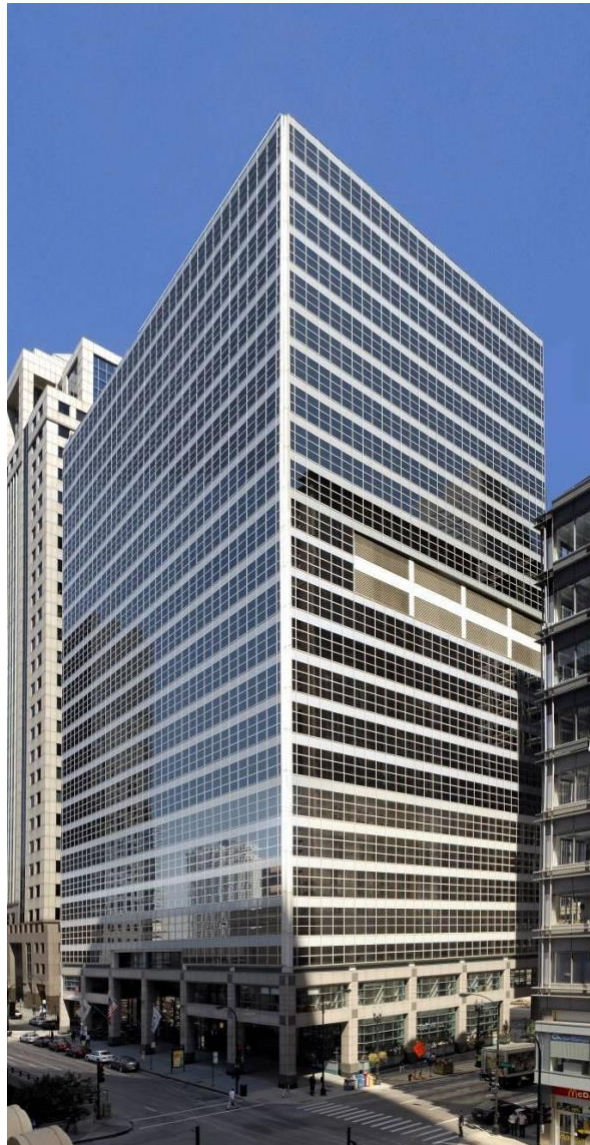




101 North Wacker Drive



CONTRACTOR RULES & REGULATIONS

**101 NORTH WACKER
CONTRACTOR RULES AND REGULATIONS**

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**TENANT CONSTRUCTION & BUILDING STANDARDS
101 NORTH WACKER DRIVE**

RELATED DOCUMENTS

THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, AND SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT DOCUMENTS PREPARED BY THE ARCHITECT ARE A PART OF THE CONTRACT FOR THIS WORK. EACH TRADE CONTRACTOR SHALL CONSULT THESE DOCUMENTS TO INCLUDE ALL OTHER RELATED CONTRACT DOCUMENTS FOR REQUIREMENTS AND INSTRUCTIONS PERTINENT TO HIS SCOPE OF WORK IN ADDITION TO THOSE HEREIN SPECIFIED.

MATERIALS, APPLIANCES, EMPLOYEES

UNLESS OTHERWISE STIPULATED, EACH TRADE CONTRACTOR SHALL PROVIDE AND PAY FOR ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, LIGHT, POWER TRANSPORTATION AND OTHER FACILITIES NECESSARY FOR THE EXECUTION AND COMPLETION OF WORK. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS INCORPORATED IN THE PERMANENT WORK SHALL BE NEW AND BOTH WORKMANSHIP AND MATERIALS SHALL BE OF GOOD QUALITY. EACH TRADE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF MATERIALS.

EACH TRADE CONTRACTOR SHALL AT ALL TIMES ENFORCE STRICT DISCIPLINE AND GOOD ORDER AMONG HIS EMPLOYEES AND SHALL SEEK TO AVOID EMPLOYING ON THE WORK ANY UNFIT PERSON OR ANYONE NOT SKILLED IN THE WORK ASSIGNED TO HIM.

EACH CONTRACTOR SHALL BE RESPONSIBLE FOR THE DELIVERY, HANDLING, STORAGE, ERECTION AND INSTALLATION OF HIS MATERIALS. EACH TRADE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE SECURITY OF HIS TOOLS, EQUIPMENT, AND MATERIALS.

CODES AND STANDARDS

ALL WORK SHALL BE PERFORMED AND PROVIDED TO CONFORM WITH ALL APPLICABLE CODES AND STANDARDS TO INCLUDE THE FOLLOWING:

- AMERICAN STANDARD SAFETY CODE FOR AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
- OCCUPATIONAL SAFETY AND HEALTH STANDARDS (OSHA)
- CHICAGO BUILDING/FIRE CODES, AS WELL AS ANY APPLICABLE STATE AND FEDERAL CODES.



- ALL NECESSARY REQUIREMENTS WITH RESPECT TO COMPLIANCE OF THE MOST CURRENT AMERICANS WITH DISABILITIES ACT (ADA) CODES.

FIELD OBSERVATIONS

EACH TRADE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE TO OBSERVE AND MAKE ANY FIELD MEASUREMENTS OF EXISTING CONDITIONS AFFECTING HIS SCOPE OF WORK AND RELATED COSTS PRIOR TO THE SUBMITTAL OF HIS BID FORM OF PROPOSAL.

EACH TRADE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY EXISTING FIELD CONDITIONS AND/OR DISCREPANCIES BETWEEN THE DRAWINGS, SPECIFICATIONS AND EXISTING CONDITIONS AFFECTING THE SCOPE AND COST OF WORK. NOTIFICATIONS SHALL BE SUBMITTED BY THE CONTRACTOR FOR CLARIFICATIONS BY THE ARCHITECT PRIOR TO THE SUBMITTAL OF THE BID FORM OF PROPOSAL.

NO EXTRA CHARGES SHALL BE ACCEPTED BY THE OWNER FOR WORK THAT HAS TO BE PERFORMED DUE TO THE CONTRACTORS FAILURE TO ADEQUATELY VERIFY EXISTING CONDITIONS.

THIS INCLUDES ALL EXISTING HVAC EQUIPMENT TO BE REUSED. BASEBOARD HEAT, ALL EXISTING VAV BOXES INCLUDING COOLING ONLY BOXES, HEATING BOXES WITH REHEAT COILS, AND FAN POWERED BOXES. ANY NON-OPERATIONAL EQUIPMENT WILL BE REPAIRED AND OR REPLACED AT THE GENERAL CONTRACTORS COST. THIS ALSO APPLIES TO ANY OTHER EXISTING REUSED COMPONENTS RELATED TO THE BUILD OUT (PLUMBING FIXTURES, ELECTRICAL SYSTEMS, AND LIGHTING FIXTURES, ETC.). ALL THESE LISTED SHALL BE CHECKED PRIOR TO THE ONSET OF THE JOB/BUILD OUT.

DRAWING REQUIREMENTS

IT IS THE INTENT AND PURPOSE OF THE DRAWINGS AND SPECIFICATIONS THAT ALL LABOR AND MATERIALS NECESSARY BE PROVIDED FOR COMPLETION OF THE WORK AS GENERALLY INDICATED ON ACCOMPANYING DRAWINGS AND SPECIFIED. LAYOUT OF MECHANICAL, PLUMBING, FIRE PROTECTION, AND ELECTRICAL SYSTEM ARE DIAGRAMMATIC, UNLESS SPECIFICALLY DIMENSIONED. INSTALLATION OF THESE SYSTEMS SHALL BE COMPLETE IN ALL DETAILS, INCLUDING MINOR ITEMS AND ACCESSORIES OR DEVICES NECESSARY FOR THE COMPLETE INSTALLATION AND PROPER OPERATION OF THE SYSTEMS SHOWN; AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SUCH APPURTENANCES AT NO ADDITIONAL COST TO THE CONTRACT WHETHER OR NOT THEY ARE SPECIFICALLY CALLED FOR IN THE SPECIFICATIONS OR ON THE DRAWINGS.

IN CASE OF ANY DISCREPANCY BETWEEN VARIOUS DRAWINGS OR BETWEEN SECTIONS IN THE SPECIFICATIONS, REFER MATTER TO ARCHITECT FOR HIS INTERPRETATION BEFORE ANY WORK IS DONE. INTERPRETATIONS OF DRAWINGS AND SPECIFICATIONS SHALL REST SOLELY WITH ARCHITECT AND HIS INTERPRETATIONS SHALL BE CONSIDERED FINAL.

THE MECHANICAL, PLUMBING, FIRE PROTECTION AND ELECTRICAL DRAWINGS ARE AN INTEGRAL AND INCLUSIVE PART OF THE

ARCHITECTURAL AND STRUCTURAL DRAWINGS. EACH TRADE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR THE FINAL LOCATIONS, CONSTRUCTION DETAILS AND DIMENSIONS FOR ALL WALLS, CEILINGS, DOORS, FLOOR SLEEVES, ETC. AND SHALL COORDINATE ALL LOCATIONS AND INSTALLATION OF HIS RELATED WORK WITH THESE DRAWINGS THROUGH THE GENERAL CONTRACTOR AND THE ARCHITECT.

AS BUILT DRAWINGS / C.A.D.S

AS BUILT DRAWINGS SHALL BE PROVIDED BY EACH RESPECTIVE CONTRACTOR REFLECTING ACTUAL CONDITIONS AT THE COMPLETION OF THE JOB. THESE SHALL INCLUDE ELECTRICAL, H.V.A.C. (MECH.), PLUMBING, AND FIRE PROTECTION. ALL C.A.D.S ARE ALSO APPRECIATED IF AVAILABLE.

COORDINATION

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL WORK OF THE DIFFERENT TRADE CONTRACTORS TO ACHIEVE A COMPLETE AND NEATLY FITTED INSTALLATION.

IN THE EVENT THAT INTERFERENCE OCCUR BETWEEN THE TRADES, THE GENERAL CONTRACTOR SHALL DECIDE AS TO WHICH TRADE SHALL RELOCATED ITS WORK. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE RELOCATION OF WORK.

PERMITS, FEES, ETC.

EACH TRADE SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, LICENSES, CERTIFICATIONS OF INSPECTION COORDINATED THROUGH THE GENERAL CONTRACTOR. EACH TRADE CONTRACTOR SHALL PAY FOR ALL PERMITS.

SHOP DRAWINGS

EACH TRADE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AS REQUIRED BY THE ARCHITECT. REFER TO SPECIFICATIONS ON DRAWINGS FOR ADDITIONAL REQUIREMENTS.

CUTTING AND PATCHING

EACH TRADE CONTRACTOR SHALL DO ALL CUTTING AND PATCHING OF BUILDING MATERIALS, PIPING, ETC., REQUIRED FOR THE INSTALLATION OF HIS WORK. HOWEVER, NO STRUCTURAL MEMBERS SHALL BE CUT WITHOUT THE WRITTEN APPROVAL OF THE BUILDING'S STRUCTURAL

ENGINEER. HOLES CUT IN STRUCTURAL STEEL MUST BE DRILLED OR PUNCHED. CUTTING BY TORCH WILL NOT BE PERMITTED.

ALL CUTTING AND PATCHING OF OR REPAIR OF DAMAGE TO WORK IN PLACE SHALL BE DONE IN A NEAT AND WORKMAN LIKE MANNER. CONTRACTOR WHOSE OPERATIONS REQUIRE CUTTING OF WORK IN PLACE, OR WHO CAUSES DAMAGE WHICH ENTAILS REPAIRS OF SUCH WORK SHALL EMPLOY MECHANICS OF THE PARTICULAR TRADE TO REPAIR THE DAMAGE AND SHALL PAY ALL COSTS FOR SUCH PATCHING OR REPAIR.

EACH TRADE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY BUILDING SYSTEMS DAMAGED BY FLOOR PENETRATIONS OR CORE DRILLING.

HOIST, RIGGING AND SCAFFOLDING

EACH TRADE CONTRACTOR SHALL PROVIDE NECESSARY SCAFFOLDING STAGING, CRIBBAGE, TACKLE, HOISTS AND RIGGING REQUIRED FOR THE HANDLING AND INSTALLATION OF HIS WORK.

SCAFFOLDING AND HOISTING EQUIPMENT SHALL COMPLY WITH REQUIREMENTS OF ALL PERTINENT FEDERAL, STATE, AND LOCAL CODES AND LAWS.

USE OF THE BUILDING ELEVATORS SHALL BE DIRECTED BY THE BUILDING ENGINEER.

RESTORATION OF FACILITIES

REPLACE AND RESTORE TO THEIR ORIGINAL UNDAMAGED CONDITION, FACILITIES AND EQUIPMENT OF EVERY DESCRIPTION DAMAGED OR DISTURBED BY CONTRACTOR DURING PROGRESS OF WORK. SUCH REPLACEMENT OR RESTORATION APPLIES TO BOTH SURFACE AND SUBSURFACE INSTALLATIONS AD MATERIALS, AND SHALL BE PERFORMED BY WORKMAN SKILLED IN THEIR RESPECTIVE TRADE, AND PAID FOR BY THIS CONTRACTOR.

WINDOW BLINDS

ALL WINDOW BLINDS PRIOR TO START OF CONSTRUCTION SHALL BE PROTECTED AND WRAPPED WITHIN PLASTIC BAGS TO AVOID ANY DAMAGE DURING THE DURATION OF CONSTRUCTION.

ELEVATOR DOOR PROTECTION

GENERAL CONTRACTOR SHALL PROTECT AND FULLY COVER EACH OF THE PASSENGER ELEVATOR DOORS PRIOR TO COMMENCING CONSTRUCTION. AT NO TIME DURING THE CONSTRUCTION PERIOD SHALL PASSENGER ELEVATORS BE USED, ONLY FREIGHT ELEVATOR. THIS SHALL BE DONE BY THE GC BY: I) CUSTOM CUT A PIECE OF DRYWALL TO FIT THE ELEVATOR THRESHOLD/OPENING AND SECURED IN PLACED WITH HEAVY DUTY TAPE II) PLACE CLEAR PLASTIC BARRIER SHEET AROUND THESE DRYWALL PIECES TO MAKE THEM AIRTIGHT III) CUT 10" DIAMETER HOLE IN DRWAYLL AND PLACE PIECE OF PLEXIGLASS ON THE DRYWALL TO ALLOW SIGHT FROM ELEVATOR SIDE IN CASE OF EMERGENCY AND IV) ON THE BACK SIDE OF THE DRYWALL BARRIER, GC SHALL PLACE A PROFESSIONAL LAMINATED SIGN TO STATE "DANGER CONSTRUCTION SITE – NO ACCESS." THIS PASSENGER ELEVATOR PROTECTION SHALL REMAIN THROUGHOUT THE DURATION OF THE CONSTRUCTION PERIOD.

REMOVAL OF RUBBISH

CONTRACTOR SHALL REMOVE ALL RUBBISH FROM HIS WORK AS IT ACCUMULATES, LEAVING THE PREMISES IN A CLEAN AND ACCEPTABLE CONDITION AT ALL TIMES.

ON COMPLETION OF HIS WORK THE CONTRACTOR SHALL REMOVE FROM THE SITE, TOOLS, EQUIPMENT, SURPLUS MATERIALS AND RUBBISH PERTAINING TO HIS OWN OPERATIONS. THE CONTRACTOR SHALL PAY FOR SUCH REMOVAL AND DISPOSAL AND SHALL COOPERATE WITH GENERAL CONTRACTOR IN FINAL CLEANING.

GUARANTEES

THE CONTRACTOR SHALL GUARANTEE ALL WORK PERFORMED, MATERIALS AND EQUIPMENT FURNISHED UNDER HIS CONTRACT AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE COMPLETED WORK BY THE ARCHITECT IN ACCORDANCE WITH "GENERAL CONDITIONS." REPAIRS OR REPLACEMENTS MADE UNDER THE GUARANTEE SHALL BEAR AN ADDITIONAL ONE (1) YEAR GUARANTEE FROM THE DATE OF REPAIR OR REPLACEMENT. PROVIDE ALL SERVICE NECESSARY AND INCIDENTAL TO PROPER PERFORMANCE OF ALL SYSTEMS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE OF COMPLETED INSTALLATION AT NO ADDITIONAL CHARGE TO THE CONTRACT.

I. ELECTRICAL SPECIFICATIONS

GENERAL CONDITIONS

THE GENERAL CONDITIONS OF THE CONTRACT, AIA, AND THE SUPPLEMENTAL GENERAL CONDITIONS SHALL BE PART OF THE CONTRACT FOR THIS JOB. THIS CONTRACTOR SHALL CONSULT THEM IN DETAIL FOR INSTRUCTION PERTAINING TO THE WORK UNDER THIS TRADE.

TENANT POWER SERVICE

600 AMP 208/120 VOLT, 3 PHASE, 4 WIRE, 60 HZ. SERVICE PER FLOOR. DESIGN WATTAGE DENSITY FOR TENANT LIGHTING, RECEPTACLE, AND APPLIANCE LOADS IS (4.9) 5 W/sq. ft.

BALANCED LOADS

ALL TENANT AND BUILDING PANELS (EM INCLUDED) SHALL HAVE POWER FEEDS FROM BREAKERS EQUALLY DISTRIBUTED BETWEEN ALL THREE LEGS TO PREVENT AN UNBALANCED LOAD CONDITION IN SAID PANEL.

CODES

IN GENERAL, ALL WORK PERFORMED UNDER THIS CONTRACT SHALL MEET OR EXCEED THE LATEST REQUIREMENTS OF THE CODES OF ALL NATIONAL, STATE, CITY OF CHICAGO ELECTRICAL CODE, AND OTHER AUTHORITIES EXERCISING JURISDICTION OVER CONSTRUCTION WORK AT THE PROJECT.

PERMITS, FEES AND INSPECTIONS AND METERING

THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS, FEES, INSPECTIONS, ETC. AND SHALL PAY FOR SAME AS REQUIRED. AT THE COMPLETION OF THE WORK, HE SHALL DELIVER TO THE OWNER ALL REQUIRED PERMITS, CERTIFICATES OF APPROVAL ETC., OBTAINED FROM THE VARIOUS BUREAUS AND DEPARTMENTS HAVING JURISDICTION OVER THE PROJECT. THE CONTRACTOR SHALL ENSURE THAT PROPER ELECTRIC METER(S) ARE ARRANGED FOR AND INSTALLED BY THE UTILITY COMPANY.

TAXES

PAY FOR ALL TAXES AS THEY APPLY FOR ELECTRICAL INSTALLATION.

TEMPORARY LIGHT AND POWER

TEMPORARY LIGHT AND POWER FOR THE PROJECT (INSTALLATION, EQUIPMENT, MATERIALS AND MAINTENANCE) SHALL BE INCLUDED AS PART OF THE ELECTRICAL WORK, IN A MANNER CONSISTENT WITH NORMAL PRACTICE.

WHEN PERMANENT WIRING IS AVAILABLE, TEMPORARY LIGHTING AND POWER REQUIRED BY THE GENERAL CONTRACTOR SHALL BE REMOVED. THIS INCLUDES SUCH SYSTEMS ALREADY AVAILABLE ON THE PROJECT SITE.

VISIT TO SITE

ELECTRICAL CONTRACTOR SHALL VISIT SITE TO ACQUAINT HIMSELF WITH EXISTING CONDITIONS AND SHALL INCLUDE IN PROPOSAL ANY ELECTRICAL ITEMS WHICH ARE NOT INDICATED ON ELECTRICAL, ARCHITECTURAL DRAWINGS, BUT ARE IMPLIED AND CAN BE REASONABLY ASSUMED BY A VISIT TO THE PREMISES. FINAL DECISION BY THE ENGINEER.

NO EXTRA CHARGES SHALL BE ACCEPTED BY THE OWNER FOR WORK THAT HAS TO BE PERFORMED DUE TO THE CONTRACTOR'S FAILURE TO ADEQUATELY VERIFY EXISTING CONDITIONS.

RECORD DRAWINGS

DURING CONSTRUCTION, THE CONTRACTOR SHALL KEEP AN ACCURATE RECORD OF ALL DEVIATIONS BETWEEN THE WORK AS SHOWN ON THE CONTRACT DRAWINGS AND THAT WHICH IS ACTUALLY INSTALLED. AT COMPLETION OF JOB, TURN OVER MARKED DRAWINGS TO ENGINEER.

CUTTING, CHANNELING, SLEEVES, OPENINGS AND PATCHING

ANY CUTTING, CHANNELING, SLEEVES, OPENINGS FOR ELECTRICAL INSTALLATION SHALL BE PART OF THE ELECTRICAL WORK.

BEFORE ANY WORK IS STARTED, WRITTEN APPROVAL MUST BE OBTAINED FROM THE BUILDING'S STRUCTURAL ENGINEER.

ANY OF THE ABOVE WORK DONE BY ELECTRICAL CONTRACTOR MUST BE PATCHED AS PER ENGINEER REQUIREMENTS.

ANY DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

RUBBISH REMOVAL

ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ANY CRATES, CARTONS, DEBRIS, ETC., INCLUDING EQUIPMENT FURNISHED OTHERS AND UNCRATED OR REMOVED FROM CARTONS CAUSED BY ELECTRICAL CONTRACTOR FROM THE PREMISES. ANY COSTS FOR REMOVAL OF SAID ITEMS SHALL BE AT ELECTRICAL CONTRACTOR'S EXPENSE.

DRAWINGS

ELECTRICAL CONTRACTOR SHALL SUBMIT NECESSARY DRAWINGS FOR INSPECTION AND/OR REVIEW AND APPROVAL TO GOVERNING AUTHORITIES IF REQUIRED.

RECEIPT AND STORAGE OF EQUIPMENT AND MATERIALS FURNISHED BY OTHERS

WHERE ITEMS OF EQUIPMENT AND/OR MATERIALS ARE FURNISHED BY OTHERS FOR INSTALLATION BY THE ELECTRICAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE UNLOADING, HANDLING, AND INSTALLATION OF SUCH EQUIPMENT AND/OR MATERIAL FROM THE DELIVERY TRUCKS.

ELECTRICAL CONTRACTOR SHALL CHECK EQUIPMENT AND/OR MATERIAL FROM RECEIPT AND NOTIFY PARTY FURNISHING ITEMS OF ANY ITEMS DAMAGED OR MISSING.

ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EQUIPMENT AND/OR MATERIALS DAMAGED, AND SHALL REPLACE SAME, AFTER DELIVERY, UNLESS AS DETERMINED BY THE ARCHITECT THAT THE ITEMS WERE DAMAGED PRIOR TO RECEIPT. STORE EQUIPMENT AND/OR MATERIAL.

EQUIPMENT AND MATERIAL

ALL EQUIPMENT AND MATERIALS, UNLESS SPECIFICALLY NOTED OTHERWISE, SHALL BE NEW.

CABLE AND WIRE

ALL WIRE AND/OR CABLE SHALL BE COPPER.

COPPER CABLE SHALL TERMINATE IN SOLDERLESS LUGS.

MINIMUM, SIZE #12 GAUGE WITH "THHN/THWN," #8 AND LARGER SHALL BE "THW."

ALL CABLE AND/OR WIRE SHALL BE INSTALLED IN CONDUIT. THIS INCLUDES ALL “PLENUM RATED” DATA, TV COAXIAL, OR COMMUNICATION TYPES OF CABLING.

CONDUIT

IN GENERAL, CONDUIT SHALL BE CONCEALED WHEREVER POSSIBLE OR SURFACE RACEWAY (WIREMOLD WITH ASSOCIATED FITTINGS OR APPROVED EQUAL) USED IN FINISH AREAS, AND CONDUIT CAN BE EXPOSED IN UNFINISHED AREAS OR WHERE OTHER MECHANICAL TRADES INSTALLED EXPOSED PIPING. EXPOSED CONDUIT SHALL BE RUN PARALLEL AND PERPENDICULAR TO BUILDING WALLS. VERIFY SURFACE RACEWAY AND EXPOSED CONDUIT INSTALLATIONS WITH ARCHITECT PRIOR TO INSTALLATION. EMT COMPRESSION FITTINGS SHALL BE USED.

ALL CONDUIT THAT IS ABANDONED SHALL BE REMOVED BACK TO ITS SOURCE. ALL CONDUIT ABANDONED IN WALL OR DECK SHALL HAVE THE WIRE REMOVED BACK TO ITS SOURCE, AND CONDUIT SHALL BE PLUGGED OR CAPPED. FLEXIBLE CONDUIT SHALL BE A MAXIMUM OF SIX (6) FEET LONG.

FLOOR CORING

CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY BUILDING SYSTEMS DAMAGED BY FLOOR PENETRATIONS OR CORE DRILLING. PRIOR TO CORING, FLOOR SLAB MUST BE X-RAYED OR SCANNED. THERE ARE EXISTING BASE BUILDING CONDUITS RUNNING THROUGH THE FLOOR SLABS. CORING LOCATIONS MUST BE APPROVED BY BUILDING’S STRUCTURAL ENGINEER.

HANGER SUPPORTS AND ANCHORS

ALL ELECTRICAL WORK-CONDUIT JUNCTION BOXES, PULL BOXES ETC., ABOVE THE SUSPENDED CEILING SHALL BE PROPERLY SUPPORTED DIRECTLY FROM STRUCTURAL SLABS, DECKS OR FRAMING MEMBERS.

NO ELECTRICAL SYSTEMS SHALL REST ON OR DEPEND FOR SUPPORT FROM: SUSPENDED CEILING MEDIA, HVAC DUCTWORK OR EQUIPMENT, SPRINKLER OR PLUMBING SYSTEMS.

IDENTIFICATION AND TAGGING

PROVIDE PERMANENT IDENTIFICATION MARKINGS AND NAME PLATES FOR WIRING AND EACH ITEM OF ELECTRICAL APPARATUS AND ASSOCIATED CONTROLLED EQUIPMENT, WITH THE SAME INSCRIPTIONS

AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE OWNER. PANELS SHALL BE CLEARLY LABELED WITH NEATLY APPLIED ENGRAVED LAMINATED PLASTIC LABELS - BLACK WITH WHITE LETTERS SHALL BE MINIMUM 1/2" HIGH AND LABEL SHALL BE MINIMUM 1 3/4" HIGH BY 3" LONG.

PROVIDE A NEW TYPEWRITTEN (UPDATE WHERE NECESSARY) DIRECTORY OF CIRCUITS IN EXISTING LIGHTING AND POWER PANELS AND PROVIDE PANEL IDENTIFICATION. INCLUDE THE ROOM NAMES, NUMBERS AND ITEMS SERVED.

ARC FLASH ANALYSIS LABELING INDICATING THE PROPER PPE SHALL BE ON ALL ELECTRICAL PANELS, DISCONNECTS, AND ANY OTHER ELECTRICAL EQUIPMENT WHERE REQUIRED BY OSHA AND OTHER CODE STANDARDS.

CABLE TAGGING AND/OR IDENTIFICATION

ALL CONTRACTORS RUNNING CABLING, AND/OR CONDUIT CONTAINING CABLING, IN THE BUILDING PHONE/DATA CLOSETS, STAIRWELLS, MECHANICAL AREAS, COMMON AREAS, OR THE MAIN PHONE ROOM ON THE LOWER LEVEL, SHALL TAG AND/OR IDENTIFY THE SAME. ALL CABLING AND/OR CONDUIT WILL BE MARKED ON EACH FLOOR IT PASSES THROUGH. IDENTIFICATION SHALL INCLUDE THE TYPE OF CABLE (VOICE/DATA, FIBER OPTIC, ETC.), THE TENANT WHO OWNS THE CABLE, AND THEIR SUITE NUMBER. NO TENANT MAY BE MOUNTED WITHIN ANY BUILDING CORE CLOSETS.

JUNCTION AND PULL BOXES

ELECTRICAL BOXES INSTALLED IN AIR PLENUM CEILING SHALL BE IN ACCORDANCE WITH CHICAGO BUILDING CODE AND ALL OTHER APPLICABLE CODES AND STANDARDS.

ALL COVERS SHALL BE ACCESSIBLE.

OUTLET BOXES

UNUSED KNOCK-OUT HOLES SHALL REMAIN CLOSED.

OUTLET BOXES INSTALLED IN PLENUM CEILING SHALL BE IN ACCORDANCE WITH CHICAGO BUILDING CODE AND ALL OTHER APPLICABLE CODES AND STANDARDS.

THERE ARE NO OUTLETS ALLOWED IN THE BASE BUILDING PERIMETER WALLS.

WIRING DEVICES

WIRING DEVICES SHALL BE BUILDING STANDARD. COLOR OF DEVICES SHALL BE WHITE OR AS DIRECTED BY ARCHITECT.

1. SINGLE 20A, NEMA 5-20R, HUBBELL 5361 OR P&S, BRYANT EQUAL.
2. DUPLEX 20A NEMA 5-20R, HUBBEL, 5263 OR P&S, BRYANT EQUAL.
3. DEDICATED AND COMPUTER DUPLEX 20A NEMA 5-20R, HUBBELL 5362 OR P&S, BRYANT EQUAL.
4. GFI DUPLEX 20A NEMA 5-20R, HUBBELL GF5362 OR P&S, BRYANT EQUAL.

COVER PLATES

PROVIDE AND INSTALL APPROPRIATE COVER PLATES FOR ALL OUTLET OPENINGS.

IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO INSURE ALL COVERS ON ELECTRICAL PANELS, METERS AND SWITCHGEARS ARE SECURED. ALL PANEL METERS AND SWITCHGEAR SHALL BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

FIRE SPEAKERS/STROBES

FIRE ALARM SPEAKER/STOBES SHALL BE INSTALLED ACCORDING TO CHICAGO BUILDING CODE AND ALL OTHER APPLICABLE CODES.

ELECTRICAL CONTRACTOR SHALL PIPE ALL NEW AND RELOCATED SPEAKERS/STROBES TO NEAREST FIRE COMMAND ZONE. ALL FINAL TERMINATIONS AND TESTING TO BE PERFORMED BY AFFILIATED FIRE COMPANY.

ELECTRICAL CONTRACTORS PROVIDE NEW SPEAKER/STROBE DEVICES WHELOCK MODEL ET-1080-LSM-VFR. WHELOCK MODEL ET-1080-R (25/70 VRMS) #113141 (SPEAKER ONLY).

LOCATION OF E.O.L. DEVICE MUST BE DENOTED ON PRINT.

ELECTRICAL CONTRACTOR SHALL EXTEND EXISTING WIRING PIPING AND NEW WIRING AND PIPING AS REQUIRED FOR A COMPLETE SYSTEM.

ELECTRICAL CONTRACTOR SHALL CONSULT MANUFACTURER AND PROVIDE ALL MODIFICATIONS TO EXISTING AS REQUIRED.

FIRE SPEAKER/STROBE TESTING

UPON COMPLETION OF THE INSTALLATION A TEST OF THE SPEAKER/STROBE DEVICES WILL BE PERFORMED BY THE BASE BUILDING FIRE ALARM VENDOR TO VERIFY PROPER OPERATION.

ELECTRICAL BASEBOARD HEATERS

PER THE REVISED COC ELECTRICAL CODE ONLY ONE EMERGENCY DISCONNECT WALL SWITCH AND RELAY SHALL BE REQUIRED FOR EACH BAY BETWEEN EXTERIOR COLUMNS. ALL EXISTING ADDITIONAL SWITCHES AND RELAYS SHALL BE REMOVED AND REWIRED ACCORDINGLY DURING ANY FUTURE BUILD OUTS.

GENERAL CONTRACTOR SHALL FULLY PROTECT AND COVER ALL ELECTRICAL BASEBOARD HEATERS TO AVOID ANY DAMAGE THROUGHOUT THE CONSTRUCTION PROCESS TO THE UNITS.

LIGHTING FIXTURES

PROVIDE LIGHTING FIXTURES OF SIZES, TYPES AND RATINGS INDICATED, COMPLETE WITH BUT NOT NECESSARILY LIMITED TO HOUSING, LAMPS, LAMP HOLDERS, REFLECTORS, BALLASTS, STARTERS AND WIRING.

FLORESCENT LAMP BALLAST

PROVIDE FLORESCENT LAMP BALLASTS CAPABLE OF OPERATING LAMP TYPES INDICATED WITH HIGH PER FACTOR, RAPID START, LOW NOISE FEATURES, TYPE 1 CLASS P, SOUND RATED A, AND WITH INTERNAL THERMAL PROTECTION.

BALLAST SHALL BE ENERGY EFFICIENT TYPE GENERAL ELECTRIC WATT MISER OR EQUAL OF ADVANCE TRANSFORMER COMPANY OR UNIVERSAL MANUFACTURING COMPANY.

LAMPS

LAMPS SHALL BE MANUFACTURED BY GENERAL ELECTRIC, SYLVANIA OR PHILIPS. FLUORESCENT LAMPS SHALL BE THE T5 TYPE.

TESTING

AT THE COMPLETION OF THE WORK, TEST AND DEMONSTRATE TO COMPLETE SATISFACTION THAT ALL WIRING HAS BEEN PROPERLY DONE, THAT THE ENTIRE INSTALLATION IS FREE FROM ABORT CIRCUITS, IS PROPERLY GROUNDED PERFECTLY INSULATED AND FREE FROM MECHANICAL AND ELECTRICAL DEFECTS. THIS SHALL INCLUDE TESTING OF MOTORS FOR CORRECT OPERATION AND ROTATION.

GUARANTEE

ELECTRICAL CONTRACTOR SHALL LEAVE THE ENTIRE ELECTRICAL SYSTEM INSTALLED IN THIS CONTRACT IN PROPER WORKING ORDER, AND SHALL, WITHOUT ADDITIONAL CHARGE, REPLACE ANY WORK WHICH DEVELOPS DEFECTS EXCEPT FROM ORDINARY WEAR AND TEAR WITHIN ONE YEAR FROM DATE OF FINAL CERTIFICATE OF COMPLETION FROM ARCHITECT.

FIELD QUALITY CONTROL

UPON COMPLETION OF INSTALLATION OF INTERIOR LIGHTING FIXTURES AND AFTER BUILDING CIRCUITRY HAS BEEN ENERGIZED, APPLY ELECTRICAL ENERGY TO DEMONSTRATE CAPABILITY AND COMPLIANCE WITH REQUIREMENTS. WHERE POSSIBLE, CORRECT MALFUNCTIONING UNITS AT SITE, THEN RETEST TO DEMONSTRATE COMPLIANCE; OTHERWISE REMOVE AND REPLACE WITH NEW UNITS AND PROCEED WITH RETESTING.

AT THE TIME OF SUBSTANTIAL COMPLETION, REPLACE LAMPS IN INTERIOR LIGHTING FIXTURES WHICH ARE OBSERVED TO BE NOTICEABLY DIMMED AFTER CONTRACTORS USE AND TESTING, AS JUDGED BY ARCHITECT/ENGINEER.

II. HVAC SPECIFICATIONS

SCOPE OF WORK

FURNISH, INSTALL AND MAKE OPERATIONAL ALL VAV BOXES AND DUCTWORK AS SHOWN ON THE PLANS AND DESCRIBED IN THE SPECIFICATIONS INCLUDING BUT NOT LIMITED TO: ALL SHEET METAL WORK, DEMOLITION, CONTROL WORK AND CUTTING OF ACCESS.

VISIT TO SITE

THE MECHANICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING THE BID, TO VERIFY ALL EXISTING CONDITIONS AND ASSURE THAT ALL REQUIRED WORK IS INCLUDED IN THE BID PRICE.

NO EXTRA CHARGES SHALL BE ACCEPTED BY THE OWNER FOR WORK THAT HAS TO BE PERFORMED DUE TO THE CONTRACTORS FAILURE TO ADEQUATELY VERIFY EXISTING CONDITIONS AND OPERATION OF ALL HVAC EQUIPMENT. SEE FIELD OBSERVATIONS SECTION FOR A MORE DETAILED REQUIREMENT.

GENERAL CONDITIONS

THE GENERAL CONDITIONS OF THE CONTRACT, AIA, AND THE SUPPLEMENTAL GENERAL CONDITIONS SHALL BE PART OF THE CONTRACT FOR THIS JOB. THIS CONTRACTOR SHALL CONSULT THEM IN DETAIL FOR INSTRUCTIONS PERTAINING TO THE WORK UNDER THIS TRADE.

CODES

IN GENERAL, ALL WORK PERFORMED UNDER THIS CONTRACT SHALL MEET OR EXCEED THE LATEST REQUIREMENTS OF THE CODES OF ALL NATIONAL, STATE, CITY OF CHICAGO BUILDING CODE, AND OTHER AUTHORITIES EXERCISING JURISDICTION OVER CONSTRUCTION WORK AT THE PROJECT.

PERMITS, FEES AND INSPECTIONS

THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS, FEES, INSPECTIONS, ETC., AND SHALL PAY FOR SAME AS REQUIRED. AT THE COMPLETION OF THE WORK, HE SHALL DELIVER TO THE OWNER ALL REQUIRED PERMITS, CERTIFICATES OF APPROVAL ETC., OBTAINED FROM THE VARIOUS BUREAUS AND DEPARTMENTS HAVING JURISDICTION OVER THE PROJECT.

TAXES

PAY FOR ALL TAXES AS THEY APPLY FOR THIS INSTALLATION.

SUBMITTALS

THIS CONTRACTOR SHALL SUBMIT MANUFACTURERS DATA SHEETS ON ALL EQUIPMENT, VAV BOXES DIFFUSERS AND OTHER COMPONENTS SHOWN ON THESE PLANS AND DESCRIBED IN THE SPECIFICATIONS TO THE MECHANICAL ENGINEER FOR REVIEW.

HVAC DRAWINGS

THESE DRAWINGS ARE TO SHOW THE SCOPE OF THE REQUIRED WORK, THEY ARE NOT COORDINATED SHOP DRAWINGS NOR ARE THEY DIMENSIONALLY PERFECT. BIDDING CONTRACTORS SHALL MAKE WHATEVER ALLOWANCES ARE NECESSARY IN ORDER TO FIT, COORDINATE AND COMPLETE THIS WORK FOR THE QUOTED SUM.

AS BUILT DRAWINGS

THE CONTRACTOR SHALL FURNISH THE OWNER WITH A REPRODUCIBLE MYLAR AS-BUILT DRAWING INDICATING THE ACTUAL SIZE AND LOCATION



OF DUCTWORK, EQUIPMENT, THERMOSTATS AND OTHER HVAC RELATED COMPONENTS. THESE DRAWINGS SHALL BE MADE AT THE CONTRACTORS EXPENSE ON MYLAR SHEETS.

BIDDING

FURNISH A BASE PRICE FOR ALL WORK SHOWN ON THE PLANS AND DESCRIBED IN THE SPECIFICATIONS.

CHANGES

THE LAY-OUT AND SIZES OF DUCTWORK AND EQUIPMENT ON THIS PROJECT HAVE BEEN FIELD VERIFIED, ALTHOUGH SOME OFFSETS MAY NOT BE SHOWN. ANY CHANGES THE CONTRACTOR PROPOSES TO MAKE MUST BE SUBMITTED TO THE ENGINEER WITH HIS BID IN WRITING. AFTER THE CONTRACT HAS BEEN AWARDED. CHANGES TO THE LAY-OUT OR SIZES MUST BE SUBMITTED TO THE ENGINEER IN THE FORM OF DIMENSIONED SHOP DRAWINGS FOR APPROVAL.

COORDINATION OF TRADES

THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES TO AVOID INTERFERENCE WITH THE WORK OF OTHER TRADES. HVAC WORK THAT INTERFERES WITH THAT OF OTHER TRADES DUE TO LACK OF COORDINATION SHALL BE CHANGED AT NO ADDITIONAL COST TO THE OWNER.

CLEANING

ALL AREAS SHALL BE BROOM CLEANED UPON COMPLETION AND ALL EXCESS MATERIALS AND WASTE SHALL BE REMOVED FROM THE JOB SITE DAILY.

CUTTING

EACH TRADE SHALL DO THE REQUIRED CUTTING NECESSARY FOR THE PASSAGE OF HIS OWN WORK. THE GENERAL CONTRACTOR SHALL PATCH THE CONSTRUCTION, AS LONG AS THE CUTTING IS DONE IN A TIMELY AND PROPER MANNER.

CEILING

THE CEILING SYSTEM ON THE PROJECT IS 2X2 LAY-IN ACOUSTICAL TILE.

DEMOLITION

THE MECHANICAL CONTRACTOR MAY VISIT THE SPACE AND PROVIDE A VOLUNTARY ADDITIVE PRICE FOR DEMOLITION OF THE EXISTING SYSTEMS.

SOME MINOR DEMOLITION OF DUCTWORK AND PIPING MAY BE REQUIRED BY THE CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL INCLUDE AN ALLOWANCE TO REMOVE AND DISPOSE OF ALL REMAINING DUCTWORK, PIPING AND EQUIPMENT AS REQUIRED TO ACHIEVE THE FINAL INSTALLATION AS SHOWN ON THE DRAWINGS AT NO ADDITIONAL COST.

FIRST SHUT OFF 120 VOLTS TO CONTROL TRANSFORMERS IN VAV BOXES, THEN REMOVE ALL EXISTING THERMOSTATS PRIOR TO GENERAL DEMOLITION AND RETURN THEM TO THE BUILDING ENGINEER IN GOOD CONDITION WITH ALL COVERS AND MOUNTING HARDWARE. INCLUDE SPECIAL REQUIREMENTS FOR THE SPACE.

EXHAUST

TENANT IS NOT ALLOWED TO EXHAUST INTO THE BUILDING'S PLENUM OR TIE-IN TO THE BUILDING'S TOILET EXHAUST. PERMISSION TO TIE INTO THE BUILDING'S GENERAL EXHAUST IS DEPENDENT ON CFM AND EXHAUST TYPE AND MUST BE APPROVED BY LANDLORD AND LANDLORD'S MEPFP ENGINEER BEFOREHAND.

INTERFERENCE AND ENGINEER AVAILABILITY

IF THE FOREMAN FEELS THAT THE INSTALLATION CAN BE IMPROVED, EXPEDITED OR CAN NOT BE INSTALLED PER THE PLANS A REPRESENTATIVE OF THE MECHANICAL ENGINEER IS AVAILABLE AT THE JOB SITE IF REQUESTED. THE MECHANICAL ENGINEER ENCOURAGES THE CONTRACTOR/FOREMAN TO MAINTAIN SUCH COMMUNICATION BETWEEN THE INSTALLERS AND ENGINEER THROUGHOUT THE COURSE OF THE PROJECT.

SERVICE ACCESS

ALL NEW SERVICEABLE EQUIPMENT AND COMPONENTS SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION WITH APPROPRIATE CLEARANCES FROM ADJACENT EQUIPMENT AND/OR STRUCTURES. CLEARANCES SHALL BE PER THE CHICAGO BUILDING CODE AND THE MANUFACTURERS INSTALLATION INSTRUCTIONS. THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR THE FINAL LOCATION OF ALL EQUIPMENT IN THE FIELD.

ALL VAV BOXES SHALL BE ACCESSIBLE THROUGH ONE FULL CEILING TILE.

ACCESS PANELS SHALL BE INSTALLED IN DRYWALL CEILINGS TO ALLOW ACCESS TO SERVICE OR REACH ANY VAV BOXES, J-BOXES, ETC.

AIR BALANCING

AERO TEST AND BALANCING IS THE BUILDING BALANCING VENDOR. CONTACT INFORMATION IS IN THE VENDOR SECTION BELOW.

THE MECHANICAL CONTRACTOR SHALL INCLUDE AIR BALANCING IN THE BID BY AN INDEPENDENT AIR TESTING AND BALANCING CONTRACTOR. THIS CONTRACTOR SHALL BE TOTALLY INDEPENDENT OF THE SHEET METAL CONTRACTOR.

THE AIR BALANCER SHALL ADJUST THE SHEAVE FOR THE NEW/EXISTING EXHAUST FAN TO EXHAUST THE VOLUME SHOWN ON THE PLANS.

THE AIR BALANCER SHALL ADJUST THE AIR SUPPLY TO ALL THE OUTLETS SHOWN WITHIN CONTRACT LIMITS TO WITHIN 5% OF THE ASSIGNED AIR QUANTITY.

THE AIR BALANCER SHALL ADJUST THE VAV BOX CFM TO THE MAXIMUM SHOWN ON THE PLAN PER MANUFACTURER'S INSTRUCTION. SET THE VAV BOX MINIMUM CFM PER MECHANICAL ENGINEER DESIGN AHU REQUIREMENTS.

IF THE FINAL BALANCE CANNOT BE ACHIEVED THE BALANCER SHALL PROPORTIONALLY BALANCE THE OUTLETS TO THE RATIO OF THE TOTAL AVAILABLE AIR VOLUME DIVIDED BY THE TOTAL DESIGN VOLUME TIME THE DESIGN OUTLET VOLUME.

THE BALANCER SHALL UTILIZE THE DUCT DAMPERS AND BRANCH SPLITTERS TO SET INITIAL VOLUMES. DIFFUSERS AND GRILLE DAMPERS SHALL BE USED FOR FINE TUNE ADJUSTMENTS ONLY.

AIR BALANCER MUST NOTIFY BUILDING ENGINEER BEFORE STARTING WORK.

CENTRAL FAN SYSTEM SHORTAGES SHALL BE REPORTED TO THE OWNER.

THIS CONTRACTOR SHALL PROVIDE TWO SETS OF VENTILATION TEST REPORTS WITH MARKED-UP PRINTS TO THE OWNER AND ONE SET OF SAME TO THE MECHANICAL ENGINEER.

REPORTS SHALL SHOW DESIGN, INITIAL, AND FINAL AIR VOLUME FOR EACH OUTLET. OUTLETS ARE TO BE TOTALED FOR THE VAV BOX SERVING



THE OUTLETS. INDICATE VAV BOX TAG, DESIGN AND ACTUAL CFM, INLET SIZE, AND THERMOSTAT MINIMUM AND MAXIMUM VOLTAGE READINGS.

WARRANTY

THIS CONTRACTOR SHALL WARRANTY ALL MATERIALS, PURCHASED EQUIPMENT INSTALLED AND LABOR PERFORMED UNDER THIS CONTRACT TO BE FREE OF DEFECTS FOR A PERIOD OF ONE FULL YEAR FROM THE DATE OF SIGN OFF FOR FINAL PAYMENT. THIS INCLUDES ENFORCEMENT OF THE MANUFACTURERS WARRANTIES ON ALL NEW EQUIPMENT.

DUCTWORK REQUIREMENTS

GENERAL

DUCTWORK REQUIREMENTS ARE DIVIDED INTO MEDIUM PRESSURE AND LOW PRESSURE SECTIONS. MEDIUM PRESSURE DUCTWORK SHALL INCLUDE ALL DUCTWORK UPSTREAM OF THE VAV BOXES, LOW PRESSURE DUCTWORK SHALL INCLUDE ALL DUCTWORK DOWNSTREAM OF THE VAV BOXES.

CEILING GRID

COORDINATE DUCT RUNS AND DIFFUSER LOCATIONS WITH CEILING LAYOUT. VERIFY TILE AND LIGHTING LOCATIONS AND CENTER DIFFUSERS ON THE TILE GRID. BOTH SUPPLY AND RETURN DIFFUSERS ARE TITUS OMNI IN WHITE.

DAMPERS

THE CONTRACTOR SHALL FURNISH AND INSTALL A MANUAL VOLUME DAMPER IN EACH NEW LOW PRESSURE DUCT TAKE-OFF. FURNISH AND INSTALL A SPIN COLLAR DAMPER OR OVAL COLLAR DAMPER AS REQUIRED AT EACH LOW PRESSURE ROUND DUCT OR FLEX TAKE-OFF. ALL REQUIRED DAMPERS ARE NOT NECESSARILY SHOWN ON THE PLANS, INCLUDE AN ALLOWANCE FOR ADDITIONAL DAMPERS.

DUCTWORK INSTALLATION & FABRICATION

ALL DUCTWORK SHALL BE FURNISHED AND INSTALLED IN A WORKMAN LIKE MANNER, CONSISTENT WITH SMACNA STANDARDS. ALL DUCTWORK SHALL BE METAL AS REQUIRED BY BOCA CODE. ALL DUCTWORK SHALL BE FABRICATED FROM PRIME QUALITY GALVANIZED SHEET METAL.

WATER STAINED MATERIAL IS UNACCEPTABLE. TURNING VALVES SHALL BE OMITTED.

LOW PRESSURE RECTANGULAR DUCTWORK

ALL DUCTWORK SHALL BE FURNISHED AND INSTALLED IN A WORKMAN LIKE MANNER. CONSISTENT WITH SMACNA STANDARDS FOR 2" SP (WG). DUCTWORK SHALL BE FABRICATED USING THE FOLLOWING MINIMUM GAUGES FOR THE WIDTHS LISTED. 26GA FOR DUCTS UP TO 12" WIDE. 24GA FOR DUCTS 13" TO 29" WIDE. 22 GA FOR DUCTS 30" TO 54" WIDE. SIZES SHOWN ON DRAWINGS ARE OUTSIDE DIMENSIONS.

LOW PRESSURE ROUND DUCTWORK

"UNITED SHEET METAL" OR EQUAL ROUND OR OVAL DUCT WITH SPIRAL INTERLOCKING SEAM SHALL BE USED FOR ALL RUNS OUT TO DIFFUSERS MORE THAN THREE LINEAL FEET (3'-0") FROM THE RECTANGULAR DUCT. I.E. 3'-0" MAXIMUM FLEX LENGTH. ALL ROUND ELBOWS AND OFFSETS SHALL BE STAMPED (2 HALVES) FULL RADIUS OR ADJUSTABLE ELBOWS PER SMACNA STANDARDS. NO MITERED FILLINGS WILL BE ACCEPTED.

DUCT SIZES SHALL MATCH DIFFUSER NECK SIZE SHOWN ON PLANS.

LOW PRESSURE FLEXIBLE DUCTWORK

FLEXIBLE DUCTWORK SHALL BE INSULATED WIRE MOLD TYPE WK, GENFLEX EQUIVALENT, THERMAFLEX M-KE (PRE-INSULATED) OR ENGINEER APPROVED EQUAL. CONNECT FLEXIBLE DUCT TO METAL DUCT WITH DRAW BANDS.

RUN AND SUPPORT FLEX DUCTWORK IN SUCH A WAY THAT IT MAINTAINS ITS FULL DIAMETER THROUGHOUT. SHARP BENDS, KINKS AND CONDITIONS THAT RESTRICT AIR FLOW IN ANY WAY WILL NOT BE ACCEPTED.

FLEXIBLE DUCT SHALL NOT EXCEED 3'-0" IN LENGTH.

MEDIUM PRESSURE ROUND DUCTWORK

MEDIUM PRESSURE DUCT AND FITTINGS SHALL BE "UNITED SHEET METAL" OR EQUAL ROUND OR OVAL DUCTWORK WITH SPIRAL INTERLOCKING SEAMS PER SMACNA STANDARDS FOR 4" SP(WG). ALL JOINTS AND SEAMS SHALL BE SEALED WITH UNITED DUCT SEALER WITH ELBOWS STAMPED (2 HALVES), WELDED, FULL RADIUS.

ROUND LONGITUDINAL SEAM “STOVE PIPE” AND ADJUSTABLE MITERED, OR THREE GORE ELBOWS WILL NOT BE ACCEPTED.

INSULATE ALL ROUND DUCTS WITH 1” FOIL BACKED FIBERGLASS PER SPECIFICATIONS.

MEDIUM PRESSURE FLEXIBLE DUCTWORK

FLEXIBLE DUCTWORK IS NOT ALLOWED FOR MEDIUM PRESSURE UNLESS APPROVED IN WRITING BY THE OWNER. ALL CONNECTIONS BETWEEN THE INLET OF VAV BOXES AND THE MEDIUM PRESSURE LOOP MUST IN SPIRAL HARD PIPE AS DENOTED ABOVE. OFFSETS SHALL BE USED TO GO AROUND ANY OBSTRUCTIONS, NO FLEX SHALL BE USED.

MEDIUM PRESSURE DUCT CONNECTIONS

THE CONTRACTOR SHALL SEAL ALL NEW CONNECTIONS AND EXISTING LEAKING CONNECTIONS WITHIN CONTRACT LIMITS WITH “UNITED DUCT SEALER”. SEALER SHALL SET-UP OVERNIGHT PRIOR TO TURNING ON FANS. CONNECTION SHALL BE 100% AIR TIGHT. CONNECTIONS NOT MEETING THESE CONDITIONS WILL NOT BE ACCEPTED.

INSULATION & ACOUSTIC LINING

ALL RECTANGULAR SUPPLY DUCTS SHALL BE **EXTERNALLY INSULATED** WITH 1” FOIL BACKED FIBERGLASS INSULATION. SEAL ALL INSULATION JOINTS WITH FRS TAPE. NO INTERNALLY LINED (FIBERGLASS, ETC.) DUCT WORK IS ALLOWED.

ALL ROUND SUPPLY DUCTS SHALL BE **EXTERNALLY INSULATED** WITH 1” FOIL BACKED FIBERGLASS INSULATION. NO INTERNALLY LINED (FIBERGLASS, ETC.) DUCT WORK IS ALLOWED. AS PREVIOUSLY DENOTED, SEAL ALL INSULATION JOINTS WITH FSR TAPE.

INSULATE **ALL SUPPLY DUCT WORK** WITH R-6 1.5” FOIL BACKED FIBERGLASS. SEAL ALL INSULATION JOINTS WITH FSR TAPE. THIS INCLUDES THE MAIN TRUNK, ALL MEDIUM PRESSURE RUNS OUT TO THE INLETS OF THE VAV BOXES, AND THE LOW PRESSURE FLEXABLE DUCT WORK FROM THE RECTANGULAR DUCT WORK TO THE SPECIFIED TITUS OMNI DIFFUSERS.

ALL EXISTING INTERNALLY LINED DUCT WORK SHALL BE REMOVED DURING ANY BUILDOUT OR TI. NO INTERNALLY LINED SUPPLY DUCT WORK WILL BE ALLOWED TO BE REUSED. IT MUST BE REPLACED WITH UNLINED DUCT WORK WHICH SHALL BE **EXTERNALLY INSULATED** WITH THE ABOVE SPECIFIED R-6 1.5" FOIL BACKED FIBERGLASS INSULATION. **EXHAUST FAN AND TRANSFER DUCTWORK** MAY BE INTERNALLY LINED FOR NOISE ATTENUATION.

INSULATING PRODUCTS SHALL BE KRAUF, OWENS CORNING, OR ENGINEER APPROVED EQUAL.

HANGERS

DUCTWORK SHALL BE SUPPORTED WITH STANDARD GALVANIZED BAND HANGERS. ALL HANGERS SHALL BE SECURE AND PROPER.

NO DUCTWORK RELATED EQUIPMENT OR DIFFUSERS SHALL REST ON OR DEPEND ON FOR SUPPORT FROM SUSPENDED CEILING MEDIA, ELECTRICAL, SPRINKLER OR PLUMBING SYSTEMS.

OFFSETS

ALL REQUIRED OFFSET ARE NOT SPECIFICALLY SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL VISIT THE JOB SITE AND BE SATISFIED THAT HE HAS INCLUDED ALL NECESSARY OFFSET IN THIS BID.

INDOOR AIR QUALITY CONTROL MEASURES

HVAC PROTECTION

ANY MAJOR HVAC EQUIPMENT PURCHASED SHOULD BE SEALED AT THE FACTORY AND WRAPPED COMPLETELY IN PLASTIC. THIS PLASTIC SHOULD BE REMOVED WHERE NECESSARY FROM THE UNIT AND SHOULD BE REINSTALLED WHEN THE EQUIPMENT WILL NOT BE USED FOR A LONG PERIOD OF TIME

PRIOR TO BEING INSTALLED, EQUIPMENT AND DUCTWORK SHOULD BE COVERED WITH PLASTIC TO PROTECT FROM DUST.

DURING CONSTRUCTION THE BASE BUILDING RETURN SIDE DUCT ENTERING THE FLOOR NEEDS TO BE COVERED WITH A MERV 13 FILTER MEDIA THAT WILL BE CHANGED AT THE WILL OF THE OTB.

DUCT CLEANING WILL ONLY BE DONE IF NECESSARY PREVENTIVE MEASURES CANNOT KEEP THE DUCTWORK CLEAN

SOURCE CONTROL

LOW VOC PRODUCTS SHOULD BE USED ON PROJECTS WHICH WILL MINIMIZE THE LEVELS OF VOC 's IN THE SPACE

EXISTING ELECTRIC BASEBOARD HEATERS

THIS CONTRACTOR SHALL VERIFY THE OPERATION OF ALL EXISTING BASEBOARD HEATERS WITHIN THE CONTRACT LIMITS AT THE START OF THE PROJECT, PRIOR TO BEGINNING ANY OTHER WORK. HE SHOULD CONTACT THE BUILDING ENGINEER TO COORDINATE PRE-TESTING AND PRIOR-TESTING.

A LIST OF MALFUNCTIONING ELECTRICAL HEATERS SHALL BE SUBMITTED TO THE OWNER WITH A PROPOSED COST FOR THE REPAIRS. ANY MALFUNCTIONING HEATERS AND/OR CONTROLS NOT IDENTIFIED IN THIS MANNER UPON COMPLETION OF THE PROJECT SHALL BE REPAIRED BY THE MECHANICAL CONTRACTOR AT HIS OWN EXPENSE. UPON COMPLETION OF THE PROJECT ALL ELECTRIC HEATERS AND CONTROLS SHALL BE COMPLETE AND FULLY OPERATIONAL.

THE EXSISTING OR NEW BASEBOARD HEAT NEEDS TO BE INTERLOCKED VIA THE LOCAL USER SWITCH ON THE PARRIMITER AND A CORRESPONDING VAV SERVING THE SAME AREA AS THE BASEBOARD HEAT, THE VAV PROGRAMING WILL BE MODIFIED TO THEN CONTROL THE HEAT VIA THE BUILDING ATOMATION SYSTEM.

ALL FURNITURE AND EQUIPMENT SHALL BE AT LEAST 6 INCHES AWAY FROM THE BASEBOARD HEAT CONVECTORS/ELEMENTS ALONG THE PERIMETER WALLS ON ALL FOUR ELEVATIONS. THESE UNITS BECOME EXTREMELY HOT, AND CAN CREATE A FIRE HAZARD. ALSO NOTHING SHALL BE STACKED ON OR AGAINST THEM (BOXES, POSTERS, ETC.), AS THIS TOO WILL CREATE A FIRE HAZARD. BOTH CONDITIONS ALLUDED TO ABOVE ALSO PREVENT THE HEAT FROM PROPERLY DISBURSING IN THE ROOM AFFECTING TENANT COMFORT.

NEW ELECTRIC BASEBOARD HEATERS

THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL AN ELECTRIC BASEBOARD HEATER IN THE LOCATION SHOWN ON THE PLANS. THE NEW HEATER SHALL MATCH THE EXISTING HEATERS IN ALL RESPECTS AND BE INSTALLED WITH ALL NECESSARY APPURTENANCES FOR A COMPLETE INSTALLATION TO MATCH THE APPEARANCE AND OPERATION OF THE EXISTING HEATERS.

NEW VAV BOXES

ALL EXISTING “OLD BUILDING STANDARD” VAV BOXES (BARBER COLMAN AND ENVIRO-TECH) SHALL BE REMOVED AND REPLACED WITH “NEW BUILDING STANDARD” VAV BOXES DURING ANY BUILD OUT OR TI. ALL BOXES WILL TIE INTO THE BUILDING’S BAS WITH DIGITAL DIRECT CONTROLS (THE BUILDING PREFERRED METHOD OF CONTROLLING THE VAV BOXES), THE VAV BOXES SHALL BE TITUS MODEL DESV WITH TAC/INVENSYS SENSORS MN-S2 AND IA SERIES, BACNET PROTOCOL VAV CONTROLLER MNB-V2. CONTACT THE BASE BUILDING BAS VENDOR. TITUS MODEL AESV IS THE ONLY TYPE VAV BOX THAT CAN BE RETROFITTED WITH DDC CONTROLS.

VAV’S ON THE BUILDING PARIMETER WILL NEED TO BE INTERLOCKED TO THE CORRESPONDING BASEBOARD HEAT. SEE EXISTING ELECTRIC BASEBOARD HEATERS

BOX SIZE SHOULD BE SHOWN ON THE PLANS.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL VAV BOXES OPERATIONAL. THE BUILDING WILL NOT SUPPLY ANY VAV BOX PARTS NECESSARY FOR SAID REPAIRS. SET-UP BOX PER MANUFACTURER’S INSTRUCTIONS FOR MINIMUM AND MAXIMUM CFM.

ALL VAV BOXES SHALL HAVE SEPARATE “TAKE OFFS” OFF THE MEDIUM PRESSURE LOOP. NO “GANGING” OF VAV BOXES OFF A SINGLE TAKE OFF WILL BE ALLOWED.

EXHAUST FANS

NEW EXHAUST FANS SHALL BE PENN MODEL Z-10 OR EQUAL APPROVED BY ENGINEER, AND TEFC MOTOR. INSTALL FAN WITH FLEXIBLE CONNECTIONS OR INLET AND DISCHARGE AND SPRING TYPE VIBRATION ISOLATORS.

FAN SHALL BE CITY OF CHICAGO PLENUM APPROVED.

DROP-IN SUPPLY DIFFUSERS (2' X 2' LAY-IN)

THE CONTRACTOR SHALL FURNISH AND INSTALL NEW SUPPLY DIFFUSERS AS SHOWN ON THE DRAWINGS. NEW DIFFUSERS SHALL BE 24"X24" TITUS MODEL OMNI ARCHITECTURAL SQUARE PANEL DIFFUSERS WITH STANDARD #26 WHITE FINISH. FURNISH AND INSTALL MODEL DB, DIRECTIONAL BLOW CLIP ON ADAPTORS TO ACHIEVE THE THROW PATTERN INDICATED (#-WAY) ON THE PLANS.

THIS IS BUILDING STANDARD - NO SUBSTITUTIONS.

LINEAR DIFFUSERS:

1. PLENUM SLOT DIFFUSER PERIMETER/INTERIOR SUPPLY; SLOT SIZE 1" WITH TWO SLOTS; MANUFACTURER NAILER MODEL 5710
2. PLENUM SLOT DIFFUSER PERIMETER/INTERIOR SUPPLY;; SLOT SIZE 1" WITH TWO SLOTS; MANUFACTURER TITUS MODEL M39 OR TBD-80; TYPE M VOLUME DAMPER

RETURN GRILLES (2' X 2' LAY-IN)

THIS CONTRACTOR SHALL FURNISH AND INSTALL NEW RETURN GRILLES AS SHOWN ON THE DRAWINGS. NEW RETURN GRILLES SHALL BE 24"X24" TITUS MODEL OMNI ARCHITECTURAL LAY-INS (WHITE).

RETURN GRILLES SHALL HAVE A 15" NECK SIZE.

TRANSFER OPENINGS AND FIRE DAMPERS

ALL TRANSFER OPENINGS SHALL INCLUDE A GALVANIZED METAL SCREEN AND TWO HOUR RATED FIRE DAMPER. TRANSFER DUCTWORK MAY BE INTERNALLY LINED FOR NOISE ATTENUATION.

FURNISH AND INSTALL NEW FIRE DAMPERS IN THE LOCATIONS SHOWN ON THE PLANS. FIRE DAMPERS SHALL CONFORM TO ALL APPLICABLE CODES AND STANDARDS. DAMPERS SHALL BE EQUAL TO VENT PRODUCTS MODEL 5520-B WITH 165°F FUSIBLE LINK. ALL CORRIDOR WALLS AND TENANT DEMISING WALLS SHALL BE FLOOR TO DECK AND

FIRE DAMPERS SHALL BE INSTALLED FOR RETURN AIR FLOW. COORDINATE WITH CHIEF BUILDING ENGINEER AND MEPFP ENGINEER.

FLOOR ISOLATION DAMPER ACTUATORS ACCESS

ALL FOUR FLOOR ISOLATION DAMPER ACTUATORS (TWO ON EACH SET OF ISOLATION DAMPERS) COMING OFF THE TWO SUPPLY FAN RISER SHAFTS AND FEEDING THE MAIN LOOP ON EACH FLOOR SHALL NOT BE COVERED OR SURROUNDED BY CONDUIT OR PIPING OR OTHER EQUIPMENT, ETC. THEY SHALL NOT BE ENCLOSED IN A WALL, BUTTED UP AGAINST A WALL, OR HAVE THE ACCESS NECESSARY TO REPAIR THEM IMPEDED, IN ANY WAY.

III. CONTROLS AND POWER WIRING

ALL POWER WIRING AND EMPTY CONDUIT SYSTEM FOR THERMOSTAT WIRING SHALL BE INSTALLED BY THE GENERAL CONTRACTOR'S ELECTRICAL SUBCONTRACTOR.

THE GENERAL CONTRACTOR AND MECHANICAL CONTRACTOR ARE RESPONSIBLE FOR COORDINATING WITH THE BASE BUILDING CONTROLS CONTRACTOR FOR THE INSTALLATION OF THERMOSTAT WIRING, THERMOSTATS/SENSOR, CONTROLLERS, BAS GRAPHICS, ETC. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE TERMINAL CONNECTIONS TO THE BOX AND THERMOSTATS. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR TO ASSURE POWER WIRING IS CORRECT TO ALL VAV BOXES. IF USING DDC, NEW BASE BUILDING VAV CONTROLLERS ARE TAC INVENSYS MNB- V2 IA SERIES BACNET PROTOCOL. CONTACT BASE BUILDING BAS VENDOR.

THERMOSTATS/SENSORS

FURNISH AND INSTALL A NEW SENSOR FOR EACH NEW VAV BOX PROVIDED BY TITUS. TYING INTO DDC (MODEL DESV TITUS VAV BOX), SENSOR SHOULD BE TAC/INVENSYS MN-S2, IA SERIES, BACNET PROTOCOL; CONTROLS ARE BACNET PROTOCOL VAV CONTROLLER MNB-V2. CONTACT BASE BUILDING BAS CONTRACTOR.

ALL SENSORS SHALL BE PLACED APPROPRIATELY TO CONTROL THE AREA(S) THEY SERVE. SENSORS ARE NOT TO BE MOUNTED ON PERIMETER COLUMNS, UNLESS APPROVED BY MANAGEMENT AND OR ENGINEERING. ALL PERIMETER COLUMN SENSORS SHALL BE INSULATED TO PREVENT IMPROPER AMBIENT TEMPERATURES BEING PICKED UP.

ALL CONFERENCE ROOMS SHALL HAVE THEIR OWN SENSOR JUST CONTROLLING THAT CONFERENCE ROOM. THEY SHALL NOT BE CONTROLLED BY THERMOSTATS IN ADJACENT ROOMS. ALSO THE CONFERENCE ROOM SENSORS MUST NOT CONTROL ADJACENT ROOMS.

BASE BUILDING SENSOR MODEL TAC/INVENSYS MN-S2, IA SERIES.

NEW VAV BOX WIRING

CONTROL WIRING SHALL BE PULLED AND TERMINAL CONNECTIONS TO THE BOX SHALL BE BY THE MECHANICAL CONTRACTOR. POWER WIRING AND CONDUIT SHALL BE BY THE ELECTRICAL CONTRACTOR. COORDINATE FINAL TERMINATIONS AND CONTROL WIRING WITH BUILDING BAS CONTRACTOR.

ALL NEW VAV BOXES, SHALL BE ON A 120V/60HZ CIRCUIT BREAKER SEPARATE FROM ANY OTHER LIGHTING OR POWER CIRCUITS. ASSURE 2 MCA FOR EACH BOX OR 10 BOXES PER 20 AMPERE CIRCUIT. INSTALL A PLENUM APPROVED DISCONNECT SWITCH AT EACH VAV BOX AND RUN A PIGTAIL FROM THE SWITCH TO THE POWER JUNCTION BOX PROVIDED ON THE VAV BOX. THESE 120V TERMINAL CONNECTION SHALL BE MADE BY THE GENERAL CONTRACTOR.

NEW RE-HEAT VAV BOXES SHALL BE WIRED AS INDICATED ON THE ELECTRICAL PLANS. ALL RELOCATED EXISTING AND NEW VAV BOXES WITH REHEAT COILS SHALL HAVE EMERGENCY DISCONNECTS ACCESSABLE TO TENANT.

IV. PLUMBING GENERAL SPECIFICATIONS

SCOPE OF WORK

FURNISH AND INSTALL THE FOLLOWING:

- PLUMBING FIXTURES
- GREASE TRAPS

- ELECTRICAL WATER HEATERS
- DRAIN PANS UNDER HEATERS
- WASTED AND VENT PIPING
- INSULATED HOT AND COLD WATER PIPING
- CONNECTIONS INTO EXISTING PLUMBING STACK RISERS AS DIRECTED BY THE BUILDING ENGINEER
- WATER SUPPLY AND DRAIN PIPING TO MECHANICAL EQUIPMENT
- BACKFLOW PREVENTORS AS REQUIRED BY CODE
- CHLORINATION OF WATER SUPPLY PIPING SYSTEMS

REFER TO PROJECT GENERAL REQUIREMENTS FOR ADDITIONAL REQUIREMENTS.

REFER TO DRAWINGS FOR PLUMBING FIXTURE SPECIFICATIONS.

REMOVE EXISTING FIXTURES AND CAP ALL PIPING WHERE GENERALLY INDICATED ON DRAWINGS.

ON ANY DRAIN APPLICATIONS (FROM KITCHENETTES, PANTRIES, ETC) THAT CALL FOR GREASE TRAPS THE BUILDING STANDARD ON TRAPS WILL BE THE STAINLESS STEEL TYPE.

MEN'S/WOMEN'S RESTROOM FIXTURES/EQUIPMENT

- FAUCETS: SLOAN OPTIMA SYSTEMS, EBF-187, ALL CHROME
- SINKS: KOHLER, CAXTON, K-2210, WHITE, 17 INCH
- BOBRICK SOAP DISPENSER MOD. # B-8226 SATIN
- PAPER TOWEL DIPENSER & WASTE RECEPTACLE MOD. # B-3900 SATIN
- TOILET TISSUE DISPENSER, BOBRICK B-2888, SATIN

- TOILET SEAT COVER DISPENSERS MOD. # B-221.

WATER PIPING

COLDWATER SERVICE LINES; CONNECT TO EXISTING WATER RISERS WHERE SHOWN AND DIRECTED.

PROVIDE 12” HIGH AIR CHAMBERS AT ALL FIXTURES AND 12” LONG AT TERMINAS OF WATER SUPPLY BRANCHES TO PREVENT WATER HAMMER. AIR CHAMBERS SHALL BE FULL SIZE OF PIPE.

CONNECTIONS TO BRANCH MAINS AND/OR RISERS OF SYSTEM SHALL BE OFF SET CONNECTIONS, SO AS TO ALLOW FOR EXPANSION AND CONTRACTION OF MAINS AND/OR RISERS.

SHUT-OFF (ISOLATON) VALVES SHALL BE PROVIDED ON ALL BRANCHES TO GROUPS OF TWO OR MORE FIXTURES OR AS INDICATED ON DRAWINGS.

ALL SHUT-OFF (ISOLATION) VALVES SHALL BE EASILY ACCESSABLE TO OPEN AND CLOSE.

PROVIDE BACKFLOW PREVENTER ON COLD WATER TO MECHANICAL EQUIPMENT IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS.

WATER SUPPLY PIPING TO BE TYPE “L” COPPER TUBING WITH WROUGHT COPPER AND BRONZE SOLDER JOINTS. SOLDER TO BE 95-5 SILVER.

NO PLASTIC TUBING WILL BE ALLOWED FOR ANY TYPE OF WATER LINE. COPPER TUBING AND BRASS FITTINGS SHALL BE USED FOR COFFEE BREWERS, ICE MAKERS, WATER COOLERSS, ETC. ALL THE WAY TO THE BACK OF THE DISPENSING UNIT IT FEEDS. SOFT COPPER TUBING AT INLET AT MACHINE IS DESIRED FOR MORE FLEXIBIITY.

VALVE TO BE “BUTTERBALL” BRONZE BODY FOOT VALVE TYPE.

ALL FIXTURES TO BE PROVIDED WITH CHROME PLATED FAUCETS, SHUT-OFF VALVES AND TRIM.

PROVIDE DIELECTRIC INSULATING TYPE UNIONS AT ALL DISSIMILAR MATERIAL LOCATIONS IN THE PIPING SYSTEM AND PIECES OF EQUIPMENT.

PROVIDE UNIONS AND VALVES AT ALL PIECES OF EQUIPMENT.

PROVIDE INSULATION ON BOTH HOT AND COLD WATER PIPING.

INSTALL “WATER BUGS” (MODEL # WB-200) UNDER SINKS, NEAR ICE MAKERS, COFFEE STATIONS, OR WATER DISPENSERS. SEE BUILDING ENGINEER FOR DETAILS, AND POSSIBLE OTHER HVAC APPLICATIONS. LOWEST OR PITCHED AREA MUST BE DETERMINED TO PROPERLY LOCATE PLACEMENT OF SENSORS IN CABINETS UNDER SINKS, AND COUNTER TOPS TO DETECT WATER AS SOON AS POSSIBLE.

ALL WATER HEATERS SHALL BE PLACED INSIDE A GALVANIZED DRIP PAN MONITORED BY A “WATER BUG”, AND IF FEASIBLE PIPED TO A FLOOR DRAIN.

DRAINAGE AND VENT SYSTEM

CHANGES IN LINE OR GRADE SHALL BE MADE WITH PROPER CURVED OR LONG SWEEP FITTINGS, AND JUNCTION SHALL BE MADE WITH “Y” BRANCH. SANITARY “TY” MAY BE USED IN VERTICAL RUNS ONLY AND “Y” FITTINGS SHALL BE USED ELSEWHERE. RIGHT ANGLE FITTINGS WILL NOT BE ALLOWED.

PROVIDE CLEAN OUTS AT ALL CHANGES IN DIRECTION, AND AT BASE OF RISER PENETRATING FLOORS.

PROVIDE GREASE TRAPS AT ALL SINK LOCATIONS UNDER COUNTER. ALL NEW GREASE TRAPS SHALL BE ROCKFORD OR EQUIVARIANT IN STAINLESS STEEL.

NO GARBAGE DISPOSALS SHALL BE INSTALLED IN LINE WITH A KITCHEN, KITCHENETTE AND/OR ANY OTHER SINK DRAINS.

PROVIDE TRAPPED FUNNEL CONNECTIONS WHERE INDICATED. LOCATION AND RELATED SPACE REQUIREMENTS MUST BE COORDINATED THROUGH THE GENERAL CONTRACTOR AND ARCHITECT.

DRAINAGE AND VENT PIPING MATERIALS SHALL CONFORM TO LOCAL CODE REQUIREMENTS.

PROVIDE FLOOR DRAINS FOR ALL NEW OR EXISTING BATHROOMS

ALL CORING THROUGH FLOORS SHALL BE IN APPROVED LOCATIONS AND SHALL BE MADE WATER TIGHT.

ALL SLEEVES SHALL BE PACKED WITH APPROVED FIRE RETARDANT MATERIALS.

A “HOT WORK PERMIT” MUST BE ISSUED BY THE CHIEF ENGINEER BEFORE ANY BRAZING, SOLDERING, OR WELDING CAN BE PERFORMED (SEE BUILDING RULES).

INSULATION

ALL INSULATION WILL BE INSTALLED IN A PROFESSIONAL MANNER. ALL JOINTS SHALL BE TAPED. ALL ELBOWS AND TURNS SHALL BE COVERED.

THE FOLLOWING PIPING AND FITTINGS SHALL BE INSULATED:

- HOT AND COLD WATER
- DRAINAGE PIPING FROM COIL DRAIN PANS

INSULATION SHALL BE ONE (1) INCH, RATED FOR 45°F MAXIMUM TEMPERATURE, HEAVY DENSITY FIBER GLASS WITH VAPOR BARRIER AND ALL SERVICE JACKET.

VALVES AND FITTINGS SHALL ALSO BE INSULATED WITH INSULATING TYPE CEMENT IN A CLOTH JACKET OR PRE-FORMED “ZESTON” FITTINGS.

FLOOR CORING

CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY BUILDING SYSTEMS DAMAGED BY FLOOR PENETRATIONS OR CORE DRILLING. PRIOR TO CORING, FLOOR SLAB MUST BE X-RAYED OR SCANNED. THERE ARE EXISTING BASE BUILDING CONDUITS RUNNING THROUGH THE FLOOR SLABS. LOCATIONS MUST BE APPROVED BY BUILDING’S STRUCTURAL ENGINEER.

V. FIRE PROTECTION SYSTEM SPECIFICATIONS

SCOPE OF WORK

FURNISH AND INSTALL THE FOLLOWING:

- NEW SPRINKLER HEADS AND PIPING (NO OMEGA SPRINKLER HEADS ARE ALLOWED.)
- RELOCATION OF EXISTING HEADS TO NEW LOCATIONS AS APPROVED AND ACCEPTED BY THE LOCAL FIRE CODE AUTHORITIES.

QUALITY ASSURANCE

ALL WORK SHALL BE ENGINEERS, DESIGNATED AND INSTALLED BY THE CONTRACTOR TO CONFORM TO THE REQUIREMENTS OF THE LOCAL

MUNICIPAL CODE HAVING JURISDICTION TO INCLUDE ALL RELATED PLAN SUBMITTALS AND REVIEWS, AND SITE INSPECTION REQUIREMENTS.

ALL WORK SHALL ALSO BE INSTALLED IN ACCORDANCE WITH THE CODES AND STANDARDS OF THE FOLLOWING:

- LOCAL MUNICIPAL CODES HAVING JURISDICTION
- NFPA 10: PORTABLE FIRE EXTINGUISHERS
- NFPA 12: INSTALLATION OF SPRINKLERS
- NFPA 14: INSTALLATION OF STANDPIPE AND HOSE SYSTEMS.

THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS OF THE COMPLETED INSTALLATION TO THE BUILDING ENGINEER UPON COMPLETION OF THE WORK.

FEC WITH EXTINGUISHER

SHALL BE POTTER ROEMER OR AS APPROVED MODEL #7012-3005 FLUSH SOLID DOOR TYPE, TRIMLESS CABINET WITH TYPE ABC PORTABLE FIRE EXTINGUISHER MOUNTED INSIDE. EQUIPMENT SHALL BE UL LISTED, CABINET TO BE OF MILD STEEL CONSTRUCTION WITH WHITE POLYESTER COAT FINISH.

PIPING

PIPING SHALL BE BLACK IRON STEEL. PIPING AND FITTINGS TO INCLUDE PRESSURE RATINGS OF CONSTRUCTION, HANGER AND SUPPORT REQUIREMENTS AND TESTING SHALL BE PER NFPA STANDARDS AND SPECIFICATION REQUIREMENTS.

SPRINKLER SHALL BE OF THE FLUSH CONCEALED TYPE IN ACCORDANCE WITH THE BUILDING STANDARD AND AS DIRECTED BY THE BUILDING STANDARDS AND AS DIRECTED BY THE BUILDING ENGINEER.

ALL SPRINKLER CONNECTIONS ARE TO BE MADE AT THE RISER IN THE EAST STAIRWELL. ALL FIRE HOSE CABINET CONNECTIONS ARE TO BE MADE AT THE RISER IN THE WEST STAIRWELL. ALL CONNECTIONS IN EITHER STAIRWELL SHALL INCLUDE OS&Y VALVES WITH TAMPER SWITCHES AND FLOW SWITCHES AT CONTRACTORS COST. CONTACT BASE BUILDING FIRE ALARM VENDOR FOR CONNECTION INTO FIRE ALARM PANEL.

NO SPRINKLER SYSTEM "DRAIN DOWNS" WILL BE MADE UNTIL CONTRACTOR'S FITTER IS ON SITE. ALL DRAIN DOWN REQUESTS SHALL BE SUBMITTED AT LEAST 24 HOURS IN ADVANCE, AND SHALL ONLY BE

PERFORMED BY A BUILDING ENGINEER. ONLY ONE FLOOR MAY BE TAKEN OUT OF SERVICE AT ANY ONE GIVEN TIME. ALL DRAIN DOWNS ARE TO BE PERFORMED DURING “NORMAL” BUSINESS HOURS UNLESS OTHERWISE ARRANGED. AMPLE TIME MUST BE GIVEN FOR A “FILL UP” AT THE END OF THE WORK DAY. ALL ISOLATION VALVES WILL BE “**RED TAGGED**” BY BUILDING ENGINEER WHILE THEY’RE CLOSED (SEE BUILDING RULES). ALL SYSTEMS MUST BE REFILLED AND ACTIVATED AT END OF THE WORKDAY.

DRAIN DOWNS (SPRINKLER AND HOSE CABINETS) SHALL BE COORDINATED TO MAXIMIZE THE AMOUNT OF WORK PERFORMED (RELOCATION OF HEADS, PIPING RE-CONFIGURATION, ETC.), DURING THE NORMAL 8 HOUR WORKDAY. DRAIN DOWN CHARGES (ENGINEER’S TIME) MAY BE INCURRED FOR RE-DRAINING THE SYSTEM FOR LEAKS, OR FOR REPOSITIONING ONE OR TWO HEADS REQUIRING A REFILL WITHIN AN HOUR OR LESS. THE DRAIN DOWN AND REFILL PROCEDURES REQUIRE A CONSIDERABLE AMOUNT OF AN ENGINEERS TIME THAT SHALL BE COMPENSATED IF DEEMED APPROPRIATE.

VI. SUPPLEMENTAL COOLING SPECIFICATIONS

ALL FLOOR MOUNTED SUPPLEMENTAL COOLING PACKAGE UNITS SHALL HAVE A GALVANIZED PAN UNDER AND AROUND UNIT BASE (WITH A WATER DETECTION DEVICE/”WATER BUG”), PIPED TO AN APPROPRIATE SIZED FLOOR DRAIN. THIS IS TO CONTAIN HUMIDIFIER, CONDENSATE (MAY REQUIRE A SEPARATE DRAIN LINE), AND CONDENSER WATER LEAKS. SEPARATE CONDENSATE DRAIN LINES FOR FLOOR MOUNTED UNITS SHALL BE PIPED TO A FLOOR DRAIN IN A CONFIGURATION THAT WILL INSURE PROPER DRAINAGE. A CONDENSATE PUMP MAY BE REQUIRED, AT MANAGEMENT’S DISCRETION.

ALL CEILING MOUNTED UNITS AND RELATED CONDENSER WATER PUMPS SHALL BE HUNG WITH PROPER ISOLATION SPRINGS AND HAVE A PAN UNDER AND AROUND UNIT BASE (WITH A WATER DETECTION DEVICE/”WATER BUG”) PIPED TO A DRAIN APPROVED BY MANAGEMENT. ALL DRAIN LINES IN CEILING SHALL BE INSULATED.

- ALL CONDENSER WATER “HOT TAPS” IN THE EAST STAIRWELL CONDENSER WATER RISER SHALL BE A MINIMUM OF 2”. IF REQUIRED TO ACCEPT A SMALLER VOLUME OF WATER, A REDUCER SHALL BE USED TO ACCOMMODATE THE SIZE OF THE UNIT

(TONNAGE) AS SPECIFIED BY HVAC DESIGN ENGINEER. **ALL** ISOLATION VALVES SHALL BE SUFFICIENTLY ACCESSIBLE THROUGH LARGE ENOUGH PROPERLY PLACED ACCESS PANELS TO EASILY SECURE VALVES. **NO** BALL VALVE HANDLES SHALL BE CUT OFF OR SHORTENED TO FIT IN BEHIND THE WALL. IF THIS IS NOT POSSIBLE THEN AN ADDITIONAL BALL VALVE **OUTSIDE** OF THE WALL (IN THE OUTSIDE STAIRWELL) SHALL BE INSTALLED IN ADDITION TO SECURE INTERNAL TIE INS. "FUTURES" SHALL BE INSTALLED TO ACCOMMODATE LATER TIE INS. RISER TIE IN "DRAIN DOWN" VALVES SHALL BE INSTALLED AT APPROPRIATE LOCATIONS ON SUPPLY AND RETURN LINES. ALL TIE INS SHALL BE APPROVED BY ENGINEERING STAFF BEFORE COMMENCEMENT OF WORK. APOLLO BRAND BALL VALVES SHALL BE EXCLUSIVELY USED FOR ALL TIE INS. DUE TO PAST INSTALLATION PROBLEMS **NO** EXCEPTIONS WILL BE MADE WITHOUT ENGINEERING STAFF/MANAGEMENT APPROVAL.

ALL PIPING FLOOR PENETRATIONS SHALL BE IN ACCORDANCE WITH DETAILS ON ENCLOSED SHEET IN BACK OF MANUAL.

ALL INSTALLATIONS OF SUPPLEMENTAL COOLING UNITS MUST BE COORDINATED AND APPROVED BY BUILDING MANAGEMENT. AIR COOLED UNITS (**ALTHOUGH NOT PREFERRED**) IF APPROVED BY MANAGEMENT, SHALL NOT EXHAUST INTO THE RETURN PLENUM.

EXHIBIT A

BUILDING STANDARDS

<u>ITEM:</u>	<u>ALLOWANCE:</u>	<u>DESCRIPTION:</u>
Partitions - Interior	1 lf:15 rsf	2-1/2", gauge metal studs at 2'-0" o.c. with one layer 5/8" gypsum board each side, to suspended ceiling line. Continuous acoustical sealant beads provide ceiling grid and bottom track. STC of 40 db.
Part-Demising Corridor	As required	2-1/2", 25 gauge metal studs at 1'-4" o.c. with one layer 5/8" gypsum board each side to bottom of structure above, providing 1 hour UL fire rating. 1-1/2" sound attenuation blanket between studs providing STC of 47 db. Continuous acoustical sealant beads or insulation provided at top metal deck and at bottom track.
Entrance and Corridor Doors		Glass Herculite or Anigre wood: solid core quarter sliced plain Anigre, non-figured, 50-60 gloss units, stain/veneer to match base building standards, custom color formulated (all doors must be full height); coordinate with building control sample
Interior Doors		Wood, all doors must be full height
Hardware		Sargent 8200 Series, satin chrome – US 26D (or 626); B lever; LN rose; Coordinate proper floor keyway with Chief Engineer before ordering locksets. <u>NO</u> cipher-locks, key pad locks, or combination locks that require special knowledge to operate shall be used on either entrance or inner office doors. Closer – Sargent EN-351-UO.
HVAC	All Areas	Interior and exterior zones are tempered by a variable air volume system, air distributed by 2'x2' lay-in diffusers flush with ceiling. Supply and return lay-ins must be Titus Omni (White) and sized appropriately. Perimeter zone heating supplemented by continuous floor mounted convection units. System design based on multi-zone design by use with thermostats at 1 thermostat: 950 rsf, with four corner zones, 1 person per 100 rsf and 4.5 watts per rsf.
Sprinklers	1 sp:225 rsf	Phantom type sprinkler head, with "screw on" type chrome plated cover.

Fire Hose Cabinets	All Floors	Potter Roemer Model # 1870-F in white. Combination hose valve connection, and extinguisher cabinet.
Exit Signs	As required	ALKCO Edge-Glo Exit Sign, LED/White; RGLO/SGLO-LED Series
Emergency Lights	As required	Building standard 24"x24" fluorescent fixture separately wired to emergency circuitry as required by Building Code of the City of Chicago.
Fire Speakers/Strobes	As required	Wheelock (Speaker Only) Model ET-1080-R Wheelock (Speaker/Strobe) ET-1080-LMS-VFR.
Lighting		Building approved 24" x 24" light fixture: Focal Point; <i>FLU-22-2T5-S-120-G-PS-CP-AR-Wh</i> Or Lightolier; Coffaire II Recessed Fluorescent CFH2GPF2FT; coordinate with building to approve other 2 x 2 fixtures; air return and Chicago Plenum are requirements; T5 lamps
Light Switches	1 sw: 350 rsf	Occupancy Sensors (white)
Duplex Receptacles	1 du: 150 rsf	General 110 volt, single phase, convenience duplex outlet with ground; cover plate in white. 20 Amp required.
Telephone	1 te: 225 rsf	Junction box 3/4" conduit coordinated to telephone conduit system routed to tenant's telephone closet; cover plate in white.
Ceiling Grid		USG grid 1/8 Finline DXFF
Ceiling Tile		2' x 2' x 3/4" Armstrong Ultima, Beveled Tegular white #1912A
Blinds		All Perimeter Building Windows 1" Bali Classics, 386 Snowcap
Carpet		Coordinate with building for approval; low VOC is requirement and USGBC approved is preferred Base Building common corridor standard: Lees, Ground Strata Broadloom, Color: 101 Silver Ceruse, Pattern: DK 966, Pattern running East-West
V.C.T.		Coordinate with building for approval; low VOC is requirement and USGBC approved is preferred
Paint		Low VOC is requirement and USGBC approved is preferred

Fire-proofing

Type of fire proofing must be approved by the building, and must meet all applicable codes. This applies to all wall and floor penetrations.

EXHIBIT B BUILDING

VENDOR LIST

HARDWARE

Sargent 8200 Series; B lever, LN rose - US26D (or 626) satin chrome finish. All locksets shall be ordered with the proper keyway for the respective floor it is to be installed on. Contact Chief Engineer for keyway information. Keying is performed by Building Engineers off an approved keying schedule.

FIRE ALARM

Affiliated Customer Service, Inc.
Gayle Anson, Cliff Mahoney or Chris Davey
1441 Branding Lane, Suite 260
Downers Grove, Illinois 60515
630-434-7900 (Office)

BUILDING CONTROLS

Precision Control Systems of Chicago, Inc.
Rick Brand
1980 University Lane
Lisle, IL 60532
847-514-5059 (Cell)
630-324-1321 (Direct)

ROOFING

Knickerbocker Roofing and Paving

WASTE REMOVAL

Waste Management
Dan Mahar
(773) 329-3534
dmahar@wm.com

BUILDING ELEVATOR CONTRACTOR

Schindler Elevator
David Shaulis
david.shaulis@schindler.com

BUILDING RISER MANAGER

IMG Technologies
Brian Spearman
(888) 464-5520
imgsupport@img-connect.com



EXHIBIT C

GENERAL BUILDING RULES

A. Access Procedures

Notwithstanding anything to the contrary set forth in these Rules and Regulations, in order to safeguard the safety of the tenants, patrons and employees of the Project, Landlord reserves the right, but shall have no obligation, to implement a protocol for testing all individuals entering the Project, mandating the use of masks or other personal protective equipment, and/or establishing other measures in connection with any health emergency related to a virus, disease, pandemic, epidemic or similar cause. Landlord may preclude entry to those who refuse to participate in such testing or other measures or who fail to meet the testing or other requirements set forth in such protocol.

1. This building is a **UNION** shop. All Construction workers must be **UNION** members with respect to their specific trades, and therefore may be carded. Construction workers must be in uniform or display a building Contractor's and/or Union badge at all times while on the property.
2. Workers are only permitted access to floors where construction is actively taking place.
3. The Office of the Building will be given the name and phone number of the job foreman, who should be onsite during all active construction hours.
4. Contractors and vendors are not permitted to conduct interviews with job applicants on the premises.
5. Construction personnel are only permitted to use designated restrooms located on the Lower Level. The construction team will keep the facilities clean at all times. Any abnormal cleaning or damages resulting from contractor use will be billed back to the tenant or tenant's contractor.
6. No property may be removed without a 101 N. Wacker Material/Property Pass signed by the General Manager.
7. Parking is not required to be provided to contractors or subcontractors.
8. During normal business hours (7:00 AM – 4:00 PM), use of the Loading Dock is limited to loading and unloading at a maximum ½ hour and for no other purpose. If the Loading Dock is needed during non-business hours, please contact the Office of the Building to arrange for reserving of the dock. No storage of materials is allowed within the Loading Dock or immediate area. Material and supplies must be immediately delivered to tenant or construction space.
ABSOLUTELY NO PARKING ALLOWED WITHIN THE LOADING DOCK.
9. No access to the roof will be permitted without prior notification, and all parties will be escorted by General Manager, Chief Engineer or Director of Security. Any contractor needing access to the roof must sign a roof access waiver and file it with the Office of the Building.

10. At General Manager's discretion, the Building will provide keys that will allow the contractor access to the following areas.
 - Floor electrical closets
 - Floor telephone closets
 - Floor janitor closets
 - Floor washrooms

These keys will be signed out by the general contractor's superintendent. Extra keys will not be provided. Access to occupied tenant spaces must be arranged with the Office of the Building **48 hours** in advance. Building security will be required to access tenant spaces. Charges will be billed back to tenant or tenant's contractor.

11. The contractor will be issued "Contractor Asbestos Notice" forms, enclosed within as Exhibit D, and upon request the 101 N. Wacker "Asbestos Guidance Manual", before the commencement of any work. All contractors and/or sub-contractor's representatives/ foremen must read and sign this form, to ensure all employees under his/her direction understand these ACM policies before starting.
12. All demoed parts or building components, such as HVAC parts, F/LS parts, etc. that are reusable, shall returned to a building engineer.

B. Elevators

1. Passenger elevators will not be used by construction personnel.
2. Only the freight elevator will be used to carry materials.
3. Elevators will be cleaned after each use.
4. Elevator tracks will be kept clean at all times; floor covering will be covered with masonite or other suitable material.
5. Elevator door bucks will be protected on the floor on which construction work is in progress.
6. All large or time consuming deliveries of building materials (such as drywall, pipe, etc.), and/or tenant related equipment/supplies requiring "exclusive" freight elevator usage, are to be scheduled for before 7:00 AM or after 4:00 PM during the week, or on pre-arranged weekend hours. These arrangements should be made 48 hours in advance, through the Office of the Building at (312) 525-8100. There is a 15-minute time limit, and the freight elevator will not be shut off for loading and unloading these types of deliveries during its normal business hours.
7. Carting material on top of the elevator or tampering with its components is strictly prohibited and is a criminal offense.
8. All passenger elevators shall be protected from damage and use. See above for further specifics on how General Contractor must protect each.

C. Building Trash Dumpsters

1. No construction or demolition material of any kind is to be put in building dumpsters during the day, unless previously approved by building management. If approved, the contractor will pay for the determined percentage of dumpster used.

2. All dumpsters to be coordinated through the Office of the Building and provided by the Building's contracted vendor – Waste Management. Contractor dumpsters used for demolition/construction material removal must not be brought in earlier than 4:00 PM in the evening, and must be removed by 7:00 AM the next morning. **NO EXCEPTIONS.**
3. Construction trash will be removed by the contractor from the loading dock daily.
4. The construction site and loading dock are to be cleaned of trash daily if used by construction personnel.

D. Protection Systems – A MINIMUM 24-HOURS ADVANCE NOTICE IS REQUIRED FOR ALL SYSTEM DRAIN DOWNS, SHUT DOWNS AND ISOLATIONS

1. Life/Safety system work to be done only with the prior knowledge and approval by 101 N. Wacker Engineering Staff.
2. Life/Safety system and sprinkler valves will be turned off by building engineers ONLY.
3. Fire sprinkler and floor valves will be closed and drained by the Building Engineer ONLY. A minimum notice of 24-hours is required and must be provided to the Chief Engineer to coordinate all system drain-downs and isolations. System will only be shut down when contractor is on site. All sprinkler and/or fire system isolation valves will be “Red Tagged” by Building Engineer.
4. Connections into the main fire sprinkler system at riser must be previously arranged by and coordinated through Chief Engineer.
5. A minimum notice of 24-hours is required and must be provided to the Chief Engineer for all welding and soldering. In addition, all contractors must obtain a “How Work Permit” from Chief Engineer prior to beginning any hot work. Please notify Chief Engineer immediately upon completion of work. An Engineer may be required to be on site during certain procedures if deemed necessary by building management.

E. Core Drilling

1. No core drilling will be permitted without prior print review and/or written consent by the building's structural engineer. Coring and hammer drilling are only allowed before 7:00 AM and after 6:00 PM. Scanning or x-raying must be completed and reviewed by Chief Engineer prior to coring. Contractor is responsible for repairing any damaging to base building conduits running through the slab.

F. Electrical Panels

1. All electrical panels are to be labeled when new work is completed under the direction of the Building's chief engineer at the contractor's expense. See electrical prints for requirements. All panels, meters, disconnects, etc. shall be labeled with a plastic tag approved by the Building and have typed written,

removable directories.

G. A/C Units

1. All A/C Units within the construction site will be turned off during construction.
2. Contractors are not to sit or stand on building equipment.

H. Copy Rooms and Equipment

1. Contractors are to cover copiers or equipment, which remains in construction area overnight. Trash and other debris may not be placed on top of this equipment.
2. Copiers and other equipment may not be moved by the contractor without prior notice of Building Management.
3. All unused electrical outlets for copy equipment shall be returned to tenant.

I. Doors and Locks

1. Standard locksets only shall be installed by General Contractor. All locksets shall be ordered with the proper cylinder barrel (keyway) for the floor under construction. All keying of cylinders shall be coordinated as early as possible through the building engineer to ensure keying is completed in a timely manner.
2. When employing electric strikes on doors (especially entrance doors), electric strikes shall/must be compatible with all chosen base building Sargent locksets (8200 mortise series, 10-line series), to insure proper alignment for full “jimmy proof” functionality. Specifically, the style and positioning of the electric strike in the door frame must allow for a 24/7 secure condition. See Chief Engineer for further details.
3. All keys and locks removed during construction will be turned over to a building engineer with room number attached. All unused locks and hardware shall be returned to building engineer.
4. All outer stairwell card readers shall be flush mounted. Surface mounted card readers with exposed conduit and/or wire mold visible from outside the stairwell will not be allowed. Location and mounting must be approved by building management prior to installation. In addition, doorbells and phones are not permitted in common corridors.

J. Carpet

1. Carpets are to be kept clean at all times. Any required cleaning or repair to carpet or other flooring upon completion of construction project will be sole responsibility of the contractor. All floors and carpeting should be properly protected and covered with Masonite when receiving deliveries across them.
2. Please consult with Chief Engineer prior to removing any flooring or carpet materials from the Building.

K. Rules of Conduct

As an important member of the building staff, your activities must be conducted in a professional manner. All individuals must keep in mind that we are paid to provide quality service to our customers, tenants and visitors of the building. Poor conduct can reflect unfavorably on the Contractor's job performance and on our staff.

Remember to be friendly and polite to everyone at the job site and in the building. Avoid socializing while on the job. All tenant and common areas are considered private property. It is important that you do not enter a tenant area without a specifically contracted assignment.

The following rules will be fully enforced by Building Management:

1. Smoke is not permitted at the building or on building grounds. Per City of Chicago code, all smokers must stand a minimum distance of 25 feet from the building.
2. Eating and drinking are not permitted in public areas or tenant spaced. The only approved area for eating or drinking is within the contracted work area (if not occupied) or space designated by the building management.
3. No congregating in the building or on the building grounds. Meetings, lunches and breaks are to be conducted within construction areas, offices, or designated lounging areas (locations shall be at the discretion of building management).
4. Professional behavior is required at all times. Please remember the importance of your appearance and professionalism to our customers, visitors, and tenants when you and your employees are working at the building. The following offenses will result in immediate dismissal from the premises or closing down of the job:
 - a.) Consuming alcohol while on the building premises, or coming to work under the influence of alcohol.
 - b.) Possessing or consuming drugs or any illegal substances while on the building premises.
 - c.) Violating any Local, State or Federal statutes while on the building premises.
 - d.) Possessing firearms, explosives, or weapons while working on the building premises.
 - e.) Physically or verbally abusing any individual who works at or visits the building.
 - f.) Duplicating any keys or access badges.
 - g.) Gambling while on the building premises.
 - h.) Intentionally harming or destroying any property.
 - i.) Sleeping on the job.

j.) Core drilling between the times of 7:00 AM and 6:00 PM.

k.) No AM/FM radios allowed on occupied floors.

l.) No use of odor causing or particle causing practices is prohibited during business hours.

L. Building Information and Dimensions

The freight elevator dimensions are as follows. 86” deep (80” from control panel to back wall) by 67” wide by 115” high. Door opening 54” wide by 100” high. 12’ diagonally from bottom of closed door to top of back wall. 5500 lbs. weight limit rating.

Loading dock dimensions. South overhead door 20’ 6” wide by 12’ high. Middle overhead door 19’ 6” wide by 12’ high. North overhead door 13’ 4” wide by 8’ high. 34’ from inside of south loading dock door, to dock curb. Curb height 11.5” all the way across to generator. The opening at the outer service corridor door off the loading dock leading to the freight car is 60” wide by 92” high.

Total Super Imposed Floor Loads – Tenant or Tenant’s Contractor must have a structural engineer verify any atypical loading scenarios and verify the below information from the base building structural drawings. A peer review for any structural support must be peer reviewed by the base building structural engineering firm.

1st Floor 164 p.s.f.

Mezz.. 90 p.s.f.

2-11 Floors 80 p.s.f.

12th Floor Tenant 80 p.s.f.

12th Floor Mech. 160 p.s.f.

13th Floor Tenant 80 p.s.f.

13th Floor Mech. 160 p.s.f.

14th Floor 100 p.s.f.

15-23 23 floors 80 p.s.f.

Roof 45 p.s.f.

Pent. Floor 60 p.s.f.

Core Areas 105 p.s.f.

Live Loads

Roof 25 p.s.f.

Office Floors 50 p.s.f.

Partition Allowance 20 p.s.f.

Mechanical 150 p.s.f.

Stairs & Corridors 75 p.s.f.

1st Floor 100 p.s.f.



M. COVID-19 PANDEMIC PRECAUTIONS

Pursuant to the terms of the Agreement between Owner and Contractor, and in light of the on-going Covid-19 pandemic, Owner is implementing the following rules for the Property. Contractor shall comply with these rules, and in the event that it cannot comply with such rules, shall immediately inform Owner's Managing Agent in writing of such issues.

1. Contractor shall comply with all applicable laws and regulation in performing the Services including, but not limited to, laws and regulations implemented by the State and/or local governments where the Property is located as a result of the novel coronavirus (COVID-19) pandemic or other pandemics. These laws and regulations may include, but are not limited to, the use of personal protective equipment and/or face coverings and following social distancing guidelines.

2. Contractor shall ensure that all subcontractors that it brings onto the Property shall comply with all applicable laws and regulations implemented by the State and/or local governments where the Property is located as a result of the novel coronavirus (COVID-19) pandemic or other pandemics. These laws and regulations may include, but are not limited to, the use of personal protective equipment and/or face coverings and following social distancing guidelines.

Freight/Service Elevator & Loading Dock Dimensions

Car	Location/Door	Dimensions
Freight Elevator	East side of Building	86 " deep x 67" wide x 115" high (80" from control panel to back wall)
Freight Elevator Door Opening	East side of Building	54" wide x 100" high 12 ' diagonally (from bottom of closed door to top of back wall)
Freight Elevator	Weight capacity	5,500 lbs.

Loading Dock

South Overhead Door	19' 6" wide x 12' high
Middle Overhead Door	17' 10" wide x 12' high
North Overhead Door	11' 9" wide x 8' 2" high
Depth of Dock (inside)	34' from inside of overhead doors to dock curb
Access to/from Dock into Building:	Opening on outer swinging doors off loading dock leading to freight car 60" wide x 92" high

Lower Wacker Drive

Outside Building	12' 6"
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Attachment A

Hazardous Substances Certificate

The undersigned Tenant Contractor hereby certifies to Landlord that no asbestos containing materials, PCBs or other substances regulated as hazardous substances as of the date of this certification are present in any materials used by the undersigned as a part of performing any of its work at 101 North Wacker Drive.

TENANT CONTRACTOR:

BY:

ITS:

DATE:

Attachment B

Material Fabrication Information and Material Safety Data Sheets Certificate

The undersigned hereby agrees to deliver to Landlord, Material Fabrication and Material Safety Data Sheets for all materials to be used in constructing tenant improvements prior to commencing with tenant construction.

TENANT CONTRACTOR: _____

BY:

ITS:

DATE:

Attachment C

Acceptance of Premises Agreement

The undersigned hereby agrees that Tenant Contractor has thoroughly examined the area(s) of work and has determined there are no deficiencies in base building conditions in any of these areas and furthermore fully accepts the Premises in an “as-is” condition whereby all repairs to any such conditions arising on the date below and after are the full responsibility of the Tenant Contractor.

TENANT CONTRACTOR: _____

BY: _____

ITS: _____

DATE: _____

Exhibit D

Contractor Asbestos Notice

We are committed to making 101 North Wacker Drive a safe and comfortable place to work for all contractors entering and performing work on the premises. This building was constructed at a time when asbestos (a naturally occurring mineral) was minimally used. However, all building asbestos removal policies and procedures must be followed when any amount of asbestos-containing material is discovered.

When in good condition, and not disturbed, asbestos-containing materials (ACMs) should not pose a health hazard. There are no regulations requiring removal of intact ACMs in good condition unless disturbed by repair or renovation activity. Do not disturb the following materials, which are assumed ACM's: **Floor tile and tile mastics.**

To reduce future risk, the building had an Asbestos Guidance Manual prepared to provide guidance for those working on repair, renovation or installation within our building until the asbestos is removed. To examine the Manual, contact the Office of the Building.

Under the building's Asbestos Operations and Maintenance Plan, contractor and tenant employees must comply with these general rules:

1. Personnel of tenants and contractors performing any abatement, maintenance, renovation or cleaning activity in or near areas where ACMs are present and may be disturbed must refer to the Asbestos Guidance Manual for appropriate guidance before beginning work. Such work shall only be performed by personnel who have been specially trained and authorized.
2. If ACMs have been damaged or disturbed, do not try to sweep them up or otherwise further disturb them. Disturbing the materials may spread the asbestos fibers and make them airborne. Disturbed ACMs must be cleaned by trained personnel according to approved procedures.
3. Any incidents involving damage to or significant changes in the condition of ACMs must be reported to the Office of the Building.

I have read and understand this notice. I will ensure that my company's employees will follow the procedures and requirements as outlined above and in the Asbestos Guidance Manual.

TENANT CONTRACTOR: _____

BY: _____

ITS: _____

DATE: _____

Attachment E

Waiver and Indemnification for Roof Access at 101 North Wacker Drive

The undersigned, and any of its employees, agents, guests or invitees (collectively, referred to herein as the "User") has requested roof access at 101 North Wacker Drive, Owned by BAEV-LaSalle Chicago North Wacker Drive LLC, and managed by Jones Lang LaSalle Americas (Illinois), L.P., an Illinois limited partnership, its authorized agent.

For and in consideration of the roof access and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, User agrees as follows:

- (1) To the extent not expressly prohibited by law, User releases BAEV-LaSalle Chicago North Wacker Drive LLC and Jones Lang LaSalle Americas (Illinois), L.P., all mortgagees of the Property, and their respective agents, beneficiaries, partners, officers, servants and employees (BAEV-LaSalle Chicago North Wacker Drive LLC, Jones Lang LaSalle Americas (Illinois), L.P., all such mortgagees, and their respective beneficiaries, partners, officers, servants and employees are collectively referred to herein as the "Owner") from and waives all claims for injury to or death of any person (other than injury to or death of any person caused by the negligence or willful misconduct of Owner) or damage to or theft of misappropriation or loss of any property sustained by User or by any other person resulting directly or indirectly from User's roof access or from any accident in or about the Property or any part thereof or from any act or neglect of user. This waiver shall apply especially, but not exclusively, to damage caused by water, snow, frost, steam, excessive, heat or cold, sewerage, gas, odors, or noise, or the bursting or leaking of pipes or plumbing fixtures, falling plaster, broken glass, sprinkling or air- conditioning devices or equipment and, except as provided above shall apply without distinction as to the person whose act or neglect was responsible for the damage and whether the damage was due to any of the acts specifically enumerated above, or from any other thing or circumstance, whether of a like nature or of a wholly different nature. All personal property belonging to User shall be there at the risk of User and Owner shall not be liable for damage thereto or theft or misappropriation thereof.
- (2) To the extent not expressly prohibited by law, User shall hold harmless and indemnify Owner and the Property against all claims and liabilities, including attorney's fees and costs, for injury to or death of any person (other than injury to or death of any person caused by the negligence of willful misconduct of Owner) or damage to or theft or misappropriation or loss of property occurring in or about the Property resulting directly or indirectly from User's roof access or from any accident in or about the Property or any part thereof or from any act or omission of User. In the event, any action or proceeding is brought against Owner, by reason of such claims, then, upon notice from Owner, User covenants to defend such action or proceeding by counsel satisfactory to Owner.
- (3) If any damage to the Property results from any act or neglect of User, then User shall upon demand by Owner pay to Owner the total cost of such repair and damage to the Property. If Owner elects not to repair such damage, User shall promptly repair such damage at its own cost in a manner satisfactory to Owner.

The forgoing waiver and indemnity shall be in addition to and shall not be limited by any other waiver, release of claim or indemnity contained in any lease, contract or other agreement between User and Owner.

Date: _____

User: _____
(Name of Entity)*

Signed (By): _____

Title (Its): _____

Attachment F

Acceptance of Contractor Guidelines and Building Rules & Regulations

The undersigned hereby agrees that Tenant Contractor has read and understands all regulations, rules, specifications, means and methods and otherwise that is defined in the 101 North Wacker Drive Tenant Design and Construction Manual and the 101 North Wacker Drive Contractor Work Rules and has provided these documents to all of its subcontractors, consultants and any other entity contracted by Tenant Contractor. Furthermore, the undersigned agrees to uphold and abide by all that is included within these documents and enforce likewise with its subcontractors.

TENANT CONTRACTOR: _____

BY: _____

ITS: _____

DATE: _____