

# Surgical Associates of WNY

550 Orchard Park Rd. Building A Suite 103, West Seneca, NY

S.A. PROJECT # 16149.03 DATE: 03-02-2018

## ARCHITECT:

# SILVESTRI ARCHITECTS, P.C.

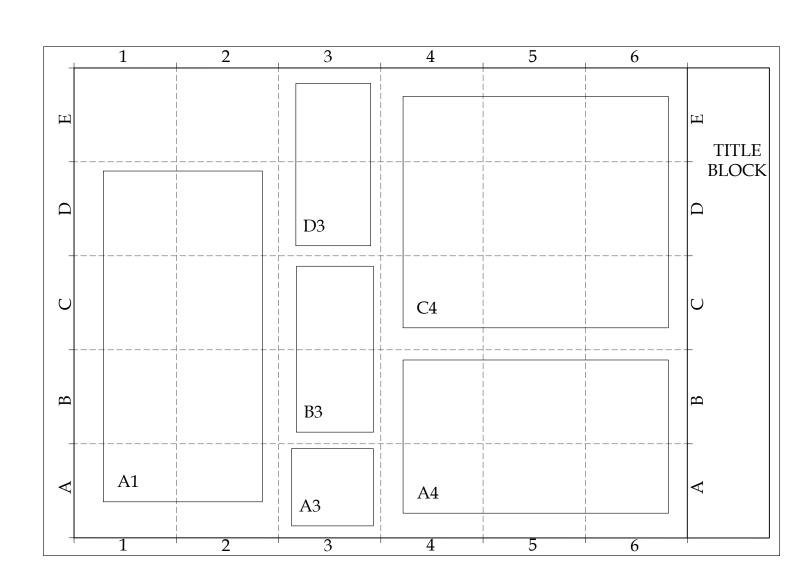
1321 MILLERSPORT HIGHWAY, SUITE 101 AMHERST, NY 14221

## MEP ENGINEER:

## EBS ENGINEERING

4050 RIDGE LEA ROAD, SUITE C AMHERST, NY 14228

## DRAWING AREA LOGIC



## SHEET INDEX

#### TITLE SHEET

#### ARCHITECTURAL:

**GENERAL NOTES** CODE COMPLIANCE PLAN DEMOLITION FLOOR PLAN DEMOLITION CEILING PLAN

REFLECTED CEILING PLAN **ENLARGED FLOOR PLANS & ELEVATIONS ENLARGED FLOOR PLANS & ELEVATIONS** 

ENLARGED FLOOR PLANS & ELEVATIONS ROOM FINISH SCHEDULE, LEGEND, & GENERAL NOTES

## FINISH FLOOR PLAN

MECHANICAL:

MECHANICAL SCHEDULES & NOTES HVAC REQUIRED WORK

**HVAC SPECIFICATIONS** 

PLUMBING SCHEDULES & NOTES PLUMBING SPECIFICATIONS

#### **ELECTRICAL:**

E-1 **ELECTRICAL SCHEDULES & NOTES** E-2 ELECTRICAL LIGHTING ELECTRICAL POWER, DATA & FIRE ALARM ELECTRICAL SPECIFICATION

#### FIRE PROTECTION:

FIRE PROTECTION - SPRINKLER

#### SHEET IDENTIFICATION LOGIC

A-101

DISCIPLINE DESIGNATOR SHEET TYPE DESIGNATOR SEQUENCE NUMBER

### DISCIPLINE DESIGNATOR

**GENERAL** CIVIL

LANDSCAPE STRUCTURAL

ARCHITECTURAL FIRE PROTECTION

PLUMBING MECHANICAL ELECTRICAL

# SHEET TYPE DESIGNATOR

**GENERAL** PLANS **ELEVATIONS** 

**SECTIONS** LARGE SCALE VIEWS

**DETAILS** SCHEDULES & DIAGRAMS

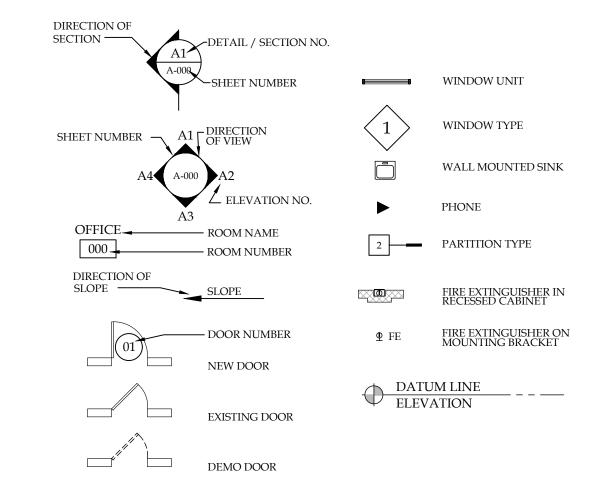
#### **ABBREVIATIONS**

A.F.F ACT. A.C. ALT. ALUM.	ABOVE FINISH FLOOR ACOUSTICAL TILE AIR CONDITION ALTERNATE ALUMINUM	N.I.C. N.T.S. NOM NO.	NOT IN CONTRACT NOT TO SCALE NOMINAL NUMBER
APPROX. ARCH. AUTO		O.C. OPNG OPP OPPH	ON CENTER OPENING OPPOSITE OPPOSITE HAND
BM BRG 3.M. BLK BLKG BD BOT BRK 3.E.J. 3.E.J. BLDG BUR	BEAM BEARING BENCH MARK BLOCK BLOCKING BOARD BOTTOMS BRICK BRICK EXPANSION JOINT BRICK COURSE BUILDING BUILT-UP ROOFING	PMBC PNT PNL P.T.D. P.T.R. PVMT PG, BD	PRENGINEERED METAL BUILDING CONTRACTOR PAINT (ED) PANEL PAPER TOWEL DISPENSER PAPER TOWEL RECEPTOR PAVEMENT PEG BOARD
CLG. CAB CPT C.W. C.B. CEM CT CHBD CLR COL CONT. CONTI. CONTR CJT C.G.	CEILING CABINET CARPET CASEWORK CATCH BASIN CEMENT CERAMIC TILE CHALK BOARD CLEAR COLUMN CONCRETE CONCRETE MASONRY UNIT CONTINUOUS CONTRACTOR CONTROL JOINT CORNER GUARD	PLAS. P. LAM PL POL PWD PT PSI PSF P P	PLASTER PLASTIC LAMINATE PLATE PLATE POLISHED PLYWOOD POINT POUNDS PER SQ. INCH POUNDS PER SQ. FOOT POWER PANEL PREFABRICATED PREFINISHED PROJECTION PROPERTY LINE
DET. DIA. DIM. DISP. DN DS DWG D.F. DIFF.	DETAIL DIAMETER DIMENSION DISPENSER DOWN DOWNSPOUT DRAWING DRINKING FOUNTAIN DIFFUSER	RAD R.W.L. RECPT. REC. REFR REG REINF. REQ'D RES R.C.P. RET	RADIUS RAIN WATER LEADER RECEPTACLE, ELECTRIC RECESS REFRIGERATOR REGISTER REINFORCE (D) (ING) REQUIRED RECESS (ED) REFLECTED CEILING PLAN RETURN
EA EIFS ELEC EPNL EL ELEV. EQ EX. F. EXIST. EXP. JT.	EACH EXTERIOR INSULATION & FINISH SYSTEM ELECTRICAL ELECTRIC PANEL ELEVATOR ELEVATION EQUAL EXHAUST FAN EXISTING EXPANSION JOINT	RA RVS REV RH ROW R R.D. RFG RM RND	RETURN AIR REVERSE REVISION RIGHT HAND RIGHT OF WAY RISER ROOF DRAIN ROOFING ROOM ROUND
FB FIN F.A. FEC FHC F.P. F.D. FT F.W.C. FTG FDTN FUR	FACE BRICK FINISH (ED) FIRE ALARM FIRE EXTINGUISHER CABINET FIRE HOSE CABINET FIRE PROOFING FLOOR FLOOR DRAIN FOOT FACE WALL COVERING FOOTING FOUNDATION FURRING	SDL STG SHTH SHT SHR SIM SPKR SPEC SQ. SST SP STD SD	SADDLE SEATING SHEATHING SHEET SHOWER SIMILAR SPEAKER SPECIFICATIONS SQUARE STAINLESS STEEL STAND PIPE STANDARD STORM DRAIN
GAL GA G.C. GL. G.B. G.W.B.	GALLON GAGE GENERAL CONTRACTOR GLASS GRAB BAR GYPSUM WALL BOARD	S.G.T. STRUCT. SUSP. SW. SWBD SV	STRUCTURAL GLAZED TILE STRUCTURAL SUSPENDED SWITCH SWITCH BOARD SHEET VINYL
HDW HD. WD. HVAC HT HC HM HORIZ HB	GYPSUM  HARDWARE HARDWOOD HEATING, VENTILATING, & AIR CONDITIONING HEIGHT HOLLOW CORE HOLLOW METAL HORIZONTAL HOSE BIB HOT WATER	T.B. TEL TEMP TEX THK THR TP T/O TB TYP	TACKBOARD TELEPHONE TEMPERATURE TEXTURE THICK (NESS) THRESHOLD TOILET PAPER HOLDER TOP OF TOWEL BAR TYPICAL
NSUL NS. GL NV	INSULATE (D) (ION) INSULATED GLASS INVERT	U.C.L. U.C. UR	UNDER CABINET LIGHT UNDERCUT URINAL
AN T	JANITOR JOINT KITCHEN	V.T.R. VENT	VENT THRU ROOF VENTILATOR
AM .AV .H .GT .T	LAMINATED LAVATORY LEFT HAND LENGTH LIGHT	VERT VEST V.C.T. V.I.F. V.W.C.	VERTICAL VESTIBULE VINYL COMPOSITE TILE VERIFY IN FIELD VINYL WALL COVERING
L.F. LTL LL LLH LLV L.M.F. LVR L.P.	LINEAR FEET LINTEL LIVE LOAD LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT GAUGE METAL FRAMING LOUVER LOW POINT	WSCT WS WT WWF W.C.D.F. W/ W/O	WAINSCOT WEATHER STRIP WEIGHT WELDED WIRE FABRIC WHEELCHAIR DRINKING FOUNTA WITH WITHOUT
MACH M.H. MFR MAS M.O. MATL	MACHINE MANHOLE MANUFACTURE MASONRY MASONRY OPENING MATERIAL	WD	WOOD

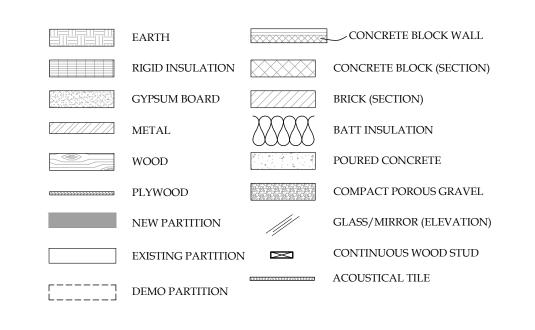
METAL METAL TOILET PARTITION

MINIMUM MISCELLANEOUS MULLION

#### DRAFTING SYMBOLS



## MATERIAL SYMBOLS



## **BUILDING DATA**

OCCUPANCY CLASSIFICATION: B CONSTRUCTION TYPE: 2B PROJECT AREA: 4,240 SF SPRINKLERED OCCUPANT LOAD: 43

# **ISSUE**

BID/PERMIT 03-02-2018



#### GENERAL NOTES

- 1. DO NOT SCALE DRAWINGS.
- 2. CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE INTERNATIONAL BUILDING CODES, NEW YORK STATE BUILDING CODES, OSHA STANDARDS, AND FIRE SAFETY CODE / RELEVANT SECTIONS OF THE N.F.P.A. & ANY LOCAL CODES BEING MORE RESTRICTIVE THAN THE MINIMUMS LISTED.
- 3. CONSTRUCTION MEANS, METHODS, TECHNIQUES AND CRAFTSMANSHIP ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. G.C. SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD. CONTACT ARCHITECT IF MAJOR DISCREPANCIES OCCUR BETWEEN DRAWINGS AND EXISTING CONDITIONS.
- 4. THE CONTRACTOR IS REQUIRED TO INSPECT THE PROJECT SITE IN ORDER TO DETERMINE THE EXTENT OF THE REQUIRED WORK. THIS INSPECTION SHALL BE COMPLETED PRIOR TO THE SUBMISSION OF ANY PROPOSAL TO COMPLETE THIS PROJECT. INSPECTION TIMES SHALL BE COORDINATED WITH THE OWNER.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL INFORMATION ON THE DRAWINGS.
- 6. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT DUE TO THE NATURE OF RECONSTRUCTION PROJECTS, THE EXACT EXTENT OF THE RECONSTRUCTION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF THE WORK. THESE DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTIONS AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATION TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL BID & PERFORM THE WORK IN ACCORDANCE WITH THE FIELD CONDITIONS.
- 7. ALL DIMENSIONS SHOWN FOR EXISTING STRUCTURES ARE BASED ON RECORD DRAWINGS AND FIELD MEASUREMENTS. THE CONTRACTOR IS ADVISED THAT SAID DRAWINGS MAY NOT ACCURATELY REFLECT AS BUILT CONDITIONS. ACCURATE FIELD MEASUREMENTS SHOULD BE MADE PRIOR TO ORDERING ANY PREFABRICATED MATERIALS. DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT AND SHALL BE REFLECTED ON THE CONTRACTORS SHOP DRAWINGS.
- 8. THE DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS FOR THIS PROJECT WILL BE COMPLETED TO THE SCOPE OF THE PROJECT IN COMPLIANCE WITH THE OWNER AND DESIGN TEAM. ANY CHANGES TO THESE DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS WILL ONLY BE DONE BY A CHANGE ORDER THAT IS APPROVED BY THE OWNER'S REPRESENTATIVE.
- 9. CONSIDERATION WILL NOT BE GRANTED FOR ANY ALLEGED MISUNDERSTANDINGS AS TO THE AMOUNT AND / OR SCOPE OF WORK TO BE PERFORMED. TENDER OF PROPOSAL SHALL CONVEY FULL AGREEMENT TO THE ITEMS, AND CONDITIONS INDICATED IN THE CONSTRUCTION DOCUMENTS. SHOULD THE CONTRACTOR FIND DISCREPANCIES OR OMISSIONS IN THE CONSTRUCTION DOCUMENTS OR BE IN DOUBT AS TO THE INTENT THEREOF, THE CONTRACTOR SHALL IMMEDIATELY OBTAIN CLARIFICATION FROM THE ARCHITECT PRIOR TO SUBMITTING A PROPOSAL FOR THE WORK.
- 10. ALL OWNER SUPPLIED ITEMS WILL BE COORDINATED WITHIN THE GENERAL CONTRACTOR'S CONSTRUCTION SCHEDULES PRIOR TO COMMENCEMENT OF ANY WORK.
- 11. THE CONTRACTOR SHALL COORDINATE HIS WORK AND SCHEDULE WITH THE OWNER FOR ALL BUILDING AND CONSTRUCTION SIGNAGE.

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- 12. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF HIS WORK AND SCHEDULE WITH WORK BEING PERFORMED BY OTHERS AND THE USER/OWNER OF THE BUILDING
- 13. ALL DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALE. DO NOT SCALE DRAWINGS. ALL DIMENSIONS ARE TO FACE OF CONCRETE OR MASONRY, CENTERLINE OF COLUMNS AND BEAMS, AND FINISH TO FINISH, UNLESS OTHERWISE NOTED.

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- 14. THE STRUCTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK WITH THE ARCHITECTURAL DRAWINGS BEFORE THE INSTALLATION OF STRUCTURAL, MECHANICAL, ELECTRICAL AND PLUMBING WORK. ANY DISCREPANCIES BETWEEN THE ARCHITECT'S AND ENGINEER'S DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION FOR CLARIFICATION PRIOR TO PROCEEDING WITH SAID WORK.
- 15. DETAILS MARKED "TYPICAL" SHALL APPLY IN ALL CASES UNLESS SPECIFICALLY INDICATED OTHERWISE.
- 16. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS. IF THE CONTRACTOR HAS QUESTIONS REGARDING SOME, OR THEIR EXACT MEANING, THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION
- 17. CONTRACTOR SHALL VERIFY AND ESTABLISH THE LOCATIONS AND ELEVATIONS OF ALL UTILITIES WITHIN THE WORK AREA, AND SHALL COORDINATE WITH THE OWNER AND THE UTILITY COMPANIES PRIOR TO THE START OF THE PROJECT.
- 18. THE CONTRACTOR SHALL PROVIDE ALL SHORING AND BRACING REQUIRED TO ADEQUATELY PROTECT PERSONAL AND ADJACENT PROPERTY AND TO INSURE SAFETY OF THE STRUCTURE THROUGHOUT THE CONSTRUCTION PERIOD.
- 19. ALL CEILING HEIGHTS AS SHOWN ON DETAILS OR PLANS OR NOTES ARE FROM TOP OF CONCRETE DECK TO FINISH CEILING. USE OF THE TERM ABOVE FINISH FLOOR (A.F.F.) MEANS MEASURED FROM THE TOP OF CONCRETE DECK. CONTRACTOR SHALL ALLOW FOR AND COORDINATE WORK WITH FLOOR FINISH MATERIAL AND INSTALLATION METHOD.
- 20. PROVIDE INDEPENDENT SUSPENSION FOR ALL LIGHT FIXTURES. SUSPENSION FOR CEILING AND LIGHT FIXTURES SHALL BE INDEPENDENT OF SUSPENSION FOR DUCT WORK.
- 21. ALL EQUIPMENT AND MATERIALS INSTALLED IN THIS JOB SHALL BE NEW AND FREE OF ANY DEFECTS UNLESS OTHERWISE NOTED.
- 22. CONTRACTORS SHALL RECORD ALL DEVIATIONS FROM THE DESIGN DOCUMENTS IN THE DRAWINGS, AND PROVIDE A COPY TO THE ARCHITECT UPON THE COMPLETION OF WORK.
- 23. PROVIDE APPROVED SEPARATION BY MEANS OF COATINGS, GASKETS, OR OTHER EFFECTIVE MEANS TO PREVENT GALVANIC CORROSION BETWEEN ALL DISSIMILAR METALS.
- 24. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY THE CONSTRUCTION OPERATIONS OF THIS PROJECT TO ADJACENT PROPERTY, UTILITIES, PAVEMENT, LANDSCAPING, STRUCTURES OR IMPROVEMENTS OF ANY KIND. THE GENERAL CONTRACTOR SHALL REPAIR ALL SUCH DAMAGE D ITEMS TO THE CONDITION THEY WERE IN PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES OR BETTER.
- 25. WHERE IT IS NECESSARY TO INSURE STABILITY, CONTRACTOR IS TO PROVIDE ADDITIONAL ANCHORING AND/OR BLOCKING IN STUD PARTITIONS OR BRACE PARTITIONS ABOVE CEILINGS.
- 26. CONTRACTOR TO COORDINATE LOCATIONS OF FLOOR DRAINS WITH PLUMBING CONTRACTOR.
- 28. AUTOMATIC SPRINKLER PROTECTION IS REQUIRED. AUTOMATIC SPRINKLER TO BE CONFIGURED AS REQUIRED FOR NEW CONSTRUCTION. CONTRACTOR TO PROVIDE LAYOUT AND THE MINIMUM REQUIREMENTS FOR THE DESIGN AND INSTALLATION OF AUTOMATIC FIRE SPRINKLER SYSTEM AND EXPOSURE PROTECTION SPRINKLER SYSTEMS, INCLUDING THE CHARACTER AND ADEQUACY OF WATER SUPPLIES AND THE SELECTION OF SPRINKLERS, PIPING, VALVES AND ALL OTHER MATERIALS AND ACCESSORIES IN ACCORDANCE WITH NFPA 13 AND LOCAL BUILDING CODES.
- 29. ROOM IDENTIFICATION AND INTERIOR SIGNAGE BY OWNER,

- CEILING HEIGHT

- SIGNAGE SHALL COMPLY WITH ADA REQUIREMENTS.
- 30. CONTRACTOR SHALL PROVIDE AND INSTALL FIRE EXTINGUISHERS PER CODE, INCLUDING NFPA 10, AND AS DIRECTED BY THE LOCAL FIRE DEPARTMENT THROUGHOUT BUILDING. FIRE EXTINGUISHER CABINETS SHALL NOT PROJECT MORE THAN 4" BEYOND THE FACE OF THE WALL RECESSED FIRE EXTINGUISHER CABINETS IN FIRE RATED WALLS SHALL HAVE THE SAME FIRE RATING AS THE WALL.
- 31. DIMENSIONS TO EXTERIOR WALLS ARE ASSUMED FACE OF FOUNDATION WALL UNLESS OTHERWISE NOTED. ALL INTERIOR DIMENSIONS ARE TAKEN FROM FACE OF FINISHED WALL. ALL EXTERIOR DIMENSIONS ARE TO FACE OF SHEATHING, UNLESS OTHERWISE NOTED.
- 32. BEFORE SUBMITTING BID, EXAMINE ALL DRAWINGS RELATED TO THE WORK, BECOME FULLY INFORMED AS TO THE EXTENT AND CHARACTER OF THE WORK OF ALL TRADES AND ITS RELATION TO THE WORK UNDER THE CONTRACT. NO CONSIDERATIONS WILL BE GIVEN FOR ALLEGED MISUNDERSTANDING OF THE MATERIALS TO BE FURNISHED OR THE WORK TO BE DONE.
- 33. CONTRACTOR SHALL REVIEW AND SUBMIT SHOP DRAWINGS SUFFICIENTLY IN ADVANCE OF THE WORK TO ALLOW PROPER TIME FOR REVIEW. MATERIALS SHALL NOT BE FABRICATED OR DELIVERED TO THE SITE BEFORE THE SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED BY THE OWNER'S REPRESENTATIVE.
- 34. ALL SUBSTITUTE MANUFACTURERS, EQUIPMENT, MATERIALS AND PRODUCTS SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR IS RESPONSIBLE FOR ALL ASSOCIATED COSTS TO ANY AND ALL BUILDING COMPONENTS THAT ARE AFFECTED BY THE SUBSTITUTIONS. ADDITIONAL COSTS INCLUDE ANY REDESIGN THAT IS REQUIRED DUE TO THE
- 35. DO NOT SCALE DRAWINGS, THE DIMENSIONS SHOWN ON THE PLANS MAY VARY FROM THE ACTUAL DIMENSIONS IN THE FIELD. IT IS, THEREFORE, IMPERATIVE THAT THE CONTRACTOR, PRIOR TO COMMENCEMENT OF WORK, TAKE EXACT MEASUREMENTS TO VERIFY ALL DIMENSIONS SHOWN ON THE PLANS AND SHOP DRAWINGS. ALL WORKING DRAWINGS PREPARED BY THE CONTRACTOR SHALL INCLUDE A STATEMENT CERTIFYING THAT THOSE DRAWINGS HAVE BEEN PREPARED IN ACCORDANCE WITH THE FIELD MEASURED DIMENSIONS.
- 36. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY AND ALL DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. FAILURE TO NOTIFY THE ARCHITECT WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO COMPLY WITH THE DOCUMENTS. THE CONTRACTOR SHALL CORRECT ANY AND ALL WORK ARISING FROM SUCH FAILURE AND COORDINATE DISCREPANCIES TO THE SATISFACTION OF THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER. RECOMMENDED BY MANUFACTURER.
- 37. THE LOCATION FOR ALL ITEMS WHEN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE DIAGRAMMATIC. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED AT THE PROJECT AND SHALL HAVE THE APPROVAL OF THE OWNER'S REPRESENTATIVE BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL FURNISH AND INSTALL, WITHOUT ADDITIONAL REMUNERATION, ANY COMPONENT NECESSARY TO COMPLETE THE SYSTEMS IN ACCORDANCE WITH THE BEST PRACTICE OF THE TRADE.
- 38. DATA, COMMUNICATION, CABLE, AND SECURITY SYSTEMS ARE PROVIDED BY THE OWNER'S VENDORS. HOWEVER THE ELECTRICAL CONTRACTOR SHALL PROVIDE APPROPRIATE WALL BOXES, CONDUIT WITH PULL STRINGS, ETC. AS REQUIRED FOR ROUGH-IN CONDITIONS. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE LOCATION OF THESE ITEMS WITH THE OWNER'S VENDORS. ADAAG COMPLIANCE SHALL APPLY.
- 39. MECHANICAL, ELECTRICAL, AND PLUMBING, ARE SCHEMATIC IN NATURE. THEREFORE, IT IS THE GENERAL CONTRACTOR'S

- RESPONSIBILITY TO COORDINATE THE ROUTING OF THESE TRADES, AS WELL AS, THE OWNER'S WORK TO ASSURE THAT THESE SYSTEMS DO NOT CONFLICT WITH THE ARCHITECTURAL AND STRUCTURAL ELEMENTS OF THE BUILDING. IF THE GENERAL CONTRACTOR ROUTE THESE ITEMS TO AVOID A CONFLICT, THEN THEY SHALL NOTIFY THE ARCHITECT PRIOR TO STARTING ANY RELATED WORK.
- 40. CONTRACTOR TO PROTECT ALL NEW WORK DURING CONSTRUCTION AND REPLACE DAMAGED MATERIAL IN KIND.
- 41. ALL GYPSUM WALL BOARD TO BE TAPED AND SANDED AT INTERSECTION OF CONSTRUCTION (NO. "J" MOLD)
- 42. PROVIDE CORNER BEAD AT ALL EXPOSED GYPSUM WALL BOARD CORNERS.
- 43. DOOR OPENINGS SHALL BE LOCATED 4" FROM THE NEAREST FACE OF WALL IN MASONRY WALL CONSTRUCTION, UNLESS OTHERWISE NOTED.
- 44. CONTRACTOR SHALL PROVIDE ALL MATERIALS, FABRICATION, LABOR AND SUPERVISION, ERECTION EQUIPMENT AND APPLIANCES REQUIRED TO INSTALL ALL EQUIPMENT SHOWN ON DRAWINGS AS INDICATED IN THE SPECIFICATIONS.
- 45. THE TERM "PROVIDE" SHALL MEAN "FURNISH AND INSTALL, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS AND PRODUCTS," UNLESS OTHERWISE NOTED.
- 46. CONTRACTOR SHALL COORDINATE HER/HIS WORK WITH THE OWNER SO THAT THERE IS NO INTERFERENCE WITH OWNER'S PERSONAL OR WORK SCHEDULE.
- 47. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE PERFORMANCE OF THE CONTRACT.
- 48. SAVE WORKING CONDITIONS ARE ALL SAFETY REQUIREMENTS ESTABLISHED BY JURISDICTIONAL AGENCIES AND/OR THE OWNER SHALL BE OBSERVED. WHERE CONFLICTS EXIST, THE MORE STRINGENT REQUIREMENTS SHALL APPLY. CARE MUST BE EXERCISED TO AVOID ENDANGERING PERSONNEL OR THE
- 49. CONTRACTOR SHALL REMOVE ALL PROPERLY DISPOSE OF ALL DEBRIS FROM SITE AND LEAVE THE WORK AREA BROOM CLEAN ON A DAILY BASIS AND PROVIDE DUMPSTER SERVICE. PLACE DUMPSTERS AS DIRECTED BY THE "OWNER'S REPRESENTATIVE"
- 50. CONTRACTOR SHALL FURNISH ALL SCAFFOLDING, HOISTING EQUIPMENT AND ANY OTHER EQUIPMENT THAT MAY BE REQUIRED TO PERFORM THE WORK INDICATED IN A SAFE AND ORDERLY MANNER.
- 51. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO INSURE AGAINST DAMAGE TO EXISTING WORK TO REMAIN IN PLACE. ANY DAMAGE TO SUCH WORK SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST.
- 52. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING AND PAYING FOR ALL PERMITS AND APPROVALS NECESSARY FOR THE COMPLETION OF THE PROJECT.
- 53. ALL NEW MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS LATEST WRITTEN INSTRUCTIONS AND SPECIFICATIONS.
- 54. THE CONTRACTOR SHALL COORDINATE ALL FINISHES AND COLOR SELECTIONS WITH THE OWNER.
- 55. ALL FASTENERS INTO PRESSURE TREATED LUMBER ARE TO BE HOT DIPPED GALVANIZED OR STAINLESS STEEL AS RECOMMENDED BY MANUFACTURER.

#### SPECIAL INSPECTION NOTES:

- SPECIAL INSPECTIONS SHALL OCCUR PER INTERNATIONAL BUILDING CODE 2015 SECTION 1704. THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE CODE ENFORCEMENT OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
- THE QUALIFICATIONS OF ALL PERSONNEL PERFORMING SPECIAL INSPECTION ACTIVITIES ARE SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL. THE CREDENTIALS OF ALL INSPECTORS AND TESTING TECHNICIANS SHALL BE PROVIDED IF REQUESTED.
- THE INSPECTION AND TESTING AGENT SHALL BE ENGAGED BY THE OWNER OR THE OWNER'S AGENT, AND NOT BY THE CONTRACTOR OR SUBCONTRACTOR WHOSE WORK IS TO BE INSPECTED OR TESTED. ANY CONFLICT OF INTEREST MUST BE DISCLOSED TO THE BUILDING OFFICIAL, PRIOR TO COMMENCING WORK
- THE PERMIT APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 106.1 AS A CONDITION FOR PERMIT ISSUANCE. THIS STATEMENT SHALL INCLUDE A COMPLETE LIST OF MATERIALS AND WORK REQUIRING SPECIAL INSPECTIONS BY THIS SECTION, THE INSPECTIONS TO BE PERFORMED AND A LIST OF THE INDIVIDUALS, APPROVED AGENCIES OR FIRMS INTENDED TO BE RETAINED FOR CONDUCTING SUCH INSPECTIONS.
- THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF ALL INSPECTIONS AND SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, STRUCTURAL ENGINEER AND ARCHITECT OF RECORD. DISCOVERED DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF SUCH DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL, STRUCTURAL ENGINEER AND ARCHITECT OF RECORD. THE SPECIAL INSPECTION PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF HIS OR HER RESPONSIBILITIES.

#### GENERAL WALL NOTES

- SEE SPECIFICATIONS FOR APPLICATIONS OF GYPSUM PRODUCTS, UNLESS NOTED ON DRAWINGS. REFER TO SPECIFICATIONS FOR SPECIAL APPLICATIONS, THICKNESS, AND TYPES. (I.E. MOLD & MOISTURE RESISTANCE, TILE BACKER BOARDS, ETC.)
- REFER TO THE LATEST EDITION OF UNDERWRITERS
  LABORATORIES, INC. FIRE RESISTANCE DIRECTORY FOR
  ADDITIONAL REQUIREMENTS ON UL RATED ASSEMBLIES AS
  NOTED IN THE PARTITION DETAILS.
- USE ONLY PARTITIONS IDENTIFIED ON THE PLANS.
- STC = SOUND TRANSMISSION CLASS REFER TO THE WALL SCHEDULE IN PLAN FOR WALLS THAT ARE SOUND RATED
- ALL SEALANTS IN RATED WALL LOCATIONS REFERENCED IN THE WALL TYPE DETAILS SHALL BE SELECTED AND INSTALLED IN ACCORDANCE WITH THE MINIMUM REQUIREMENTS OF THE UNDERWRITERS LABORATORIES, INC FIRE RESISTANCE DIRECTORY. IN ADDITION TO FIRE RESISTANCE, WALL LOCATIONS CALLED OUT WITH REQUIRED ACOUSTICAL VALUE, AS NOTED IN WALL SCHEDULE, SHALL HAVE SEALANTS THAT MAINTAIN THE MINIMUM SOUNDS VALUE OF THE WALL PARTITION.

#### SOUND INSULATION NOTES

- ASSEMBLIES SHALL BE AIRTIGHT. HAIRLINE CRACKS AND HOLES ARE NOT ALLOWED.
- RECESSED WALL FIXTURES SUCH AS CABINETS, OUTLETS, AND OTHER ITEMS WHICH PENETRATE THE GYPSUM BOARD SURFACE SHOULD NOT BE LOCATED BACK TO BACK IN THE SAME STUD CAVITY.
- ANY OPENINGS CUT FOR ANY FIXTURES SHALL BE CAREFULLY CUT TO SIZE, PROPERLY FASTENED, INSULATED PER WALL ASSEMBLY AND PROPERLY CAULKED.
- THE ENTIRE PERIMETER OF A SOUND INSULATING ASSEMBLY MUST BE MADE AIRTIGHT TO PREVENT SOUND FROM "FLANKING".
- AN ACOUSTICAL SEALANT SHALL BE USED TO SEAL BETWEEN THE SOUND INSULATING ASSEMBLY AND ALL DISSIMILAR ASSEMBLIES AND BETWEEN THE ASSEMBLY AND SIMILAR SURFACES WHERE PERIMETER RELIEF IS REQUIRED. TAPING AND CAULKING OF GYPSUM BOARD WALL AND WALL-CEILING INTERSECTIONS PROVIDES AN ADEQUATE AIR SEAL AT THESE LOCATIONS.
- ALL SEALANTS IN RATED WALL LOCATIONS REFERENCED IN THE WALL TYPE DETAILS SHALL BE SELECTED AND INSTALLED IN ACCORDANCE WITH THE MINIMUM REQUIREMENTS OF THE UNDERWRITERS LABORATORIES, INC FIRE RESISTANCE DIRECTORY. IN ADDITION TO FIRE RESISTANCE, WALL LOCATIONS CALLED OUT WITH REQUIRED ACOUSTICAL VALUE, AS NOTED IN WALL SCHEDULE, SHALL HAVE SEALANTS THAT MAINTAIN THE MINIMUM SOUNDS VALUE OF THE WALL PARTITION.
- ASTM RECOMMENDED PRACTICES E-497 SHALL BE FOLLOWED FOR GOOD SOUND CONTROL. ALSO CONSULT THE MANUFACTURER OF THE GYPSUM BOARD FOR ANY SPECIAL RECOMMENDATIONS RELATING TO THEIR SYSTEM.

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Surgical Associates of WNY

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Building A Suite 103
West Seneca, NY

ISSUE: PERMIT/BID

3/2/2018

SA PROJECT TEAM: PRINCIPAL P.Silvestri
PROJ. ARCH. \_\_\_\_\_ DRAFTER J.Somers

JOB CAPT. <u>D.Nardozzi</u> INTERIORS <u>N.Catuzza</u>

SEAL:

TITLE:

GENERAL NOTES & PARTITION TYPES



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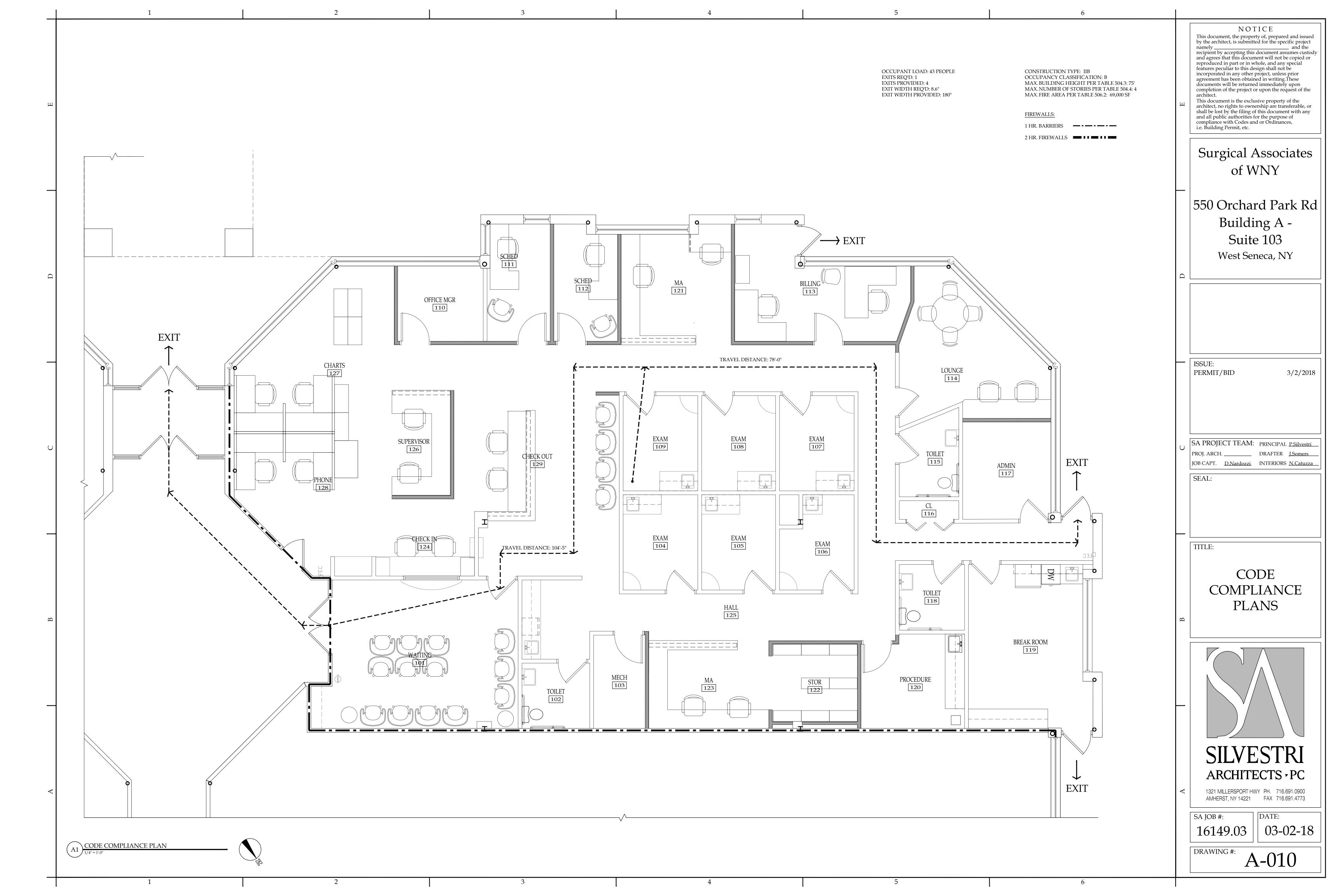
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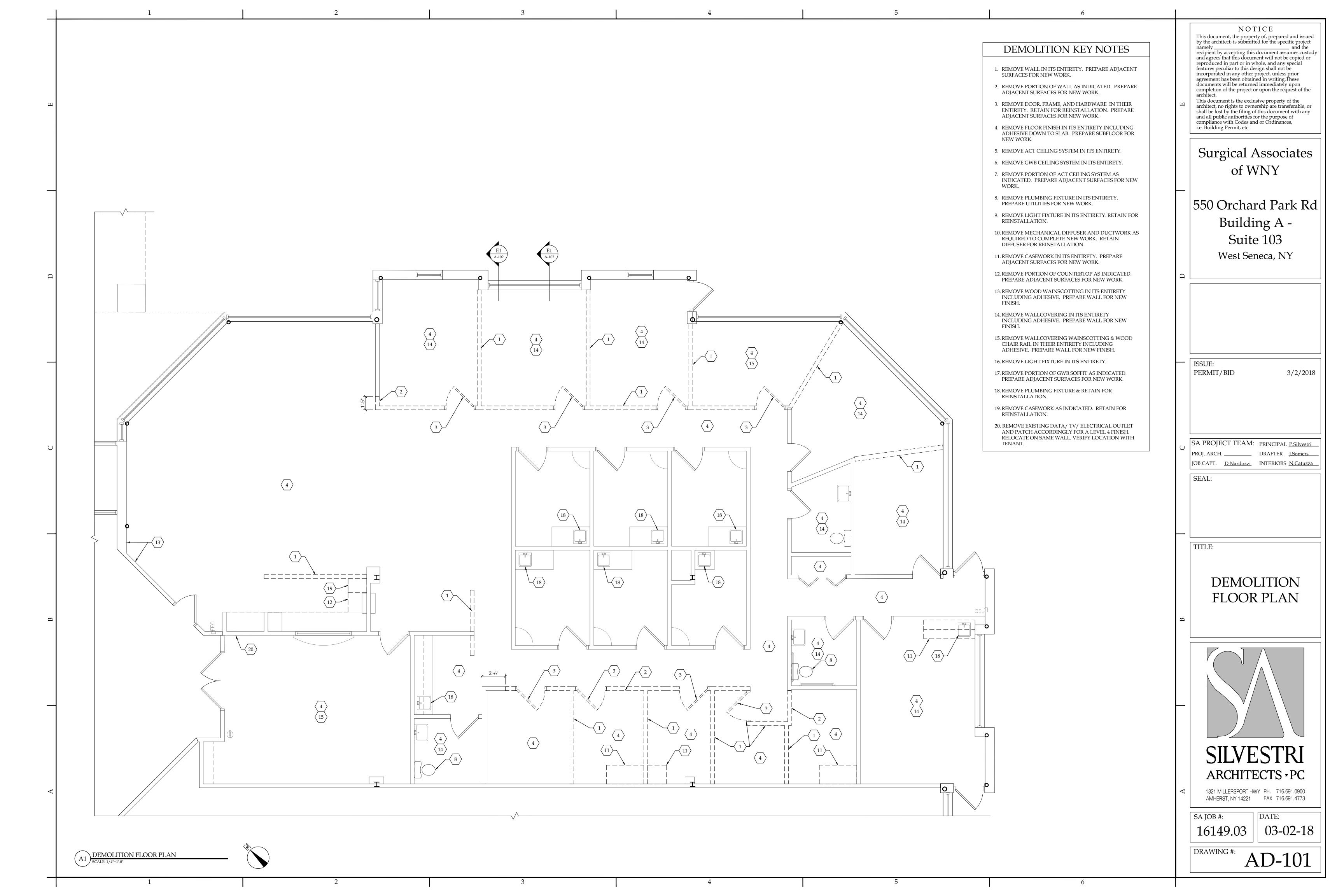
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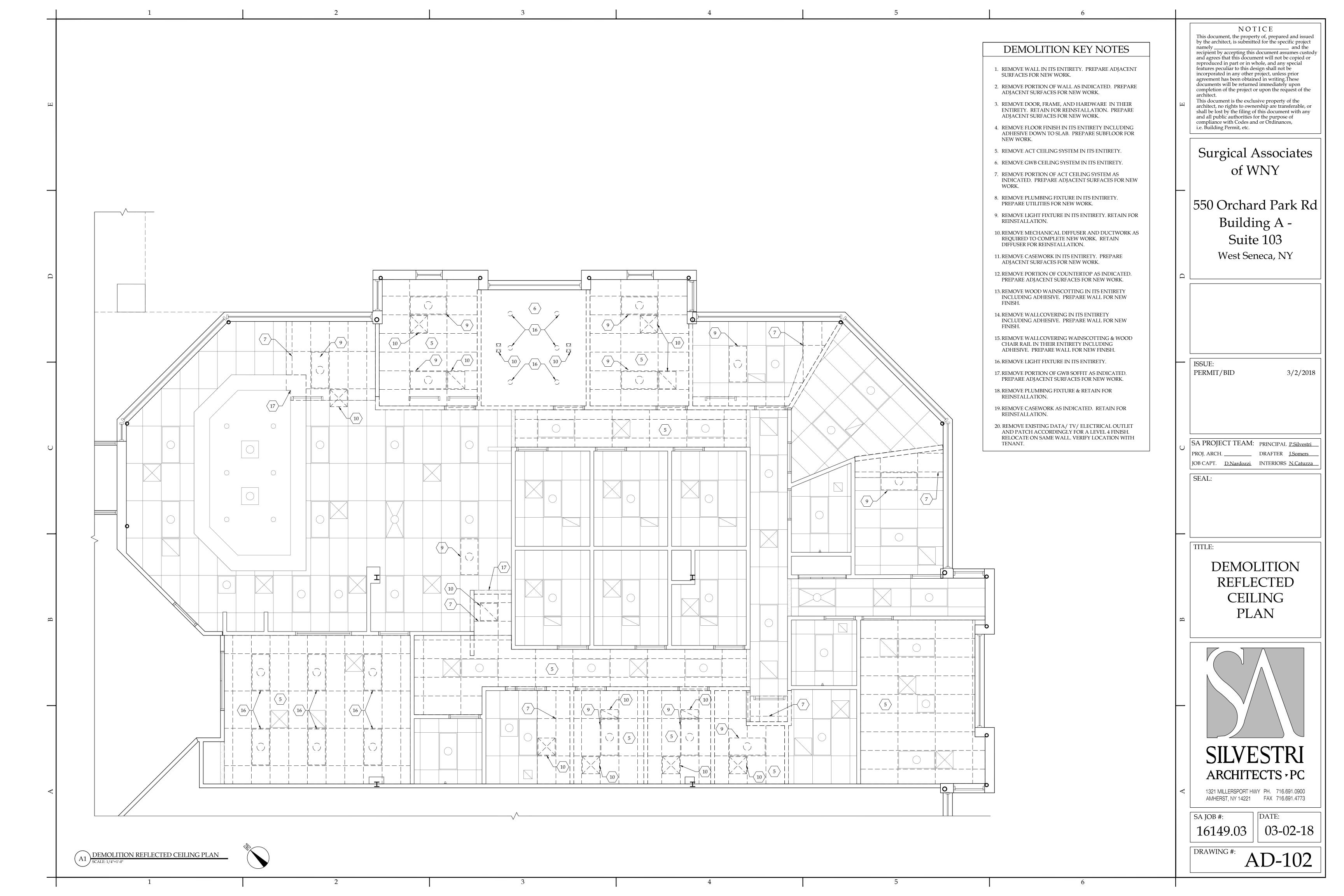
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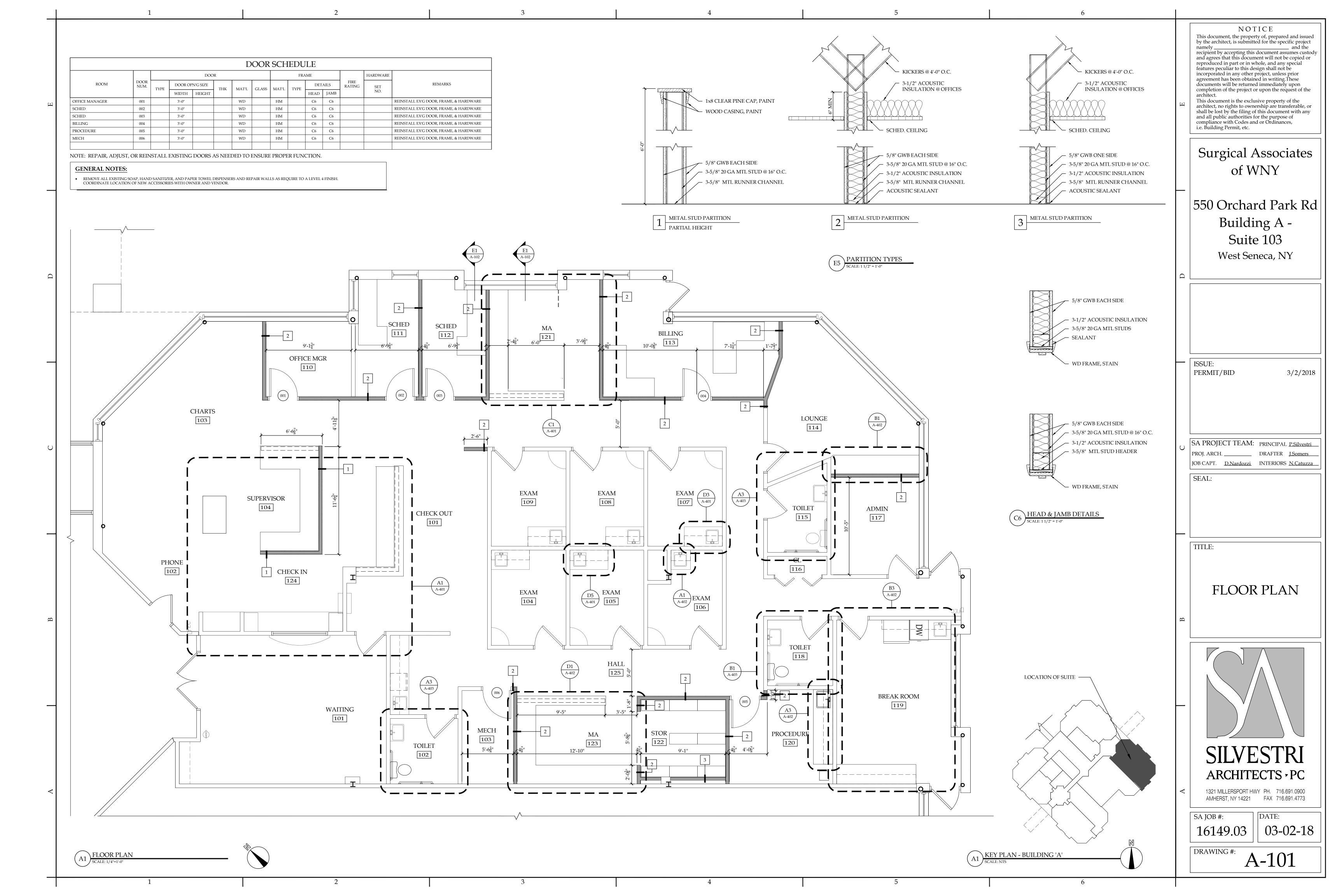
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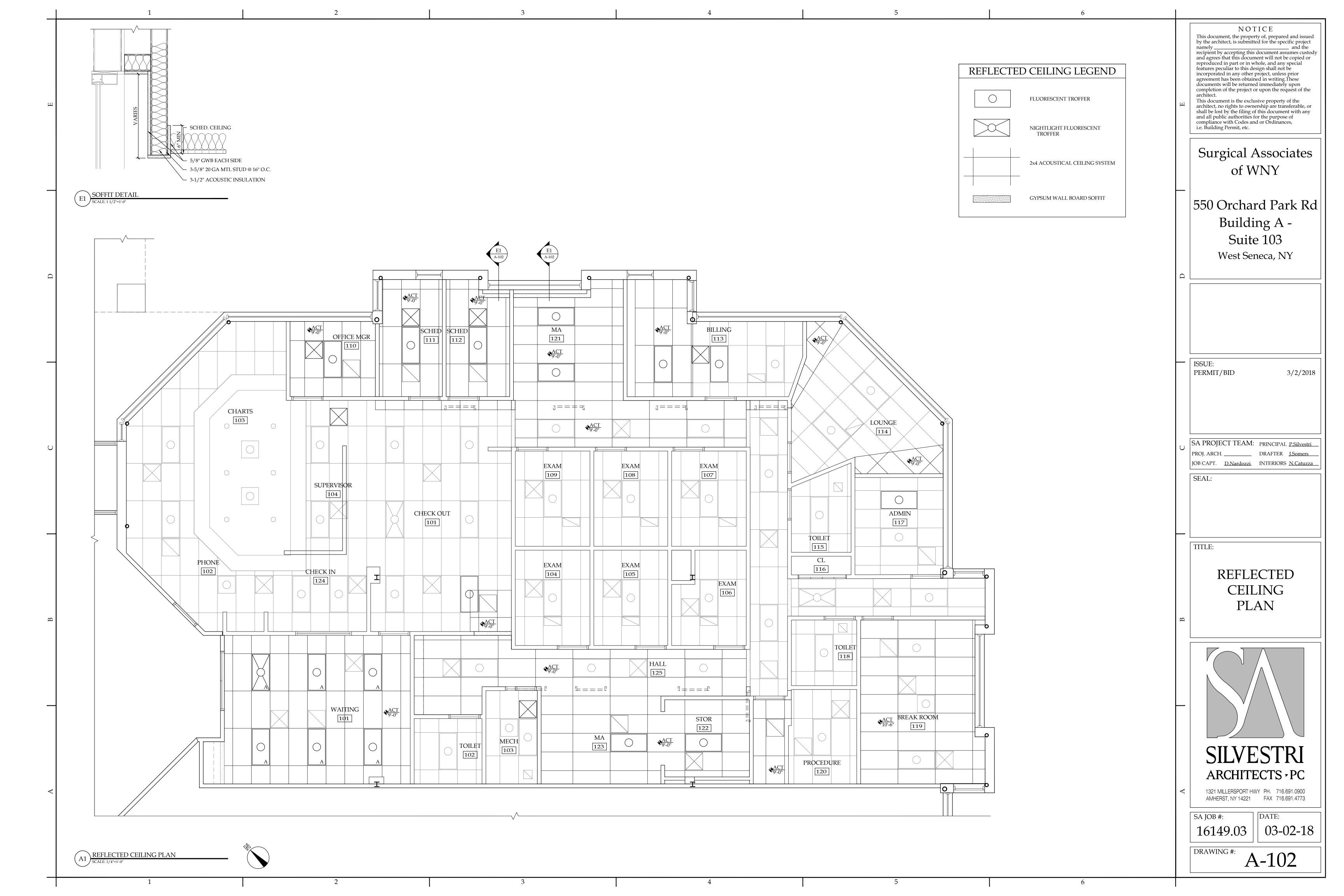
EMERGENCY SMOKE THERMOSTAT SMOKE DETECTOR OUTLETS, SWITCH, TYP. FIRE EXTINGUISHER FIRE ALARM FIRE ALARM STATION DETECTOR DOOR, TYP HORN DEVICE STROBE DEVICE FIRE ALARM STROBE DATA, ETC MIRROR SURFAC NAPKIN DISPENSER RECEPTACLE MOUNTED AT SURFACE COVER DISPOSAL PUBLIC TOILE MOUNTED DISPENSER SEMI-RECESSED SEMI-RECESSED ACCESSIBLE TOILETS SHALL HAVE A TOILET SEAT 17"-19" AFF-AND SHALL HAVE CONTROL VALVES ON THE WIDE SIDE OF THE TOILET TANK, OPPOSITE OF ADJACENT WALL. TOILET LAVATORY DISPENSER WALL MOUNTED STANDARD MOUNTING HEIGHTS

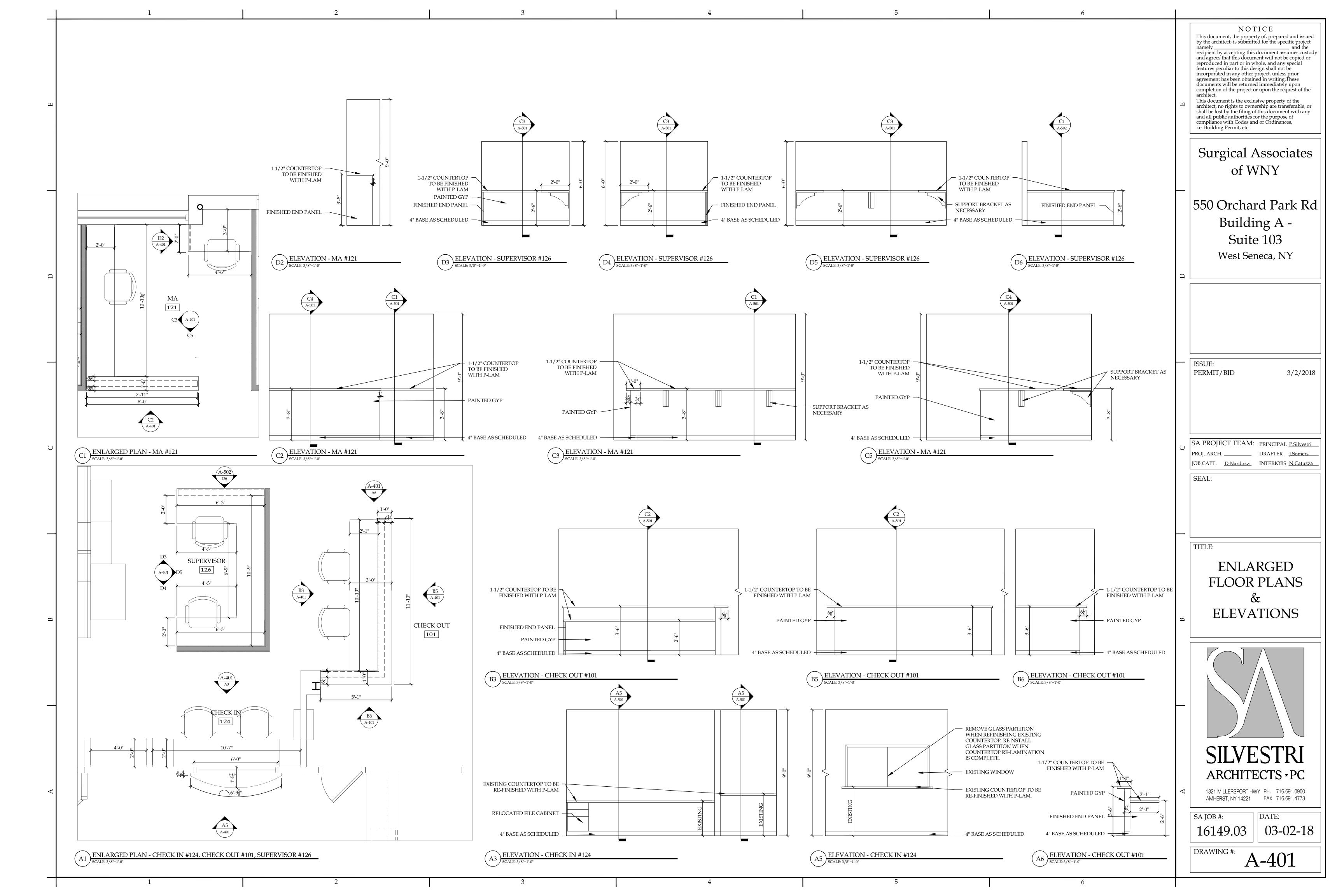


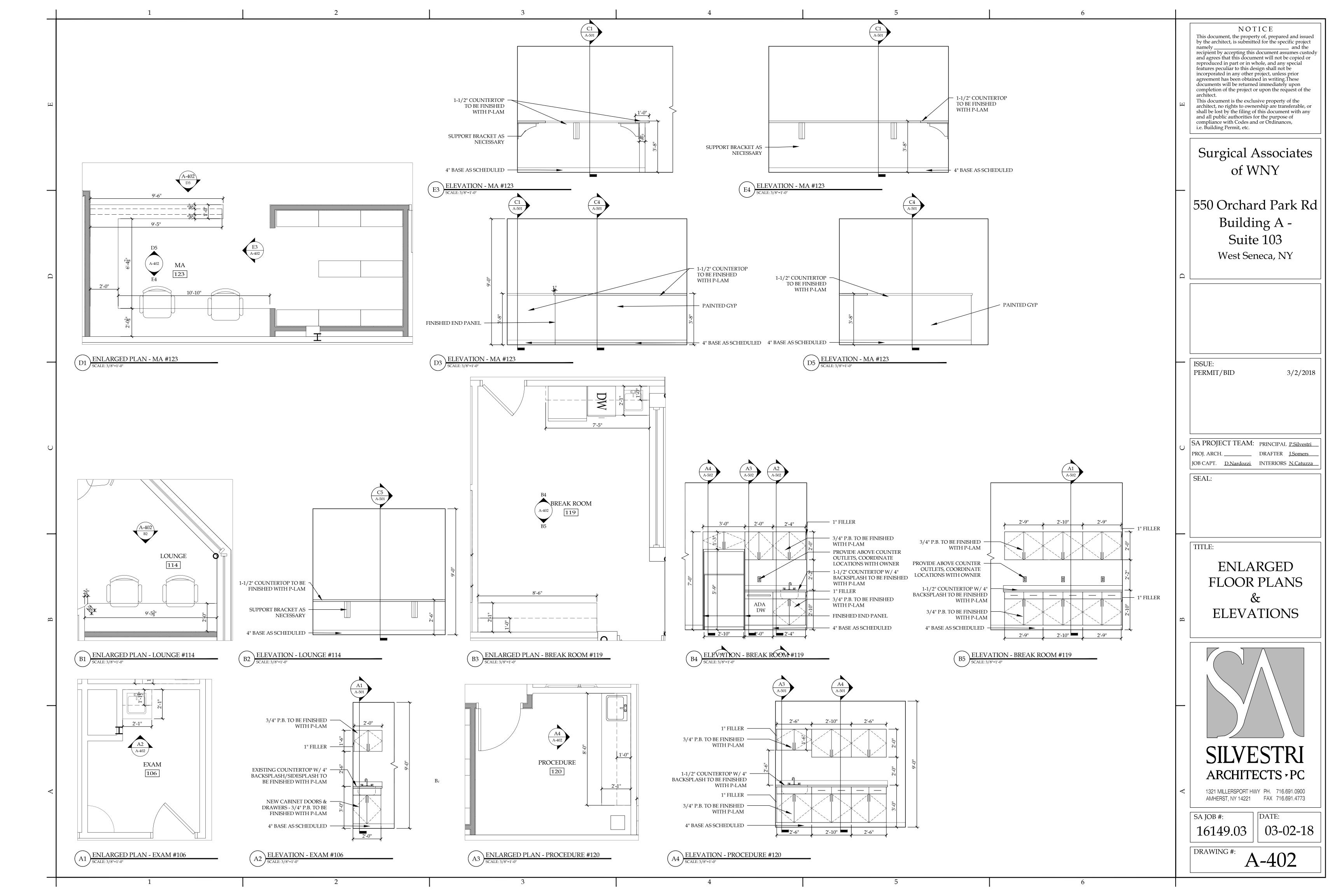


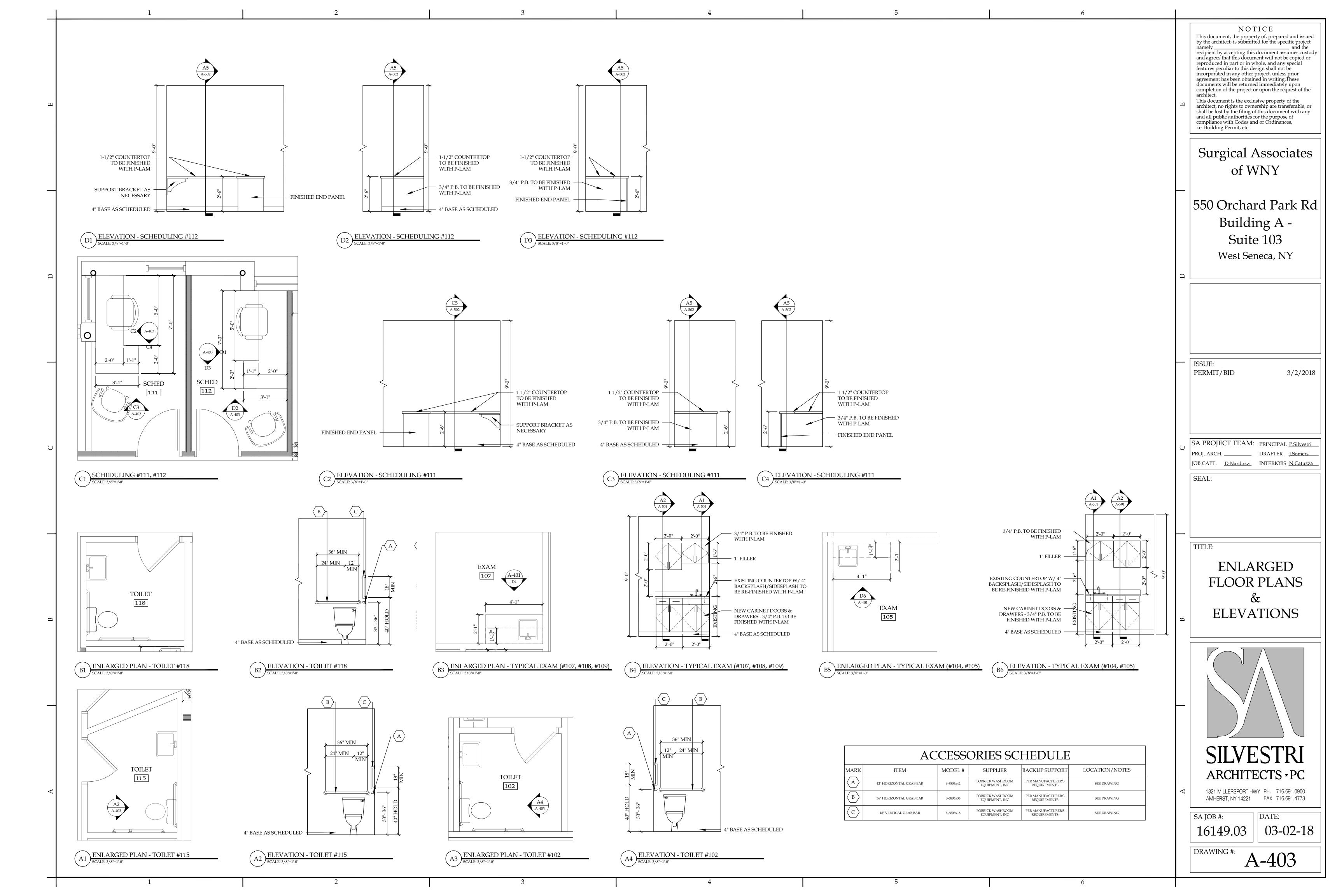


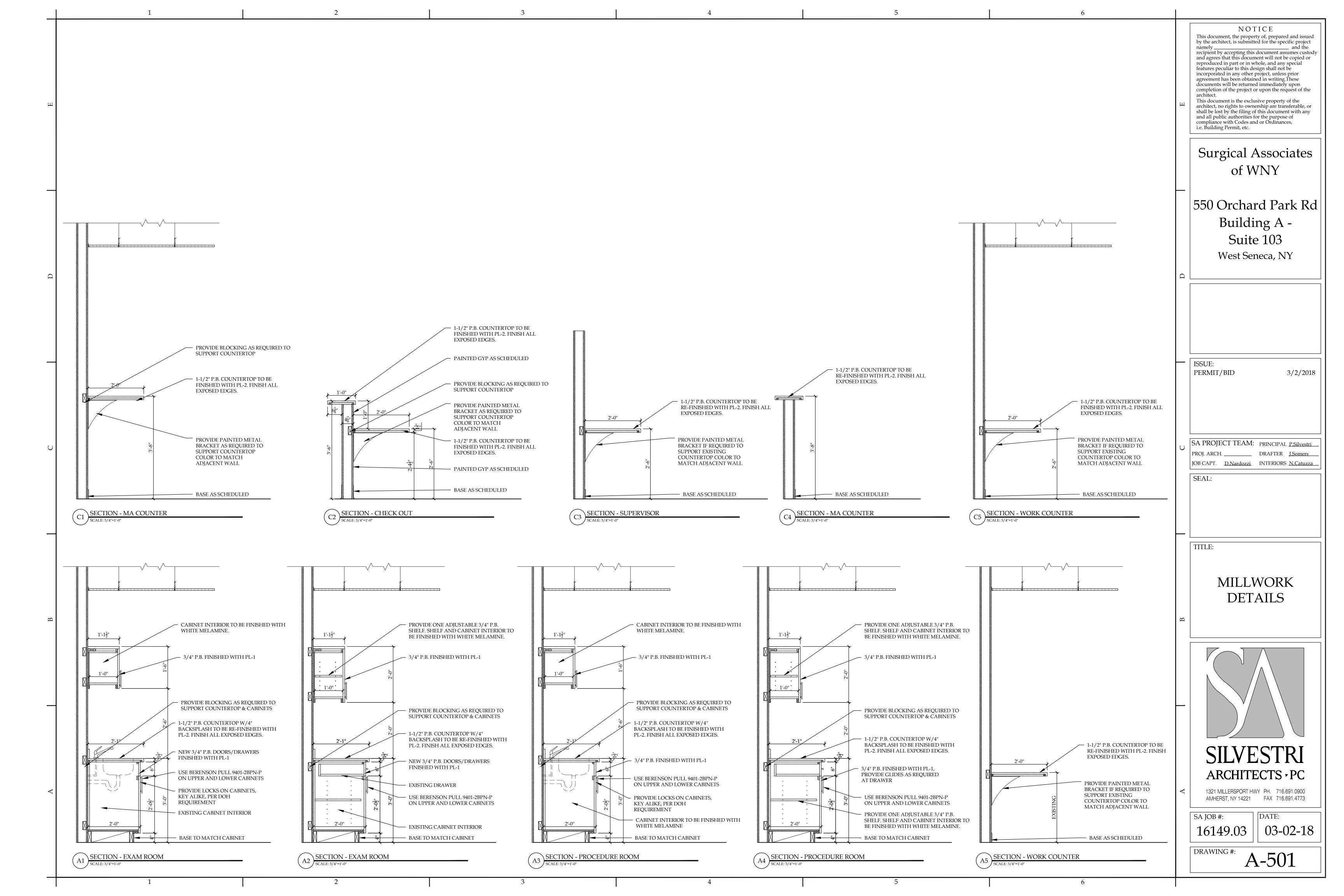












GENERAL NOTES FINISH SELECTIONS CARPET (CPT-X): (CPT-1) (TYPICAL) MANUFACTURER: INTERFACE ORDERED ON TIME WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. ICE BREAKER COLOR: GRAYFOX 105779

VINYL COMPOSITION TILE (VCT-X): (VCT-1) (TYPICAL) MANUFACTURER: ARMSTRONG STYLE: EXCELON IMPERIAL TEXTURE

MONOLITHIC

COLOR: SIZE: 12" X 12"

**RUBBER BASE (RB-X):** (RB-1) (TYPICAL)

JOHNSONITE MANUFACTURER: 4" COVE COLOR: TBD

PAINT (P-X):

NOTE:

(P-1) (TYPICAL) SHERWIN WILLIAMS MANUFACTURER: STYLE: SW1015 SKYLINE STEEL FINISH: EGGSHELL

(P-2) (ACCENT) MANUFACTURER: SHERWIN WILLIAMS COLOR: FINISH: **EGGSHELL** 

(P-3) (ACCENT) MANUFACTURER:

SHERWIN WILLIAMS COLOR: SW9170 ACIER FINISH: EGGSHELL

(P-4) (TRIM) MANUFACTURER:

SHERWIN WILLIAMS COLOR: SW7019 GAUNTLET GRAY FINISH: SEMI-GLOSS

**RECLAIMED WOOD (RW-X):** 

MANUFACTURER: LOCAL SOURCE/MANUFACTURER COLOR: LOCATION: WAITING ROOM ACCENT WALL

PLASTIC LAMINATE (PL-X)

(PL-1) (TYPICAL) WILSONART MANUFACTURER: COLOR: CLASSIC LINEN 4943-38

(PL-2) (TYPICAL COUNTERTOP) MANUFACTURER: BRUSHED PEWTER P-235 MX COLOR:

DOORS (WD-X):

(WD-1) MOHAWK DOORS MANUFACTURER: WHITE MAPLE FINISH: MATCH EXISTING

**ACOUSTICAL CEILING TILE (ACT-X):** 

(ACT-1) MANUFACTURER: PRODUCT: STYLE:

ARMSTRONG CORTEGA SECOND LOOK SIZE: 2'X4' EDGE: ANGLED TEGULAR COLOR: WHITE GRID SYS: PRELUDE XL 15/16" EXPOSED TEE

STAIN (ST-X):

(ST-1) STAIN: TO BE SELECTED BY ARCHITECT LOCATION: EXISTING WOOD CABINETS NEAR TOILET #102

TRANSITION (TS-X):

NOTE(S):

(GEŃERAL) MANUFACTURER: SCHLUTER SYSTEMS RENO-TK SIZE TO BE V.I.F. IN STYLE & SIZE:

ACCORDANCE WITH MATERIAL(S) THICKNESS STYLE: CLEAR SATIN ANODIZED ALUMINUM LOCATION(S): FLOORING MATERIAL CHANGES AS

NECESSARY.

TRANSITIONS

PLEASE SEE GENERAL NOTES RE:

 ANY AND ALL FINISH SELECTIONS/ COLORS MUST BE SUBMITTED TO ARCHITECT FOR APPROVAL ACCOUNTING FOR PROPER LEAD TIME. ANY FINISH THAT IS INSTALLED WITHOUT ARCHITECTS APPROVAL MAY BE REQUIRED TO BE REMOVED AND REPLACED BY THE GENERAL CONTRACTOR. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ORDER ALL MATERIALS AT THE APPROPRIATE TIME. ANY FEE'S INCURRED AS A RESULT OF FINISHES NOT BEING

• ANY DISCREPANCIES BETWEEN ARCHITECTURAL ELEVATION(S), PLAN(S), SCHEDULE(S) AND NOTES MUST BE BROUGHT TO ARCHITECTS ATTENTION. ARCHITECT MUST BE CONTACTED AND GIVE APPROVAL TO MOVE FORWARD WITH SPECIFIC DIRECTION PRIOR TO ANTICIPATED ACTION.

ALL INTERIOR PRODUCTS TO MEET/EXCEED FLAME SPREAD RATING PER CODE

• ALL FLOOR FINISHES TO EXTEND BENEATH ALL MILLWORK.

• ALL ELECTRICAL PANEL COVERS AND/OR MECHANICAL EQUIPMENT AND/OR DUCTING TO BE PAINTED TO MATCH ADJOINING WALL.

• ANY CEILING HVAC SUPPLY/DIFFUSERS ETC. TO BE PAINTED TO MATCH SURROUNDING CEILING FINISH. ANY QUESTIONS OR CONCERN TO BE BROUGHT TO ARCHITECT'S ATTENTION FOR FINAL DECISION PRIOR TO ORDER/INSTALL BY CONTRACTOR OR OTHER.

• ALL GYPSUM BOARD CEILINGS TO BE PAINTED IN A FLAT WHITE FINISH UNLESS SPECIFIED.

• ALL EXPOSED MECHANICAL DUCT COVERS SHALL BE PAINTED TO MATCH THE SURROUNDING WALL/ CEILING COLOR. PRIME AS NECESSARY.

• PROVIDE (1) COAT WALL PRIMER FOLLOWED BY (2) COATS WALL PAINT ON ALL INTERIOR WALL SURFACE UNLESS OTHERWISE NOTED IN SPECIFICATIONS. SEE SPEC FOR DETAILS.

WHERE DARK PAINT COLORS ARE APPLIED, USE DEEP GRAY BASE PRIMER TO PREVENT BURNISHING.

FLOORS:

PROVIDE CORIAN OR EQUAL THRESHOLD AT ALL TOILET ROOM TRANSITIONS UNLESS OTHERWISE SPECIFIED. ARCHITECT TO CHOOSE FROM MANUFACTURER FULL RANGE OF COLORS.

• NO CHANGES OR SUBSTITUTIONS WILL BE MADE TO THE FOLLOWING FINISHES UNLESS DIRECTED BY THE OWNER OR ARCHITECT.

• CONTRACTOR TO PROVIDE (TS-1) AT ALL FLOORING MATERIAL CHANGES NEEDING THRESHOLDS. NECESSARY

MILLWORK:

PROVIDE CLEAR BEAD OF SILICONE OR CLEAR CALK TO SEAL BETWEEN MILLWORK PIECES(IE: COUNTER TOP

AND BACKSPLASH) AND MILLWORK AND WALL. (TYPICAL). • EXISTING COUNTERTOPS WHERE SPECIFIED TO BE RE-LAMINATED.

ALL COLOR SELECTION OF PLASTIC LAMINATE SUPPORTS TO MATCH ADJACENT WALL.

SIZES TO BE DETERMINED BY CONTRACTOR AND V.I.F. BASED ON MATERIAL THICKNESS.

EXISTING CABINETS NEAR TOILET #102 TO BE RE-FINISHED AND STAINED. STAIN TO BE SELECTED BY ARCHITECT.

BASE:

• USE RB-1 AT ALL NEW WALLS.

• ALL HOLLOW METAL DOOR FRAMES TO BE PAINTED WITH P-4.

• ALL OUTLET SWITCHES AND COVERS TO MATCH EXISTING.

**SIGNAGE:** 

 SIGNAGE LOCATIONS WILL NEED TO BE PROVIDED AND INSTALLED BY CONTRACTOR. TO BE SELECTED AND APPROVED BY ARCHITECT AND CLIENT PRIOR TO MANUFACTURER/PURCHASE TO BE PROVIDED BY TAKEFORM.

ROOM FINISH LEGEND

**FLOORS** WALLS CPT = CARPET P = PAINTRW = RECLAIMED WOOD VCT = VINYL COMPOSITE TILE MISCELLANEOUS PL = PLASTIC LAMINATE RB = RUBBER BASE TS = TRANSITION STRIP CEILING MISC = MISCELLANEOUS ACT = ACOUSTIC CEILING TILE ST = STAINGYP = GYPSUM BOARD MATERIALS P.B. = PARTICLE BOARD WD = WOOD DOOR GYP. = GYPSUM BOARD

REMARKS

1. REFER TO REFLECTED CEILING PLAN FOR EXACT DETAILS (MATERIALS, HEIGHTS, SIZES, ETC...) FOR CEILING LAYOUT.

2. PL-2 TO BE USED ONLY TO RE-LAMINATE EXISTING COUNTERS WHERE SPECIFIED.

3. PL-1 TO BE USED FOR FINISHED END PANELS WHERE SPECIFIED.

		ROOM FIN	IISH SCHEDUI	LE - FIRST FL	OOR			
DOOM					MILL	WORK	CEILINIC	
ROOM NUMBER	ROOM NAME	BASE	FLOOR	WALLS	CABINET/ SHROUD	COUNTERTOP/ BACKSPLASH	CEILING HEIGHT	REMARKS
101	WAITING	RB-1	CPT-1	P-1/RW-1		PL-2	EXISTING	2
102	TOILET	RB-1	EXISTING	P-1			EXISTING	
103	MECHANICAL	EXISTING	EXISTING	P-1			EXISTING	
104	EXAM	EXISTING	EXISTING	P-1/P-3	PL-1	PL-2	EXISTING	2
105	EXAM	EXISTING	EXISTING	P-1/P-3	PL-1	PL-2	EXISTING	2
106	EXAM	EXISTING	EXISTING	P-1/P-3	PL-1	PL-2	EXISTING	2
107	EXAM	EXISTING	EXISTING	P-1/P-3	PL-1	PL-2	EXISTING	2
108	EXAM	EXISTING	EXISTING	P-1/P-3	PL-1	PL-2	EXISTING	2
109	EXAM	EXISTING	EXISTING	P-1/P-3	PL-1	PL-2	EXISTING	2
110	OFFICE MANAGER	RB-1	CPT-1	P-1			9'-0"	
111	SCHEDULING	RB-1	CPT-1	P-1/P-3	PL-1	PL-2	9'-0"	3
112	SCHEDULING	RB-1	CPT-1	P-1/P-3	PL-1	PL-2	9'-0"	3
113	BILLING	RB-1	CPT-1	P-1			9'-0"	
114	LOUNGE	RB-1	CPT-1	P-1	PL-1	PL-2	9'-0"	
115	TOILET	RB-1	EXISTING	P-1			EXISTING	
116	CLOSET	EXISTING	EXISTING	P-1			EXISTING	
117	ADMIN OFFICE	RB-1	CPT-1	P-1			EXISTING	
118	TOILET	RB-1	EXISTING	P-1			EXISTING	
119	BREAK ROOM	RB-1	VCT-1	P-1/P-3	PL-1	PL-2	9'-0"	
120	PROCEDURE	RB-1	VCT-1	P-1/P-3	PL-1	PL-2	9'-0"	
121	MA	RB-1	CPT-1	P-1/P-2	PL-1	PL-2	9'-0"	3
122	STORAGE	RB-1	VCT-1	P-1			EXISTING	
123	MA	RB-1	CPT-1	P-1/P-2	PL-1	PL-2	9'-0"	3
124	CHECK IN	RB-1	CPT-1	P-1/P-2	PL-1	PL-2	9'-0"	3
125	HALL	RB-1	VCT-1	P-1/P-3			EXISTING	
126	SUPERVISOR	RB-1	CPT-1	P-1	PL-1	PL-2	EXISTING	3
127	CHARTS	RB-1	CPT-1	P-1			EXISTING	
128	PHONE	RB-1	CPT-1	P-1			EXISTING	
129	CHECK OUT	RB-1	CPT-1	P-1/P-2	PL-1	PL-2	EXISTING	3

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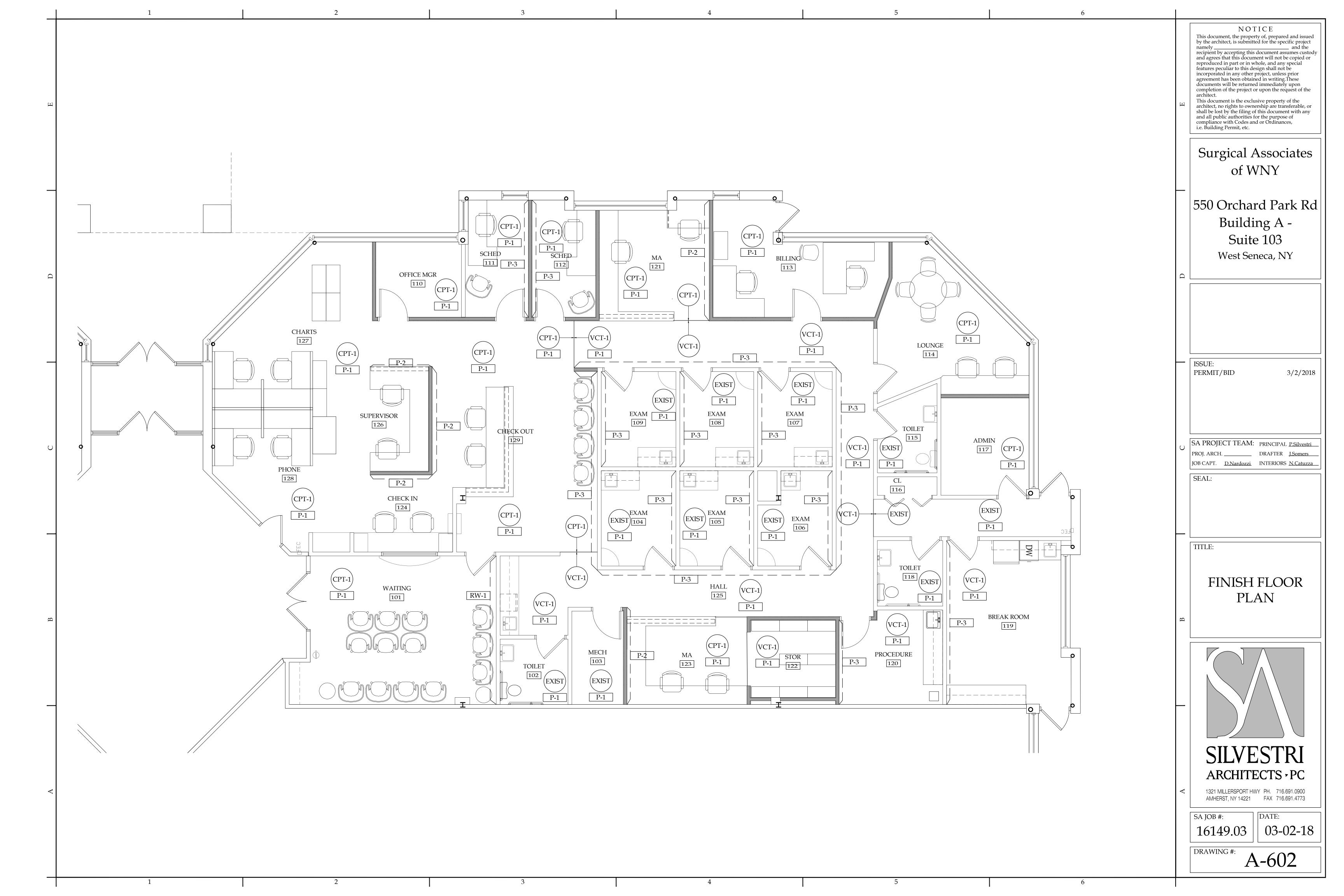
3/2/2018

ROOM FINISH SCHEDULE, LEGEND, & **GENERAL** NOTES



SA JOB #: 16149.03

DATE: 03-02-18



#### **HVAC GENERAL NOTES**

#### **ARCHITECTURAL**

- 1. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATION OF DOORS, WINDOWS, CEILING DIFFUSERS,
- . LIGHT FIXTURE LOCATIONS TAKE PRECEDENCE OVER DIFFUSER AND GRILLE LOCATIONS. LOCATE DIFFUSERS AND GRILLES TO ACCOMMODATE LIGHTING LAYOUT.
- REFER TO ARCHITECTURAL FLOOR PLANS FOR LOCATION AND RATING OF ALL FIRE

#### **GENERAL**

- THE HVAC CONTRACTOR SHALL VISIT THE JOB SITE AND BE FAMILIAR WITH ALL PROJECT CONDITIONS PRIOR TO FABRICATING DUCTWORK, EQUIPMENT, ETC. NO ALLOWANCES WILL BE MADE FOR CONTRACTOR'S UNFAMILIARITY WITH PROJECT CONDITIONS.
- DUCTWORK ROUTING SHOWN IS SCHEMATIC. HVAC CONTRACTOR SHALL PROVIDE ANY ADDITIONAL OFFSETS AND FITTINGS, INCLUDING DIVIDED DUCTS, REQUIRED FOR PROPER INSTALLATION AND TO MAINTAIN CLEARANCES AS ENCOUNTERED IN THE FIELD.
- FURNISH ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED FOR THE COMPLETE INSTALLATION AND OPERATION OF ALL SYSTEMS IN THIS SECTION OF WORK IN ACCORDANCE WITH ALL APPLICABLE CODES, ASHRAE, SMACNA, NFPA, EPA, ETC.
- PRIOR TO INSTALLATION OF ASSOCIATED WORK; INSTALLER SHALL MEET AT PROJECT SITE WITH GENERAL CONTRACTOR, INSTALLER OF EACH COMPONENT OF ASSOCIATED WORK, INSPECTION AND TESTING AGENCY REPRESENTATIVES (IF ANY), INSTALLERS OF OTHER WORK REQUIRING COORDINATION WITH WORK OF THIS SECTION AND ARCHITECT / OWNER FOR PURPOSE OF COORDINATING LOCATIONS OF PROPOSED SYSTEMS, REVIEWING MATERIAL SELECTIONS, AND PROCEDURES TO BE FOLLOWED IN PERFORMING THE WORK IN COMPLIANCE WITH REQUIREMENTS SPECIFIED.
- COORDINATE SCHEDULE FOR HOOK-UPS TO EXISTING SYSTEMS AND EQUIPMENT REMOVAL OR RELOCATIONS WITH THE OWNER AND PERFORM THIS WORK AT SUCH TIMES TO ENSURE THAT PERIODS OF SHUTDOWN WILL BE ACCEPTABLE TO THE
- COORDINATE INSTALLATION AND LOCATIONS OF NEW DUCTWORK AND PIPING WITH BUILDING STRUCTURE, PLUMBING PIPING, ELECTRICAL CONDUIT, LIGHTING, ETC. PRIOR TO PURCHASING OR INSTALLING EQUIPMENT AND MATERIALS.
- VERIFY EXACT SIZES OF EXISTING DUCTWORK AND / OR PIPING IN FIELD PRIOR
- . VERIFY EXACT LOCATION OF CONNECTION POINTS (NEW TO EXISTING) IN FIELD PRIOR TO CONSTRUCTION.
- 9. RELOCATE EXISTING DUCTWORK AND / OR PIPING IN EXISTING CEILING SPACES TO ACCOMMODATE ALL RENOVATIONS AND ADDITIONS.
- 10. ALL PIPING AND DUCTS EXTENDING THROUGH WALLS SHALL BE SEALED WITH AN APPROVED FIRESTOPPING MATERIAL.

#### <u>EQUIPMENT</u>

TO MAKING NEW CONNECTION.

FLEXIBLE CONNECTORS SHALL BE INSTALLED ON SUPPLY AIR DUCTS AT ALL EQUIPMENT CONNECTIONS.

- 1. ALL PIPING LINES, INCLUDING CONDENSATE DRAINS, SHALL BE FULLY INSULATED.
- . CONDENSATE PIPING FROM AIR CONDITIONING EQUIPMENT SHALL BE PITCHED A MINIMUM OF 1/4" PER FOOT, IN THE DIRECTION OF FLOW.
- CONDENSATE DRAIN PIPES SHALL HAVE CLEANOUTS AT EVERY CHANGE IN DIRECTION, DISTANCES GREATER THAN 3 FEET, AND AT THE BEGINNING OF LONG STRAIGHT RUNS.

#### <u>DUCTWORK</u>

- 1. RUN ALL DUCTWORK AND PIPING AS TIGHT TO BOTTOM OF STEEL AS POSSIBLE.
- 2. DUCTWORK SHALL NOT BE SUPPORTED FROM BRIDGING, CONDUIT, PIPING, ETC. OF ANY KIND. DO NOT USE FASTENERS THAT PENETRATE ROOF DECKS.
- 3. ASPECT RATIO SHALL NOT EXCEED 3:1.
- 4. ALL DUCTWORK INSTALLATION SHALL RUN CONTINUOUSLY THROUGH PARTITIONS.
- 5. LOCATE ALL DUCT BALANCING DAMPERS. CONTROL DAMPERS AND FIRE DAMPERS ABOVE ACCESSIBLE CEILINGS OR PROVIDE ACCESS DOORS.
- 6. PROVIDE VOLUME CONTROL DAMPERS WITH QUADRANT AND LOCK AND STANDOFF COLLAR AT ALL BRANCH DUCTS TO DIFFUSERS. INSTALL AT A MINIMUM OF TWO DUCT WIDTHS FROM BRANCH TAKEOFF.
- 7. DUCTWORK SIZES INDICATED ON DRAWINGS ARE INSIDE, FREE AND CLEAR DIMENSIONS. INCREASE DUCT OUTSIDE DIMENSION SIZE BY TWO (2) TIME THE THICKNESS OF THE INSULATION.
- 8. ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS.
- 9. ALL DUCTWORK SHALL BE GALVANIZED SHEET METAL IN AREAS WITH FINISHED
- 10. WHERE RECTANGULAR DUCTWORK IS INDICATED, AND AT INSTALLERS OPTION, SPIRAL AND ROUND DUCTWORK MAY BE SUBSTITUTED FOR RECTANGULAR DUCTWORK PROVIDED THEY ARE EQUIVALENT TO THE RECTANGULAR DIMENSIONS INDICATED ON THE DRAWINGS (i.e.: 8x4 = 8° $\phi$ , 10x6 = 10° $\phi$ ).
- 11. ALL CONCEALED SUPPLY AIR DUCTWORK SHALL BE EXTERNALLY INSULATED WITH MINIMUM 1-1/2" THICK, 0.75 LB DENSITY, FOIL-BACK INSULATION WITH VAPOR BARRIER AND A MINIMUM R-VALUE OF R-6, FLAME SPREAD RATING OF 25 OR LESS. AND SMOKE-DEVELOPED RATING OF 50 OR LESS.
- 12. ALL RETURN AND TRANSFER AIR DUCTWORK SHALL BE INTERNALLY LINED.
- 13. ALL DUCT LINERS SHALL BE MINIMUM 1-1/2" THICK, COATED TO PREVENT ELEMENTS FROM ENTERING THE AIRSTREAM (COATING SHALL MEET ASHRAE 62 - LATEST EDITION). AND ENVIRONMENTALLY FRIENDLY WITH A MINIMUM R-VALUE OF R-6. LINER SHALL BE BLACK IN COLOR SO IT IS NOT NOTICEABLE FROM THE INSIDE OF REGISTERS AND GRILLES.
- 14. ALL SQUARE ELBOWS SHALL HAVE AIRFOIL TYPE TURNING VANES.
- 15. MAXIMUM FLEXIBLE DUCT LENGTH SHALL BE 5'-0". ALL FLEXIBLE DUCT SHALL CONFORM TO THE REQUIREMENTS OF U.L. 181 FOR CLASS 1 FLEXIBLE AIR DUCTS, WITH A MINIMUM R-VALUE OF R-6. SUPPORT FLEXIBLE DUCT TO ELIMINATE KINKING AND SAGGING. (FLEXIBLE DUCT NOT PERMITTED IN EXPOSED AREAS).

#### **CONTROLS**

- 1. ALL CONTROL WIRING AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE (NEC) AND NFPA 70.
- 2. ALL CONTROL WIRING AND POWER CONDUCTOR INSULATION SHALL BE PLENUM
- 3. ALL EXPOSED CONTROL WIRING SHALL BE INSTALLED IN 3/4" EMT CONDUIT.

#### **BALANCING**

1. AN INDEPENDENT TESTING AND BALANCING CONTRACTOR, WHO IS CERTIFIED BY EITHER THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB); WHO IS NOT THE INSTALLER OF THE SYSTEM BEING TESTED, WHO IS <u>NOT</u> AFFILIATED WITH THE INSTALLER OF THE PROJECT, AND IS OTHERWISE INDEPENDENT OF THE PROJECT, SHALL BALANCE THE SYSTEM TO WITHIN 5% OF AIR QUANTITIES INDICATED ON PLANS AND PROVIDE THE OWNER AND ENGINEER WITH A COMPLETE. SIGNED AND SEALED BALANCE REPORT.

## **HVAC CONTROL SYMBOLS** SYMBOL DESCRIPTION PROGRAMMABLE, 7-DAY, 24-HOUR THERMOSTAT CONTROL WIRING (PLENUM RATED)

HVA	C DUCTWORK SYMBOLS
SYMBOL	DESCRIPTION
	EXISTING DUCTWORK TO BE REMOVED
	EXISTING DUCTWORK TO REMAIN
	FLEXIBLE DUCT
<del></del>	INTERNALLY LINED DUCTWORK
+	MANUAL VOLUME DAMPERS
P	POINT OF CONNECTION (NEW TO EXISTING)
Ø	ROUND
SD-1 8"ø 120CFM	SUPPLY AIR DEVICE — FIRST NO. TYPE, SECOND NO. NECK SIZE THIRD NO. CFM (REFER TO SCHEDULE FOR SIZE)
RR-1 - C	RETURN AIR DEVICE — TYPE (REFER TO SCHEDULE FOR SIZE)

#### HVAC DRAWING LIST

- M-1 HVAC GENERAL NOTES, DETAILS AND SCHEDULES
- M-2 HVAC REQUIRED WORK
- M-3 HVAC SPECIFICATIONS

# HVAC ABBREVIATIONS

CFM	CUBIC FEET PER MINUTE
DDC	DIRECT DIGITAL CONTROL
(E)	EXISTING

HEATING, VENTILATING, AIR CONDITIONING OUTSIDE AIR

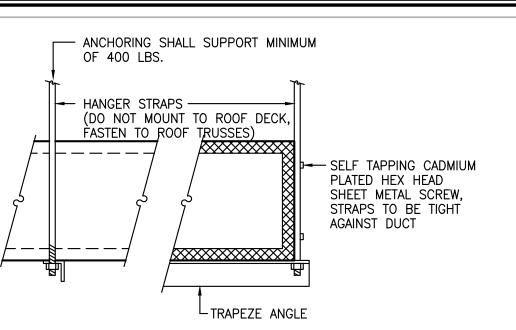
OED OPEN-ENDED DUCTWORK

VOLUME DAMPER

	AIR DISTRIBUTION DEVICE SCHEDULE									
STYLE & DEVICE MOUNTING SIZE		MOUNTING	DESCRIPTION	MANUFACTURER	MODEL NO.					
			SUPPLY							
	SUPPLY 24x24 LAY-IN		LAY-IN	LOUVERED FACE, STEEL CONSTRUCTION, OPPOSED BLADE VOLUME DAMPERS, PROVIDE 18"x18" BACKPAN (NECK SIZE AS SHOWN FOR FULL PANEL LAY-IN APPLICATION) WITH FULL FACE DIFFUSER, 4-WAY THROW, WHITE FINISH	TITUS	TDC				
				RETURN						
	RR-1	RETURN 24x12	LAY-IN	PERFORATED FACE, STEEL CONSTRUCTION, OPPOSED BLADE VOLUME DAMPERS, PROVIDE 22"x22" BACKPAN FOR FULL PANEL LAY—IN APPLICATION, WHITE FINISH	TITUS	PAR				

#### AIR DISTRIBUTION DEVICE NOTES:

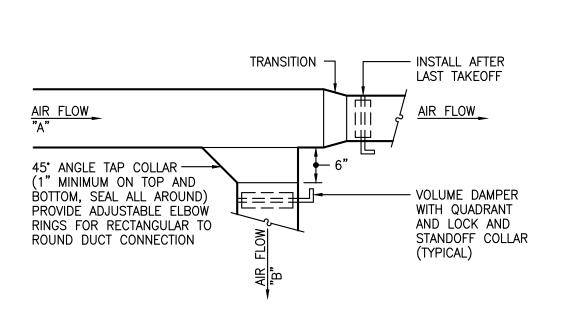
- ALL DEVICES SHALL BE FROM A SINGLE MANUFACTURER.
- ALL DEVICES SHALL HAVE MATCHING MATTE, WHITE FINISH (UNLESS OTHERWISE NOTED IN DESCRIPTION ABOVE).
- MAXIMUM NC OF 20.
- ACCESSORIES:
  - A. OPERATING KEYS: TOOLS DESIGNED TO FIT THROUGH DIFFUSER FACE AND OPERATE VOLUME CONTROL DEVICE AND / OR PATTERN ADJUSTMENT
- ACCEPTABLE MANUFACTURER'S TITUS AND PRICE.



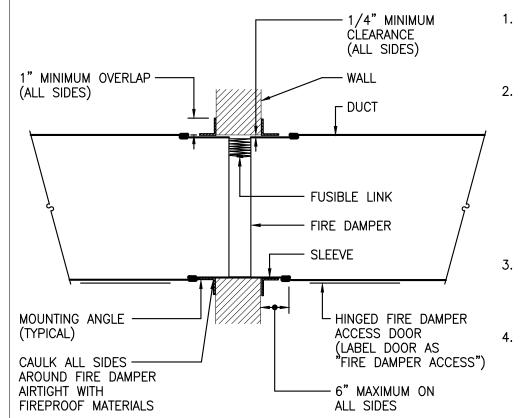
HANGER SIZES FOR RECTANGULAR DUCT						
LONGEST DIMENSION OF DUCT	ROUND HANGERS	STRAP HANGERS	TRAPEZE SHELF ANGLES	MAXIMUM SPACING		
UP THRU 18"	1/4" ROD	1" x 16 GAUGE	1" x 1" x 1/8"	10'-0"		
19" THRU 30"	1/4" ROD	1" x 16 GAUGE	1" x 1" x 1/8"	10'-0"		

	THREADED ROD
	SWIVEL EYE
BOLTS	
CLAMP	
	•

ŀ	HANGER SIZE	ES FOR ROUND D	UCT	
DUCT DIAMETER	ROUND HANGERS	STRAP HANGERS	MAXIMUM SPACING	NUMBER OF HANGERS
UP THRU 18"	1/4" ROD	1" x 16 GAUGE	10'-0"	1
19" THRU 36"	3/8" ROD	1" x 12 GAUGE	10'-0"	1



#### SUPPLY BRANCH TAKEOFF FITTING DETAIL



#### OPENINGS IN WALL SHALL BE 1/8" PER FOOT LARGER THAN DAMPER DIMENSIONS (3/16" LARGER PER FOOT FOR STAINLESS STEEL). MINIMUM CLÈARANCE OF 1/4" REQUIRED FOR ALL INSTALLATIONS.

SLEEVE GAUGE SHALL BE AT LEAST EQUAL TO THE GAUGE OF THE DUCT AS DEFINED BY THE APPROPRIATE SMACNA DUCT CONSTRUCTION STANDARDS AND NFPA 90A, WHEN ONE OR MORE OF THE FOLLOWING DUCT SLEEVE CONNECTIONS ARE USED:

PLAIN "S" SLIP. HEMMED "S" SLIP. STANDING "S" SLIP. REINFORCED STANDING "S" SLIP. INSIDE SLIP JOINT. DOUBLE "S" SLIP.

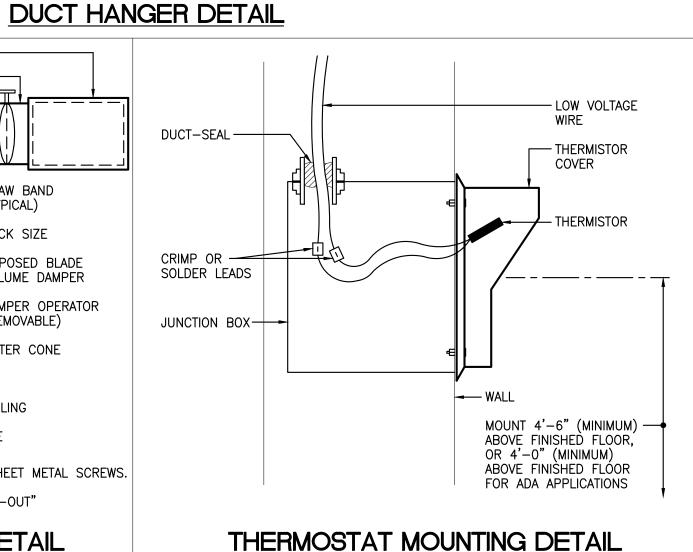
IF ANY OTHER DUCT SLEEVE CONNECTIONS ARE USED, THE SLEEVE SHALL BE MINIMUM 16-GAUGE FOR DAMPERS UP TO 36"W x 24"H AND 14-GAUGE IF WIDTH EXCEEDS 36" OR HEIGHT EXCEEDS 24".

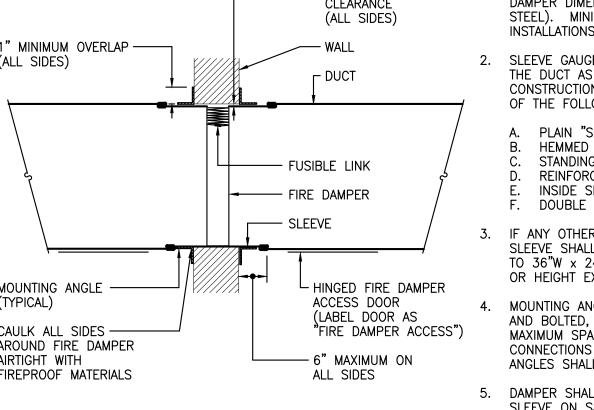
MOUNTING ANGLE SHALL BE MINIMUM OF 2"x1"x14-GAUGE AND BOLTED, TACK WELDED OR SCREWED TO SLEEVE AT MAXIMUM SPACING OF 12" AND WITH MINIMUM OF TWO CONNECTIONS IN EACH SIDE, TOP AND BOTTOM. MOUNTING ANGLES SHALL OVERLAP WALL A MINIMUM OF 1" ON ALL FOUR SIDES.

DAMPER SHALL BE BOLTED, TACK WELDED OR SCREWED TO SLEEVE ON SAME SPACING AS ANGLES. SLEEVES SHALL NOT EXTEND MORE THAN 6" OUTSIDE OF WALL.

#### INSULATED DUCTWORK — METAL SPIN-IN FITTING WITH VOLUME DAMPER DUCT-SEAL — DRAW BAND INSULATED FLEXIBLE DUCT (5'-0" MAXIMUM (TYPICAL) NECK SIZE LENGTH) OPPOSED BLADE SOLDER LEADS VOLUME DAMPER EXTENSION · DUCT DAMPER OPERATOR COLLAR (REMOVABLE) JUNCTION BOX ---OUTER CONE CEILING **GASKET** --- FACE SIZE **INSTALLATION NOTES:** 1. FASTEN DUCT RING TO EXTENSION DUCT COLLAR WITH SHEET METAL SCREWS.

- 2. "TAP-OUT" EITHER SIDE OR BOTTOM OF DUCT; TOP "TAP-OUT" IS NOT ACCEPTABLE.
  - DIFFUSER INSTALLATION DETAIL





# FIRE DAMPER (INSIDE DUCT) DETAIL

# SILVESTRI ARCHITECTS - PC

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SA PROJECT TEAM: PRINCIPAL P.Silvestri

**MECHANICAL** 

SCHEDULES AND

**NOTES** 

PROJ. ARCH. \_\_\_\_\_ DRAFTER \_\_\_\_

JOB CAPT. \_\_\_\_\_ INTERIORS

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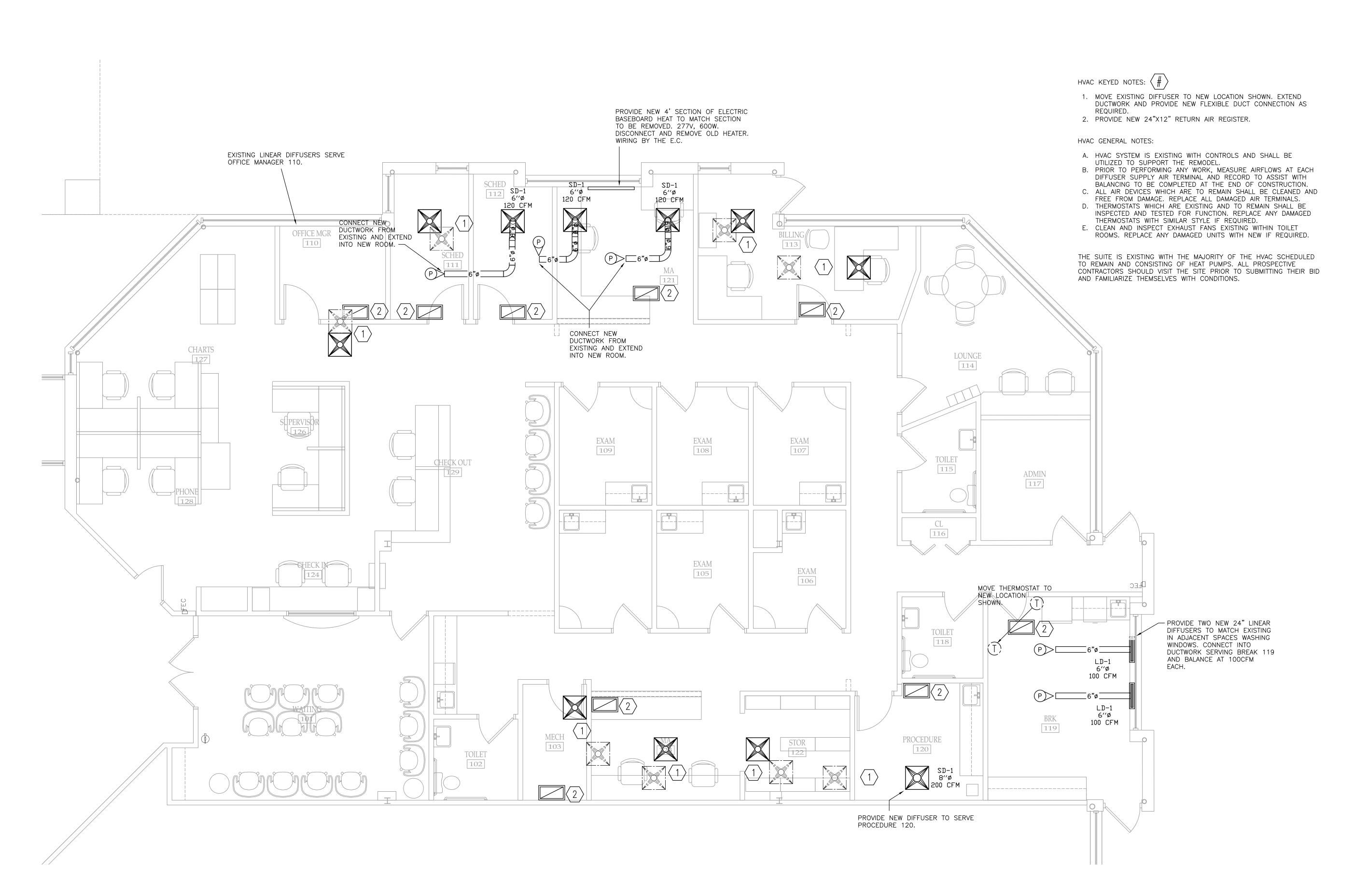
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SA JOB #:

02-15-17

DATE:

M-1



P-2 SCALE: 1/4" =1'-0"

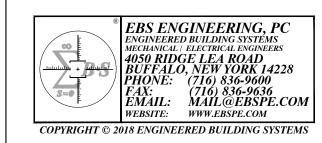
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SEAL

TITI E.

HVAC REQUIRED WORK



1321 MILLERSPORT HWY PH. 716.691.0900 AMHERST, NY 14221 FAX 716.691.4773

SA JOB #: 16149.03

02-15-17

DRAWING #: M-2

#### PART 1 - GENERAL

#### 1.1 QUALITY ASSURANCE

- MATERIALS AND EQUIPMENT SHALL BE PROVIDED BY ONE OF THE MANUFACTURERS LISTED IN PART 2 - PRODUCTS.
- 1. MATERIALS AND EQUIPMENT FROM OTHER MANUFACTURERS MAY BE ACCEPTED IF PROVEN EQUAL TO THOSE SPECIFIED.
  - a. EQUIPMENT SELECTION OF HIGHER ELECTRICAL CHARACTERISTICS, PHYSICAL DIMENSIONS, CAPACITIES, AND RATINGS MAY BE FURNISHED PROVIDED SUCH PROPOSED EQUIPMENT IS APPROVED IN WRITING AND CONNECTING MECHANICAL AND ELECTRICAL SERVICES. CIRCUIT BREAKERS, CONDUIT, MOTOR, BASES, AND EQUIPMENT SPACES ARE INCREASED.
  - 1). DIVISION 15 ALSO IS LIABLE FOR ALL COSTS AND CHANGES IN THE WORK REQUIRED BY SUBSTITUTE EQUIPMENT.
  - a). NO ADDITIONAL COSTS WILL BE APPROVED FOR THESE INCREASES, IF LARGER EQUIPMENT IS APPROVED.
  - 2). IF MINIMUM ENERGY RATINGS OR EFFICIENCIES OF EQUIPMENT ARE SPECIFIED, EQUIPMENT MUST MEET DESIGN AND COMMISSIONING REQUIREMENTS.
- 2. DIVISION 15 IS LIABLE FOR AND SHALL PAY FOR, ALL ARCHITECTURAL AND ENGINEERING REVIEWS AND REDESIGN COSTS FOR SUBSTITUTE MATERIALS AND EQUIPMENT.
- B. THE LENGTH OF TIME THE MANUFACTURER HAS BEEN IN BUSINESS, THE LOCATION AND CAPABILITY OF COMPLETE REPAIR FACILITIES, AVAILABILITY OF REPAIR PARTS AND ANNUAL MAINTENANCE CONTRACTS ALL WILL BE CONSIDERED IN DETERMINING EQUALITY.

#### 1.2 LAWS, PERMITS, INSPECTIONS

- WORK SHALL COMPLY WITH THE LATEST REVISIONS OF NEW YORK STATE BUILDING CODE, NEW YORK STATE MECHANICAL CODE. NEW YORK STATE UNIFORM FIRE PROTECTION AND CONSTRUCTION CODE. NEW YORK STATE ENERGY CONSERVATION CODE, AND ANY LOCAL CODES OR REGULATIONS THAT APPLY.
- B. COMPLY WITH NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODES AS APPLICABLE.
- C. COMPLY TO REQUIREMENTS OF DRAWINGS AND SPECIFICATIONS THAT ARE IN EXCESS OF GOVERNING CODES.
- D. DO NOT INSTALL WORK AS SPECIFIED OR SHOWN IF IN CONFLICT WITH GOVERNING CODES.
- 1. NOTIFY ENGINEER IN WRITING AND REQUEST DIRECTION.
- E. PROVIDE CERTIFICATE OF INSPECTION FROM ALL GOVERNING AUTHORITIES.
- F. WORK SHALL COMPLY WITH THE LATEST REVISIONS OF NEW YORK STATE BUILDING CODE, NEW YORK STATE MECHANICAL CODE, NEW YORK STATE UNIFORM FIRE PROTECTION AND CONSTRUCTION CODE. NEW YORK STATE ENERGY CONSERVATION CODE, LANDLORDS LEASING SPECIFICATION, AND ANY LOCAL CODES OR REGULATIONS THAT APPLY.
- 1. IN CASE OF CONFLICTS BETWEEN DRAWINGS, SPECIFICATIONS, AND INTERPRETATION OF CODES BY LOCAL AUTHORITY, LATER SHALL GOVERN.

#### 1.3 INSTALLERS QUALIFICATIONS

- A. SKILLED MECHANICS WHO HAVE SUCCESSFULLY COMPLETED AN APPRENTICESHIP PROGRAM OR ANOTHER CRAFT TRAINING PROGRAM CERTIFIED BY THE U.S. DEPARTMENT OF LABOR, BUREAU OF APPRENTICESHIP AND TRAINING.
- B. DIVISION 15 SHALL BE LICENSED TO PERFORM MECHANICAL WORK IN THE MUNICIPALITY IN WHICH THE PROJECT IS LOCATED.

#### 1.4 OMISSIONS.

OMISSIONS, DISCREPANCIES OR POINTS OF QUESTION FOUND BY A BIDDER IN THE PLANS OR SPECIFICATIONS SHALL BE REFERRED TO THE ARCHITECT, WHO WILL FORWARD TO THE ENGINEER TO MAKE ANY CLARIFICATIONS IN WRITING.

#### 1.5 SHOP DRAWINGS

- A. DIVISION 15 SUBMITTALS SHALL BE DELIVERED TO THE ENGINEER IN FIVE (5) COMPLETE SETS, WITH FOUR (4) BEING RETURNED.
- DIVISION 15 SHALL CHECK, SIGN, STAMP AND DATE ALL SUBMITTALS BEFORE SENDING THEM TO THE ENGINEER FOR REVIEW.
- 2. THE ENGINEER SHALL BE ALLOWED 10-WORKING DAYS FOR SUBMITTAL REVIEWS BEFORE RETURNING THEM TO THE DIVISION 15 CONTRACTOR

#### 1.6 RECORD (AS-BUILT) DRAWINGS

- A. DURING THE PROGRESS OF CONSTRUCTION, THE RECORD DRAWINGS SHALL BE CORRECTED BY DIVISION 15 TO INDICATE ACTUAL INSTALLATIONS.
- B. UPON COMPLETION OF THE PROJECT, 3-SETS OF FINAL RECORD DRAWINGS SHALL PRODUCED, WITH 1-SET EACH BEING DELIVERED TO THE OWNER, ARCHITECT AND ENGINEER.

#### 1.7 PROTECTION

- A. DELIVER PIPES AND TUBES WITH FACTORY APPLIED END-CAPS.
  - MAINTAIN END-CAPS THROUGH SHIPPING, STORAGE AND HANDLING TO PREVENT PIPE-END DAMAGE AND PREVENT ENTRANCE OF DIRT, DEBRIS AND MOISTURE.
- B. CLOSE AND WATERPROOF BETWEEN OPENINGS, PIPES AND VOIDS IN WALLS TO PREVENT ENTRANCE OF WATER OR MOISTURE.
- C. PROTECT STORED PIPES AND TUBES FROM MOISTURE AND DIRT.
- ELEVATE ABOVE GRADE.
- D. SEAL ALL DUCTWORK AND PIPING, INCLUDING OPEN-ENDED DUCTWORK, AT THE END OF EACH DAY TO PREVENT DUST, DEBRIS, ETC. FROM ENTERING THE DUCTWORK AND PIPING.

#### 1.8 GUARANTEES.

A. DIVISION 15 SHALL GUARANTEE ALL WORK PERFORMED AND MATERIALS FURNISHED UNDER THIS CONTRACT AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF THE OWNER'S FINAL ACCEPTANCE OF THE WORK. ANY DEFECTS SHALL BE RECTIFIED BY DIVISION 15 WITHOUT ANY ADDITIONAL COST TO THE OWNER.

#### 1.9 PUNCH LIST.

- A. DIVISION 15 SHALL SCHEDULE, THROUGH THE ARCHITECT WITH A MINIMUM OF 7-DAYS NOTICE. THE ENGINEER TO PERFORM THE FOLLOWING:
- PRE-PUNCH LIST: VERIFICATION OF MECHANICAL ITEMS SUCH AS, BUT NOT LIMITED TO. DUCTWORK SIZES, LOCATIONS, METHODS OF ASSEMBLY / INSTALLATION, BEFORE ITEMS ARE ENCLOSED BY CEILINGS, WALLS, ETC.
- a. DIVISION 15 SHALL DELIVER TO BOTH THE ARCHITECT AND ENGINEER, A LETTER STATING THAT ALL ITEMS IN THE PRE-PUNCH LIST HAVE BEEN CORRECTED OR ADJUSTED ACCORDING TO THE GENERAL CONDITIONS OF THE CONTRACT BEFORE ANY CEILINGS, WALLS, ETC. CAN BE INSTALLED TO ENCLOSE MECHANICAL ITEMS.
- 2. FINAL PUNCH LIST: VERIFICATION OF MECHANICAL ITEMS SUCH AS, BUT NOT LIMITED TO, UNIT OPERATION, SENSOR LOCATIONS, COLORS SELECTED BY ARCHITECT.
  - a. BEFORE PROCEEDING WITH THE FINAL PUNCH LIST, DIVISION 15 SHALL PROVIDE THE ENGINEER WITH A COMPLETE SIGNED AND SEALED BALANCE REPORT.
  - 1). THE ENGINEER SHALL NOT PERFORM A FINAL PUNCH LIST UNTIL A COMPLETED BALANCE REPORT IS RECEIVED.
  - b. DIVISION 15 SHALL, AT THE REQUEST OF THE ENGINEER, PROVIDE A LADDER AND ONE EMPLOYEE TO REMOVE AND REPLACE CEILING TILES, OPEN ACCESS DOORS, ETC. FOR INSPECTION OF MECHANICAL ITEMS.
  - 1). THE EMPLOYEE SHALL BE MADE IMMEDIATELY AVAILABLE TO REMOVE ITEMS THAT
  - ARE REQUESTED BY THE ENGINEER. 2). ANY CEILING TILE THAT IS DAMAGED SHALL BE REPLACED WITH NEW (TO MATCH EXISTING) AT DIVISION 15's EXPENSE.
- c. DIVISION 15 SHALL DELIVER TO BOTH THE ARCHITECT AND ENGINEER, A LETTER STATING THAT ALL ITEMS IN THE FINAL PUNCH LIST HAVE BEEN CORRECTED OR ADJUSTED ACCORDING TO THE GENERAL CONDITIONS OF THE CONTRACT.

#### HVAC SPECIFICATIONS

#### 2.1 FIRESTOPPING

PART 2 - PRODUCTS

- PROVIDE UL LISTED AND TESTED FIRESTOPPING MATERIAL, SILICONE ELASTOMER SPECIFICALLY FORMULATED FOR USE IN HORIZONTAL AND VERTICAL APPLICATIONS
- 1. THE MATERIAL SHALL POSSESS INTUMESCENT CHARACTERISTICS, AND UPON EXPOSURE TO HEAT ABOVE 250° F, SHALL EXPAND TO NOT LESS THAN FIVE TIMES ITS ORIGINAL

VOLUME TO FORM A FIREPROOF ENVELOPE UL RATED FOR 2 AND 3-HOURS PROTECTION,

UNUSED SLOTS AND OTHER PENETRATIONS IN WALLS OR OTHER GENERAL CONSTRUCTION SHALL BE CLOSED AND SEALED WITH AN APPROVED FIRESTOPPING MATERIAL.

WHEN APPLIED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

- 1. OPENINGS IN WALLS SHALL BE CLOSED WITH 16 GAGE GALVANIZED STEEL SHEET SECURELY ATTACHED AT THE MIDPOINT OF THE WALL THICKNESS AND FIRESTOPPED ON BOTH SIDES OF THE STEEL SHEET WITH NOT LESS THAN 1/8-INCH THICK LAYER OF NON-SAGGING
- SILICONE FLASTOMER TO FULLY COVER THE OPENING. 2. SINGLE OR MULTIPLE PIPES PASSING THROUGH WALLS SHALL HAVE THE ANNULAR SPACE BETWEEN PIPES AND STRUCTURE FILLED WITH SILICONE ELASTOMER TO PROVIDE A MINIMUM 2-HOUR RATED FIRESTOP FOR WALLS.
- C. PIPES AND DUCTS: THE ANNULUS BETWEEN PIPING AND DUCTWORK AND WALLS IN FINISHED SPACES SHALL BE FILLED, SEALED, AND PAINTED TO MATCH ADJACENT SURFACES.

#### 2.2 MECHANICAL IDENTIFICATION

- A. DUCT IDENTIFICATION DEVICES.
- 1. PLASTIC DUCT MARKERS: MANUFACTURERS STANDARD LAMINATED PLASTIC, COLOR CODED, CONTACT-TYPE, PERMANENT ADHESIVE.
- a. LETTER SIZE: MINIMUM 1/4" FOR NAME OF UNITS IF VIEWING DISTANCE IS LESS THAN 2'-0", 1/2" FOR VIEWING DISTANCES UP TO 6'-0", AND PROPORTIONALLY LARGER LETTERING FOR GREATER VIEWING DISTANCES.
- b. CONFORM TO THE FOLLOWING COLOR CODE:
- YELLOW: SUPPLY AIR.
- BLUE: EXHAUST AIR. NOMENCLATURE: INCLUDE THE FOLLOWING, AS A MINIMUM:
  - DIRECTION OF AIRFLOW.
- . DUCT SERVICE (SUPPLY, RETURN, EXHAUST, ETC.).
- 2. LOCATE DUCT MARKERS NEAT POINTS WHERE DUCTS ENTER INTO CONCEALED SPACES AND AT MAXIMUM INTERVALS OF 25'-0" IN EACH SPACE WHERE DUCTS ARE EXPOSED OR CONCEALED BY REMOVABLE CEILING SYSTEMS.

#### B. PIPING IDENTIFICATION DEVICES.

- 1. MANUFACTURED PIPE MARKERS: PRE-PRINTED, COLOR CODED WITH LETTERING INDICATING SERVICE, AND SHOWING DIRECTION OF FLOW.
- COLORS: COMPLY WITH ASME A-13.1 UNLESS OTHERWISE INDICATED.
- PIPES WITH OD, INCLUDING INSULATION, LESS THAN 6": FULL-BAND PIPE MARKERS EXTENDING 360-DEGREES AROUND PIPE AT EACH LOCATION.
- ARROWS: INTEGRAL WITH PIPING SYSTEM SERVICE LETTERING TO ACCOMMODATE BOTH DIRECTIONS, OR AS SEPARATE UNIT ON EACH PIPE MARKER TO INDICATE DIRECTION
- 2. LOCATE PIPE MARKERS AS FOLLOWS:
  - NEAR PENETRATIONS THROUGH WALLS; ONE PER SIDE OF PENETRATION. b. SPACED AT MAXIMUM INTERVALS OF 25'-0" ALONG EACH RUN.

#### C. EQUIPMENT IDENTIFICATION DEVICES.

- EQUIPMENT NAMEPLATES: METAL NAMEPLATE WITH OPERATIONAL DATA ENGRAVED OR STAMPED, PERMANENTLY ATTACHED TO EQUIPMENT.
- a. DATA: MANUFACTURER, PRODUCT NAME, MODEL NUMBER, SERIAL NUMBER, CAPACITY, OPERATING AND POWER CHARACTERISTICS, LABELS OF TESTED COMPLIANCES, AND SIMILAR ESSENTIAL DATA.
- 1). ENGRAVING: MANUFACTURER'S STANDARD LETTER STYLE, OF SIZES AND WITH TERMS
- TO MATCH EQUIPMENT IDENTIFICATION. 2). THICKNESS: 1/16 INCH FOR UNITS UP TO 20 SQUARE INCHES OR 8-INCHES IN LENGTH, AND 1/8 INCH FOR LARGER UNITS.
- b. LOCATION: AN ACCESSIBLE AND VISIBLE LOCATION. c. FASTENERS: AS REQUIRED TO MOUNT ON EQUIPMENT.

#### 2.3 PIPING MATERIALS

- A. HEAT PUMP PIPING.: ALL SIZES, TYPE L ANNEALED-TEMPER COPPER, ASTM B-280, TYPE ACR.
- B. CONDENSATE PIPING: TYPE L DRAWN-TEMPER COPPER, ASTM B-88. WITH CRIMPED SOLDERED
- C. FITTINGS: WROUGHT COPPER COMPLYING WITH ASME B16.22.
- D. PIPING INSULATION: FIRE-TEST RESPONSE CHARACTERISTICS: FLAME-SPREAD RATING OF 25 OR LESS, AND SMOKE-DEVELOPED RATING OF 50 OR LESS; COMPLYING WITH ASTM E-84.

#### 2.4 DUCTWORK ACCESSORIES

#### A. VOLUME DAMPERS.

- 1. LOW LEAKAGE VOLUME DAMPERS: MULTIPLE OR SINGLE-BLADE, OPPOSED BLADE DESIGN, LOW LEAKAGE RATING, LINKAGE OUTSIDE OF AIRSTREAM, AND SUITABLE FOR HORIZONTAL OR VERTICAL APPLICATIONS.
- a. STEEL FRAMES: HAT-SHAPED, GALVANIZED SHEET STEEL CHANNELS, MINIMUM OF 0.064" THICK, WITH MITERED AND WELDED CORNERS; FRAMES WITH FLANGES FOR ATTACHING TO WALLS, FLANGELESS FRAMES FOR INSTALLATION IN DUCTS.
- ROLL-FORMED STEEL BLADES: 0.064" THICK, GALVANIZED SHEET STEEL. c. BLADE AXLES: 1/2", GALVANIZED STEEL
- BEARINGS: TWO-PIECE MOLDED SYNTHETIC THRUST OR BALL. BLADE SEALS: FELT OR NEOPRENE.
- JAMB SEALS: CAMBERED STAINLESS STEEL.
- TIE BARS AND BRACKETS: GALVANIZED STEEL.
- FINISH: MILL.
- 2. JACKSHAFT: 1" DIAMETER, GALVANIZED STEEL PIPE ROTATING WITHIN PIPE-BEARING ASSEMBLY MOUNTED ON SUPPORTS AT EACH MULLION AND AT EACH END OF MULTIPLE DAMPER ASSEMBLIES. DAMPER HARDWARE: ZINC-PLATED, DIE-CAST CORE WITH DIAL AND HANDLE MADE OF 3/32"
- a. INCLUDE CENTER HOLE TO SUIT DAMPER OPERATING-ROD SIZE. INCLUDE ELEVATED PLATFORM FOR INSULATED DUCT MOUNTING.

THICK ZINC-PLATED STEEL, AND A 3/4" HEXAGON LOCKING NUT.

#### 4. DUCT ACCESSORY HARDWARE.

- a. QUADRANT LOCKS: PROVIDE FOR EACH VOLUME DAMPER, QUADRANT LOCK DEVICE ON ONE END OF SHAFT; AND END BEARING PLATE ON OTHER END FOR DAMPER LENGTHS OVER
- PROVIDE EXTENDED QUADRANT LOCKS FOR EXTERNALLY INSULATED DUCTWORK. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE QUADRANT LOCKS OF ONE OF THE FOLLOWING:
  - . VENT FABRICS, INC. b). YOUNG REGULATOR COMPANY.
- 5. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE VOLUME DAMPERS OF ONE OF THE FOLLOWING:
- a. AIR BALANCE, INC.
- b. McGILL AIRFLOW CORPORATION. c. RUSKIN COMPANY.

#### B. DUCT-MOUNTING ACCESS DOORS.

- 1. DESCRIPTION: FABRICATE DOORS AIRTIGHT AND SUITABLE FOR DUCT PRESSURE CLASS.
- PROVIDE ACCESS DOORS IN DUCTS FOR READY ACCESS TO OPERATING PARTS INCLUDING FIRE DAMPERS, ETC.
- 2. ACCESS DOORS IN DUCTS PROVIDE AND SIZE DOOR AS FOLLOWS:
  - a. INSTALL THE FOLLOWING MINIMUM SIZES FOR DUCT—MOUNTING, RECTANGULAR ACCESS DOORS:
  - 1). HEAD AND HAND ACCESS: 18 BY 10 INCHES.
  - INSTALL THE FOLLOWING MINIMUM SIZES FOR DUCT-MOUNTING, ROUND ACCESS
  - 1). HEAD AND HAND ACCESS: 12 INCHES IN DIAMETER.
  - WHEN FIELD CONDITIONS REQUIRE AN ACCESS OPENING SMALLER THAN 18-INCH BY 10-INCH OR 12-INCHES IN DIAMETER, PROVIDE A 24-INCH LONG REMOVABLE SECTION OF CASING OR DUCT, SECURED WITH QUICK ACTING LOCKING DEVICES, 6 INCHES ON CENTERS. TO PERMIT READY ACCESS WITHOUT DISMANTLING OTHER EQUIPMENT.

LABEL FIRE DAMPERS ACCESS DOORS IN ACCORDANCE WITH NFPA AND DRAWINGS.

- 3. RECTANGULAR DOORS: MINIMUM 22-GAUGE, DOUBLE-WALL, DUCT MOUNTING, FABRICATED OF GALVANIZED SHEET METAL (OR MATERIAL MATCHING ADJOINING DUCTWORK).
- INCLUDE CONTINUOUS PIANO HINGE AND CAM LATCHES.
- FRAME: MINIMUM 22-GAUGE GALVANIZED SHEET STEEL, WITH BEND-OVER TABS AND 3). LOCKS: MINIMUM 16-GAUGE GALVANIZED STEEL CAM AND 20-GAUGE GALVANIZED
- STEEL LATCH. ARRANGE DOORS SO THAT SYSTEM AIR PRESSURE WILL ASSIST CLOSURE AND PREVENT
- OPENING WHEN THE SYSTEM IS IN OPERATION. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE RECTANGULAR ACCESS DOORS OF ONE OF THE FOLLOWING:
- DUCTMATE INDUSTRIES, INC. McGILL AIRFLOW CORPORATION.
- RUSKIN COMPANY.
- 4. ROUND DOORS: MINIMUM 22-GAUGE, DOUBLE WALL, DUCT MOUNTING; FABRICATED OF GALVANIZED SHEET METAL (OR MATERIAL MATCHING ADJOINING DUCTWORK).
- INCLUDE CAM LATCHES.
- FRAME: MINIMUM 22-GAUGE GALVANIZED SHEET STEEL, WITH SPIN-IN NOTCHED FRAME. ARRANGE DOORS SO THAT SYSTEM AIR PRESSURE WILL ASSIST CLOSURE AND PREVENT
- OPENING WHEN THE SYSTEM IS IN OPERATION. MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ROUND ACCESS DOORS BY ONE OF THE FOLLOWING:
  - a). DUCTMATE INDUSTRIES, INC.

SHEET STEEL AND RETAINING ANGLES.

- ). FLEXMASTER U.S.A., INC.
- 5. SEAL AROUND FRAME ATTACHMENT TO DUCT AND DOOR TO FRAME WITH NEOPRENE OR FOAM
- INSULATION: 1-INCH THICK, FIBROUS-GLASS OR POLYSTYRENE-FOAM BOARD.

#### C. FIRE DAMPERS.

- 1. DESCRIPTION: LABELED ACCORDING TO UL 555, HORIZONTAL OR VERTICAL MOUNTING, MILL FINISH.
- FIRE RATING: 1-1/2 AND 2 HOURS.
- FRAME: CURTAIN TYPE WITH BLADES INSIDE AIRSTREAM: FABRICATED WITH ROLL-FORMED. MINIMUM 20-GAUGE GALVANIZED STEEL; WITH MITERED AND INTERLOCKING CORNERS. FRAME: CURTAIN TYPE WITH BLADES OUTSIDE AIRSTREAM: FABRICATED WITH ROLL-FORMED.
- MINIMUM 20-GAUGE GALVANIZED STEEL; WITH MITERED AND INTERLOCKING CORNERS. MOUNTING SLEEVE: FACTORY FURNISHED, FIELD INSTALLED, MINIMUM 20-GAUGE GALVANIZED
- MINIMUM THICKNESS: 0.138" THICK AND OF LENGTH TO SUIT APPLICATION. EXCEPTIONS: OMIT SLEEVE WHERE DAMPER FRAME WIDTH PERMITS DIRECT ATTACHMENT OF PERIMETER MOUNTING ANGLES ON EACH SIDE OF WALL OR FLOOR, AND THICKNESS
- OF DAMPER FRAME COMPLIES WITH SLEEVE REQUIREMENTS d. BLADES: ROLL-FORMED, INTERLOCKING, MINIMUM 24-GAUGE GALVANIZED SHEET STEEL.
- 1). IN PLACE OF INTERLOCKING BLADES, USE FULL LENGTH, 0.034" THICK, GALVANIZED STEEL BLADE CONNECTORS.
- HORIZONTAL MOUNTING: INCLUDE BLADE LOCK AND 301 STAINLESS STEEL CONSTANT FORCE
- FUSIBLE LINK: REPLACEABLE, 165° F, VIBRATION PROOF AND SECURED WITH CLINCHED "S" HOOKS OR STAINLESS STEEL BOLTS AND LOCK NUTS.
- 2. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE FIRE DAMPERS OF ONE OF THE FOLLOWING:

TYPE CLOSURE SPRING.

AIR BALANCE, INC. GREENHECK. c. RUSKIN COMPANY.

#### 2.5 DIFFUSERS, REGISTERS AND GRILLES

- A. CEILING COMPATIBILITY: PROVIDE DIFFUSERS AND GRILLES WITH BORDER STYLES THAT ARE COMPATIBLE WITH ADJACENT CEILING SYSTEMS, AND THAT ARE SPECIFICALLY MANUFACTURED TO FIT INTO CEILING MODULE AND WITH ACCURATE FIT AND ADEQUATE SUPPORT.
- B. PERFORMANCE: PROVIDE CEILING DIFFUSERS THAT HAVE, AS MINIMUM, TEMPERATURE AND VELOCITY TRAVERSES, THROW AND DROP, AND NOISE CRITERIA RATINGS FOR EACH SIZE
  - 1. NOISE LEVELS OF NC 20 OR LESS.

DEVICE AS LISTED IN MANUFACTURERS CURRENT DATA.

- C. CEILING SUPPLY DIFFUSERS.
- LOUVERED FACE DIFFUSER
- MATERIAL: STEEL.
- FINISH: BAKED ENAMEL, WHITE. FACE SIZE: 24"x24". FACE STYLE: PROVIDE 18"x18" BACKPAN (NECK SIZE AS SHOWN ON DRAWINGS FOR FULL PANEL APPLICATION) WITH FULL FACE DIFFUSER, EASILY REMOVABLE CORE
- 1). MINIMUM 22-GAUGE STEEL BACKPAN (WELDED-IN INLETS AND CORNER JOINTS ARE NOT ACCEPTABLE).

OF CONCENTRIC LOUVERS (FLUSH WITH FACE), SQUARE OR ROUND DUCT CONNECTION.

- MOUNTING: T-BAR (LAY-IN).
- PATTERN (THROW): 4-WAY, FIXED, HORIZONTAL DISCHARGE. DAMPERS: ADJUSTABLE, OPPOSED-BLADE, KEY OPERATED FROM FACE OF DIFFUSER.
- 1). SQUARE TO ROUND NECK ADAPTOR.
- 2). PLASTER RING.

D. CEILING RETURN GRILLES.

ACCESSORIES.

- MATERIAL: STEEL.
- FINISH: BAKED ENAMEL, WHITE. FACE SIZE: 24"x24". 4. FACE STYLE: FLUSH, MINIMUM 22-GAUGE STEEL, HOUSING COVERED WITH REMOVABLE PERFORATED PANEL (PERFORATED SCREEN WITH 3/16" DIAMETER HOLES ON 1/4" STAGGERED CENTERS) IN FRAME, MINIMUM 51% FREE AREA, PROVIDE 22"x22" BACKPAN (NECK SIZE
- 1). MINIMUM 22-GAUGE STEEL BACKPAN (WELDED-IN INLETS AND CORNER JOINTS
- ARE NOT ACCEPTABLE).
- 5. MOUNTING: T-BAR (LAY-IN). 6. DAMPERS: ADJUSTABLE, OPPOSED-BLADE, KEY OPERATED FROM FACE OF DIFFUSER.

AS SHOWN ON DRAWINGS, STANDARD NECK SIZE WHERE NOT INDICATED).

- E. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE DIFFUSERS, REGISTERS AND GRILLES OF ONE OF THE FOLLOWING:
- PRICE INDUSTRIES.

#### 2.6 DUCTWORK CLEANING

2. TITUS.

EXISTING DUCTWORK RETAINED FOR REUSE AND ALL NEW DUCTWORK INSTALLED UNDER THIS SCOPE SHALL BE CLEANED, TESTED, AND DEMONSTRATED TO BE CLEAN IN ACCORDANCE WITH THE STANDARDS SET FORTH BY NADCA. THE CLEANING, TESTING, AND DEMONSTRATION TO ARCHITECT, AND OWNER SHALL OCCUR IMMEDIATELY PRIOR TO OCCUPANCY TO AVOID CONTAMINATION FROM CONSTRUCTION DUST AND OTHER AIRBORNE PARTICULATES.

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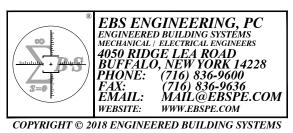
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West Seneca, NY



FOR PERMIT 03-02-18

SA PROJECT TEAM: PRINCIPAL P.Silvestri

INTERIORS

PROJ. ARCH. \_\_\_\_\_ DRAFTER \_\_\_\_

JOB CAPT.

## TITLE: HVAC **SPECIFICATIONS**



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SA JOB #:

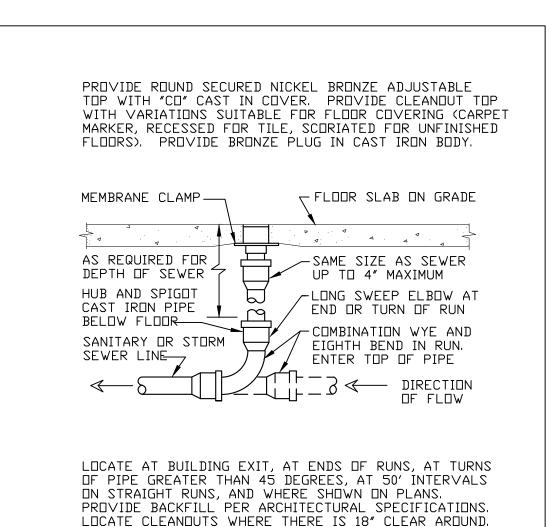
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DATE:

	PLUMBING FIXTURE SCHEDULE										
ITEM		FIXTURE	MATERIAL	TYPE	OPERATOR/FITTING	CARRIER	H.W.	C.W.	WASTE	VENT	REMARKS/ACCESSORIES
WC-1	DESCRIPTION	ADA FLOOR MOUNTED WATER CLOSET	VITREOUS CHINA	HIGHLINE ELONGATED TANK TYPE	PRESSURE ASSISTED			1/2"	3"	2"	LUSTRA ELONGATED OPEN FRONT SEAT WITH COVER - KOHLER #K-4650-0
1	MANUFACTURER	KOHLER		#K-3493-0							PROVIDE KOHLER #K-7637-CP SUPPLY WITH STOP. 1.6 GALLONS PER FLUSH.
EXISTIN	G WATER CLO	SETS SHALL BE DISCO	ONNECTED AND D	ESPOSED OF ENTIRE	LY. PROVIDE NEW WC	-1 ADA WATER CL	OSETS A	ND USE	EXISTING	PLUMBIN	IG CONNECTIONS. REPLACE ALL WAX SEALS AND
SHUTOF	F VALVES.THO	DROUGHLY CLEAN EXIS	STING WALL LAVS	IN TOILET ROOMS	AND ENSURE ALL ARE	FUNCTIONAL.					
CS-1	DESCRIPTION	ADA TOP MOUNTED SINK	18 GAUGE STAINLESS STEEL	SINGLE BASIN SINK	MANUAL DOUBLE LEVER WITH SIDE SPRAY		1/2"	1/2"	2"	2"	PROVIDE ALL ACCESSORIES FOR A 100% COMPLETE INSTALLATION.
	MANUFACTURER	ELKAY		#LRAD221955	CHICAGO FAUCET #200AGN8AE35317AB						FAUCET — 2.2 GPM
DW	DW NEW UNDERCOUNTER DISHWASHER PROVIDED BY OTHERS. PROVIDE HOT WATER AND SANITARY SEWER CONNECTIONS AS REQUIRED. USE EXISTING PLUMBING LINES SERVING AN ADJACENT KITCHEN COUNTER SINK TO SUPPORT THIS NEW PIECE OF EQUIPMENT. PROVIDE SHUTOFF VALVE AS REQUIRED FOR HOT WATER.										PLUMBING LINES SERVING AN ADJACENT KITCHEN
IMB	PROVIDE NEW ICEMAKER WALL BOX TO SUPPORT REFRIGERATOR WATER REQUIREMENTS LITHIZE DATLEY OR SIMILAR PRODUCT WITH SHUTGER VALVE CONNECT TO EXISTING COLD WATER SERVING										

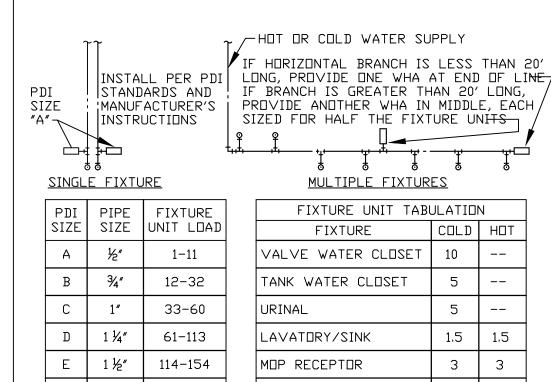
#### NOTES:

- FIXTURES LABELED DW (DISHWASHER), IM (ICEMAKER), AND CM (COFFEE MAKER) SHALL BE SELECTED BY ARCHITECT. PLUMBING CONTRACTOR IS TO ONLY CONNECT HOT WATER AND SANITARY TO THE DISHWASHER, ONLY COLD WATER TO THE ICEMAKER, AND ONLY COLD WATER TO THE COFFEE MACHINE.
- REMAINING PLUMBING FIXTURES WHICH ARE EXISTING AND TO REMAIN SHALL ALL BE THOUROUGHLY CLEANED AND INSPECTED. PROVIDE FOR REPLACING DAMAGED FAUCTES, SHUTOFF VALVES ETC. IF REQUIRED. INSPECT AND TEST EXISTING WATER HEATER LOCATED ABOVE CEILING AND HOT WATER RECIRCULATION PUMP.





CONSULT LOCAL CODES FOR OTHER FCO REQUIREMENTS.

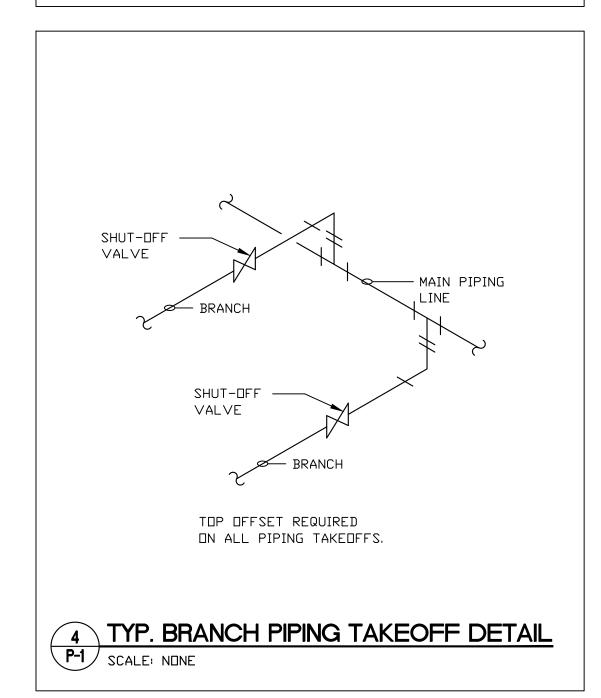


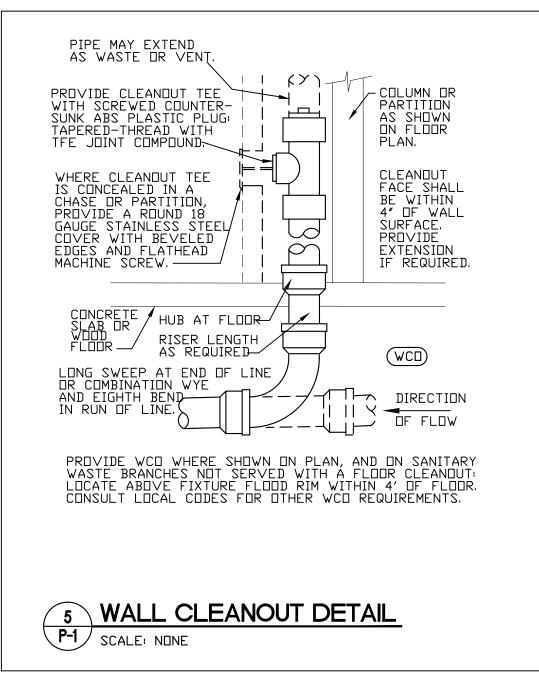
PC TO PROVIDE WATER HAMMER ARRESTERS BY SIDUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE #1010 AND ANSI #A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE.

SHOWER/BATHTUB

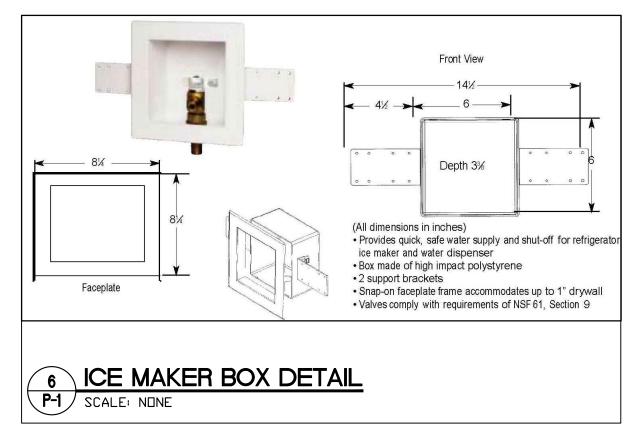
154-330

#### WATER HAMMER REQUIREMENTS P-1 SCALE: NONE





# INSTRUCTIONS-DISHWASHER -KITCHEN SINK-BRANCH TAIL PIECE OR DISHWASHER TAIL PIECE TO WASTE CONNECTION DISHWASHER SANITARY CONNECTION DETAIL P-1 SCALE: NONE



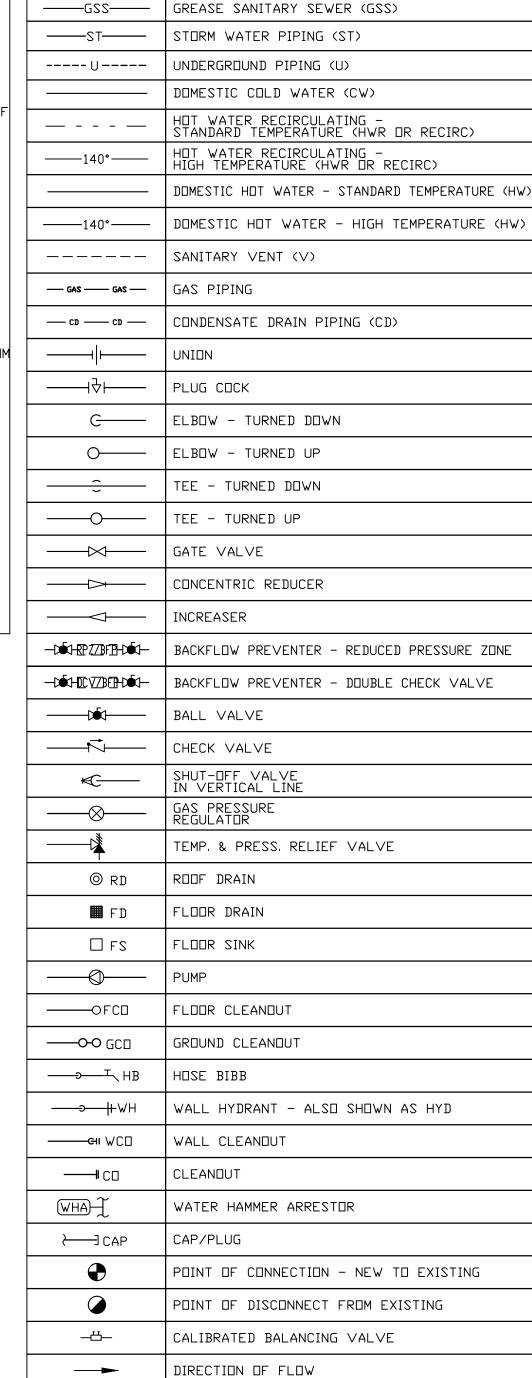
#### GENERAL PLUMBING NOTES

GENERAL	NOTES	ARE	APPLICABLE	ΤП	ALL	PLUMBING	WORKING	DRAWINGS.	

- THE WORK SHALL BE EXECUTED IN STRICT CONFORMITY WITH BASE BUILDING SPECIFICATION AND WITH THE LATEST EDITION OF THE PREVAILING LOCAL PLUMBING AND BUILDING CODES AND ALL LOCAL REGULATIONS THAT MAY APPLY. IN CASE OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND A GOVERNING CODE OR ORDINANCE THE MORE STRINGENT STANDARD SHALL APPLY.
- ALL PLUMBING WORK SHALL BE COORDINATED WITH ALL OTHER TRADES BEFORE PROCEEDING WITH INSTALLATION.
- NO CHANGES ARE TO BE MADE IN PLUMBING LAYOUT WITHOUT WRITTEN PERMISSION BY THE ENGINEER OF
- NO PIPING SHALL RUN EXPOSED IN FINISHED AREAS.

RECORD.

- PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR PAYING RELATED FEES.
- ROUGH-IN DIMENSIONS OF TOILET FIXTURES MUST BE COORDINATED WITH GENERAL CONTRACTOR AND FIELD SUPERVISOR.
- 8. INSTALL BALL VALVES ON ALL BRANCH SUPPLY LINES.
- PROVIDE ACCESS PANELS ON ALL INACCESSIBLE VALVES AND CLEANOUTS, ACCESS PANELS SHALL BE PROVIDED BY PLUMBING CONTRACTOR AND CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR LOCATION. MOUNT SHUT-OFF VALVES NO HIGHER THAN 12'-8" AFF.
- |10. ALL WORK SHALL BE PROPERLY TESTED, BALANCED AND CLEANED. PROVIDE A ONE YEAR WARRANTY FROM DATE OF FINAL INSPECTION ON ALL PARTS AND LABOR.
- 11. FOLLOW PDI STANDARDS FOR WATER HAMMER ARRESTORS.
- 12. ALL FIXTURES TO BE SUPPLIED & INSTALLED BY PLUMBING CONTRACTOR.
- 13. GENERAL CONTRACTOR SHALL COORDINATE WATER METER LOCATION AND INSTALLATION WITH LOCAL AUTHORITIES AND CIVIL DRAWINGS IF NOT EXISTING.
- . PRO∨IDE BUILDING WATER AND GAS SERVICE LINES 5′-0″ FROM BUILDING LINE, OR INSIDE BUILDING FROM DUTLET SIDE OF METER AS SHOWN ON CIVIL SITE PLAN, COORDINATE EXACT LOCATION WITH CIVIL DRAWINGS AND AT JOB SITE. PROVIDE BACKFLOW PREVENTER AS REQUIRED BY LOCAL AUTHORITIES FOR WATER SERVICE.
- |15. SANITARY SEWER PIPING SHOWN IS BASED ON 0.125"/FT FOR 3"-6" & 0.25"/FT FOR 2 ½" OR LESS FOR ALL PIPING COORDINATE BUILDING SEWER LOCATION AND INVERT ELEVATION WITH CIVIL DRAWINGS.
- 16. TRAP SEAL PRIMERS ARE TO BE PROVIDED AT ALL FLOOR DRAIN LOCATIONS.



LEGEND

SANITARY SEWER (SS)

FD FLOOR DRAIN ETR EXISTING TO REMAIN TYP. TYPICAL DN D□WN VTR VENT THRU ROOF U/F UNDER FLOOR PUMPED DISCHARGE SANITARY SEWER PLUMBING VENT

RPBP REDUCED PRESSURE BACKFLOW PREVENTER RPDA REDUCED PRESSURE DETECTOR ASSEMBLIES CAST IRON

MECHANICAL CONTRACTOR FLR. FLOOR

VBF VENT BELOW FLOOR F/# FOR (# OF ITEMS)

HW HOT WATER CW COLD WATER/CITY WATER GC GENERAL CONTRACTOR FCD FLOOR CLEANOUT CONT. CONTINUATION I.E. INVERT ELEVATION CD CONDENSATE DRAIN

FP FIREPLACE WC WATER COLUMN WHA WATER HAMMER ARRESTOR VFB VENT UP FROM BELOW N/A NOT APPLICABLE PC PLUMBING CONTRACTOR

FPC FIRE PROTECTION CONTRACTOR

SILVESTRI

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PLUMBING

SCHEDULES AND

**NOTES** 

**INTERIORS** 

PROJ. ARCH. \_\_\_\_\_ DRAFTER

JOB CAPT.

SEAL:

TITLE:

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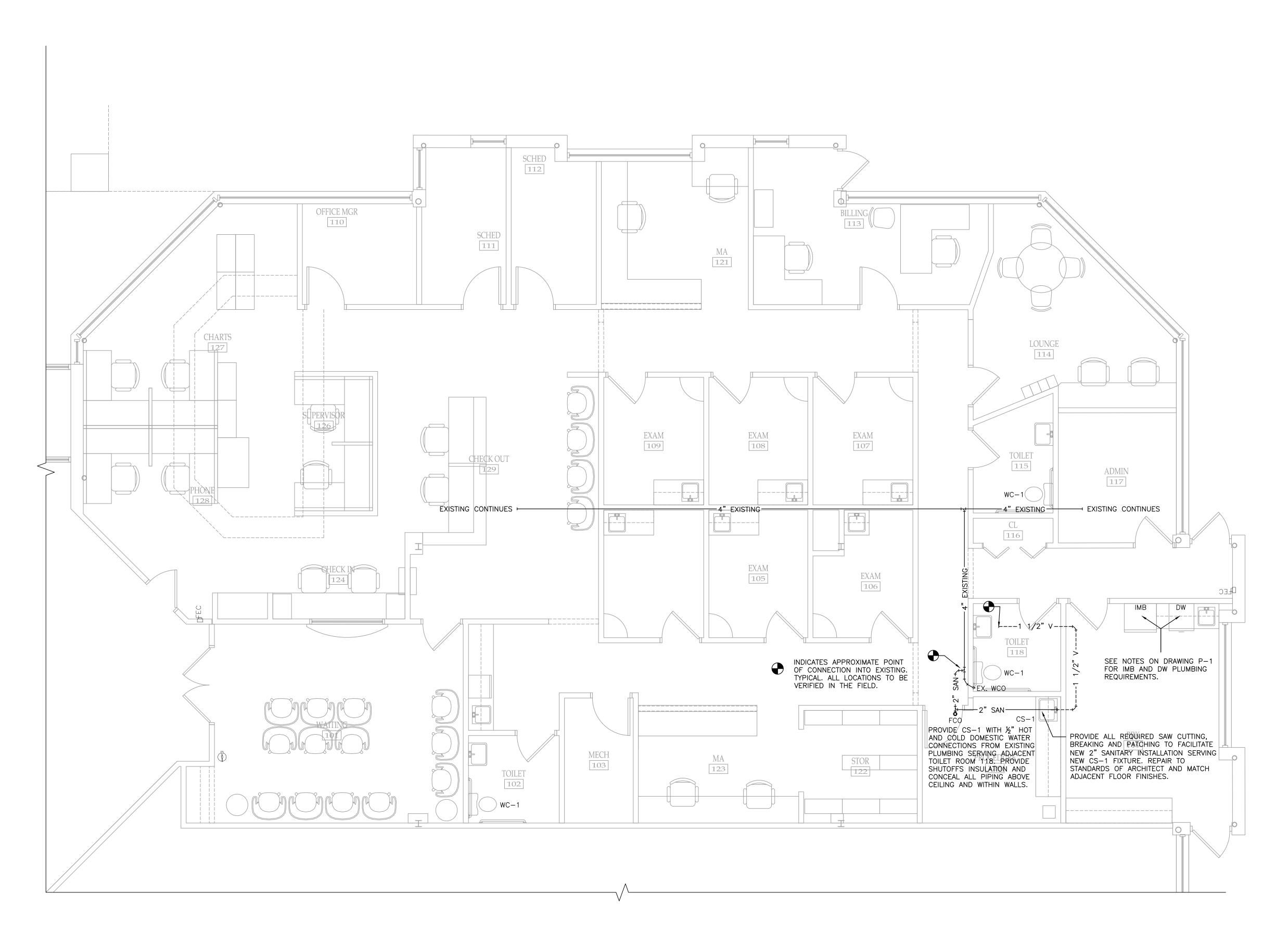
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02-15-17

DATE:

DRAWING #:

P-1



1 PLUMBING - REQUIRED WORK
P-2 SCALE: 1/4" =1'-0"

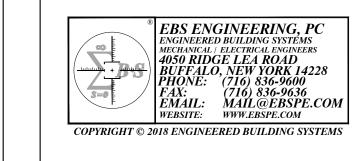
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West Seneca, NY



FOR PERMIT 03-02-18

SA PROJECT TEAM: PRINCIPAL <u>P.Silvestri</u>
PROJ. ARCH. \_\_\_\_\_ DRAFTER \_\_\_\_\_
JOB CAPT. \_\_\_\_ INTERIORS \_\_\_\_\_

SEAL

PLUMBING REQUIRED WORK



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SA JOB #: 16149.03

3 02-15-17

DATE:

WING #: **D** 

P-2

#### PART 1 GENERAL

#### SUMMARY

The Contractor shall provide the building plumbing systems as shown on the drawings, as specified in this Section, and as needed for a complete installation including, but not necessarily limited to:

- Applications and fees for all plumbing permits, services, and interim and final inspections.
- Temporary water provisions as required for construction purposes.
- Excavation and backfill for plumbing systems work. Concrete pads and pits as may be required for plumbing systems work.
- Domestic hot and cold water piping systems, including backflow preventer.
- Drain, waste, and vent systems.
- Gas piping system. Storm piping system.
- Plumbing fixtures and trim. Cathodic and dielectric protection.
- Accessory plumbing devices including but not necessarily limited to hangers, supports, inserts and valves.
- Access panels and boxes for Contractor-provided valves.
- Piping insulation Cutting and patching.
- Final gas connections to HVAC equipment.
- Painting of exposed piping.
- Sterilization of the potable water system. Seismic Restraints (as may be required by the local jurisdiction).
- Testing, adjusting and balancing.

B. The Contractor shall include the cost of applications and fees for all plumbing permits, services, and interim and final inspections in the Base Bid.

#### 1.02 SUBMITTALS:

The Contractor shall submit Plumbing Fixture Product Data for review by the Architect/Engineer, Any Request for Product Substitution must be submitted one week prior to bid submission.

#### 1.03 QUALITY ASSURANCE:

#### Codes and Regulations:

All materials, apparatus, and equipment and the installation thereof shall comply with all state and county ordinances and all other governmental and/or private authorities having jurisdiction, and shall comply with all county and state laws, rules, and regulations, as well as rules and regulations of the National Board of Fire Underwriters, and the Plumbing Code having jurisdiction.

In the event of conflict between or among specified requirements and pertinent regulations, the more stringent requirement will govern and shall be provided at no additional cost to the owner.

#### Drawings and Coordination:

Construction drawings shall be considered as a part of the work, insofar as the drawings furnish the Contractor with information relating to design and construction of the building. Because of the scale of the mechanical drawings, it is not possible to indicate all offsets, fittings, and accessories which may be required to meet such conditions

The plumbing drawings show the general arrangements of all piping, ductwork, equipment, etc., and shall NOT BE SCALED. This work shall be coordinated with ALL trades. Critical locations are dimensioned on the drawings; if a conflict arises, the Contractor shall notify the owner and the Architect/ Engineer immediately for clarification.

The Contractor shall verify the dimensions governing the plumbing systems work in the building. No extra compensation shall be claimed or allowed on account of differences between actual dimensions and those indicated on the drawings. The Contractor shall examine adjoining work, on which mechanical work is dependent for proper operation, and shall report any work which must be corrected. No waiver of responsibility for defective work shall be claimed or allowed due to any failure to report unfavorable conditions affecting the plumbing systems work.

#### 1.04 WARRANTY/ CLOSEDUT DOCUMENTS:

Manufacturer's Warranty: The Contractor shall provide the manufacturer's standard product warranty.

Installer's Warranty: The Contractor shall include a copy of the Subcontractor's Warranty for all work provided under the contract for construction for a term of 1 year after the Date of Substantial Completion

Warranties shall be included in the Building Maintenance Manuals submitted to the owner after the Date of Final

Sterilization Certificate of Performance: Upon completion of the water line sterilization, the Contractor shall deliver a copy of an acceptable sterilization "Certificate of Performance" to the owner. This Sterilization Certificate of Performance shall additionally be included in the Building Maintenance Manuals submitted to the Construction Project Manager after the Date of Final Completion, as further described in this section.

Project Record Drawings: The Contractor shall record all changes as the work progresses on a set of project record drawings kept at the job site, and shall provide record drawings to the Construction Project Manager after the Date of Substantial Completion.

#### PART 2 PRODUCTS

#### 2.01 GENERAL

The word piping shall mean pipe, fittings, nipples, valves, etc. completely assembled.

#### 2.02 DOMESTIC WATER SYSTEM:

#### Water Lines:

Copper: Type "L" hard drawn, per ASTM B88-7, for all water pipe above concrete or ground. Copper: Type "K" hard drawn, per ASTM B88-7, for water pipe set in or under concrete or in the ground. Wrap lines below concrete floors with 5 mils polyethylene tape with joints overlapped 25% minimum, and insulate with Armaflex insulation. No fittings shall be under the slab.

#### Fittings: Wrought copper, per ANSI B16.18 and B16.22.

Identification: Color identify pipe with size of pipe manufacturer's trademark, and conform to the following schedule:

Type "K" Copper - Green Type "L" Copper - Blue

#### PEX Water Lines: (MAY BE USED ONLY IF APPROVED BY THE PROPERTY OWNER)

Uponor PEX-a Tubing: Tubing to be per ASTM F876 and ASTM F877, Uponor AQUAPEX, for all water pipe above or below concrete or ground, all sizes below 3". Fittings: Fitting assembly is manufactured from material listed in paragraph 5.1 of ASTM F1960. All fitting material is to comply with ASTM F1960. Type: PEX-a cold expansion fitting. Assembly consists of the appropriate ProPEX insert with a corresponding ProPEX Ring. PEX Manifolds Material: Type L copper body with UNS 3600 series brass ProPEX outlet connections or Engineered Plastic (EP) body with ProPEX outlet connections. Manifold Type: Uponor ProPEX 1" Copper Manifold or Uponor engineered plastic (EP) Manifold. All manifolds manufactured with the appropriate-sized ProPEX fittings on the manifold supply inlets.

#### Specification for CPVC Hot and Cold Water Commercial Systems (with piping components ½" - 6"):

All pipe and fittings to be manufactured from CPVC compound with a cell class of 24448 for pipe and 23447 for fittings as per ASTM D-1784 and conform with National Sanitation Foundation (NSF) standards 14 and 61.

½" through 2" sizes: FlowGuard Gold® CPVC Copper Tube Size mfg. to standard dimension ratio (SDR) 11 and shall conform to 1½" and larger, 10 foot on center ASTM D-2846. Transition fittings to have brass male or female connections with integral CPVC socket connections as mfg. by Charlotte Pipe and Foundry Co.

3" through 6" sizes: Corzan® CPVC Schedule 80 iron pipe size (IPS). Pipe shall conform to ASTM F-441. Socket type fittings shall conform to ASTM F-439. Transition to metal piping to be made using 150# flanged connections.

All pipe and fittings to be produced by a single manufacturer and to be installed in accordance with manufacturer's recommendations and local code requirements. FlowGuard Gold to be joined using approved one—step solvent cement conforming to ASTM F-493. Corzan to be installed using approved solvent cement conforming to ASTM F-493 and primer conforming to ASTM F-656. Pipe and fittings to be manufactured by Charlotte Pipe and Foundry Co. and are intended for hot and cold domestic water distribution systems.

#### 2.03 SANITARY DRAINAGE SYSTEM:

#### Waste & Vent Lines:

Sanitary piping to be either cast iron or copper. Where allowable by local and national codes, plastic DWV piping may be used under slab and where concealed by walls. Copper or cast piping shall be utilized for sanitary and vent piping above ceiling spaces and where otherwise exposed and within plenum areas.

Cast Iron - Aboveground: Provide cast iron no-hub soil and vent pipe, coated inside and out, conforming to CISPI 301-69T Specifications, for all soil and waste lines above ground and for all vent lines with inside diameter 2 inches and larger. Standard weight soil and waste fittings will be accepted throughout. Pipe shall conform to CISPI Standard 301.

Cast Iron - Under Building: Service weight cast iron pipe with bell and spigot joints and fittings. Underground pipe may be installed with "Tyseal" gaskets as specified hereinafter.

#### 2.04 GAS PIPING SYSTEM:

Provide Schedule 40 black steel pipe conforming to ASTM A120 and A53 with extra-heavy malleable iron banded thread fittings. Unions shall be ground iron to bronze seat. Plug valves shall be Rockwell-Nordstrom No. 142. Factory spiral wrapped in two directions, using Scotch wrap 10 mil tape with 1" overlap for all underground

Provide drip legs on all mains and risers and at equipment connections. Provide gas cocks at all equipment

Fittings: Provide extra-heavy black malleable iron banded screwed or weld pattern as applicable per ASA B16.3.

Rooftop horizontal gas piping support pedestals shall be pre-manufactured roof piping supports. Wood blocking with pipe clamps is NOT an acceptable means of supporting horizontal piping located on the roof.

#### <u>2.05</u> <u>R</u>OOF PENETRATIONS:

Each trade shall provide their own roof penetrations and the Contractor shall coordinate the installation of same with other related trades, such that in no way shall the roof warranty be altered, modified, or voided. The roof flashing system shall be as specified in Section 07510- Single-Ply Membrane Roofing System and Section fastened. 07720- Roof Accessories.

#### ACCESS DOORS:

The Plumbing Subcontractor shall furnish access doors for the Contractor's installation in finished work for concealed valves, cleanouts, and to concealed parts of the plumbing system that require accessibility for proper operation, maintenance, and repair. Doors are not required for suspended acoustical ceilings with lift-out panels.

Access doors shall be of the proper size for respective concealed items, with minimum size exclusive of other requirements, 18" x 18". Access door shall be flush type, with No. 13 U.S. Standard Gauge Steel door and trim, concealed hinges and screwdriver operated, stainless steel cam lock. Access door shall be shop painted with one coat of zinc chromate primer.

#### 2.07 VALVES:

Valves for water piping shall be 125 lb. SWP, all bronze gate valves. Drips shall be all bronze 1/2" globe SWP hose end. Check valves shall be horizontal swing check 125 lb. SWP type. Where used in connection with chrome plated pipe, valves shall be the same finish as the pipe. Install valves on all hot and cold water branch lines to each group of fixtures or individual fixtures. All products listed meet the low-lead requirements of NSF-372 and meet the requirements of ANSI/NSF61.

Gate Valves: Red White #206AB, 125# brass body, non-rising stem, for all lines up to 4".

Check Valves: Red White #236AB 125# brass body, Y-pattern, PTFE seat for all sizes up to 2" in diameter. Nibco #F-910-LF, 125# iron body, bronze trimmed, flanged horizontal check valve for all valves larger than 2

Balancing Valve: Red White #9517AB DZR Brass Body, fixed orifice, integral memory stop, 300#WDG. Model #9517ABU for 0.27-0.71 GPM and Model #9517ABL for 0.49-1.17 GPM.

Plug Valves: Rockwell-Nordstrom #142 for lines two inches and smaller and #143 for 2-1/2 inches and larger, lubricated plug valve with #555 lubricant for natural gas service.

Globe Valves: Red White #211AB, brass body, 200# WDG, swivel style disc.

Ball Valves: Red White #5049AB Brass Body, 600# WDG, 150# WSP, PTFE seat, blow-out proof stem.

#### Gas Valves:

1½" and smaller: Provide Rockwell-Nordstrom #143 with #555 lubricant for natural gas service. 2½" and larger: Provide Rockwell-Nordstrom #143 with #555 lubricant for natural gas service.

Valve Manufacturers: Provide as manufactured by Crane Jenkens, Walworth, Kennedy, Stockham, Red-White, or Nibco-Scott. No other product/manufacturers are permitted.

Provide valve boxes for all valves. Boxes shall be Mueller #H-10360, Size 564 S, screw type, and shall have 5-1/4" shaft with "WATER" cast in lid.

Trap Primers: Where shown on the drawings or required by plumbing code (see Drawings for product specifications). Automatic trap primer on cold water supply at nearest fixture and run drain to trap seal being protected. Provide access panel when primers are installed in walls.

Air Cushions and Shock Absorbers: Each hot and cold water connection to a fixture or faucet shall be equipped with full size vertical air cushion not less than 12 inches long. In addition to air cushions, provide 1 inch pipe size, shock absorber at each hot and cold connection and battery of fixtures. Shock absorbers shall be MIFAB #CL-A-NPB.

#### Hose Bibs: Provide as scheduled and detailed on the Drawings.

Vacuum Breakers: Furnish and install on all faucets, hydrants and all other water discharge points with threaded hose connector, where shown on drawings and where required by Code. Hose thread vacuum breaker shall be Watts Model #8-A or approved equal.

Vacuum breakers for general piping application shall be Watts Regulator Company, No. 288A or approved equal, with bronze body and internal trim and brass external trim. Vacuum breakers shall have angle type bodies with female inlet connection at bottom and female outlet connections at side. Furnish and install where contamination of potable water is possible and where required by local authorities.

#### PIPE HANGERS AND SUPPORTS:

Rooftop Piping Support Pedestals: Horizontal piping mounted on roof shall be supported with pre-manufactured pedestals and Accessory Pipe Straps as specified in Section 07720- Roof Accessories. Wood blocking with pipe clamps is NOT an acceptable means of supporting horizontal piping located on the roof, and the installation of same will be rejected by the BBB Construction Project Manager or the Architect/ Engineer.

Adequately support piping against sagging, pocketing, swaying, and displacement. Properly space and apply hangers to achieve the result, and not farther apart than the following:

#### Steel Pipe:

Copper Tubing:

 $1\frac{1}{4}$ " and smaller, 8 foot on center

1½" and larger, 10 foot on center

 $1\frac{1}{4}$ " and smaller, 6 foot on center

Plastic Pipe (Where Allowed):

#### 1½" and smaller, 3 foot on center 2" and larger, 4 foot on center

Install Trisolator #500 isolators around all uninsulated copper lines where hanger occurs. Install dielectric fitting between all ferrous and non-ferrous piping with a 12" section of red brass pipe in between.

Size all hangers on insulated lines to fit around outside diameter of insulation specified with allowance for sheet metal shield. Pipe shield shall be 169A, 1/3 circumference of insulation of a length of not less than 3 x diameter of the insulation (maximum 24").

#### 2.08 PIPE HANGERS AND SUPPORTS CONTINUED:

Manufacturer: Grinnell Company catalog numbers are indicated to simplify the description, however, hangers and supports shall be Grinnell, Grabler, Fee & Mason, Elcen or approved equal.

Overhead Supported: Each horizontal pipe shall be supported on adjustable wrought iron clevis hangers equal to Grinnell, Figure 260, except that groups of pipes shall be supported on trapeze hangers made up of steel rods and steel channels or angles. Pipe shall be "U" bolted to trapeze and trapeze spaced for the smallest pipe in the

#### 2.09 PLUMBING SYSTEM INSULATION

All insulation shall be applied in a neat and workmanlike manner. Remove and replace all insulation not applied in strict accordance with manufacturer's specifications or not presenting a neat appearance. Insulation shall be continuous through wall and ceiling openings and sleeves.

#### Work Included: Pipe covering for domestic hot water, cold water, and roof drain piping.

Materials and Installation: No pipe insulation shall be applied until piping has been pressure tested and approved. All insulation shall be applied strictly in accordance with the manufacturer's recommendations. Materials as manufactured by Johns Manville, Fiberglass, Phillip Carey, or Armstrong will be acceptable if equal to those specified. All insulation on indoor work shall have composite fire and smoke hazard ratings as tested by procedure NFPA 255 not exceeding: Flame Spread 25, Fuel Contributed 50, Smoke Developed 50. Accessories, such as adhesives, mastics, cements, tapes, and cloth for fitting, shall have the same component ratings as listed above. Insulation shall have an average thermal conductivity not to exceed 0.25 BTU/inch of thickness per square foot per 1 degree F. at a mean temperature of 75 degrees F.

Domestic Hot Water and Tempered Water Piping: All domestic hot water and tempered water piping shall be insulated with 1" thick fiberglass pipe insulated with foil-kraft laminate vapor barrier fastened with pressure sensitive tape and stapled 12" on center. All fittings, valves, flanges, etc. shall be covered with PVC fitting cover, taped and

Cold Water Piping: All domestic cold water piping and similar piping as further referenced, shall be insulated with 1" thick fiberglass insulated with foil kraft laminated vapor barrier fastened with pressure sensitive tape and staples 1" D.C. All fittings, valves, strainers, flanges, etc. shall be covered with a PVC fitting cover, taped and tack

No insulation shall be installed on any piping before the building is adequately closed in. Where necessary to install any insulation before it is protected by building enclosures, and if acceptable by the local jurisdiction, the covering must be effectively protected with roofing felt, wired on the covering to make an absolute waterproof protection for the pipe covering,

Pipe Insulation at Handicap Accessible Lavatories: Provide "Handi Lav-Guard" Kit No. 102, color white, as manufactured by Truebro Inc. at each handicap accessible toilet room lavatory.

#### 

Comply with Architectural requirements for painting interior piping. Paint exposed, interior metal piping, valves, service regulators, service meters and meter bars, and piping specialties, except components, with factory—applied paint or protective coating.

W.B. Light Industrial Coating: MPI INT 5.1B — G5. Prime Coat: Rust Inhibitive Primer. (MPI #107). Intermediate Coat: W.B. Light Industrial Coating (MPI #153). Topcoat: W.B. Light Industrial Coating (MPI #153). Color: Black.

Damage and Touchup: Repair marred and damaged factory—applied finishes with materials and by procedures to match original

All fixtures and floor drains are to be separately trapped as near to the fixture or floor drain as possible. Traps shall be self-cleaning, water-sealed, and shall have a scouring action. Traps shall be set true with respect to water seal and shall be protected from freezing. All underground traps, except "P" traps into which floor drains with removable strainers discharge, shall be provided with accessible cleanouts. Traps which are not part of plumbing fixtures shall be of the same material and size as pipes or branches into which they discharge.

#### 2.12 VENTS:

Collect vents together as shown on the drawings to minimize number of vents terminating through roof. Verify location of roof equipment indicated. Offset vents through roof to maintain a minimum distance of 10 feet away from outside air intakes.

#### 2.13 CLEANOUTS:

Where indicated on the drawings and as required by local plumbing code. Make all cleanouts accessible by one of the following

- Within 6 inches from ceiling access panel.
- Extending to floor or grade above. • Locate in wall with removable plate.

Size: Same as pipe on which installed.

Installation: Covers set flush with finished wall, floor or grade, to be securely anchored by means of integral lugs or bolts. Where surfacing materials such as resilient floor covering is used, install the clean out with top so that finished surface is smooth and

Manufacturers: Cleanout products shall be as manufactured by MIFAB or as detailed in the fixture schedule.

Wall Cleanouts: Stainless steel chrome plated bronze deep cover with center screw.

Floor Cleanouts and Access Covers: Duco coated cast iron body and frame with "Leckeromated" plug and heavy duty adjustable scoriated secured polished bronze top.

Cleanout to Grade with Countersunk Plug: Duco—coated cast iron body with bronze taper thread countersunk plug. Installed in 24" x

24" concrete pad, tapered for drainage.

## 2.14 FLOOR DRAINS:

Floor drains shall be properly anchored to building construction with clamping device or with lugs embedded in concrete slabs. Floor drains shall be as scheduled and detailed on the drawings. All floor drains shall have automatic trap primers installed as required.

#### 2.15 FIXTURE SUPPORTS:

Steel plated supports for all wall hung fixture shall be supported with  $3/8" \times 6"$  steel plates recessed and lag screwed to wood studs or welded to steel studs and tapped for fixture bolts. Install the length and number of plates as required to satisfactorily support the fixtures.

#### PLUMBING FIXTURES:

General: Furnish and install plumbing fixtures complete with trim and caulk. See drawings for Plumbing Fixture Schedule.

#### All fixtures shall be Class "A".

Vitreous fixtures shall be best quality. Warped, imperfect fixtures are NOT acceptable. Brass products shall contain at least 75% copper. All exposed metal below and above each fixture throughout shall be chrome plated on brass, with cast brass escutcheons. Where fixtures are noted on drawings as furnished by others, they shall be set by this contractor and this contractor shall furnish,

install and connect service to such fixtures. All fixtures supported from walls shall be provided with carriers by MIFAB. Furnish, set and connect all plumbing fixtures including all necessary supports, and chrome plated exposed work and fittings. Provide

loose-key type fixtures stops for all fixtures unless noted otherwise. The plumbing subcontractor shall purchase plumbing fixtures, flush valves, toilet seats and carriers as specified on the drawings. The plumbing subcontractor shall purchase faucets, tailpiece, P—trap, lavatory insulation supply kit, valves, sink accessories, trap

Traps exposed above the floor shall be chrome plated adjustable brass, with chrome plated approved cleanout plugs, cast set screw wall escutcheon and casing. All trim shall be of polished chrome—plated brass and of one acceptable manufacturer unless specifically noted otherwise. Provide fixture stops or valve ahead of all equipment or fixtures. Refer to Plumbing Fixture Schedule on Drawings.

Domestic Water Heaters: Provide water heater of size, capacity and make as scheduled on the drawings. Heaters shall be fully warranted for minimum of 5 full years after final acceptance of the building. Furnish heaters with the following accessories:

1. ASME combination temperature and pressure relief valve rated in excess of heater input. Run full size drain to location shown on

2. Automatic thermostat actuated controls with 100 percent shutoff.

primer, water hammer arrester, floor drains and wall clean out as specified on the drawings.

3. Dual high—limit controls. 4. Tank drain.

NOTICE

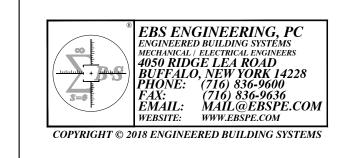
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West Seneca, NY



ISSUE: FOR PERMIT 03-02-18

SA PROIECT TEAM: PRINCIPAL P.Silvestri

PROJ. ARCH. \_\_\_\_\_ DRAFTER

JOB CAPT. \_\_\_\_\_ INTERIORS

TITLE: PLUMBING **SPECIFICATIONS** 



DATE: SA JOB #:

02-15-17

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AMHERST, NY 14221 FAX 716.691.4773

DRAWING #:

## ELECTRICAL SYMBOLS LEGEND

	NOT ALL SYMBOLS MAY BE REPRESENTED ON DRAWINGS	
POWER SYMBOLS	LIGHTING CONTROL SYMBOLS	FIRE ALARM SYMBOLS
SIGNIFIES TWO(2) CONDUCTORS - 2#12 + 1#12 GRND. IN ½" CONDUIT.	* TOGGLE SWITCH SR ROCKER SWITCH (SINGLE-POLE)	FACP FIRE ALARM CONTROL PANEL
SIGNIFIES THREE(3) CONDUCTORS — 3#12 + 1#12 GRND. IN ½" CONDUIT.	**TOGGLE SWITCHES  \$II,III,IV (SINGLE-POLE, GANGED)  **R,II,III,IV (SINGLE-POLE, GANGED)	AP FIRE ALARM REMOTE ANNUNICATOR PANEL
SIGNIFIES FOUR(4) CONDUCTORS - 4#12 + 1#12 GRND. IN ¾" CONDUIT.	TOGGLE SWITCH \$3 (SINGLE-POLE, 3-WAY)  ROCKER SWITCH  ROCKER SWITCH  ROCKER SWITCH  ROCKER SWITCH  SAWAY	F FIRE ALARM PULLSTATION — INSTALL 48" A.F.F. TO CENTER OF BOX
SIGNIFIES FIVE(5) CONDUCTORS - 5#12 + 1#12 GRND. IN ¾" CONDUIT.	TOGGLE SWITCH \$3,II,III,IV (SINGLE-POLE, 3-WAY, GANGED)  ROCKER SWITCH ROCKER SWITCH \$R3,II,III,IV (SINGLE-POLE, 3-WAY, GANGED)	PHOTOELECTRIC SMOKE DETECTOR WITH STANDARD BASE. WIRE INTO INITIATING CIRCUITS OF BUILDING FIRE ALARM SYSTEM. INSTALL @ FINISHED CEILING.
#10 SIGNIFIES TWO(2) CONDUCTORS - 2#10 + 1#10 GRND. IN ½" CONDUIT.	TOGGLE SWITCH \$4 (SINGLE-POLE, 4-WAY)  ROCKER SWITCH  ROCKER SWITCH  ROCKER SWITCH  ROCKER SWITCH  ROCKER SWITCH  ROCKER SWITCH  A-WAY)	COMBINATION CARBON MONOXIDE / PHOTOELECTRIC SMOKE DETECTOR WITH AN AUDIBLE BASE. WIRE INTO CS INITIATING / SUPERVISORY / SIGNALING CIRCUITS OF
#8 SIGNIFIES THREE(3) CONDUCTORS - 3#8 + 1#8 GRND. IN ¾" CONDUIT.	\$K KEYED SWITCH (SINGLE-POLE)	BUILDING FIRE ALARM SYSTEM. INSTALL @ FINISHED CEILING.
HOMERUN TO PANELBOARD	\$T TIME DELAY SWITCH (SINGLE-POLE)	CARBON MONOXIDE DETECTOR WITH AN AUDIBLE BAS WIRE INTO SUPERVISORY CIRCUITS OF BUILDING FIRE ALARM SYSTEM. INSTALL @ FINISHED CEILING.
J JUNCTION BOX (SIZE AS REQUIRED)	\$PL PIOLET LIGHT SWITCH (SINGLE-POLE)	HEAT DETECTOR — FIXED TEMPERATURE OF 135°, WIRED INTO INITIATING CIRCUITS OF BUILDING FIRE ALARM SYSTEM. INSTALL @ FINISHED CEILING.
~ CONDUIT/WIRE BREAK	\$D DIMMER (SINGLE-POLE)	DUCT SMOKE DETECTOR — WIRED INTO INITIATING CIRCUITS OF BUILDING FIRE ALARM SYSTEM. INSTALL WITHIN HVAC DUCTWORK.
CONDUIT STUB OUT	\$M MOMENTARY CONTACT SWITCH (SINGLE-POLE) DUAL TECHNOLOGY WALL SWITCH OCCUPANCY SENSOR.	AUDIO DEVICE (WALL) — WIRED INTO  SIGNALING CIRCUITS OF BUILDING FIRE ALARM SYSTEM. INSTALL 80" A.F.F. TO  BOTTOM OF BOY.
CONDUIT STUB-DOWN	OCCUPANCY TIME DELAY = 15 MINUTES. ON MODE =  \$OS AUTOMATIC ACUITY CONTROLS - SENSOR SWITCH #WSX-PDT-WH (OR	SIGNALING CIRCUITS OF BUILDING FIRE ALARM SYSTEM, INSTALL 80" A.F.F. TO
O CONDUIT STUB-UP	\$OS1 SAME AS ABOVE EXCEPT ON MODE SHALL = MANUAL.	WIRE INTO SIGNALING CIRCUITS OF BUILDING FIRE ALARM SYSTEM. INSTALL 80" A.F.F. TO BOTTOM OF BOX
208Y/120V RECESSED OR SURFACE MOUNTED PANELBOARD	LOW-VOLTAGE, DUAL TECHNOLOGY, SMALL MOTION CEILING OCCUPANCY SENSOR. OCCUPANCY TIME DELAY = 15 MINUTES.	MAGNETIC DOOR HOLDER — TO BE INSTALLED WITHIN WALL & WIRED INTO BUILDING FIRE ALARM SYSTEM AS REQUIRED.
480Y/277V RECESSED OR SURFACE MOUNTED PANELBOARD	ACUITY CONTROLS — SENSOR SWITCH #CM-PDT-9 (0R TC F9ML) CLOCK	FLOW SWITCH — PROVIDED & INSTALLED BY SPRINKLER CONTRACTOR, WIRED INTO BUILDING FIRE ALARM SYSTEM BY ELECTRICAL CONTRACTOR.
10 POWER TERMINAL CONNECTION TO EQUIPMENT ITEM SUPPLIED BY OTHERS.	COMMUNICATION SYMBOLS	TAMPER SWITCH — PROVIDED & INSTALLED BY SPRINKLER CONTRACTOR, WIRED INTO BUILDING FIRE ALARM SYSTEM BY ELECTRICAL CONTRACTOR.
3Ø POWER TERMINAL CONNECTION TO EQUIPMENT ITEM SUPPLIED BY OTHERS.	SUPPLY A SINGLE-GANG ELECTRICAL BOX AND INSTALL 18"  A.F.F., UNLESS OTHERWISE NOTED. SUPPLY 34" EMT CONDUIT AND CONCEAL WITHIN WALL FROM ELECTRICAL BOX	RT REMOTE TEST STATION
I⊖ RECEPTACLE (SIMPLEX)	STUBBING CONDUIT OUT FROM WALL INTO ACCESSIBLE CEILING SPACE. SUPPLY CONDUIT WITH PLASTIC BUSHINGS AND A PULLSTRING. ELECTRICAL BOX & CONDUIT SHALL BE UTILIZED FOR THE INSTALLATION OF COMMUNICATION	4"SQ. ELECTRICL BOX INSTALLED 80" A.F.F. WITH A BLANK COVERPLATE FOR THE INSTALLATION OF A FIRE ALARM DEVICE AT A FUTURE DATE.
⇒ RECEPTACLE (DUPLEX)	CONNECTORS (IE: TELEPHONE & DATA) WITH WALLPLATE & ASSOCIATED WIRING. CONNECTORS, WALLPLATE, WIRING ETC SHALL BE SUPPLIED & INSTALLED BY OTHERS.	J FIRE ALARM JUNCTION BOX — 4"SQ. X 21/8" DEEP (MIN. SIZE) WITH A BLANK RED COVERPLATE.
RECEPTACLE (QUAD)		GENERAL NOTES TO ELECTRICAL SYMBOLS LEGEND:
GROUND FAULT PROTECTION		a. UTILIZE TYPE "MC" CABLE IN CONCEALED AREAS UNLESS NOTED OTHERWISE. EXPOSED ELECTRICAL WORK SHALL BE

RECEPTACLE (QUAD) W/

\$мs manual motor starter

MAGNETIC MOTOR STARTER

COMBINATION MOTOR STARTER/FUSED DISCONNECT SWITCH

NON-FUSED DISCONNECT SWITCH

F FUSED DISCONNECT SWITCH

RECEPTACLE (DUPLEX) W/ GROUND FAULT

PROTECTION & A WEATHÉRPROOF COVER

"SPECIAL" RECEPTACLE - VERIFY NEMA

TYPE AND INSTALLATION LOCATION IN

RECESSED FLOOR BOX - TO BE INSTALLED FLUSH WITHIN FINISHED FLOOR

⊕ GFI GROUND FAULT

INSTALLED WITHIN CODE SIZED CONDUIT WITH STEEL SET SCREW FITTINGS. b. MULTIWIRE BRANCH CIRCUITS SHALL BE INSTALLED PER ALL REQUIREMENTS OF N.E.C. ARTICLE 210.4. HANDLE TIES

MUST BE INSTALLED TO IDENTIFY SINGLE-POLE, MULTIWIRE BRANCH CIRCUITS PER ALL REQUIREMENTS OF N.E.C. ARTICLE 240.15(B). c. ALL STANDARD RECEPTACLES SHALL BE INSTALLED 18" A.F.F., TO CENTER OF BOX, FLUSH TO FINISHED WALL,

UNLESS OTHERWISE NOTED. d. ALL INTERIOR GFI RECEPTACLES SHALL BE INSTALLED 44" A.F.F., TO CENTER OF BOX/ABOVE COUNTER TOP, FLUSH TO FINISHED WALL, UNLESS OTHERWISE NOTED. COORDINATE INSTALLATION HEIGHT WITH ARCHITECTURAL MILLWORK/ELEVATION PLANS WHEN APPLICABLE. e. ALL EXTERIOR GFI RECEPTACLES SHALL BE INSTALLED HORIZONTALLY 24" A.F.G., TO CENTER OF BOX, FLUSH TO FINISHED WALL, UNLESS OTHERWISE NOTED, PROVIDE A WEATHERPROOF COVERPLATE FOR EXTERIOR USE. f. ALL TOGGLE SWITCHES, DIMMERS, KEYED SWITCHES ETC... SHALL BE INSTALLED 48" A.F.F., TO CENTER OF BOX, FLUSH TO FINISHED WALL, UNLESS OTHERWISE NOTED. g. ELECTRICAL DEVICES WITHIN HANDICAP ACCESSIBLE ROOMS SHALL BE INSTALLED AT HEIGHTS PER ADA REQUIREMENTS. h. COMMUNICATION DEVICES (IE: TELEPHONE, DATA, CATV) SHALL BE INSTALLED 18" A.F.F., TO CENTER OF BOX, FLUSH TO FINISHED WALL, UNLESS OTHERWISE NOTED. i. FIRE ALARM DEVICES SHALL BE INSTALLED AS NOTED IN INDIVIDUAL DESCRIPTIONS.

j. NURSE CALL SYSTEM DEVICES TO BE INSTALLED AT

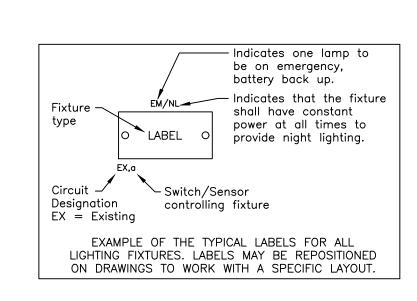
HEIGHTS PER MANUFACTURE & LOCAL CODE REQUIREMENTS.

# LIGHTING FIXTURE SCHEDULE

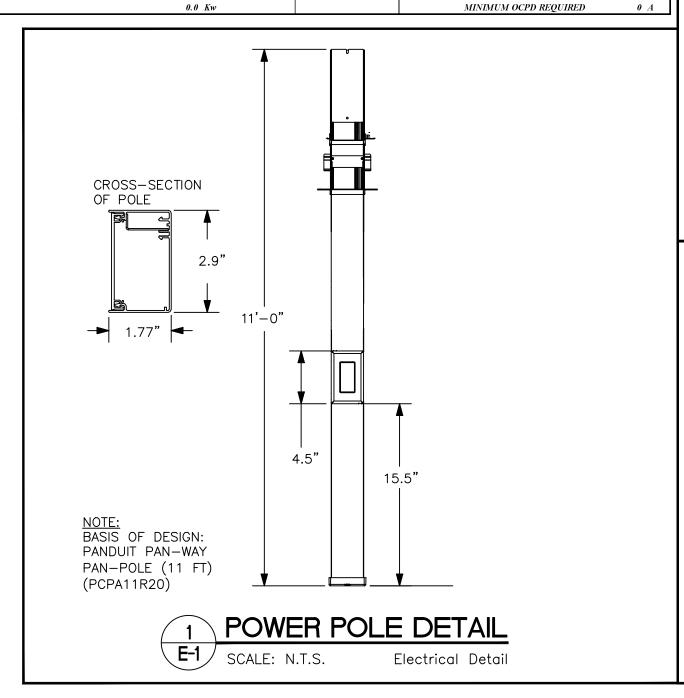
SYMBOL	DESCRIPTION	LAMP (QTY/TYPE/ COLOR)	VOLT	VA	MOUNTING	MANUFACTURER/ MODEL #
• REL •	EXISTING RELOCATED TROFFER TO BE MOVED AND WIRED AS SHOWN OR NOTED.					
• В •	2'X4' LED TROFFER WITH A CENTER "BASKET" STYLE ACRYLIC PRISMATIC RIBBED DIFFUSER AND 0-10V DIMMING DRIVER.	LED/4000°K/ 3000 LUMENS	MVOLT	30W	LAY-IN	LITHONIA LIGHTING: 2BLT4-30L-ADP- EZ1-LP840
• EXIST •	EXISTING TROFFER TO REMAIN AND BE REWIRED AS SHOWN OR NOTED.					
HO EXIT	Combination LED EXIT sign / Emergency lighting unit, universal mount with canopy, white impact & scratch resistant thermoplastic housing, 8" stenciled RED letters with, twin adjustable heads for emergency lighting & an integral high output battery pack.	LED – FURNISHED WITH FIXTURE	120/ 277V		WALL-8'-0" A.F.F. or 8" from FINISHED CEILING	LITHONIA LIGHTING: "QUANTUM" LHQM—LED—R—HO
	Remote Emergency LED fixture with twin, adjustable lamp heads and a weather—proof aluminum housing. For emergency egress illumination. Lamp heads shall be supplied by a an LED remote battery pack or combo unit.	TWO 1.5W/9.6V LEDs	9.6V		WALL ±8'-6" A.F.F.	LITHONIA LIGHTING: ELA—T—QWP—L0309

#### GENERAL NOTES TO LIGHTING FIXTURE SCHEDULE

1. CONTRACTOR TO VERIFY VOLTAGE SUPPLY TO EACH FIXTURE BEFORE ORDERING. 2. FURNISH ALL FIXTURES COMPLETE WITH LAMPS. 3. FIXTURES DESIGNATED "NL" SHALL BE PROVIDED WITH A CONSTANT POWER CONNECTION IN ORDER TO REMAIN ON AT ALL TIMES PROVIDING NIGHT LIGHTING.



ELECTRICAL PANELBOARD SCHEDULE-EXISTING 42 C					
PANELBOARD VOLTS: 208 V 3Ø 4-WIRE	LOCATION				
MAINS: <b>250 A</b> AIC: <b>10kA</b>	7-7-0-7-(7-1-7-				
LV-A MCB: A MTG: SURFACE	MECH/JAN. CLOS ET				
MLO: 225 A ENCL: NEMA 1	CLOSEI				
No. BKR CIRCUIT DESCRIPTION LOAD DESCRIPTION LOAD (W) L1 L2 L3 LOAD (W) LOAD DESCRIPTION CI	RCUIT DESCRIPTION BKR No				
1 EX-20A/IP EXISTING EQUIP 0 0 EQUIP EXISTING	- BREAKER OFF EX-20A/1P 2				
3 EX-20A/IP EXISTING EQUIP 0 0 EQUIP EXISTING	- BREAKER OFF EX-20A/1P 4				
5 EX-20A/IP EXISTING EQUIP 0 0 EQUIP EXISTING	EX-20A/1P 6				
7 EX-20A/IP EXISTING EQUIP 0 0 EQUIP EXISTING	- BREAKER OFF EX-20A/1P 8				
9 EX-20A/IP EXISTING EQUIP 0 0 EQUIP EXISTING	EX-20A/1P 10				
11 EX-20A/IP EXISTING EQUIP 0 0 EQUIP EXISTING	EX-20A/IP 12				
13 EX-20A/IP EXISTING EQUIP 0 0 EQUIP EXISTING	EX-20A/1P 14				
15 EX-20A/IP EXISTING EQUIP 0 0 EQUIP EXISTING	EX-20A/1P 16				
17   EX-20A/IP   EXISTING   EQUIP   0   0   EQUIP   EXISTING	EX-20A/1P 18				
19 EX-20A/IP EXISTING EQUIP 0 0 EQUIP EXISTING	EX-20A/IP 20				
21 EX-20A/IP EXISTING EQUIP 0 0 EQUIP EXISTING	EX-20A/1P 22				
23 EX-20A/IP EXISTING EQUIP 0 0 EQUIP EXISTING	EX-20A/1P 24				
25 EX-20A/IP EXISTING EQUIP 0 0 0 EQUIP EXISTING	- BREAKER OFF EX-20A/1P 26				
27 EX-20A/IP EXISTING EQUIP 0 0 EQUIP EXISTING	EX-20A/1P 28				
29 EX-20A/IP EXISTING EQUIP 0 0 0 EQUIP EXISTING	EX-20A/1P 30				
31 EX-20A/IP EXISTING EQUIP 0 0 EQUIP EXISTING	EX-20A/1P 32				
33 EX-20A/IP EXISTING - BREAKER OFF EQUIP 0 0 EQUIP EXISTING	- BREAKER OFF EX-20A/1P 34				
35 EX-20A/IP EXISTING - BREAKER OFF EQUIP 0 0 EQUIP EXISTING	- BREAKER OFF EX-20A/1P 36				
37 EX-20A/IP EXISTING - BREAKER OFF EQUIP 0 0 EQUIP EXISTING	- BREAKER OFF EX-20A/1P 38				
39 SPACE SPARE SPARE 0 0 EQUIP EXISTING	- BREAKER OFF EX-20A/1P 40				
41 SPACE SPARE SPARE 0 0 EQUIP EXISTING	- BREAKER OFF EX-20A/1P 42				
PHASE LOADS (W) 0 0 0	NOTES:				
TOTAL CONNECTED LOAD (W) 0 MINIMUM OCPD REQUIRED					
SUB TOTAL (W) 0	MINIMUM OCPD REOUIRED 0 A				
	MINIMUM OCPD REQUIRED 0 A				
DEMAND FACTOR 100%					
TOTAL LOAD (W) 0	MINIMALIM OCRD REQUIRED				
TOTAL LOAD (AMPERES) 0.00 MINIMUM OCPD REQUIRED 0 A					
LOAD DEMAND SUMMARY SUB-TOTAL DEMAND TOTAL					
LIGHTS 0 W 100% 0.0 kW					
RECEPT 0 W 0 0.0 kW					
HVAC 0 W 100% 0.0 kW					
EQUIP 0 W 100% 0.0 kW					
MISC 0 W 100% 0.0 kW					
FEEDER 0 W 100% 0.0 kW					
SPARE 0 W					
TOTAL LOAD 0.0 Kw	MINIMUM OCPD REQUIRED 0 A				



#### GENERAL SYMBOLS & ABBREVIATION NOT ALL ABBREVIATIONS MAY BE REPRESENTED ON DRAWINGS

NOT ALL ADDREVIATIONS MAT BE REFRESENTED ON DRAWINGS				
SIGNIFIES EXISTING	EX = EXISTING	N.T.S. = NOT TO SCALE		
ELECTRICAL EQUIPMENT/ DEVICES TO REMAIN SIGNIFIES EXISTING	EF = EXHAUST FAN	OC = OVER COUNTER		
ELECTRICAL EQUIPMENT/ DEVICES	EWH = ELECTRIC WALL HEATER	OH = OVERHEAD ELECTRIC		
TO BE REMOVED	EM = EMERGENCY LIGHTING	P.C. = PLUMBING CONTRACTOR		
XX KEYNOTE	FCU = FAN COIL UNIT	P = POLE		
REVISION TAG	F = FURNACE	R = REMOVE EXISTING		
GENERAL POINT OF	G.C. = GENERAL CONTRACTOR	RE = REPLACE EXISTING		
CONNECTION/TERMINATION	GFI = GROUND FAULT CIRCUIT INTERRUPTER	RTU = ROOF TOP UNIT		
A = AMPERE		S.C. = SPRINKLER CONTRACTOR		
A.F.F. = ABOVE FINISHED FLOOR	LC = LIGHTING CONTACTOR	TBD = TO BE DETERMINED		
A.F.G. = ABOVE FINISHED ROUND	MAU = MAKEUP AIR UNIT	TYP. = TYPICAL		
AWG = AMERICAN WIRE GAUGE	M.C. = MECHANICAL CONTRACTOR	UE = UNDERGROUND ELECTRIC		
CAT. = CATEGORY	MCB = MAIN CIRCUIT BREAKER	V = VOLTS		
C = CONDUIT	MIN. = MINIMAL	WG = WIRE GUARD		
CB = CIRCUIT BREAKER	MLO = MAIN LUG DNLY	WP = WEATHERPROOF ENCLOSURE		
C.C. = CIVIL C□NTRACT□R	N/A = NOT APPLICABLE			
E.C. = ELECTRICAL CONTRACTOR	N.E.C. = NATIONAL ELECTRIC CODE	XUE = EXISTING UNDERGROUND ELECTRIC		

#### AS A REQUIREMENT FOR ALL PROSPECTIVE BIDDERS SHALL:

1. VISIT THE SITE PRIOR TO BID SUBMISSION

2. FIELD VERIFY ALL MEASUREMENTS

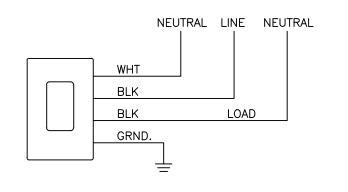
3. GENERATE A COMPREHENSIVE LIST DETAILING SITE CONDITIONS FOR FIELD PERSONNEL.

#### THE SUCCESSFUL BIDDING CONTRACTOR SHALL:

1. REVIEW ENTIRE DRAWING PACKAGE AND EFFECTIVELY COORDINATE ELECTRICAL INSTALLATION WITH ALL OTHER TRADES.

2. COORDINATE ALL BUILDING INTERCONNECTIONS AND POWER SYSTEMS SHUTDOWN WITH OWNER.

3. PROVIDE ONE COMPLETE SET OF AS-BUILD DRAWINGS TO THE ENGINEER OF RECORD AND ONE TO THE OWNER.



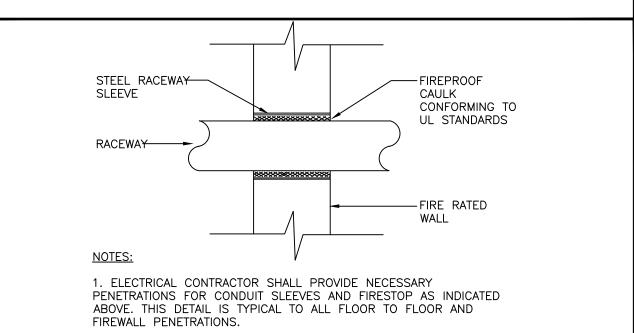
#### NOTES:

a. DETAIL SHOWN FOR REFERENCE ONLY. INSTALL AND WIRE PER MANUFACTURE INSTRUCTIONS. b. PROGRAMMING FUNCTIONS SHALL REMAIN AT DEFAULT SETTING EXCEPT FOR AS FOLLOWS: -OCCUPANCY TIME DELAY = 15 MINUTES -ON MODE = SET FOR AUTOMATIC ON CONTROL

# 2 TYPICAL WALL SWITCH OCCUPANY SENSOR

E-1 SCALE: N.T.S.

Electrical Detail



#### RACEWAY PENETRATION THRU FIRE RATED WALL/CEILING

E-1 SCALE: N.T.S. Electrical Detail



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SA PROJECT TEAM: PRINCIPAL P.Silvestri

ELECTRICAL

SCHEDULES AND

NOTES

PROJ. ARCH. \_\_\_\_\_ DRAFTER \_\_\_

JOB CAPT. \_\_\_\_\_ INTERIORS

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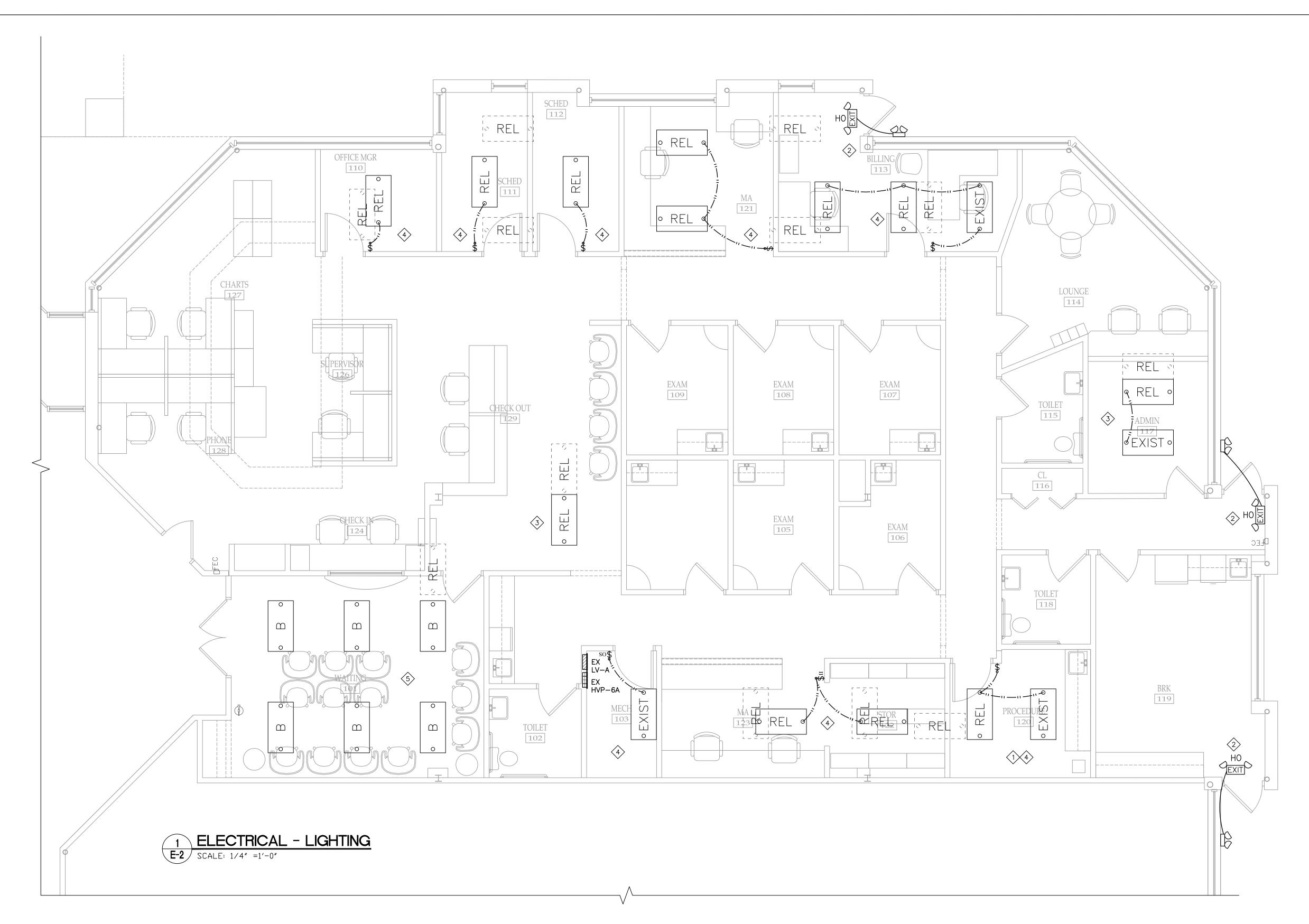
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SA JOB #: 16149.03

DATE: 02-15-17

DRAWING #:

E-1



#### GENERAL NOTES:

 ${f a.}$  ALL LIGHTING CIRCUITS SRE EXISTING AND SHOULD BE REUSED TO SUPPORT THE REMODEL.

**b.** TOGGLE SWITCH, SENSOR/SWITCH AND/OR CEILING SENSOR SHALL BE WIRED TO CONTROL LIGHTING FIXTURES LOCATED WITHIN ASSOCIATED ROOM. IN CASES WHERE SWITCHING SCHEME IS NOT OBVIOUS, LOWERCASE LETTERS (IE: "a", "b", "c" ETC.) WILL BE SHOWN TO IDENTIFY SWITCHING SCHEME.

c. EMERGENCY LIGHT PACKS, EXIT SIGNS AND FIXTURES WITH "NL" DESIGNATIONS SHALL BE SUPPLIED WITH CONSTANT 120V POWER WIRED FROM LOCAL AREA LIGHTING CIRCUIT BYPASSING LOCAL SWITCHING AND TIME CLOCK CONTROL.

d. LIGHTING AND EMERGENCY/EXIT LIGHTING IS EXISTING WITHIN THE SUITE AND SHALL BE REUSED. INSPECT ALL FIXTURES AND REPLACE DAMAGED LAMPS, BALLASTS, LENSES ETC. ENSURE FUNCTIONALITY OF ALL FIXTURES AND EMERGENCY/EXIT SIGNS.

#### LIGHTING KEYNOTES: X

1. UTILIZE HEALTH CARE RATED (HCF) CABLE FOR SWITCH AND LIGHTING CIRCUITS IN ROOMS WHERE THIS KEYNOTE IS SHOWN. NOTE: MC CABLE MAY BE UTILIZED IN LIEU OF HCF IF N.E.C. ARTICLE 517.13(B) EXCEPTION NO. 2 IS MET. THIS EXCEPTION MUST BE CONFIRMED WITH LOCAL AHJ PRIOR TO INSTALLATION.

2. PROVIDE NEW COMBO EXIT/EM LIGHT AND EXTERIOR EGRESS HEAD. USE EXISTING CIRCUITS SERVING EXIT SIGNS IN THESE AREAS. EGRESS LIGHTING IS NOT EXISTING AND SHALL BE PROVIDED AT THE EXIT DOORS.

3. RELOCATE EXISTING FIXTURES IN AREAS CORRESPONDING TO THIS KEYNOTE. UTILIZE EXISTING LIGHTING CIRCUITS AND CONTROLS SERVING ROOMS. EXTEND BRANCH WIRING AS

4. RELOCATE EXISTING FIXTURES IN AREAS CORRESPONDING TO THIS KEYNOTE. UTILIZE EXISTING LIGHTING CIRCUITS AND PROVIDE NEW CONTROLS AND BRANCH WIRING BETWEEN FIXTURES AND SWITCHES.

5. REPLACE FLUORESCENT LIGHTING FIXTURES WITH NEW LED STYLE AS SCHEDULED. UTILIZE EXISTING BRANCH CIRCUITS, WIRING AND CONTROLS TO SERVE NEW FIXTURES.

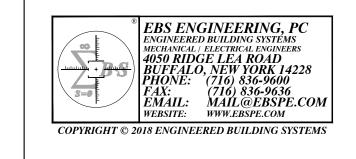
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ISSUE:

FOR PERMIT 03-02-18

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SEA

TITLE:

ELECTRICAL LIGHTING



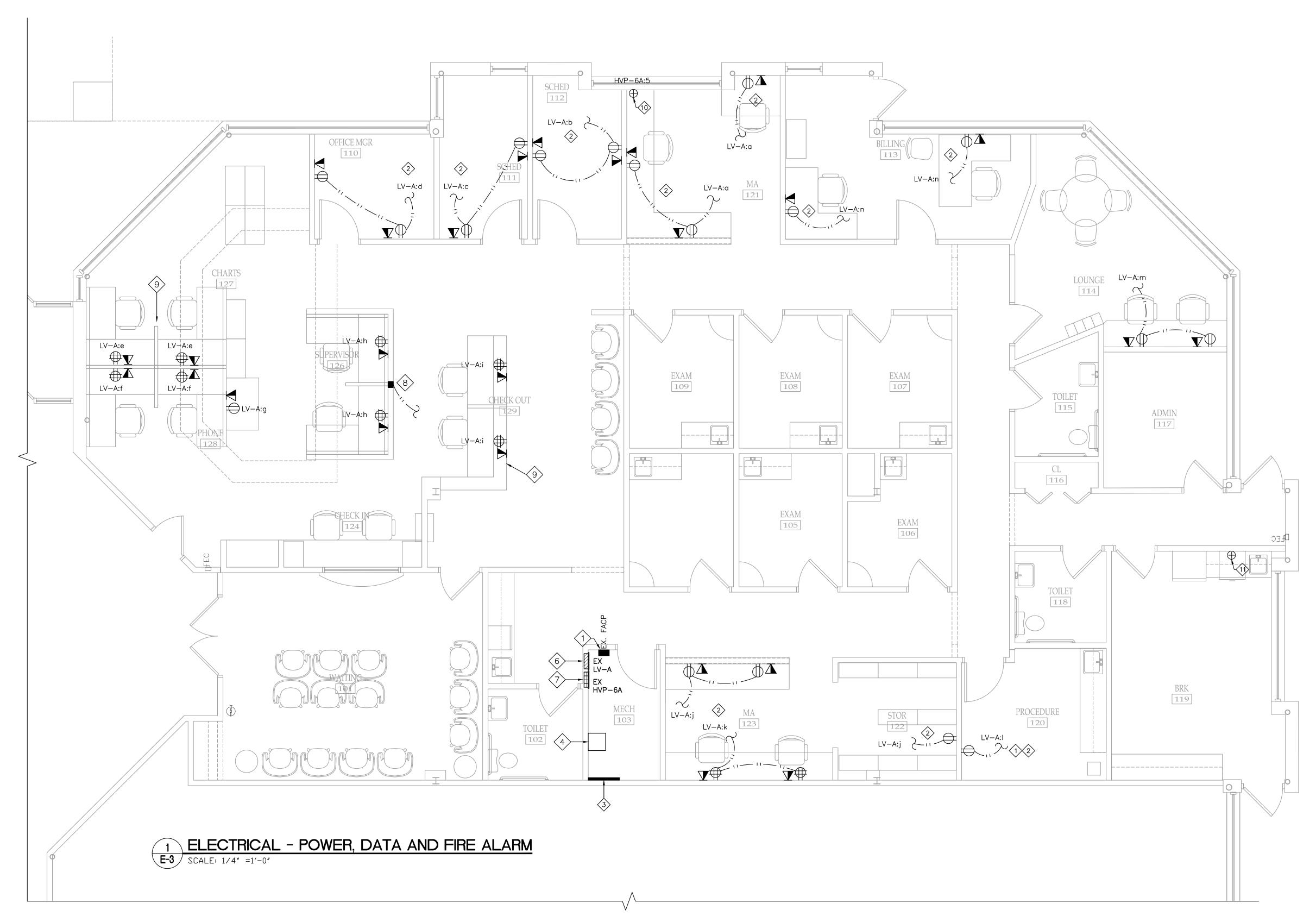
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SA JOB #: 16149.03

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E-2



#### **GENERAL NOTES:**

a. ENSURE ALL SMOKE DETECTORS ARE PLACED A MINIMAL DISTANCE OF 3'-0" FROM HVAC SUPPLY / RETURN AIR GRILLS. MOVE ALL EXISTING IN FIELD IF REQUIRED - TO BE COORDINATED IN FIELD.

b. VISUAL (STROBE) DEVICES SHALL HAVE CANDELA RATING SET AT 15cd UNLESS OTHERWISE NOTED. INSPECT ALL DEVICES FOR FUNCTIONALITY AND REPLACE IF REQUIRED.

#### FIRE ALARM SYSTEM KEYNOTES: X

1. SUPPLY AND INSTALL A TRIP FREE HANDLE LOCK DEVICE ON C.B. SUPPLYING FACP. PROVIDE DEDICATED PHONE CONNECTIONS FOR SYSTEM MONITORING IF NOT EXISTING. COORDINATE ALL REQUIREMENTS WITH LOCAL FIRE MARSHALL.

SEE SPECS - DRAWING E-4 FOR ADDITIONAL INFORMATION.

#### **GENERAL NOTES:**

a. ELECTRICAL DEVICES HAVE PANEL AND CIRCUIT DESIGNATIONS SHOWN NEXT TO EACH SYMBOL. EXAMPLE: PP-2:1 = PANELPP-2, CIRCUIT #1.

b. ENSURE ALL EXISTING DEVICES ARE CLEAN, UNBROKEN AND DEVICE PLATES CLEAN AND NOT CRACKED. PROVIDE NEW DEVICE PLATES AND DEVICES WHERE REQUIRED. MATCH EXISTING COLOR WITHIN THE SUITE.

c. MAINTAIN CIRCUIT CONTINUITY TO DEVICES SUCH AS RECEPTACLES THAT ARE TO REMAIN WHERE NEW DEVICES ARE BEING ADDED.

#### POWER & DATA KEYNOTES: <X

1. INSTALL HOSPITAL GRADE RECEPTACLES AND UTILIZE HEALTH CARE RATED (HCF) CABLE FOR BRANCH WIRING IN ROOMS WHERE THIS KEYNOTE IS SHOWN. INSTALL HOSPITAL GRADE RECEPTACLES AND HCF CABLE PER LOCAL AND NATIONAL CODES (NFPA 70).

2. FEED NEW RECEPTACLES FROM EXISTING BRANCH CIRCUIT(S) CURRENTLY FEEDING THIS AREA/ROOM. PROVIDE ANY REQUIRED JUNCTION BOXES ETC TO SPLICE EXISTING CONDUCTORS. 3. EXISTING VERIZON TELEPHONE DEMARK LOCATED ON WALL

WITH 110 PUNCHDOWN BLOCKS AND PLYWOOD BACKBOARD.

4. EXISTING WALL MOUNTED RACK WITH ONE 32 PORT PATCH PANEL WIRED TO DATA OUTLETS WITHIN THE SPACE USING CAT 5E CABLING. TRACE ALL CABLING AND OUTLETS AND USE TO SUPPORT NEW TENANT IF DESIRED. RACK HAS SPACE AVAILABLE FOR ADDITIONAL PATCH PANELS AND SIDE WIRE MANAGEMENT

5. FEED NEW ELECTRIC BASEBOARD RADIATOR FROM A SINGLE POLE 277V BRANCH IN EXISTING PANEL HVP-6A.

6. EXISTING THREE PHASE 208V PANEL LV-A TO BE UTILIZED TO SUPPORT THE REMODEL. PROVIDE NEW TYPED PANEL SCHEDULE AT THE COMPLETION OF CONSTRUCTION.

7. EXISTING THREE PHASE 480V PANEL HVP-6A TO BE UTILIZED TO SUPPORT THE REMODEL. PROVIDE NEW TYPED PANEL SCHEDULE AT THE COMPLETION OF CONSTRUCTION.

8. PROVIDE POWER POLE OR REUSE AN EXISTING POWER POLE ON SITE TO FEED OWNER SUPPLIED FURNITURE WITH POWER AND DATA. FURNITURE REQUIRES WIREMOLD RACEWAYS FOR INSTALLING DUPLEX RECEPTACLES AND DATA. FURNITURE SYSTEMS ARE NOT PRE-WIRED PARTITIONS.

9. FEED OWNER SUPPLIED FURNITURE WITH POWER AND DATA FROM WALL PARTITION. FURNITURE REQUIRES WIREMOLD RACEWAYS FOR INSTALLING DUPLEX RECEPTACLES AND DATA. FURNITURE SYSTEMS ARE NOT PRE-WIRED PARTITIONS.

10. EXISTING ELECTRIC BASEBOARD HEATER TO BE REMOVED AND REPLACED WITH SMALLER UNIT. USE EXISTING BRANCH WIRING AND TERMINATE NEW UNIT FROM THE EXISTING 20A BRANCH CIRCUIT IN HVL-6A. EXISTING POWER CONNECTION TO BE RELOCATED APPROXIMATELY 36".

11. FEED NEW UNDER COUNTER DISHWASHER FROM A SPARE 120V 20A BRANCH IN EXISTING PANEL LV-A. USE #12-2 MC AS

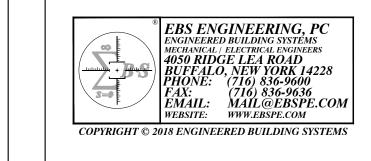
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ELECTRICAL POWER, DATA & FIRE ALARM



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SA JOB #:

DATE: 02-15-17

E-3

#### GENERAL PROVISIONS

- . REQUIREMENTS SPECIFIED ON COVER SHEET, ALONG WITH ELECTRICAL SPECIFICATIONS AND ALL ITS SECTIONS, COMPRISE THE CONTRACT DOCUMENTS FOR THE ELECTRICAL CONTRACT. DRAWINGS AND ALL THEIR REVISIONS UP TO THE BID SUBMITTAL DATE BECOME A BINDING PART OF THE CONTRACT ALONG WITH THESE SPECIFICATIONS AS THOUGH THEY WERE ONE, AND ANYTHING IMPLIED BY THE SPECIFICATIONS SHALL BE INTERPRETED AS ALSO IMPLIED BY THE DRAWINGS AND VICE VERSA. PROVIDE NECESSARY ITEMS FOR A COMPLETE INSTALLATION OF ALL ELECTRICALLY OPERATED EQUIPMENT LISTED IN THE SPECIFICATIONS OR SHOWN ON THE CONTRACT DRAWINGS.
- 2. THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING AND EQUIPMENT DRAWINGS AND SPECIFICATIONS ARE INCORPORATED INTO, AND BECOME A PART OF THIS DIVISION. THIS CONTRACTOR SHALL EXAMINE ALL SUCH DRAWINGS AND SPECIFICATIONS AND BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS CONTAINED THEREIN. THE SUBMISSION OF HIS BID SHALL INDICATE SUCH KNOWLEDGE.
- 3. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. THEY ARE INTENDED TO SHOW THE APPROXIMATE LOCATIONS OF EQUIPMENT AND CONDUIT. DIMENSIONS GIVEN ON THE PLANS, IN FIGURES, SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND SHALL BE VERIFIED IN THE FIELD. THE ELECTRICAL CONTRACTOR SHALL LAYOUT ALL EQUIPMENT ROOMS TO MAKE SURE THE EQUIPMENT, AS PURCHASED, FITS IN THE ROOM OR SPACE SHOWN. EXACT LOCATION OF ALL EQUIPMENT SHALL BE VERIFIED IN THE FIELD AND ROUTING OF CONDUITS SHALL SUIT FIELD CONDITIONS. 4. UNTIL THE TIME OF INSTALLATION, THE ARCHITECT RESERVES THE RIGHT TO MAKE MINOR CHANGES IN
- THE LOCATION OF CONDUIT AND EQUIPMENT WITHOUT ADDITIONAL COST TO THE CONTRACT. 5. THE ELECTRICAL DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER. MATERIAL AND LABOR NECESSARY TO THE PROJECT SHALL BE FURNISHED AND INSTALLED EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH. LABOR AND/OR MATERIALS NEITHER SHOWN NOR SPECIFIED, BUT OBVIOUSLY NECESSARY FOR THE COMPLETION AND PROPER FUNCTIONING OF THE SYSTEM, SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AT NO ADDITIONAL
- 6. ARRANGE ALL EQUIPMENT SUBSTANTIALLY AS SHOWN ON THE DRAWINGS. MAKE DEVIATIONS ONLY WHERE NECESSARY TO AVOID INTERFERENCE. CHECK ALL EQUIPMENT SIZES AGAINST AVAILABLE SPACE PRIOR TO SHIPMENT TO AVOID INTERFERENCE. 7. EXAMINE THE WORK OF OTHER TRADES INSOFAR AS THEIR WORK COMES IN CONTACT WITH OR IS COVERED BY THIS WORK. IN NO CASE ATTACH TO, OR FINISH AGAINST ANY DEFECTIVE WORK OR INSTALL WORK IN A MANNER WHICH WILL PREVENT PROPER INSTALLATION OF THE WORK OF OTHER
- 8. ELECTRICAL CONTRACTOR SHALL VERIFY WITH OTHER TRADES ALL ELECTRICAL CHARACTERISTICS OF EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS. CONTRACTOR SHALL VERIFY VOLTAGE, PHASE AND HORSEPOWER AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO START OF WORK. ELECTRICAL CONTRACTOR SHALL PROVIDE DISCONNECTING MEANS AND OVERLOAD PROTECTION FOR ALL EQUIPMENT, UNLESS FURNISHED INTEGRAL WITH EQUIPMENT PACKAGE. 9. IT IS THE INTENT OF THESE DRAWINGS THAT THIS BE A COMPLETE ELECTRICAL JOB. ANY ERRORS OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BIDDING THE
- <u>VISIT TO THE SITE:</u>. THIS CONTRACTOR SHALL VISIT THE SITE OF THE WORK AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING HIS WORK. THE SUBMISSION OF HIS PROPOSAL SHALL INDICATE SUCH KNOWLEDGE. NO ADDITIONAL PAYMENT SHALL BE MADE ON CLAIMS THAT ARISE FROM A LACK OF KNOWLEDGE OF THE EXISTING CONDITIONS.
- . INSTALLATION SHALL BE IN FULL ACCORDANCE WITH ALL CODES, RULES AND REGULATIONS OF MUNICIPAL, CITY, COUNTY, STATE AND PUBLIC UTILITIES AND ALL OTHER AUTHORITIES HAVING JURISDICTION OVER THE PREMISES.
- 2. COMPLY WITH ANY SPECIFICATION REQUIREMENTS THAT ARE IN EXCESS BUT NOT IN CONFLICT WITH 3. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, PLAN REVIEWS AND CERTIFICATES OF INSPECTION IN CONNECTION WITH HIS WORK, REQUIRED BY THE FOREGOING AUTHORITIES. BEFORE FINAL PAYMENT OF THE CONTRACT IS ALLOWED, ALL CERTIFICATES SHALL BE DELIVERED TO THE
- ARCHITECT IN DUPLICATE. 4. ELECTRICAL MATERIAL AND EQUIPMENT SHALL BE LISTED TO A NATIONALLY RECOGNIZED TESTING LABORATORY, SUCH AS UL, CSA, ETL OR APPROVED EQUIVALENT.
- 1. ALL ELECTRICAL INSPECTIONS SHALL BE BY A 3RD PARTY AGENCY APPROVED BY THE LOCAL TOWN.
- RECORD DRAWINGS:

  1. SUBMIT TO THE ARCHITECT ONE SET OF REPRODUCIBLE ELECTRICAL DRAWINGS SHOWING THE RECORD CONDITIONS.
- STANDARDS AND SUBSTITUTIONS:
- . WHEREVER THE WORDS "APPROVED BY", "APPROVED EQUAL", "AS DIRECTED" OR SIMILAR PHRASES ARE USED IN THE FOLLOWING SPECIFICATIONS, THEY SHALL BE UNDERSTOOD TO REFER TO THE OWNER AS THE APPROVING AGENCY. THE NAME OR MAKE OF ANY EQUIPMENT OR MATERIALS NAMED IN THIS SPECIFICATION (WHETHER OR NOT THE WORDS "OR APPROVED EQUAL" ARE USED) SHALL BE KNOWN AS THE "STANDARD".
- 2. THESE SPECIFICATIONS ESTABLISH QUALITY STANDARD OF MATERIALS AND EQUIPMENT TO BE PROVIDED. SPECIFIC ITEMS ARE IDENTIFIED BY MANUFACTURER. TRADE NAME OR CATALOG DESIGNATION. THIS CONTRACTOR SHALL SUBMIT HIS BASE BID PRICE BASED UPON STANDARD SPECIFIED EQUIPMENT DESCRIBED HEREIN AND AS DETAILED ON DRAWINGS AND ASSOCIATED CONTRACT DOCUMENTS. THESE SPECIFICATIONS ARE NOT TO BE CONSIDERED PROPRIETARY. THE CONTRACTOR MAY SUBMIT INFORMATION ON MATERIALS AND MANUFACTURERS (OTHER THAN THOSE LISTED) FOR REVIEW BY THE ARCHITECT AND ENGINEER NO LATER THAN TEN (10) DAYS BEFORE BIDS ARE SUBMITTED. IN ADDITION, SAMPLES OF PROPOSED EQUIPMENT MAY BE REQUIRED TO BE SUBMITTED TO THE ENGINEER FOR REVIEW NO LATER THAN TEN (10) DAYS BEFORE BIDS ARE SUBMITTED. MANUFACTURERS OF PRODUCTS ACCEPTED BY THE ARCHITECT AND ENGINEER WILL BE LISTED IN AN ADDENDUM TO THE SPECIFICATIONS AS AN ACCEPTABLE SUBSTITUTION EQUIPMENT ACCEPTED AS DETAILED BELOW AND SHALL BE SHOWN AS A SEPARATE ADD OR DEDUCT PRICE TO BE FACTORED
- INTO THE BASE BID PRICE BY THE ARCHITECT AND OWNER IF ACCEPTED. 3. SHOULD THE CONTRACTOR PROPOSE TO FURNISH MATERIALS AND EQUIPMENT OTHER THAN THOSE SPECIFIED OR APPROVED BY ADDENDUM, SUBMIT A WRITTEN REQUEST FOR SUBSTITUTIONS TO THE ARCHITECT AT THE BID OPENING. THE REQUEST SHALL BE AN ALTERNATE TO THE ORIGINAL BID; BE ACCOMPANIED WITH COMPLETE DESCRIPTIVE (MANUFACTURER, BRAND NAME, CATALOG NUMBER, ETC.) AND TECHNICAL DATA FOR ALL ITEMS. FAILURE BY THIS CONTRACTOR TO SUBMIT THE REQUISITE DOCUMENTATION DETAILED ABOVE SHALL BE UNDERSTOOD BY THE ARCHITECT AND ENGINEER TO INDICATE THAT SUBSTITUTE EQUIPMENT WILL NOT BE PRESENTED BY THE CONTRACTOR FOR CONSIDERATION. SUCH SUBSTITUTIONS WILL NOT BE CONSIDERED AFTER THE BID OPENING DATE AND DELAY OF PROJECT WILL NOT BE PERMITTED FOR FURTHER INSPECTION AND EVALUATION AFTER THIS
- 4. WHERE SUCH SUBSTITUTIONS ALTER THE DESIGN OR SPACE REQUIREMENTS INDICATED ON THE DRAWINGS, INCLUDE ALL ITEMS OF COST FOR THE REVISED DESIGN AND CONSTRUCTION INCLUDING COST OF ALL ALLIED TRADES INVOLVED.
- 5. ACCEPTANCE OR REJECTION OF THE PROPOSED SUBSTITUTIONS SHALL BE SUBJECT TO APPROVAL OF THE ARCHITECT AND ENGINEER. IF REQUESTED, THE CONTRACTOR SHALL SUBMIT (AT HIS COST) INSPECTION SAMPLES OF BOTH THE SPECIFIED AND PROPOSED SUBSTITUTE ITEMS.
- 6. IN ALL CASES WHERE SUBSTITUTIONS ARE PERMITTED, THE CONTRACTOR SHALL BEAR ANY EXTRA COST OF EVALUATING THE QUALITY OF THE MATERIAL AND EQUIPMENT TO BE PROVIDED, INCLUDING ALL ARCH/ENGINEER FEES ASSOCIATED WITH CHANGE.
- TESTING AND PLACING IN SERVICE: . ANY MATERIAL OR EQUIPMENT FAILING A TEST SHALL BE REPAIRED OR REPLACED AT THE
- CONTRACTOR'S EXPENSE. 2. TESTS SHALL INCLUDE THE FOLLOWING:
- a. MEASURE THE LOAD ON EACH PHASE OF THE MAIN SERVICE AND EACH PHASE OF EVERY FEEDER UNDER FULL LOAD CONDITIONS. b. MEASURE THE NO-LOAD AND FULL-LOAD VOLTAGES (PHASE TO PHASE, PHASE TO NEUTRAL AND PHASE TO GROUND FOR EACH PHASE OF EACH SERVICE, OF EACH SEPARATELY DERIVED SYSTEM, AND AT EACH PANELBOARD OR TRANSFORMER).
- c. MEASURE THE GROUND RESISTANCE OF THE MAIN SERVICE GROUNDING ELECTRODE AND THE GROUND RESISTANCE OF EACH SEPARATELY DERIVED SYSTEM'S GROUNDING ELECTRODE. d. MAKE INSULATION RESISTANCE TESTS ON ALL DRY TYPE TRANSFORMERS AND MOTORS.
- BEFORE THE INSTALLATION OF ANY ITEM BEGINS, THE ELECTRICAL CONTRACTOR SHALL CAREFULLY ASCERTAIN THAT IT DOES NOT INTERFERE WITH CLEARANCES FOR THE ERECTION OF FINISH BEAMS. COLUMNS, PILASTERS, WALLS OR OTHER STRUCTURAL OR ARCHITECTURAL MEMBERS AS SHOWN ON THE ARCHITECTURAL DRAWINGS. IF ANY WORK IS INSTALLED AND THE ARCHITECTURAL DESIGN CANNOT BE FOLLOWED, THIS CONTRACTOR SHALL, AT HIS OWN EXPENSE, MAKE CHANGES IN HIS WORK AS DIRECTED BY THE ARCHITECT TO PERMIT THE COMPLETION OF THE ARCHITECTURAL WORK IN
- ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS. 2. IT SHALL BE THE DUTY OF THIS CONTRACTOR TO REPORT ANY INTERFERENCES BETWEEN HIS WORK AND THAT OF ANY OF THE OTHER CONTRACTORS AS SOON AS THEY ARE DISCOVERED. THE ARCHITECT AND / OR ENGINEER SHALL DETERMINE WHICH EQUIPMENT WILL BE RELOCATED. REGARDLESS OF WHICH WAS INSTALLED FIRST. THEIR DECISION WILL BE FINAL.
- . ALL PRODUCTS SHALL BE NEW AND OF THE TYPE AND QUALITY SPECIFIED. WHERE MATERIALS, EQUIPMENT, APPARATUS OR OTHER PRODUCTS ARE SPECIFIED BY MANUFACTURER, BRAND NAME, TYPE OF CATALOG NUMBER, SUCH DESIGNATION SHALL ESTABLISH THE STANDARDS OF THE DESIRED QUALITY AND STYLE. IT IS THE INTENT OF THESE SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY OF MATERIALS AND EQUIPMENT INSTALLED.

#### BASIC ELECTRICAL MATERIALS AND METHODS

CONCRETE HOUSEKEEPING PAD.

- 1. GENERAL: FURNISH AND MOUNT ON EACH PANELBOARD, SWITCHBOARD (INCLUDING BRANCH SWITCHES), LARGE JUNCTION BOX, SAFETY SWITCH, STARTER, REMOTE CONTROL, PUSH BUTTON STATION, AND ALL SIMILAR CONTROLS, A NAMEPLATE DESCRIPTIVE OF THE EQUIPMENT OR EQUIPMENT CONTROLLED. 2. PROVIDE BLACK AND WHITE NAMEPLATES CONSTRUCTED FROM LAMINATED PHENOLIC WITH A WHITE CENTER CORE. LETTERS SHALL BE ENGRAVED IN THE PHENOLIC TO FORM WHITE LETTERS 3/8" HIGH. FASTEN THE NAMEPLATES WITH SCREWS AND AN ADHESIVE TYPE FASTENER.
- . <u>MOUNTING ACCESSORIES:</u>
  1. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL ANGLE IRON, CHANNEL IRON, RODS, SUPPORTS, HANGERS, CONCRETE OR PLYWOOD REQUIRED TO INSTALL, MOUNT AND SUPPORT ANY ELECTRICAL EQUIPMENT OR DEVICE CALLED FOR ON THE PLANS. 2. SUPPORTING MATERIAL SHALL BE COMPLETE WITH HANGERS, CONNECTORS, BOLTS, CLAMPS AND NECESSARY ACCESSORIES TO MAKE A COMPLETE INSTALLATION. SUPPORTING MATERIAL SHALL BE GALVANIZED, PAINTED OR OTHERWISE SUITABLY FINISHED. PRODUCTS BY BRINKLEY, STEEL CITY OR RACO WILL BE ACCEPTABLE. 3. ALL SURFACE-MOUNTED EQUIPMENT ON BLOCK WALLS SHALL BE MOUNTED ON 3/4" PAINTED

CONTRACT DRAWINGS.

1. THE ELECTRICAL WORK FOR CONSTRUCTION PROPOSED SHALL CONFORM TO ALL FEDERAL (OSHA), STATE, ALL SPECIFIC SAFETY REQUIREMENTS AND THE REQUIREMENTS OF THE CURRENT EDITION OF

PLYWOOD BACKBOARD. ALL FLOOR-MOUNTED EQUIPMENT SHALL BE INSTALLED ON A 4" HIGH

- 2. CHECK THE HVAC AND PLUMBING SPECIFICATIONS FOR ELECTRICAL REQUIREMENTS AND INCLUDE THE SAME IN THE CONTRACT COST. 3. EQUIPMENT CONNECTIONS, STARTERS, DISCONNECT SWITCHES, CONTROL TRANSFORMERS AND PUSHBUTTON STATIONS FOR THE EQUIPMENT FURNISHED BY THE OWNER OR UNDER A SEPARATE CONTRACT SHALL BE INSTALLED AND CONNECTED UNDER THIS DIVISION, AS INDICATED ON THE
- 4. ALL CUTTING, PATCHING, EXCAVATING, BACKFILLING AND CONCRETE WORK RELATED TO THIS CONTRACT WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. THIS CONTRACTOR SHALL ASSUME THE RESPONSIBILITY OF PROVIDING THE SLEEVES, CHASES AND OPENINGS NECESSARY FOR THE ELECTRICAL INSTALLATION AND FOR THEIR REPAIR IN AN ACCEPTABLE MANNER, AS DETERMINED BY THE ARCHITECT. ALL HOLES SHALL BE CORE-DRILLED. PROVIDE FIRE STOP IN ALL OPENINGS CREATED THROUGH FIRE-RATED WALLS, FLOORS OR CEILINGS. PROVIDE WATER TIGHT SEALS FOR ALL OPENINGS CREATED THROUGH FOUNDATION WALLS OR EXTERIOR WALLS. 5. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL REQUIRED ACCESS PANELS NECESSARY FOR HIS WORK, COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.
- D. <u>MATERIALS AND WORKMANSHIF</u> 1. ALL WORK SHALL BE INSTALLED IN A PRACTICAL AND WORKMANLIKE MANNER, BY MECHANICS SKILLED
- IN THE SEVERAL TRADES NECESSARY. 2. ALL MATERIALS SHALL BE NEW AND FREE FROM DEFECTS AND SHALL BE THE BEST OF THEIR SEVERAL KINDS UNLESS SPECIFIED OR INDICATED ON THE DRAWINGS TO THE CONTRARY. 3. DURING EACH PHASE AND AT THE COMPLETION OF THE CONSTRUCTION, THIS CONTRACTOR SHALL REMOVE ALL DEBRIS AND EXCESS MATERIALS CAUSED BY HIS WORK. HE SHALL LEAVE THE AREA OF
- OPERATION BROOM CLEAN. 4. ALL ELECTRICAL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OR ETL LABEL. 5. THIS CONTRACTOR SHALL GUARANTEE HIS WORKMANSHIP AND MATERIAL (LAMPS EXCEPTED) FOR A PERIOD OF ONE YEAR FROM THE DATE OF BUILDING OPENING AND LEAVE HIS WORK IN PERFECT ORDER AT THE COMPLETION. SHOULD DEFECTS DEVELOP WITHIN THE GUARANTEE PERIOD, THE CONTRACTOR SHALL, UPON NOTICE OF THE SAME, REMEDY THE DEFECTS AND HAVE ALL DAMAGES TO OTHER WORK OR FURNISHINGS CAUSED BY THE REPAIRS CORRECTED AT HIS EXPENSE TO THE CONDITION BEFORE SUCH DAMAGE.

- SCOPE OF WORK:

  1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL, STORAGE, UNPACKING AND PLACEMENT; TO INCLUDE BUT NOT BE LIMITED TO, THE FOLLOWING ITEMS:
- a. FMFRGFNCY LIGHTING AND POWER. b. COMPLETE POWER AND LIGHTING DISTRIBUTION SYSTEM TO THE EXTENT SHOWN.
- c. COMPLETE BRANCH CIRCUIT WIRING SYSTEM.
- d. COMPLETE POWER WIRING FOR ALL AIR CONDITIONING EQUIPMENT, PLUMBING SYSTEM, HEATING EQUIPMENT, VENTILATING AND EXHAUST EQUIPMENT. e. COMPLETE LIGHTING FIXTURE INSTALLATION, INCLUDING ALL LED FIXTURES AND FLUORESCENT
- f. COMPLETE TELEPHONE AND COMMUNICATION CONDUIT SYSTEM INCLUDING BOXES, PLATES, JACKS, ETC., AS SPECIFIED, SHOWN ON THE DRAWINGS AND REQUIRED BY THE LOCAL TELEPHONE COMPANY AND/OR OWNER.
- a. TEMPORARY ELECTRICAL POWER AND LIGHTING AS REQUIRED FOR CONSTRUCTION. n. TESTING OF ALL CABLES AND CIRCUIT WIRING AFTER INSTALLATION.
- i. EXIT LIGHT SYSTEM-NEW FIXTURES.
- WIRING DEVICES AND FLOOR BOXES. k. LIGHTING CONTROLS.
- I. GROUNDING OF THE ELECTRICAL SYSTEM. m.OUTDOOR EGRESS LIGHTING.
- n. SUPERVISORY ALARM SYSTEM TESTING AND REPAIRS. o. TELEPHONE AND ELECTRIC SERVICES.
- p. IDENTIFY RACEWAYS AND CABLES WITH COLOR BANDING AS FOLLOWS:
- a). FIRE ALARM SYSTEM: RED b). SECURITY SYSTEM: BLUE AND YELLOW.
- c). TELECOMMUNICATION SYSTEM: GREEN AND YELLOW.
- TEMPORARY SERVICE: (IF REQUIRED) 1. THE ELECTRICAL CONTRACTOR SHALL FURNISH, INSTALL AND REMOVE AS REQUIRED ALL TEMPORARY POWER AND TEMPORARY LIGHTING IN ALL AREAS AND INDIVIDUAL ROOMS WHEN NEEDED BY THE INDIVIDUAL TRADES IN THE PERFORMANCE OF THEIR WORK. THIS CONTRACTOR SHALL PROVIDE A MINIMUM OF TWENTY (20) FOOTCANDLES OF ILLUMINATION FOR TEMPORARY LIGHTING. ANY ADDITIONAL LIGHTING REQUIRED BY INDIVIDUAL TRADES SHALL BE PROVIDED BY THE INDIVIDUAL TRADES INCLUDING POWER FOR THE LIGHTING. THE ELECTRICAL WORK FOR CONSTRUCTION PURPOSES SHALL CONFORM TO ALL FEDERAL (OSHA), STATE, SPECIFIC SAFETY REQUIREMENTS, AS WELL AS THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE AND NATIONAL ELECTRICAL SAFETY CODE. THE ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED APPLICATIONS, PERMITS AND INSPECTIONS PERTAINING TO THIS WORK. THIS COST SHALL BE INCLUDED IN THE CONTRACTOR'S
- 2. NEW LIGHT FIXTURES SHALL NOT BE USED FOR TEMPORARY LIGHTING.

#### 1. RETAIN EXISTING ELECTRIC SERVICE AND PANELS FOR REUSE.

- 1. UNLESS OTHERWISE SPECIFIED, MC CABLE MAY BE UTILIZED FOR BRANCH WIRING WHEN CONCEALED WITHIN WALLS OR ABOVE FINISHED CEILINGS. EXPOSED INSTALLATIONS ARE NOT PERMITTED. 2. CONDUCTORS SHALL BE ANNEALED COPPER, STRANDED 98% CONDUCTIVITY, 600 V RATED FOR FEEDERS AND BRANCH CIRCUITS, TYPE THHN/THWN INSULATION, MINIMUM #12 AWG SIZE FOR BRANCH CIRCUITS. PROVIDE #10 AWG MINIMUM SIZE FOR BRANCH CIRCUIT RUNS EXCEEDING 100 FEET. ALUMINUM CONDUCTORS SHALL NOT BE USED FOR BRANCH CIRCUITS. ANACONDA, GENERAL CABLE, ROME CABLE OR ACCEPTED EQUAL.
- 3. COLOR CODE CONDUCTORS (EXCEPT CONTROL AND INSTRUMENTATION CONDUCTORS) AS FOLLOWS: a. 240/120V 10 SYSTEM PHASE A-BLACK; PHASE B-RED; NEUTRAL-WHITE; GROUND-GREEN b. 208/120V 3ø SYSTEM PHASE A-BLACK; PHASE B-RED; PHASE C-BLUE; NEUTRAL-WHITE; GROUND-GREEN
- c. 480/277V 3ø SYSTEM PHASE A-BROWN; PHASE B-ORANGE; PHASE C-YELLOW; NEUTRAL-GREY; GROUND-GREEN
- 4. #12 AND #10 CONDUCTORS SHALL HAVE CONTINUOUS INSULATION COLOR, AS LISTED ABOVE. 5. COLOR CODE CONDUCTORS LARGER THAN ABOVE, WHICH DO NOT HAVE CONTINUOUS INSULATION COLOR BY APPLICATION OF AT LEAST TWO LAPS OF COLORED TAPE ON EACH CONDUCTOR AT ALL POINTS OF ACCESS INCLUDING JUNCTION BOXES. COLOR TAPE SHALL BE THE EQUAL OF 3M PRODUCTS SCOTCH #35.
- 6. FLEXIBLE CORD SHALL BE HEAVY DUTY TYPE SO WITH AN EQUIPMENT GROUND CONDUCTOR IN ADDITION TO THE CURRENT CARRYING CONDUCTORS. 7. CONTROL CONDUCTORS SHALL BE #14 MINIMUM FOR NEC CLASS I AND #16 FOR NEC CLASS II.
- 8. CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED 9. CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID. INSTALL SEPARATE NEUTRALS FOR EACH SINGLE PHASE BRANCH CIRCUIT.
- 11. CONNECT #10 AND SMALLER WIRES WITH CONSTANT PRESSURE EXPANDABLE SPRING TYPE CONNECTORS, "SCOTCHLOK" BY 3M OR B-CAP BY BUCHANAN. 12. CONNECT #8 AND LARGER WIRES WITH COMPRESSION CONNECTORS OR SPLICES AS MANUFACTURED BY BURNDY OR T&B.
- 13. INSULATE SPLICING CONNECTORS TO AT LEAST 200% OF THE WIRE INSULATION. USE PRE-STRETCHED TUBING CONNECTOR INSULATORS, 3M PST FOR #2 AND LARGER CONDUCTORS. 14. PULL CONDUCTORS USING RECOGNIZED METHODS AND EQUIPMENT LEAVING AT LEAST 6" WIRE AT ALL JUNCTION BOXES FOR CONNECTIONS.
- 15. CLEANOUT EACH CONDUIT SYSTEM BEFORE PULLING WIRE. 16.PULL CONDUCTORS USING RECOGNIZED METHODS AND EQUIPMENT LEAVING AT LEAST 6" WIRE AT ALL JUNCTION BOXES FOR CONNECTIONS. FORM AND TIE ALL WIRING IN PANELBOARDS.
- THERE SHALL BE NO WIRENUT JOINTS OR SPLICES MADE INSIDE SWITCHBOARDS/PANELBOARDS. MAKE ALL CONNECTIONS TO DISCONNECT SWITCHES, MOTOR CONTROLLERS, MOTORS AND OTHER EQUIPMENT SHOWN ON THE PLANS. EXIT LIGHTS, FIRE ALARM AND EMERGENCY CIRCUITS SHALL BE INSTALLED IN SEPARATE CONDUIT SYSTEMS. INSTALL A MAXIMUM OF 3 SINGLE PHASE CIRCUITS IN A SINGLE RACEWAY, UNLESS OTHERWISE SPECIFICALLY CALLED FOR (SIX (6) CURRENT CARRYING
- CONDUCTORS MAXIMUM PLUS GROUND). 20.INSTALL MULTIWIRE BRANCH CIRCUITS PER ALL REQUIREMENTS OF N.E.C. ARTICLE 210.4. HANDLE TIES MUST BE INSTALLED TO IDENTIFY SINGLE-POLE, MULTIWIRE BRANCH CIRCUITS PER ALL REQUIREMENTS OF N.E.C. ARTICLE 240.15(B).
- 21.BRANCH CIRCUIT WIRE SIZES (AND CONDUITS) SHALL BE INCREASED FROM THOSE INDICATED ON THE PLANS TO PREVENT EXCESSIVE VOLTAGE DROP. BRANCH CIRCUITS SHALL BE INSTALLED WITH WIRES OF SUFFICIENT SIZE SO THAT VOLTAGE DROP BETWEEN THE PANEL AND THE LOADS DOES NOT EXCEED LIMIT OF 3%.

#### RACEWAYS AND BOXES

- 1. ALL WIRE SHALL BE RUN IN ACCORDANCE WITH CODE IN CORROSION RESISTANT, RIGID, THREADED, METAL CONDUIT OR ELECTRICAL METALLIC TUBING (E.M.T.) UNLESS OTHERWISE SPECIFICALLY STATED HEREIN. a. CONDUIT IN EXTERIOR WALLS, BELOW FLOOR SLAB, OR UNDERGROUND SHALL BE RIGID, THREADED, GALVANIZED, HEAVY WALL TYPE
- b. CARLON PVC TYPE 40 HEAVY WALL CONDUIT WITH GROUND WIRE MAY BE USED BELOW FLOOR SLAB OR UNDERGROUND IN LIEU OF RIGID, THREADED, GALVANIZED CONDUIT. PVC SCHEDULE 40 CONDUIT SHALL NOT BE RUN IN OR ABOVE FLOOR SLAB. PVC CONDUIT SHALL TERMINATE BELOW FLOOR SLAB WITH RIGID, THREADED METAL CONDUIT ADAPTER. CONDUIT ABOVE SLAB SHALL BE METAL. c. CONDUIT RUN EXPOSED TO THE WEATHER SHALL BE HEAVY WALL, METAL THREADED TYPE. 2. CONDUIT SIZE SHALL BE 1/2" MINIMUM.
- 3. CONDUIT SHALL BE SECURELY FASTENED IN PLACE. 4. ALL CONDUIT SHALL BE CONCEALED IN WALLS, FLOOR AND CEILINGS WHEREVER POSSIBLE. EXPOSED CONDUIT IN FINISHED AREAS WILL NOT BE PERMITTED. EXPOSED CONDUIT WILL BE PERMITTED IN UNFINISHED AREAS WITH THE SPECIFIC APPROVAL OF THE ARCHITECT. 5. USE FLEXIBLE CONDUIT FOR THE CONNECTION TO RECESSED OR SEMI-RECESSED LIGHTING FIXTURES (6'

LENGTH MAXIMUM). USE LIQUID TIGHT METAL CONDUIT FOR ALL CONNECTIONS TO MOTORS AND OTHER

- EQUIPMENT SUBJECT TO VIBRATION AND IN AREAS SUBJECT TO MOISTURE. 6. USE WATERTIGHT JOINTS WITH BURIED AND CONCRETE ENCASED CONDUIT. ALL BURIED CONDUITS OUTSIDE OF BUILDINGS SHALL HAVE A MINIMUM OF 24" OF COVER UNLESS SHOWN OTHERWISE. METAL CONDUITS BURIED IN EARTH SHALL BE PAINTED (TWO COATS) WITH HEAVY ASPHALTUM PAINT. 7. SUPPORT RUNS OF CONDUIT AS DETAILED IN THE APPROPRIATE TABLE OF THE NATIONAL ELECTRICAL
- CODE (NEC). 8. INSTALL EXPOSED RUNS OF CONDUIT AND CONDUIT ABOVE LAY-IN CEILINGS PARALLEL OR PERPENDICULAR TO THE WALLS, STRUCTURAL MEMBERS OF INTERSECTIONS OF VERTICAL PLANES AND CEILINGS. PROVIDE RIGHT ANGLE TURNS USING FITTINGS OR SYMMETRICAL BENDS. SUPPORT CONDUITS
- WITHIN 1" OF ALL CHANGES IN DIRECTION. 9. IF CONDUIT IS SUSPENDED, IT SHALL BE SUPPORTED ON TRAPEZE HANGERS WHICH USE "ALL-THREAD" RODS FROM THE STRUCTURAL STEEL. THE USE OF CEILING SUPPORT WIRE OR SIMILAR MATERIAL WILL
- NOT BE ACCEPTED. 10. INSTALL EMPTY CONDUIT FOR FUTURE USE AS INDICATED ON THE DRAWINGS. CONDUIT SHALL BE COMPLETE WITH JETLINE OR PULL ROPE, JUNCTION/OUTLET BOXES, TILE RINGS AND APPROPRIATE COVER
- 11. PROVIDE PITCHPOCKETS WHERE CONDUITS PENETRATE THE ROOF. 12. THREAD LUBRICATION/SEALANT IS REQUIRED ON OUTDOOR AND UNDERGROUND THREADED METAL 13. INSTALL FIRE SEAL FITTINGS WHERE CONDUITS PENETRATE CONCRETE FLOOR SLABS OR MASONRY WALLS REQUIRED TO BE FIRE RATED.
- 14. HORIZONTAL PORTION OF CONDUIT EXPOSED ON THE ROOF AND FEEDING EQUIPMENT SHALL NOT BE MORE THAN 5'-0" UNLESS THE WRITTEN APPROVAL FROM ARCHITECT OR ENGINEER IS OBTAINED. B. <u>PULL & JUNCTION BOXES:</u>
  1. INSTALL PULL AND JUNCTION BOXES WHERE SHOWN ON THE DRAWINGS, AND WHERE REQUIRED FOR
- CHANGES IN DIRECTION, AT JUNCTION POINTS, AND TO FACILITATE WIRE PULLING. FURNISH BOX SIZES IN ACCORDANCE WITH NEC UNLESS LARGER BOXES ARE INDICATED. 2. PROVIDE STEEL BOXES AND REMOVABLE COVERS OF CODE GAGE, HOT ROLLED SHEET STEEL, HOT DIPPED GALVANIZED INSIDE AND OUTSIDE, FOR ABOVE GROUND WORK. FURNISH WEATHERPROOF BOXES WHEN
- INSTALLED ABOVE GROUND OUTSIDE. 3. PROVIDE CAST IRON BOXES, HOT DIPPED GALVANIZED INSIDE AND OUTSIDE WHERE SHOWN ON THE DRAWINGS. FURNISH REMOVABLE COVERS WITH GASKETS AND STAINLESS STEEL, BRASS OR BRONZE
- 4. PROVIDE CONCRETE BOXES FOR UNDERGROUND WORK UNLESS OTHERWISE INDICATED ON THE DRAWINGS. FURNISH STEEL FRAMES AND COVERS WITH THE COVER ATTACHED TO THE FRAME WITH HEXAGON HEAD, BRASS OR BRONZE CAP SCREWS, 3/8" DIAMETER. PROVIDE A RUBBER GASKET FOR SEALING BETWEEN THE COVER AND THE FRAME. PAINT THE COVER WITH TWO COATS OF HEAVY ASPHALTUM. 5. PROVIDE SIZE AS REQUIRED FOR NUMBER AND SIZE OF CONDUIT AND CONDUCTORS. COORDINATE DEPTH TO SUIT WALL DEPTH AND CONSTRUCTION. MAXIMUM NUMBER OF CONDUCTORS PERMITTED IN STANDARD BOXES SHALL BE AS LISTED IN N.E.C. INSTALL FLUSH RECESSED WHEREVER POSSIBLE AND SECURELY SUPPORTED FROM BUILDING CONSTRUCTION., O.Z./GEDNEY, CROUSE HINDS, T&B, STEEL CITY,
- 1. ALL GROUNDING AND GROUNDING CIRCUITRY SHALL MEET OR EXCEED THE REQUIREMENTS OF NEC 2014, ARTICLE 250. RACEWAY SYSTEMS WHICH INCLUDES ALL METAL CONDUIT, PULLBOXES, JUNCTION BOXES, ENCLOSURES, MOTOR FRAMES, ETC. SHALL BE MADE TO FORM A CONTINUOUS CONDUCTING, PERMANENT GROUND CIRCUIT OF THE LOWEST PRACTICAL IMPEDANCE TO ENHANCE THE SAFE CONDUCTION OF GROUND FAULT CURRENTS AND TO PREVENT OBJECTIONABLE DIFFERENCES IN VOLTAGE BETWEEN METAL CURRENT CARRYING PARTS OF THE ELECTRICAL SYSTEM. PROVIDE A GREEN GROUNDING CONDUCTOR IN
- ALL CIRCUITS, CONDUIT SYSTEM SHALL NOT BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR. CONDUCTOR SIZE SHALL BE AS REQUIRED BY NEC, ARTICLE 250. ALL EQUIPMENT GROUND BUS, GROUND PADS. FRAMES. ENCLOSURES. ETC SHALL HAVE SURFACES AT THE POINT OF CONNECTION THOROUGHLY CLEANED AND BRIGHTENED JUST PRIOR TO ACTUALLY MAKING THE CONNECTION. TOUCH-UP DAMAGED PAINTED SURFACES. SPLICES IN WIRE OR CABLE GROUNDING CONDUCTORS ARE PROHIBITED. SOLDER PROHIBITED FOR CONNECTIONS.
- 2. ALL CONDUITS SHALL CONTAIN A CODE-SIZED GROUND WIRE SIZE PER N.E.C. IN ADDITION TO THE CONDUCTORS SHOWN ON THE PLANS. WHERE CIRCUIT CONDUCTORS ARE INCREASED IN SIZE FOR VOLTAGE DROP. THE GROUND WIRE SIZE SHALL BE INCREASED PROPORTIONATELY. 3. AFTER INSTALLING GROUNDING SYSTEM BUT BEFORE PERMANENT ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, TEST FOR COMPLIANCE WITH REQUIREMENTS.

#### WIRING DEVICES

RACO OR ACCEPTED EQUAL.

- <u>GENERAL:</u>
  1. PROVIDE WIRING DEVICES, IN TYPES, CHARACTERISTICS, GRADES AND ELECTRICAL RATINGS FOR APPLICATIONS INDICATED WHICH ARE UL LISTED AND WHICH COMPLY WITH NEMA WD 1 AND OTHER APPLICABLE UL AND NEMA STANDARDS.
- 2. WIRING DEVICE COLOR SHALL BE SELECTED BY ARCHITECT, UNLESS OTHERWISE INDICATED. 3. PROVIDE COVER OR DEVICE PLATES FOR OUTLET BOXES AS FOLLOWS UNLESS OTHERWISE NOTED: a. FINISHED AREAS: THERMOPLASTIC - COLOR TO MATCH DEVICE. b. UNFINISHED AREAS: ZINC COATED SHEET METAL, ALUMINUM, OR CAST METAL, AS APPROPRIATE FOR
- THE TYPE OF BOX. c. EXTERIOR AREAS: COPPER FREE ALUMINUM WITH GRAY, POWDER EPOXY FINISH, GASKET, WEATHERPROOF, CROUSE-HINDS "WLRD" FOR DUPLEX RECEPTACLES AND "WLRS" FOR SINGLE
- RECEPTACLES OR EQUAL. d. TELEPHONE, COMMUNICATION, AND SIGNAL OUTLET PLATES, SHALL MATCH THOSE USED FOR RECEPTACLES AND SWITCHES. ALL OUTLET AND/OR JUNCTION BOXES SHALL BE COMPLETE WITH A COVER PLATE BY THIS CONTRACTOR.
- e. WHERE DEVICES ARE GANGED, THEY SHALL BE INSTALLED UNDER A COMMON COVERPLATE. 3. LOCATE SWITCHES AND WALL SWITCH SENSORS AT A MAXIMUM HEIGHT OF 4'-0" A.F.F., MEASURED TO CENTER OF BOX, OR NEAREST BLOCK COURSE (WITHIN A.D.A. REQUIREMENTS) UNLESS OTHERWISE INDICATED. THE LONG DIMENSION OF THE SWITCHES SHALL BE VERTICAL.
- 4. LOCATE RECEPTACLES AT A MINIMUM HEIGHT OF 1"-6" A.F.F., MEASURED TO CENTER OF BOX, OR NEAREST BLOCK COURSE (WITHIN A.D.A. REQUIREMENTS), UNLESS NOTED OTHERWISE. THE LONG DIMENSION OF RECEPTACLES SHALL BE VERTICAL.
- B. <u>RECEPTACLES:</u>
  1. PROVIDE NEMA CONFIGURATION 5-20R DUPLEX 125 VOLT GROUNDING TYPE RECEPTACLES RATED FOR 20 AMPERES UNLESS OTHERWISE INDICATED ON THE DRAWINGS. ACCEPTABLE MANUFACTURES INCLUDED LEGRAND (P&S), HUBBELL OR LEVITON.
- 2. STANDARD RECEPTACLES SHALL BE SPECIFICATION GRADE. GFI RECEPTACLES LOCATED IN CHILD CARE AREAS SHALL BE TAMPER-RESISTANT TYPE 3. GFI RECEPTACLES SHALL BE SPECIFICATION GRADE. GFI RECEPTACLES LOCATED CHILD CARE AREAS
- SHALL BE TAMPER-RESISTANT TYPE. 4. HOSPITAL GRADE RECEPTACLES SHALL BE EXTRA HEAVY DUTY. HOSPITAL GRADE RECEPTACLES LOCATED IN CHILD CARE AREAS SHALL BE TAMPER-RESISTANT TYPE. 5. RECEPTACLES REQUIRING AMPERAGES, VOLTAGES OR CONFIGURATIONS DIFFERENT FROM THE DUPLEX
- CONVENIENCE RECEPTACLES ABOVE SHALL BE AS INDICATED ON THE DRAWINGS. 6. INSTALL RECEPTACLES WITH GROUND POLE ON TOP. CONNECT WIRING DEVICE GROUNDING TERMINAL TO BRANCH CIRCUIT EQUIPMENT GROUNDING CONDUCTOR. IN THOSE AREAS WHERE VERTICAL SPACE IS NOT AVAILABLE, SUCH AS UNDER CABINETS, AND ABOVE BACK SPLASH, MOUNT HORIZONTALLY WITH GROUND SLOT TO THE LEFT. 7. PROVIDE OTHER RECEPTACLES OF A QUALITY, MATERIAL AND WORKMANSHIP EQUAL TO THAT OF ABOVE DESCRIPTIONS.
- 1. GENERAL: PROVIDE INDUSTRIAL, EXTRA HEAVY-DUTY SPECIFICATION GRADE DEVICE WITH COPPER ALLOY CONTACT ARM, HEAVY DUTY BUMPER PADS FOR QUIET, SMOOTH OPERATION, HIGH STRENGTH THERMOPLASTIC POLYCARBONATE TOGGLE, AND SILVER ALLOY CONTACTS. 2. LOCAL SWITCHES, SINGLE POLE: TOGGLE (COLOR BY ARCHITECT), 20 AMPERE, 120/277 VAC; HUBBELL'S
- HBL1221 SERIES, PASS & SEYMOUR'S PS20AC1 SERIES OR COOPER'S 2221 SERIES. 3. LOCAL SWITCHES, THREE\_WAY: TOGGLE (COLOR BY ARCHITECT), 20 AMPERE, 120/277 VAC; HUBBELL'S HBL1223 SERIES, PASS & SEYMOUR'S PS20AC3 SERIES OR COOPER'S 2223 SERIES. 4. LOCAL SWITCHES, FOUR\_WAY: TOGGLE (COLOR BY ARCHITECT), 20 AMPERE, 120/277 VAC; HUBBELL'S HBL1224 SERIES, PASS & SEYMOUR'S PS20AC4 SERIES OR COOPER'S 2224 SERIES.
- **AUTOMATIC LIGHTING CONTROL DEVICES:** 1. ALL LIGHTING CONTROL DEVICES MUST BE SELECTED, INSTALLED AND WIRED TO MEET CURRENT LOCAL AND STATE ENERGY CODE REQUIREMENTS. WHEN LOCAL AND STATE CODES ARE NOT APPLICABLE THE 2015 IECC (INTERNATIONAL ENERGY CONSERVATION CODE) SHALL BE APPLIED. ANY DISCREPANCIES BETWEEN THESE DESIGN DOCUMENTS AND CURRENT ENERGY CODES MUST BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BID SUBMISSION.
- 2. PROVIDE SINGLE RELAY, DUAL TECHNOLOGY, 120/277 VOLT, WALL SENSOR SWITCH, UNLESS OTHERWISE INDICATED. BASIC PROGRAMMING SHALL INCLUDE MANUAL ON, AUTOMATIC OFF WITH THE OCCUPANCY SENSOR TIME DELAY SET FOR 15 MINUTES, REMAINING PROGRAMMING OPTIONS SHALL BE FACTORY DEFAULT UNLESS OTHERWISE INDICATED. ACCEPTABLE MANUFACTURERS INCLUDE SENSOR SWITCH, WATTSTOPPER OR APPROVED EQUAL.
- 3. PROVIDE SINGLE ZONE, DUAL TECHNOLOGY 120 OR 277 VOLT (AS REQUIRED) CEILING MOUNT OCCUPANCY SENSOR WITH 360 DEGREE VIEWING ANGLE, UNLESS OTHERWISE INDICATED, PROVIDE ALL REQUIRED POWER PACKS, SLAVE POWER PACKS, CONTROL UNITS, RELAYS, BACKBOXES, MOUNTING PLATES AND OTHER EQUIPMENT NECESSARY FOR PROPER SYSTEM OPERATION. BASIC PROGRAMMING SHALL INCLUDE OCCUPANCY SENSOR TIME DELAY SET FOR 15 MINUTES. REMAINING PROGRAMMING OPTIONS SHALL BE FACTORY DEFAULT UNLESS OTHERWISE INDICATED.ACCEPTABLE MANUFACTURES INCLUDE SENSOR SWITCH, WATTSTOPPER OR APPROVED EQUAL.

#### <u>LIGHTING:</u>

- 1. SET LEVEL, PLUMB, AND SQUARE WITH CEILINGS AND WALLS UNLESS OTHERWISE INDICATED. 2. INSTALL LAMPS IN EACH LUMINAIRE.
- 3. FIXTURES SHALL BE SUPPORTED FROM BUILDING STRUCTURE. 4. WHERE FIXTURES ARE INSTALLED ON DRYWALL CEILINGS, THEY SHALL BE SUPPORTED FROM THE CEILING FRAMING SYSTEM OR THE BUILDING STRUCTURE. SUPPORT FROM DRYWALL IS NOT
- 5. NFPA 70 REQUIRES MINIMUM SUPPORT FOR FIXTURES. RETAIN "LAY-IN CEILING LIGHTING FIXTURES SUPPORTS" PARAGRAPH BELOW FOR MORE SPECIFIC SUPPORT REQUIREMENTS AND FOR REQUIREMENTS EXCEEDING CODE MINIMUMS. FOR PROJECTS REQUIRING SEISMIC DESIGN, ADDITIONAL
- SUPPORTS, AND RESTRAINING DEVICES BEYOND THOSE SPECIFIED HERE MAY BE REQUIRED.
- B. LAY-IN CEILING LIGHTING FIXTURES SUPPORTS: USE GRID AS A SUPPORT ELEMENT. 1. INSTALL CEILING SUPPORT SYSTEM RODS OR WIRES FOR EACH FIXTURE. LOCATE NOT MORE THAN 6
- INCHES FROM LIGHTING FIXTURE CORNERS. 2. SUPPORT CLIPS: FASTEN TO LIGHTING FIXTURES AND TO CEILING GRID MEMBERS AT OR NEAR EACH FIXTURE CORNER WITH CLIPS THAT ARE UL LISTED FOR THE APPLICATION. 3. FIXTURES OF SIZES LESS THAN CEILING GRID: INSTALL AS INDICATED ON REFLECTED CEILING PLANS OR CENTER IN ACOUSTICAL PANEL, AND SUPPORT FIXTURES INDEPENDENTLY WITH AT LEAST TWO
- C. IMMEDIATELY PRIOR TO OCCUPANCY, DAMP CLEAN ALL DIFFUSERS, GLASSWARE, FIXTURE TRIMS, REFLECTORS, LAMPS AND REPLACE BURNED OUT LAMPS.

3/4-INCH METAL CHANNELS SPANNING AND SECURED TO CEILING TEES.

#### SAFETY SWITCHES & FUSES

- A. <u>SWITCHES:</u>
- 1. SAFETY SWITCHES SHALL BE THE ENCLOSED HEAVY-DUTY TYPE (TYPE HD) WITH QUICK-MAKE, QUICK-BREAK MECHANISM AND EXTERNAL PAD LOCKABLE OPERATING HANDLE. 2. SAFETY SWITCHES SHALL BE RATED FOR 240 OR 600 VOLTS AS APPLICABLE. THEY SHALL BE
- HORSEPOWER RATED WHEN USED IN MOTOR CIRCUITS. 3. SAFETY SWITCHES SHALL BE FUSIBLE OR NON-FUSIBLE, 2, 3, OR 4 POLE AS INDICATED ON THE
- 4. SAFETY SWITCHES SHALL BE SINGLE THROW UNLESS OTHERWISE INDICATED ON THE DRAWINGS. 5. ENCLOSURES SHALL BE NEMA 1 INDOORS AND NEMA 3R OUTDOORS UNLESS OTHERWISE INDICATED
- 6. MANUFACTURER SHALL BE SQUARE D, SIEMENS, OR CUTLER-HAMMER. ALL SAFETY SWITCHES SHALL BE BY ONE MANUFACTURER.
- 7. MOUNT THE SAFETY SWITCHES SECURELY BETWEEN 3' X 6' LEVELS ABOVE THE FLOOR UNLESS OTHERWISE INDICATED ON THE DRAWINGS. 8. SWITCHES ON BLOCK WALLS SHALL BE MOUNTED ON A 3/4" PLYWOOD BACKBOARD, WHERE
- LOCATED INDOORS.
- EQUIPMENT FURNISHED BY OTHER TRADES. UNLESS INDICATED OTHERWISE ON PLANS, THE FUSES SHALL BE OF THE FOLLOWING TYPES: a. FUSES 601 TO 6000 AMPS SHALL BE UL CLASS. TRADE TYPE SHALL BE KRP-C AS

1. THE CONTRACTOR SHALL FURNISH A COMPLETE SET OF FUSES FOR ALL SWITCHES, PLUS FUSIBLE

- MANUFACTURED BY THE BUSSMANN COMPANY. b. FUSES 1/10 TO 600 AMPS SHALL BE UL CLASS RK1. TRADE TYPE SHALL BE LOW PEAK LPS-RK
- (600V) AND LPN-RK (250V) AS MANUFACTURED BY BUSSMANN COMPANY. c. ALL OTHER FUSES SHALL BE DUAL-ELEMENT CURRENT-LIMITING TYPE WITH 200,000 AMPERES SYMMETRICAL INTERRUPTING CAPACITY.
- d. FUSES SHALL BE MANUFACTURED BY BUSSMANN, GOULD-SHAUMUTT, OR RELIANCE. e. SPARE FUSES AMOUNTING TO A DUPLICATE SET OF EACH SIZE INSTALLED SHALL BE TURNED OVER TO THE OWNER UPON COMPLETION OF THE PROJECT. PROVIDE AND PLACE IN A SPARE FUSE
- CABINET SIMILAR TO BUSSMANN # SFC. f. THIS CONTRACTOR SHALL REPLACE ALL FUSES BLOWN DURING CONSTRUCTION.

#### **MOTOR CONTROLLERS:**

- 1. TYPE A (FULL VOLTAGE, NON-MAGNETIC, SINGLE PHASE): TOGGLE SWITCH, STAINLESS STEEL ENCLOSURE, THERMOPLASTIC COVERPLATE; SIEMENS CLASS SMF SERIES, OR ACCEPTED EQUAL. 2. TYPE A1 (FULL VOLTAGE, NON-MAGNETIC SINGLE PHASE): SIMILAR TO TYPE A ABOVE, EXCEPT WITH
- RED PILOT LIGHT; SIEMENS CLASS SMF SERIES, OR ACCEPTED EQUAL. 3. TYPE B (FULL VOLTAGE MAGNETIC): NEMA 1 ENCLOSURE WITH PILOT LIGHT; SIEMENS CLASS 14
- SERIES WITH AUXILIARY CONTACTS, OR ACCEPTED EQUAL. 4. TYPE B1 (FULL VOLTAGE, COMBINATION MAGNETIC): FUSIBLE DISCONNECT SWITCH TYPE, NEMA 1 ENCLOSURÈ, PILOT LIGHT AND HOA IN COVER; SIÉMENS CLASS 17 SERIES WITH AUXILIARY CONTACTS, OR ACCEPTED EQUAL.

#### <u>PANELBOARDS</u>

- 1. PANELBOARDS ARE EXISTING AND SHALL BE REUSED.
- 2. RELABEL EXISTING PANELBOARD DIRECTORIES TO REFLECT ALL BRANCH CIRCUIT REVISIONS; PROVIDE TYPEWRITTEN WITH ROOM NUMBERS, FUNCTION, ETC. TO POSITIVELY IDENTIFY EACH BRANCH CIRCUIT. 3. PROVIDE NEW QUICK MAKE, QUICK BREAK, THERMAL MAGNETIC, TOGGLE MECHANISM, MOLDED CASE CIRCUIT BREAKERS AS RECOMMENDED BY EQUIPMENT MANUFACTURER. PROVIDE AMPACITY AND POLES AS INDICATED ON PLANS WITH APPROPRIATE AMPERE INTERRUPTING RATING TO MATCH EXISTING EQUIPMENT. MULTIPOLE BREAKERS SHALL HAVE COMMON TRIP. MAKE TO MATCH EXISTING

#### FIRE ALARM SYSTEM SPECIFICATION

BOXES, BACKBOXES, PANELS ETC.

AN EXISTING SYSTEM.

- . <u>GENERAL:</u>
  THE FIRE ALARM SYSTEM IS CURRENTLY EXISTING WITHIN THE TENANT SUITE. THE ELECTRICAL CONTRACTOR SHALL INSPECT ALL COMPONENTS OF THE SYSTEM, TEST AND PROVIDE FOR REPLACING OR REPAIRING ANY DEFECTIVE COMPONENTS AND PROVIDE NEW BATTERIES WITHIN THE
- <u>COMPLIANCE</u>: 1. SYSTEM AND INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE STANDARDS AND REQUIREMENTS OF THE NFPA INCLUDING:
- a. NFPA 70 INCLUDING ARTICLE 760 (NEC) b. NFPA 72 - COMPLETE c. NFPA 101 d. APPLICABLE REQUIREMENTS OF THE LOCAL TOWN.

2. ALL EQUIPMENT SHALL BE "UL" LISTED UNDER THE FIRE PROTECTION DIRECTORY AND

- SUPPLEMENTS. 1. STEEL OUTLET OR METAL BACK BOXES SHALL BE PROVIDED FOR ALL COMPONENTS OF THE
- 2. ALL WIRING FOR THIS SYSTEM SHALL BE CONCEALED WITHIN THE BUILDING STRUCTURE AND
- 3. "UL" LISTED AND APPROVED FIRE ALARM CABLE MAY BE EMPLOYED FOR THE COMPLETE SYSTEM AND SHALL BE FULLY CONCEALED. FIRE ALARM CABLE SHALL BE "PLENUM" RATED CONSISTING OF #14 (MINIMUM SIZE) COPPER CONDUCTORS WITH HYPALON OR TEFLON INSULATION AND JACKET. THE OUTER JACKET SHALL BE RED IN COLOR. WHERE EXPOSED, FIRE ALARM CABLE
- SHALL BE INSTALLED IN EMT. 4. FIRE ALARM WIRING SYSTEM SHALL BE CONFIGURED AS CLASS "B". 5. PROVIDE GALVANIZED CHASE NIPPLE (OR SIMILAR PLASTIC FITTING) WHERE CABLES ENTER OUTLET
- D. <u>CONTROL PANEL:</u> 1. CONTROL PANEL IS EXISTING SURFACE MOUNTED TYPE WITHIN THE ELECTRICAL/MECHANICAL
- 2. SYSTEM SHALL BE FULLY SUPERVISED, SHALL BE FOR 120 VOLT SUPPLY, FOR 24 VOLT DC OPERATION AND SHALL HAVE BATTERY "BACKUP" FOR 24 HOUR OPERATION AFTER 120 VOLT POWER FAILURE
- 3. CONTROL PANEL SHALL CONTAIN DIGITAL COMMUNICATOR FOR TOUCH-TONE AND/OR DIAL INTERFACE (PER OWNER). ENSURE DIGITAL COMMUNICATOR IS FUNCTIONAL AND TEST AS
- E. <u>DEVICES: (REPLACEMENT DEVICES SHALL MATCH EXISTING WITHIN THE TENANT SUITE)</u>

2. HORN/STROBE (AUDIO/VISUAL) SHALL BE RED IN COLOR LABELED "FIRE".

- 1. PULLSTATIONS SHALL BE DUAL ACTION, RED IN COLOR LABELED "FIRE".
- 3. STROBE DEVICES (VISUAL) SHALL BE RED IN COLOR LABELED "FIRE". 4. WEATHER-PROOF HORN/STROBE (AUDIO/VISUAL) SHALL BE RED IN COLOR LABELED "FIRE".
- 5. HORN DEVICES LOCATED IN BEDROOMS / SLEEPING UNITS HAVE BE LOW FREQUENCY TYPE WITH A 520hz TONE 6. SMOKE DETECTORS SHALL BE PHOTOELECTRIC TYPE WITH STANDARD BASE UNLESS OTHERWISE

8. CO DETECTORS SHALL HAVE AN AN AUDIBLE BASE PROVIDING A TEMPORAL 4 NOTIFICATION TONE.

9. SEE 'FIRE ALARM SYSTEM SCHEDULE' ON SHEET E-1 FOR FURTHER INFORMATION ON SYSTEM

- 7. HEAT DETECTORS SHALL BE 135° FIXED TEMPERATURE WITH STANDARD BASE UNLESS OTHERWISE
- . THE COMPLETED FIRE ALARM SYSTEM SHALL BE FULLY TESTED IN THE PRESENCE OF: THE
- A SUCCESSFUL TEST, THE CONTRACTOR SHALL SO CERTIFY, IN WRITING, TO THE JURISDICTION HAVING AUTHORITY, OWNER, ARCHITECT AND THE ENGINEER. 2. THE CONTRACTOR SHALL WARRANTY THE COMPLETED FIRE ALARM SYSTEM EQUIPMENT. WIRING AND INSTALLATION, TO BE FREE FROM INHERENT DEFECTS FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE OF THE CERTIFIED TEST AS AN ADDITIONAL LINE ITEM WITHIN THE BID FOR

OWNER'S REPRESENTATIVE. CITY REPRESENTATIVE, AND THE CONTRACTOR, UPON COMPLETION OF

#### NOTICE

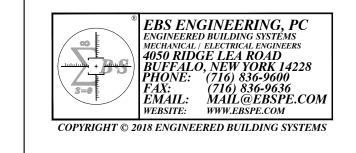
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FOR PERMIT 03-02-18

SA PROJECT TEAM: PRINCIPAL P.Silvestri

INTERIORS

PROJ. ARCH. \_\_\_\_\_ DRAFTER \_\_

JOB CAPT.

SEAL:

**ELECTRICAL SPECIFICATIONS** 



1321 MILLERSPORT HWY PH. 716.691.0900

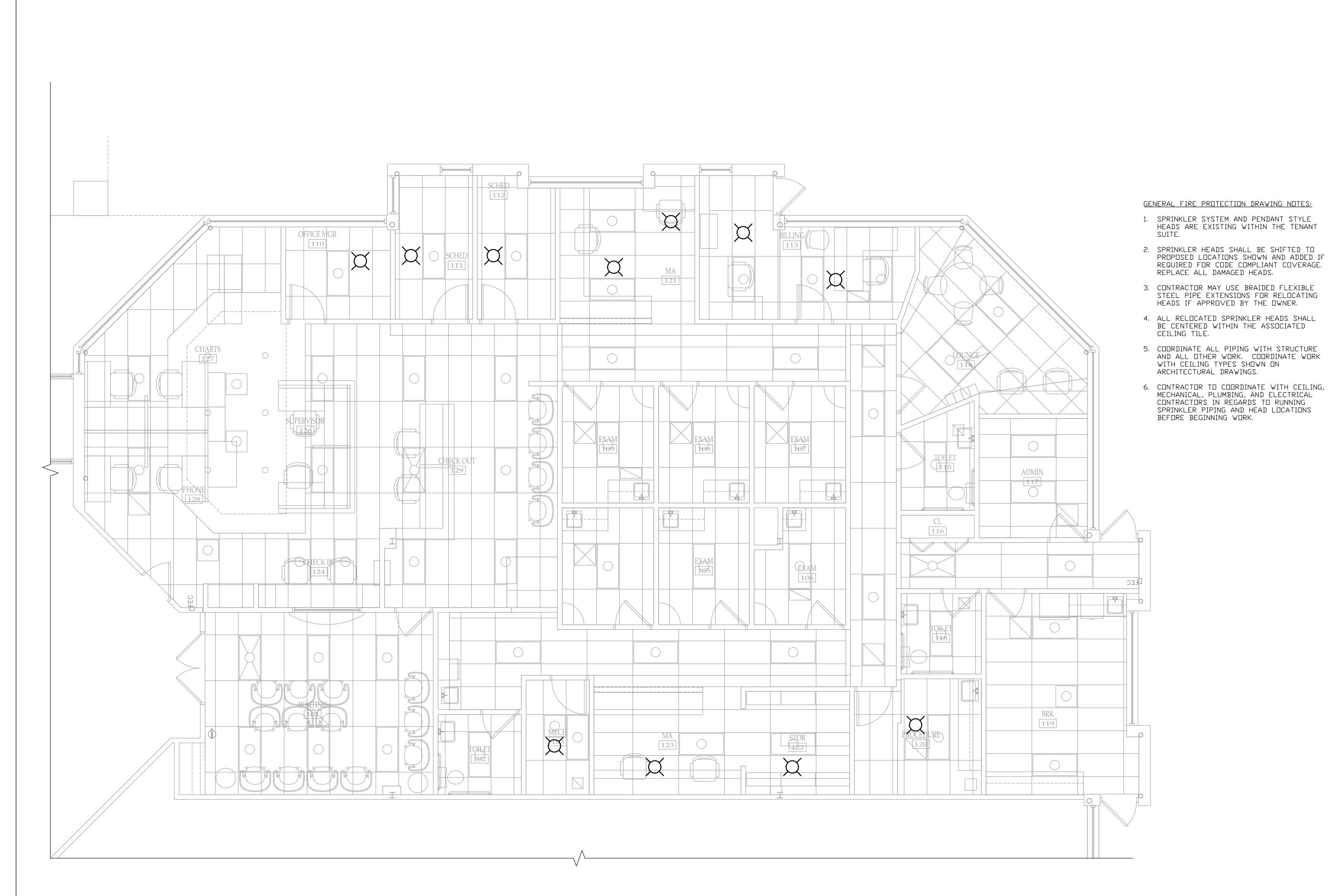
AMHERST, NY 14221 FAX 716.691.4773

DATE:

02-15-17

SA JOB #:

DRAWING #:



FIRE PROTECTION - SPRINKLER FP-1 SCALE: 1/4" =1'-0"

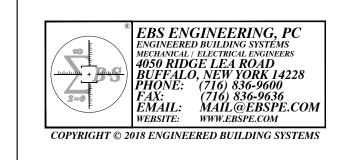
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West Seneca, NY



FOR PERMIT 03-02-18

SA PROJECT TEAM: PRINCIPAL P.Silvestri PROJ. ARCH. \_\_\_\_\_ DRAFTER \_\_\_

JOB CAPT. \_\_\_\_\_ INTERIORS

TITLE:

**FIRE** PROTECTION -SPRINKLER



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